



West Virginia Statewide Addressing and Mapping System Data Specification

September 2008

West Virginia Statewide Addressing and Mapping Board

Making the Safety of West Virginians Our #1 Priority – One Address at a Time.

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1.0 INTRODUCTION

The State Legislature created the West Virginia Statewide Addressing and Mapping Board (WVSAMB) in 2001 to enable city-type addressing in rural areas of the state for 9-1-1 service. A city-type address, such as 250 Mountain Road, clearly identifies where a telephone is physically located when dialing 9-1-1. Current rural postal addresses are not sufficient to provide this location based information. The WVSAMB is providing long-needed assistance to counties, and where necessary, to municipalities, for the creation of city-type addresses where none currently exist.

The WVSAMB has implemented a statewide E9-1-1 addressing and mapping system (WVSAMS). County 9-1-1 Addressing Coordinators, 9-1-1 Directors and their staff that agree to continue participating in the WVSAMB project will have access to this system at <http://www.wvsams.com/wvsams>. WVSAMB grant monies and GPS equipment will be available to those counties who begin using WVSAMS to GPS collect roads and sites in the field using WVSAMS. WVSAMS will contain all of the data management tools necessary to develop a county's E9-1-1 mapping and addressing database. Because data are entered directly into a State-operated system, counties will benefit from the value-added data validation, reporting, printing, and support services

WVSAMS will be operated and maintained by The West Virginia Department of Military Affairs and Public Safety (WVDMAPS) Division of Homeland Security and Emergency Management (WVDHSEM). An Addressing Coordination Office (ACO) is being established within WVDHSEM. The ACO will maintain the system and provide technical support to the counties using WVSAMS. WVSAMS was designed for county E9-1-1 organizations that need to perform mapping and addressing but can not afford to purchase their own desktop mapping equipment, software, training, and related costs.

However, some counties may already have GIS assets in place, and will want to use them for the completion of the addressing project. Other counties may

want to invest in GIS, CAD or related products and training in order to complete the addressing project. And still others may wish to hire a contractor to complete their county's portion of the overall statewide addressing project. This specification was designed to offer West Virginia Counties more flexibility in performing E9-1-1 addressing and related postal and telephone company conversion activities.

This document provides technical data specification for the collection and compilation of street centerline and address information for submittal to the WVSAMB Website. This specification is intended to serve as a minimum set of data requirements and standards for each of the data layers captured, developed, or maintained to create the Centerline and site-specific address layers. These requirements will enable the data to be collected using existing systems.

Participating counties wanting to use their own systems or contractors will have to comply with this specification. Proposals must be submitted in writing to the WVSAMB for approval, and must contain a detailed scope of work and methodology section. Counties that use their own systems or contractors will receive WVSAMB grant moneys upon delivery of data to the WVSAMB in the format specified in this document. The WVSAMB will ensure that final deliverables meet these minimum specifications. All data will be loaded into the WVSAMS database.

2.0 GENERAL REQUIREMENTS

2.1 DATA LAYERS AND TABLES

The following data layers and tables will be compiled to meet the minimum addressing requirement. The Data Element presents the name of the Feature/Table. Type defines the feature type or if it is a nonspatial table. Description provides a general description of the table. Detailed descriptions and details are presented below.

Data Element	Type	Description
Street	Line Layer	This layer contains street centerline segments.
Street_Name	Table	This table contains the street name(s).
Street_Name_Join	Table	This table joins the Street_Name and Street tables.
Street_Type	Table	Domain Table for the STREET_TYP field in the Street table
Surface_Type	Table	Domain Table for the SURFACE_TY field in the Street table
MSAG_LLC	Table	Domain Table for the Last Line MSAG Community field in the Street/Site tables
Site	Point Layer	Contains unique point locations for addressable and non-addressable structures.
Unit	Table	This table captures sub-address information for multiple addresses within a single Site.
Old_Address	Table	This table captures the old or historic address. It is linked to both the Site table as well as the Unit Table

Data Element	Type	Description
Site_Picture	Table	Table provides link to associated photos of a Site
Site_Type	Table	Domain Table for the SITE_TYPE field in the Site table
Emergency_Zone	Polygon Layer	This table contains the Emergency Zone Information.
Agency	Table	Listing of Fire, Law Enforcement, EMS and PSAPs
Unnamed_Road	Line Layer	Catch all feature for trails, driveways, unidentified roads, etc.
Postal_LLC	Table	Domain Table listing unique Last Line Community Names by County
County	Table	Domain Table listing of Counties
Drop_Line	Polyline Layer	Drop Line is a WVSAMB Generated feature included in the download for informational purpose. It is not necessary for upload.
Job	Table	Drop Line is a WVSAMB Generated Table included in the download for informational purpose. It is not necessary for upload.

2.2 DATA FORMATS

All GIS Data layers must be delivered as ESRI shapefiles according to the database design in this specification. Database tables must be delivered in a standard database format such as Microsoft Access, DBF files, Oracle, or Microsoft SQL/Server. Database field names must be capitalized and consist of no more than 10 characters to be shapefile compatible.

While this specification allows for the delivery of “Flat” GIS data layers and associated tables, there are however relationships inherent in this design. The domain tables listed above are provided in Appendix A and contain the universe of acceptable values for certain columns in the tables described in Section 3. With the exception of POSTAL_LLC, these values must be used. No other values are

acceptable unless approved in writing by the WVSAMB. POSTAL_LLC domain is an exception as the core dataset has not been completed. Once completed, the same rule will apply.

MSAG_LLC is not provided below but can be requested as a download from WVSAMB. It contains > 4000 records and is too large to list in Appendix A. The Postal_LLC is also not included as it has > 1100 records. It can be requested as a download from WVSAMB as well.

2.3 COORDINATE SYSTEM AND PROJECTION

The GIS data layers must conform to the following coordinate system:

- Universal Transverse Mercator Zone 17 (UTM 17)

The coordinate system used will be referenced to North American Datum 1983 (NAD 1983) and North American Vertical Datum 1988 (NAVD 1988). Metadata describing the project used and the projection files must be included with the delivery.

Discussion concerning this Coordinate Systems, datum and their requirement is recorded on the West Virginia GIS Steering Committee Website at http://wvgis.wvu.edu/otherdocs/standardsandpubs/wv_coordinate_systems_aug02.html (Standardization of Coordinate Systems and Datums for Data Exchange by West Virginia State and Local Government Agencies).

2.4 METADATA

Metadata must be maintained for all datasets following the Federal Geographic Data Committee (FGDC) Content Standards for Digital Geospatial Metadata. The metadata must be provided in XML format and accompany all data deliveries. The metadata XML file should follow the same naming convention as the GIS data set. For example the metadata file for a street shape file (street.shp) would be named street.xml. Reference to the FGDC metadata standards can be found at http://www.fgdc.gov/metadata/meta_stand.html.

If the county data has been extracted from the WVSAMB, an additional table, JOB, has been included with the set. This table provides metadata concerning the extracted data and is not necessary for uploaded.

2.5 ADDRESSING STANDARDS

This specification as a standalone document is not intended to be an “Addressing Standard.” It is meant to be used in conjunction with other specifications prepared by the WVSAMB. Addressing resources, including the *WVSAMB 9-1-1 Addressing Handbooks* (Version I – starting on Page 18) and the *West Virginia 9-1-1 Addressing Standards* (Appendix C of the Handbook) beginning on page 59, can be found at <http://www.addressingwv.org/resources.htm>. (Please Note – Version 2 of the Handbook is specific to the selected addressing vendor and is therefore not recommended as a resource for these purposes.)

West Virginia 9-1-1 Addressing Standards have also been included as Appendix B of this document.

2.6 COUNTY ID

The County ID appears in many of the tables within this specification. The County ID is used by the WVSAMS system for User and Administrative Rights. It should therefore be a required field and populated for all records.

2.7 DATA MANAGEMENT NOTES

Attribute fields to indicate if a record should be deleted (DELREC) has been added for all tables that may have additions/deletions. Please use this field appropriate to indicate data that is to be deleted. The STREET table also has field for flipping the Geometry and splitting a street segment. Use of these fields is encouraged as well to ensure the proper capture of information back into WVSAMS.

3.0 ELECTRONIC DATA DELIVERABLE SPECIFICATION

3.1 STREET

3.1.1 Definition

The Street line layer contains line segments representing street centerlines. The layer contains the attributes necessary to support geocoding and E9-1-1 dispatch functions.

3.1.2 Dataset Name

Data Element	Table	Type	Description
Street	STREET	Line Layer	This layer contains street centerline segments.

3.1.3 Attribute Definition

Attribute	Datatype	Null	Definition
STREET_ID	Numeric (10, 0)	N	Unique Record Number – Primary Key
STREET_TYP	Numeric (2, 0)	Y	The STREET_TYP domain table can be found in Appendix A. Use the Code field.
LABEL	Character (100)	Y	The default street name label
LABEL_ID	Numeric (10, 0)	N	Link to Street_Name Table (Name_ID)
ROUTE_NUMB	Character (8)	Y	If type is route, this is the Route number
ROUTE_SUBN	Character (2)	Y	Route Sub-Number
SURFACE_TY	Numeric (2, 0)	Y	The SURFACE_TYPE domain table can be found in Appendix A. Use the ID field.
L_FROM_ADD	Numeric (10, 0)	Y	Lowest addressable value for the left hand side of the street
L_TO_ADD	Numeric (10, 0)	Y	Highest addressable value for the left hand side of the street
L_POST_ID	Numeric (10, 0)	Y	Post_ID for the left hand side of the street
L_CNTY_ID	Numeric (10, 0)	Y	County ID for the left hand side of the street – The COUNTY domain table can be found in Appendix A. Use the ID field
L_ZIP	Character (5)	Y	5 digit ZIP for the left hand side of the street
L_STATE	Character (2)	Y	State Abbreviation for the left hand side of the street
L_ESN	Numeric (10, 0)	Y	ESN for the left hand side of the street - ESN Field from the Emergency Zone Table

Attribute	Datatype	Null	Definition
R_FROM_ADD	Numeric (10, 0)	Y	Lowest addressable value for the right hand side of the street
R_TO_ADD	Numeric (10, 0)	Y	Highest addressable value for the right hand side of the street
R_POST_ID	Numeric (10, 0)	Y	Post_ID for the right hand side of the street
R_CNTY_ID	Numeric (10, 0)	Y	County ID for the right hand side of the street – The COUNTY domain table can be found in Appendix A. Use the ID field
R_ZIP	Character (5)	Y	5 digit ZIP for the right hand side of the street
R_STATE	Character (2)	Y	State Abbreviation for the right hand side of the street
R_ESN	Numeric (10, 0)	Y	ESN for the right hand side of the street - ESN Field from the Emergency Zone Table
UPDATED	Date	Y	Date of the most recent insert or update
COMMENTS	Character (255)	Y	
MSAG_LLC	Numeric (10, 0)	Y	Unincorporated or Local Name of the Area
LEFT_IS_OD	Numeric (1, 0)	Y	Left is the odd side of the street - True(1) False(0)
FLIP_FLAG	Character (1)	Y	“F” indicates the Geometry should be flipped.
DELREC	Character (1)	Y	“D” indicates the record should be deleted
SPLIT_FLAG	Character (1)	Y	“S” indicates the Geometry was split.
CONFIRMED	Numeric (1, 0)	N	“1” indicates the record has been confirmed (Checked)

3.1.4 Specific Requirements

Addressing resources, including the WVSAMB 9-1-1 Addressing Handbook, (PDF – Version 1 – starting on page 18) can be found at <http://www.addressingwv.org/resources.htm>. Specific requirements include, but are not limited to:

- **Road naming.** All roads should have a unique name. Eliminate duplicate or similar-sounding road names and multiple names on the same road. Numbered roads, such as a state route or a fire road should also be named

to avoid using numbers in both the property address and the road name. Please see the full list of road naming standards in Appendix C1 beginning on page 60. For standard road name suffixes, please see Appendix C4 of the Addressing Handbook (Version 1- pages 69 and 70).

- **Beginning point.** This designates the point, location, or direction from which numbers begin to ascend on a road. Please see the options for choosing a beginning point on Appendix C4 of the Addressing Handbook (Version 1 - page 63). Whichever option is chosen should be consistently applied throughout the county or community. Consider such factors as existing numbering directions (if any), the numbering pattern on roads shared with neighboring communities or counties, and the direction from which emergency services respond.
- **Odd and even sides.** This determines which side of the road will be assigned odd numbers and which will be assigned even numbers, as numbers ascend from the beginning point. The 9-1-1 Addressing Standards require that odd numbers should be assigned to structures on the left side of the road and even numbers to those on the right, ascending from the beginning point. If part of a county or community has been previously numbered in the opposite fashion, however, then consider maintaining that standard for consistency.
- **Numbering interval.** This is the standard interval in feet used to assign consecutive property numbers along a road, regardless of whether or not a structure is at every interval. The standard numbering interval in the 9-1-1 Addressing Standards is 10.56 feet, which provides 1000 numbers per mile (500 odd numbers and 500 even numbers). For example, the address 2346 Oakwood Road is approximately 2.3 miles down the road on the right.
- **Property numbering.** These standards establish how numbers are assigned for houses, apartments, businesses, circular streets, condominiums, cul-de-sacs, corner lots, duplexes, mobile home parks, shopping malls, and other special situations. Please see Appendix C4 of the Addressing Handbook

(Version 1- page 63) for a comprehensive list of property numbering standards and recommendations.

- **Road signage.** If a county chooses to erect its own road signs, it should, at a minimum, follow existing standards set by the WV Division of Highways. Their standards are incorporated into the West Virginia 9-1-1 Addressing Standards found in Appendix C4 of the Addressing Handbook (Version 1- page 71).
- Please use a negative number as the STREET_ID as this will allow you to have a unique Primary Key for new records and the loading program will recognize the entry as an addition.

3.2 STREET_NAME

3.2.1 Definition

As a single street may be made up of multiple line segments and each street segment has a unique identification number, the Street Name Table is needed to relate the street names to the various segments. This also allows a single street to have multiple names.

3.2.2 Dataset Name

Data Element	Table	Type	Description
Street_Name	STREET_NAME	Table	This table contains the street name(s).

3.2.3 Attribute Definition

Attribute	Datatype	Null	Definition
NAME_ID	Numeric (10, 0)	N	Unique Record Number – Primary Key
NAME_TYPE	Numeric (10, 0)	Y	{0, 1, 2, 3, 4, 5} indicating USPS, local, county, state, federal, or Interstate naming conventions.
PREFIX_DIR	Character (5)	Y	Prefix direction of the street name, e.g. N, S, W, E, NW, NE, SW, SE.
NAME	Character (80)	Y	Base name of the street, e.g. 15th
SUFFIX_TYP	Character (10)	Y	Type of the street, e.g. RD, ST, AV.
SUFFIX_DIR	Character (5)	Y	Suffix direction of the street, e.g. N, S, W, E, NW, NE, SW, SE.
UNPARSED	Character (100)	Y	Unparsed Name
UPDATED	Date	Y	Date of the most recent insert or update

3.2.4 Specific Requirements

- Street_Names is a Domain Table for the Entire State. As such, the names that are currently in the table cannot be changed. However, new names can be added. Please use a negative number as the NAME_ID as this will allow you to have a unique Primary Key for new records and the loading program will recognize the entry as an addition for the master list.
- When the dataset is uploaded, a validation will be run on the STREET_NAME table. If a name is determined to be changed, the set will be rejected and the submitter will be asked to correct the error.

3.3 STREET_NAME_JOIN

3.3.1 Definition

The Street Name and the Street Tables are joined via a Join table called Street_Name_Join.

3.3.2 Dataset Name

Data Element	Table	Type	Description
Street_Name_Join	STREET_NAME_JOIN	Table	This table joins the Street_Name and Street tables.

3.3.3 Attribute Definition

Attribute	Datatype	Null	Definition
NAME_ID	Numeric (10, 0)	N	NAME_ID from the STREET_NAME table.
STREET_ID	Numeric (10, 0)	N	STREET_ID from the STREET table.
HISTORIC	Numeric (1, 0)	Y	Boolean value, if non-zero then the name may be used for finding the street but never labeling it.
SIDE	Character (1)	Y	Side of the street the NAME_ID applies. Example: L, R
NAME_ORDER	Character (1)	N	{P, S} domain values which stand for Primary and Secondary.
UPDATED	Date	Y	Date of the most recent insert or update

3.3.4 Specific Requirements

None

3.4 SITES

3.4.1 Definition

The Site Points layer contains point (X, Y) locations for all structures, addressable and non-addressable. Each point represents a single structure

3.4.2 Dataset Name

Data Element	Table	Type	Description
Site	SITE	Point Layer	This layer contains unique point locations for structures, addressable and non-addressable.

3.4.3 Attribute Definition

Attribute	Datatype	Null	Definition
SITE_ID	Numeric (10, 0)	N	Unique Record Number – Primary Key
SITE_TYPE	Character (2)	Y	The SITE_TYPE domain table can be found in appendix A. Use the Code field.
STREET_ID	Numeric (10, 0)	Y	Street Id the Site is located on
SIDE	Character (1)	Y	Side of the street. Example: L, R
ESN	Numeric (10, 0)	Y	ESN Field from the Emergency Zone Table
ADDR_LABEL	Character (40)	Y	Alphanumeric Address label: Example 5124 ½; A215
ADDRESS_NUM	Numeric (10, 0)	Y	The address number. Example: 5124, 215
POST_ID	Numeric (10, 0)	Y	POST_ID field from the Postal_LLC domain table
CNTY_ID	Numeric (10, 0)	Y	The COUNTY domain table can be found in Appendix A. Use the ID field
STATE	Character (2)	Y	State Abbreviation (WV)
ZIP	Character (5)	Y	5 digit zip code. Example: 55432
ZIPP4	Character (4)	Y	Zip Plus 4. Example 1234
PARCEL_NUM	Character (20)	Y	Local Parcel Number

Attribute	Datatype	Null	Definition
UPDATED	Date	Y	Date of the most recent insert or update
PHOTO	Numeric (5, 0)	Y	Number of photos provided for the structure.
COMMENTS	Character (255)	Y	
MSAG_LLC	Numeric (10, 0)	Y	Unincorporated or Local Name of the Area
DISTANCE_A	Numeric (10, 0)	Y	Distance along the Street Measure from the Start of the Street Segment.
ADDRESSABL	Numeric (1, 0)	N	Is the Site addressable? - True (1)/False (0)
DELREC	Character (1)	Y	“D” indicates the record should be deleted
CONFIRMED	Numeric (1, 0)	N	“1” indicates the record has been confirmed (Checked)

3.4.4 Specific Requirements

- For addressable structures that do not have a driveway, such as storefronts, the address point should be located in line with the structures front door.
- Point features will include field verified addresses for > 95% of all addressable structures in the county. Existing data sources can be used in lieu of field verification if the data from that source had at one time been field verified and the accuracy of that information has been faithfully maintained.
- When more than two addressable lie along an unnamed road special attention is needed. The unnamed road should be named and the sites should be addressed off of the new road.
- Please use a negative number as the SITE_ID as this will allow you to have a unique Primary Key for new records and the loading program will recognize the entry as an addition.

3.5 UNIT

3.5.1 Definition

The Units Table contains additional information about a structure. For a single family home, this information is likely the same and will require a single record. For Apartment buildings or leased space, there may be multiple records.

3.5.2 Dataset Name

Data Element	Table	Type	Description
Unit	UNIT	Table	This table details a Site.

3.5.3 Attribute Definition

Attribute	Datatype	Null	Definition
UNIT_ID	Numeric (10, 0)	N	Unique Record Number – Primary Key
SITE_ID	Numeric (10, 0)	Y	Site the Unit is located at. The SITE_ID is from the SITE Table.
UNIT_NUM	Character (40)	Y	Unit number or name
COMMENTS	Character (255)	Y	
LOC_INFO	Character (255)	Y	Information to assist in locating the unit
UPDATED	Date	Y	Date of the most recent insert or update
DELREC	Character (1)	Y	“D” indicates the record should be deleted

3.5.4 Specific Requirements

- Please use a negative number as the UNIT_ID as this will allow you to have a unique Primary Key for new records and the loading program will recognize the entry as an addition None

3.6 OLD_ADDRESS

3.6.1 Definition

The OLD_ADDRESS table captures the previous or historic address for a SITE and/or UNIT. This table is primarily used for readdressing purpose.

3.6.2 Dataset Name

Data Element	Table	Type	Description
OLD_ADDRESS	OLD_ADDRESS	Table	This table captures the old or historic address. It is linked to both the Site table as well as the Unit Table

3.6.3 Attribute Definition

Attribute	Datatype	Null	Definition
OLDADD_ID	Numeric (10, 0)	N	Unique Record Number – Primary Key
SITE_ID	Numeric (10, 0)	N	Site the old address is associated. The SITE_ID is from the SITE Table.
UNIT_ID	Numeric (10, 0)	Y	Unit the old address may be associated. The UNIT_ID is from the UNIT Table.
RES_NAME	Character (100)	Y	Resident of the Site at the time the old address was collected
BOX	Character (20)	Y	The BOX number if used. Example: 5124, A215
PO_BOX	Character (20)	Y	The PO BOX number if used. Example: 5124
NUM	Character (20)	Y	The address number if any. Example: 105
STREET	Character (50)	Y	Street or Route Information
UNPARSEDAD	Character (50)	Y	Unparsed old address – as gathered from data source.
CITY	Character (25)	Y	City portion of the old address
STATE	Character (2)	Y	State Abbreviation (WV)
ZIP	Character (5)	Y	5 digit zip code. Example: 55432
ZIPP4	Character (4)	Y	Zip Plus 4. Example 1234
SOURCE	Character (1)	Y	The SOURCE domain table can be found in Appendix A. Use the ID field
PHONE_NUM	Numeric (10, 0)	N	10-digit Phone Number
COMMENTS	Character (255)	Y	
UPDATED	Date	Y	Date of the most recent insert or update
DELREC	Character (1)	Y	“D” indicates the record should be deleted

3.6.4 Specific Requirements

- Please use a negative number as the OLDADD_ID as this will allow you to have a unique Primary Key for new records and the loading program will recognize the entry as an addition.

3.7 SITE PICTURE

3.7.1 Definition

The Site Picture lists the photos that have been taken for each site. This table and associated photos are both required for submittal.

3.7.2 Dataset Name

Data Element	Table	Type	Description
Site_Picture	SITE_PICTURE	Table	Table provides link to associated photos of a Site

3.7.3 Attribute Definition

Attribute	Datatype	Null	Definition
PICTURE_ID	Numeric (10, 0)	N	Unique Record Number – Primary Key
SITE_ID	Numeric (10, 0)	Y	Site the Phone number is associated with. SITE_ID is from the SITE Table.
FILE_NAME	Character (128)	Y	Picture File Name
DESCRIPTION	Character (255)	Y	Comment/Description Field
UPDATED	Date	Y	Date of the most recent insert or update

3.7.4 Specific Requirements

- Complete File Name is required.
- JPG is preferred.
- Please use a negative number as the PICTURE_ID as this will allow you to have a unique Primary Key for new records and the loading program will recognize the entry as an addition.

Deletion of Site Photos will not be conducted using this sheet. It has been provided purely for upload purposes. Deletions should be conducted through the WVSAMS Site

3.8 EMERGENCY ZONE

3.8.1 Definition

As the primary purpose of the readdressing is to support 9-1-1 operations, Emergency Zone information has been incorporate into the model as a key attribute. This information includes the appropriate contact information for the relevant emergency responders.

3.8.2 Dataset Name

Data Element	Table	Type	Description
Emergency Zone	EMERGENCY_ZONE	Polygon Layer	This table contains the Emergency Zone Information.

3.8.3 Attribute Definition

Attribute	Datatype	Null	Definition
ESN	Numeric (5, 0)	Y	Unique Record Number – Primary Key.
ESA_FIRE	Numeric (10, 0)	Y	AGENCY_ID for Fire Dept Contact
ESA_LAW	Numeric (10, 0)	Y	AGENCY_ID for Law Enforcement
ESA_EMS	Numeric (10, 0)	Y	AGENCY_ID for EMS
ESA_PSAP	Numeric (10, 0)	Y	AGENCY_ID for PSAP
UPDATED	Date	Y	Date of the most recent insert or update
CNTY_ID	Numeric (10, 0)	Y	The COUNTY domain table can be found in Appendix A. Use the ID field
COMMENTS	Character (255)	Y	

3.8.4 Specific Requirements

- Due to the nature of the Emergency Zones, the Emergency Zone shapefile will be imported in slightly different manner then the rest of the shapefiles. If you wish to upload Emergency Zones, please notify the current administrator of WVSAMS and indicate your request. They will instruct you in what is necessary.

3.9 AGENCY

3.9.1 Definition

Agency provides the list of Fire, Law Enforcement and Emergency Responders for the state. This list is used in conjunction with the Emergency Zones to define areas of coverage for call routing at the PSAP level.

3.9.2 Dataset Name

Data Element	Table	Type	Description
Agency	AGENCY	Table	Listing of Fire, Law Enforcement, EMS and PSAPs

3.9.3 Attribute Definition

Attribute	Datatype	Null	Definition
AGENCY_ID	Numeric (10, 0)	N	Unique Record Number – Primary Key.
AGENCY_NAM	Character (100)	Y	Official Name for the Agency
AGENCY_TYP	Numeric (1, 0)	Y	Type of Organization 1- Police; 2-Fire; 3-EMS
UPDATED	Date	Y	Date of the most recent insert or update
DELREC	Character (1)	Y	“D” indicates the record should be deleted

3.9.4 Specific Requirements

- Please use a negative number as the AGENCY_ID as this will allow you to have a unique Primary Key for new records and the loading program will recognize the entry as an addition.

3.10 UNNAMED_ROAD

3.10.1 Definition

The Unnamed_Road Feature Class was created to accommodate the miscellaneous trails, driveways, unnamed roads, paths, and other linear features that may or may not be legitimate Streets. It is included for two purposes. First – for completeness in case an unnamed road has been mislabeled or can be identified as a legitimate street; Second – for navigational considerations.

3.10.2 Dataset Name

Data Element	Table	Type	Description
Unnamed_Road	UNNAMED_ROAD	Line	Catch all feature for trails, driveways, unidentified roads, etc.

3.10.3 Attribute Definition

Attribute	Datatype	Null	Definition
UNROAD_ID	Numeric (10, 0)	N	Unique Record Number – Primary Key.
UNROAD_TYP	Numeric (10, 0)	N	Classification of the Unnamed Road – See Street_Type Table
CNTY_ID	Numeric (10, 0)	Y	The COUNTY domain table can be found in Appendix A. Use the ID field
COMMENTS	Character (255)	Y	
UPDATED	Date	Y	Date of the most recent insert or update
DELREC	Character (1)	Y	“D” indicates the record should be deleted

3.10.4 Specific Requirements

- Please use a negative number as the UNROAD_ID as this will allow you to have a unique Primary Key for new records and the loading program will recognize the entry as an addition.

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APPENDIX A DOMAIN LISTS

I. Street Type Domain List

STREET_TYPE

STREET_TYP	DESCRIPTIO
11	Side Roads and Streets (Municipal) or Other
12	WV Park and Forest Route
13	US Forest Services Road
14	Trail
15	Private Roads
16	Driveway
17	Public Roads
18	WV County Numbered Route
19	Ramp
20	WV State Numbered Route
21	US Numbered Route
22	Interstate Route
23	Proposed
24	Unknown
25	Abandoned

II. Surface Type Domain List

SURFACE_TYPE

ID	Type
1	Paved
2	Gravel
3	Dirt
5	Unimproved
6	Impassable
9	Unknown

III. Site Type Domain List**SITE_TYPE**

Code	Description	Code	Description
98	Other	G2	gated w/ Building
99	No Gate, Not Visible	H1	Hanger
A1	Accessory Building	I1	Industrial
A2	Abandoned	P0	Cemetery
A3	Group Mailbox	P1	Government
A9	Access Point	P2	Health Care
AD	Addressed/Conflated	P3	Church
B1	Bridge	P4	Educational
B2	Airport	P5	Cultural
B3	Helipad	P6	Police
B4	Campground	P7	Fire
B9	Culvert	P8	Public Gathering
C1	Commercial	P9	Ambulance House
C9	Other Commercial	PS	PSAP
CF	Commercial Farm	R1	Single Family
CL	Lodging	R2	Multi Family
DV	Development Site	R3	Mobile Home
ED	Dry Hydrant	R4	Other Residential
EH	Hydrant	R5	Camp/Bungalow
EP	Fire Pond	R6	Seasonal Home
ET	Public Telephone	TB	Town Boundary Post
G1	Gated w/o Building	U1	Utility

IV. Source Domain List**SOURCE**

ID	Type
A	Card File
B	Electric Meter
C	Parcel Data
D	Field Value
E	USPS
F	Telephone
G	PONO Cards
H	TEAM
I	Client
J	Site Conflation
Z	Other
N	None

V. County Domain List**COUNTY**

ID	County Name
54001	Barbour
54003	Berkeley
54005	Boone
54007	Braxton
54009	Brooke
54011	Cabell
54013	Calhoun
54015	Clay
54017	Doddridge
54019	Fayette
54021	Gilmer
54023	Grant
54025	Greenbrier
54027	Hampshire
54029	Hancock
54031	Hardy
54033	Harrison
54035	Jackson
54037	Jefferson
54039	Kanawha
54041	Lewis
54043	Lincoln
54045	Logan
54047	McDowell
54049	Marion
54051	Marshall
54053	Mason
54055	Mercer

ID	County Name
54057	Mineral
54059	Mingo
54061	Monongalia
54063	Monroe
54065	Morgan
54067	Nicholas
54069	Ohio
54071	Pendleton
54073	Pleasants
54075	Pocahontas
54077	Preston
54079	Putnam
54081	Raleigh
54083	Randolph
54085	Ritchie
54087	Roane
54089	Summers
54091	Taylor
54093	Tucker
54095	Tyler
54097	Upshur
54099	Wayne
54101	Webster
54103	Wetzel
54105	Wirt
54107	Wood
54109	Wyoming
54999	Statewide

APPENDIX B

WEST VIRGINIA 9-1-1 ADDRESSING STANDARDS

The West Virginia Statewide Addressing and Mapping Board was created by the West Virginia Legislature in 2001 (Senate Bill 460, codified as W. Va. Code 24E-1-1 et seq.) to advance the infrastructure of West Virginia by overseeing two major tasks:

- 1) Providing new high quality digital mapping of the entire state;
- 2) Assigning a standard city-type address to every identifiable structure in the state.

To fulfill its mission, the West Virginia Statewide Addressing and Mapping Board has adopted the *West Virginia 9-1-1 Addressing Standards* to provide standards for counties and municipalities to use in establishing city-type addresses within their jurisdictions where no such addresses exist. In areas where city-type addresses do exist, these standards can be used to evaluate the quality and consistency of addresses and provide a basis for needed change. The standards cover the following issues:

- Road naming
- Property numbering
- Number posting
- Road name suffixes
- Road signage

The *West Virginia 9-1-1 Addressing Standards* are based on the following standards:

- *Addressing Guidelines for The State of West Virginia* (Adopted by the West Virginia Enhanced 9-1-1 Council and the US Postal Service District Office, Charleston, WV, July 1999.)
- National Emergency Number Association Addressing Systems (1995)
- US Postal Service Postal Addressing Standards (Pub 28, November 2000)
- US Postal Service Address Conventions (Filing Number DM-940-89-03, July 1989)
- West Virginia Division of Highways standards for road signing

Questions regarding these standards can be directed to the West Virginia Statewide Addressing and Mapping Board at 304-558-4218.

Road Naming Standards

The following standards should be adhered to when naming or renaming roads:

1. Each road should have one correct name for emergency services purposes and postal delivery purposes.
2. Never assume a road does not have a name. Research should be conducted to find whether a road has a name or not.
3. Any road with two or more residences should be named. Additionally, any road or trail without structures that might need to be accessed by emergency responders should be considered for naming to better locate it in an emergency.
4. Avoid duplicate road names at a minimum in the same ZIP code, and emergency service zone wherever practical. Optimally, avoid duplications in the entire county.
5. Avoid duplicate road names with different suffixes, such as PINE RD and PINE LN, especially when naming new roads or existing roads without names, or renaming existing ones.
6. Avoid sound-alike names. For example: BEECH and BEACH, MAINE and MAIN, GREY AND GRAY.
7. Avoid family names or individual's names, especially living persons or politicians.
8. Rename a road when one current name sounds too much like another road name or if the road name is a duplicate. Once two or more roads have been identified with similar sounding or duplicating names, rename the road or roads that will impact the least number of residents and businesses.

9. When renaming roads, involve the property and business owners affected. Providing a choice of three to five options will usually eliminate most controversy. In developing names, use historical considerations.
10. Never rename a road unless absolutely necessary.
11. If a road is continuous, try not to change the road name. If the name must change, then do so at an intersection or prominent landmark, rather than at a curve or some other arbitrary point.
12. Avoid road names longer than 22 characters (excluding pre- and post-directional and suffix). Abbreviations of such names may produce inadvertent duplicates.
13. Avoid special characters in street names. For example: hyphens, apostrophes, periods, and ampersands (&).
14. Avoid assignment of a primary street name that is also used as a standard suffix or directional. For example: NORTH AVE, COURT ST, SOUTHEAST BLVD.
15. Avoid using numbers or numbered streets. For example: US HIGHWAY 290, 1ST ST, THIRD AVE.
16. All roads names should use a suffix. For a complete list of approved suffixes, see the enclosed standards for new and existing road names.
17. If a directional (pre or post) is used in a road name, it should be abbreviated to avoid potential confusion with the road name. Approved directional abbreviations are: N, S, E, W, NE, NW, SE, and SW.
18. Avoid the use of pre- or post-directionals or suffixes to distinguish separate non-continuous or continuous streets. For example: PALM CT, N PALM CT, PALM ST, PALM AVE.
19. Avoid the use of non-standard street name suffixes in residential areas that may be confused with commercial developments. For example: STONEWALL PLZ, SMITH CTR.

20. Avoid using double suffixes in new street names. For example: TWIN BRANCH LN, CARVER RUN RD.

21. When naming new roads, consider using a consistent suffix for the type of road, such as those suggested below:

Avenue = A thoroughfare running principally in a north-south direction (or could be east-west depending on how “street” is defined).

Circle = Short road that returns to itself; circular or semi-circular roads.

Lane = Fire road or private road.

Loop = Short drive that begins and ends on the same road.

Road = Most common designation for a secondary thoroughfare; generally indicates a heavily traveled route.

Street = Usually found in downtown or more congested areas; run principally in an east-west direction (or could be north-south depending on how “avenue” is defined).

22. Use the following format for road or street names: Pre-Directional – 2 characters (max.), Road Name – 22 characters (max.), Road Suffix – 4 characters (max.), and Post-Directional – 2 characters (max.).

Note: Instances may arise that do not conform to the guidelines set forth in this document. When such situations occur, the county’s 9-1-1 center, the US Postal Service District Address Management Systems Office, and the West Virginia Division of Highways should be consulted to reach a joint decision.

Property Numbering Standards

The following standards should be adhered to when assigning property numbers:

- 1. Frontage interval.** Numbers should be assigned every 10.56 feet or each 1/500 mile on each side of a road. This will yield 1000 numbers per mile, 500 odd on one side and 500 even on the other. The interval chosen gives meaning to an address. For example, 3746 Mountain Road is located approximately 3.7 miles from the beginning of Mountain Road.

2. **Odd/Even number location.** Even numbers should be assigned the right side of a road, from the point of its beginning. Assign odd numbers on the left side of a road, from the point of its beginning.
3. **Beginning point.** Numbering should begin in a consistent manner on each road throughout a county or municipality. Use one of the following options for establishing the beginning point for numbering roads.

Option One: Numbers should ascend as emergency responders enter a majority of roads. For example, if emergency responders were based at the center of the county, then this would establish the beginning point for road numbering. All roads whose ends are closest to this origination point would have their numbers begin from that end.

Option Two: Numbers should normally begin when a road proceeds away from the road that is deemed of higher importance. The defined road hierarchy for the determination of road directions will be arterial, collector, local, unpaved, seasonal and non-essential. In the event that the roads are at the same hierarchy and importance level, road direction should be based on Option One above.

Option Three: Consider a numbering origin at a West beginning point and proceed eastward, or begin at a South beginning point and proceed northward.

Regardless of the option chosen, the following considerations should apply.

- 1) If numbers ascend on a road that cross jurisdictional boundaries, care should be taken to insure that the numbers at the border are not in close proximity to those numbers near the border in the adjacent jurisdiction. If so, then discussions with that jurisdiction should insure that numbering continues in one direction or another.
- 2) The beginning point for all dead-end roads should be at the place of departure from the main road.
- 3) The above guidelines will apply unless continuing a city numbering scheme, as in leaving a city where other numbers are being used. The system in place will then dictate the beginning number.

- 4. Intersections.** Both 4-way and “T” type intersections should be numbered, just as houses. These addresses will be useful as references.
- 5. Bridges.** Bridges longer than 50 (fifty) feet should be numbered just as houses. In most cases measure the middle of the bridge and post the numbers at the ends of the bridge in both directions. You may prefer to use an odd and even number to post the bridge address, odd on the odd numbered side facing traffic and even on the even numbered side facing traffic. On bridges longer than ½ mile, number the ends of the bridge and post accordingly.
- 6. Circular streets.** Circular streets and roads begin where they meet the lowest numbered intersecting road. The outside of the circle is numbered first according to the frontage interval. The inside is then numbered to match and mix with the outside. This will result, in some cases, with fewer numbers on the inside of the circle, a smaller frontage interval, and spaces between numbers.
- 7. Cul-de-sacs.** Cul-de-sacs often require applying the rules for both dead-end and circular streets. The numbering begins from the intersection toward the cul-de-sac. Once in the cul-de-sac, the numbers proceed following the odd/even rules to the center point of the cul-de-sac (i.e. odd numbers proceed around one side of the circle and even around the other side). On rare occasions there may be structures inside the cul-de-sac. When this occurs, name the circular section of the cul-de-sac a separate road name from the access road. Number this street counter-clockwise according to the circular street numbering rule.
- 8. “T” roads.** Roads with no outlet at both ends and that are intersected by an entering road should be named and numbered as a separate road or roads. If using the same name, then numbering should begin at the left end of the road and run the length of the road, unless that end may be extended in the foreseeable future. If two names are used, then numbering should begin for each road where it leaves the intersecting road. In the case where the

intersecting road logically continues to the end of one of the road segments, then continue the name and numbering of the intersecting road to that end and separately name and number the spur road from where it departs the intersecting road.

- 9. Crossing county lines.** When crossing county lines, consideration should be given to an existing numbering system in that county. If no system exists, the numbering should stop at the county line. If a system does exist in that county, those numbers may continue, following the standards for distance and direction. Since many emergency-response zones cross county lines, try not to rename roads at the county line, unless there is a permanent landmark such as a river, in order to avoid confusion to responders. Instead, bring the road to a logical point, such as an intersection, before changing the road name.
- 10. Stacked addresses.** Houses or trailers behind other trailers facing the road sharing a common driveway should be numbered with consecutive odd or even numbers. If more than two structures share a driveway, consider naming the driveway as a separate road and number the structures accordingly.
- 11. Apartment and duplexes.** Apartments with individual outside entrances (such as duplexes or townhouses) should be assigned separate street addresses. Apartments and multi-tenant structures with one main entrance should be assigned one primary number with a secondary address as the assigned apartment number (ex. 123 MAIN ST APT 101). Apartment numbers should only be numeric. Do not use 0 for an apartment number. Apartments should be numbered consecutively with odd apartment numbers on the left and even on the right (from the point of access).

In multi-level apartment houses or complexes, if more than four apartments are on a floor, a three-digit apartment number should be used. The first digit of the apartment number represents the floor number. For example, apartment 304 represents the second apartment on the right on the third floor. If there are more than nine floors, the apartment numbers should follow the same rules, but for floors 10 and higher the apartment number will be four

digits. For example, apartment 1216 would be located on the 12th floor. Basement apartments should be numbered beginning with the number 1.

Offices in multi-unit buildings should be assigned a number following the same guidelines, but will be referred to as a suite (STE) instead of an apartment (APT). In a multiple building apartment complex, each building should be assigned its own street address and follow consistent apartment numbering from building to building.

- 12. Businesses.** Office buildings and business districts should be numbered following the apartment numbering rules. The secondary address will be referred to as suites instead of apartments. Strip malls and office parks, where each business has its own entrance, should be assigned separate street addresses for each business.
- 13. Trailer parks.** If possible, name roads accessing trailer parks and number pads or lots using the frontage system. An alternative is to number the trailers just like apartments. Assign one primary address to the park and then assign secondary addresses to the trailers using Lot # instead of Apt #. If it is not conducive to address in either manner, a joint decision on numbering should be made between the county's 9-1-1 center, the US Postal Service District Address Management Systems Office, and the West Virginia Division of Highways.
- 14. Highways.** Highways with no city numbering systems in place or where the city system is to be changed should be numbered from county line to county line following the number origination guidelines set by the county.
- 15. Number assignment location for structures.** When assigning numbers, the middle of a structure should determine the number. Structures should always be numbered according to the road they face, not where the driveway enters the road or where the mailbox is. An exception to this is when the house can be seen but not approached directly from the road. In this case, the driveway should be numbered on the road from which it departs.

- 16. Preplanning subdivisions.** Use maps provided by the developer to assign numbering to new subdivisions. Ensure either footage is marked on the maps or the map is drawn using an engineering scale. In addition, corner lots should be numbered in both directions so as to accommodate a house built facing either street.
- 17. Interfacing with existing systems.** When interfacing with an existing numbering system, care should be taken in locating the last assigned number of the existing system. All possible sources should be checked to determine the last number. Once the last number is determined, start the new numbering from the next available hundred block. For example, if the last number is 3846, begin numbering from 3900. Some roads leaving a city limit may not have any numbers within the city. These may be numbered from the in-city beginning point.
- 18. General numbering guidelines.** Primary numbers assigned to structures should be whole numbers. Use of the following types of numbers is not acceptable:
- Alphanumeric numbers, ex. 235A.
 - Numbers with hyphens or special characters, ex. 45-46 or 78/1.
 - Numbers with fractions, ex. 28 ½.
 - Numbers with more than six digits.

Number Posting Standards

To insure that numbers will be visible, they should be posted as follows:

- 1. Number on the Structure.** Where the structure is within 50 (fifty) feet of the edge of the road right-of-way and can be clearly seen from the road, the assigned number should be displayed on the front of the structure in the vicinity of the front door or entry.
- 2. Number at the Road Line.** Where the structure is over 50 (fifty) feet from the edge of the road right-of-way, the assigned number should be displayed on

the structure as above and be displayed on a post, fence, wall, mailbox, or on some structure at the property line adjacent to the walk or access drive to the numbered structure. Any posted number at the road should be placed high enough to not be obscured by snow during an average winter.

- 3. Size and Color of Number.** Numbers should be a minimum of four (4) inches high and be of a contrasting color to their background. Numbers made from block letters and reflective materials are recommended.
- 4. Property owner responsibility.** Every person whose duty is to display the assigned number should remove any different number that might be mistaken for, or confused with, the number assigned to the property.
- 5. Interior location.** All residents and other occupants should post their assigned number and road name adjacent to their telephone for emergency reference.

Road Name Suffixes for New Roads

ALLEY	ALY
AVENUE	AVE
BOULEVARD	BLVD
BYPASS	BYP
CIRCLE	CIR
DRIVE	DR
EXPRESSWAY	EXPY
EXTENSION	EXT
FREEWAY	FWY
HIGHWAY	HWY
LANE	LN
LOOP	LOOP
PARKWAY	PKWY
ROAD	RD
SPUR	SPUR
STREET	ST
TERRACE	TER
TURNPIKE	TPKE
WAY	WAY

Suffix Abbreviations for Existing Roads

ALLEY	ALY	FLAT(S)	FLT(S)	PARKWAY	PKWY
ANNEX	ANX	FORD(S)	FRD(S)	PASS	PASS
AVENUE	AVE	FOREST	FRST	PASSAGE	PSGE
BEACH	BCH	FORGE(S)	FRG(S)	PATH	PATH
BEND	BND	FORK(S)	FRK(S)	PIKE	PKE
BLUFF(S)	BLF(S)	FORT	FT	PINE(S)	PNE(S)
BOTTOM	BTM	FREEWAY	FWY	PLACE	PL
BOULEVARD	BLVD	GARDEN(S)	GDNS	PLAIN(ES)	PLN(S)
BRANCH	BR	GATEWAY	GTWY	PLAZA	PLZ
BRIDGE	BRG	GLEN(S)	GLN(S)	POINT(S)	PT(S)
BROOK(S)	BRK(S)	GREEN(S)	GRN(S)	PRARIE	PR
BYPASS	BYP	GROVE(S)	GRV(S)	REST	RST
CAMP	CP	HARBOR(S)	HBR(S)	RIDGE(S)	RDG(S)
CANYON	CYN	HAVEN	HVN	ROAD	RD
CAPE	CPE	HEIGHTS	HTS	ROW	ROW
CAUSEWAY	CSWY	HIGHWAY	HWY	RUN	RUN
CENTER(S)	CTR(S)	HILL(S)	HL(S)	SHORE(S)	SHR(S)
CIRCLE(S)	CIR(S)	HOLLOW	HOLW	SPRING(S)	SPG(S)
CLIFF(S)	CLF(S)	ISLAND(S)	IS(S)	SPUR	SPUR
CORNER(S)	COR(S)	JUNCTION	JCT	SQUARE(S)	SQ(S)
COURSE	CRSE	KNOLL(S)	KNL(S)	STATION	STA
COURT(S)	CT(S)	LANDING	LNDG	STREAM	STRM
COVE(S)	CV(S)	LANE	LN	STREET	ST
CREEK	CRK	LOCK(S)	LCK(S)	SUMMIT	SMT
CRESCENT	CRES	LODGE	LDG	TERRACE	TER
CREST	CRST	LOOP	LOOP	THRUWAY	TRWY
CROSSING	XING	MALL	MALL	TRACE	TRCE
DALE	DL	MANOR(S)	MNR(S)	TRACK	TRAK
DAM	DM	MEADOW(S)	MDW(S)	TRAIL	TRL
DIVIDE	DV	MILL(S)	MLS(S)	TURNPIKE	TPKE
DRIVE	DR	MISSION	MSN	VALLEY(S)	VLY(S)
ESTATE(S)	EST(S)	MOTORWAY	MTWY	VIEW(S)	VW(S)
EXPRESSWAY	EXPY	MOUNTAIN(S)	MTN(S)	VILLAGE	VLG
EXTENSION	EXT	NECK	NCK	VILLE	VL
FALL	FALL	ORCHARD	ORCH	VISTA	VIS
FERRY	FRY	OVAL	OVAL	WALK	WALK
FIELD(S)	FLD(S)	PARK(S)	PARK	WAY	WAY

Road Signage

Installing road signs is one of the final, and more important tasks in addressing. To assist both emergency service personnel and the general public, signs must be visible and maintained. A frequent complaint about road signs is that snow banks or vegetation often hide them. Annual trimming or minor maintenance can eliminate this problem.

- 1. Color.** Signs should be reflectorized. The letters and background should be of contrasting colors and should have white letters and border on a green background. **Letters should be at least 3" upper case.** It is important to insure that letters are tall enough and thick enough to be easily seen day or night.
- 2. Grade.** High Intensity Reflective Sheeting (250 candle power silver high intensity) is recommended when nighttime high visibility is necessary from long distances or at high accident intersections where quick identification of markings is important. High intensity sheeting is available in packaged letters or can be cut on a machine as with the engineer grade sheeting. High intensity sheeting meets the Federal Manual of Uniform Traffic Control Devices (MUTCD) specifications and carries a ten-year warranty.
- 3. Lettering.** Letters should conform to the standard alphabets for highway signs printed by the Federal Highway Administration. Suffix abbreviation should follow those listed in these standards, such as ALY, RD, LN, CIR, AVE, etc. Road names should not be abbreviated.
- 4. Materials.** The most commonly used material for blades is either extruded aluminum with a 0.25" inch flange thickness and a 0.090" inch web (min.) or flat sheet aluminum with a minimum thickness of 0.08 inches. 6061T6 aluminum alloy is a hard, strong alloy manufactured from flat sheet. This has been replaced, to some extent, by 5052H38 series alloy, which is softer and comes in a roll. 5052H38 is flattened on a press, but retains a memory and may warp slightly over time. Both alloys must be alodined or anodined or the sheeting may delaminate to the surface of the blank over a period of time. Thickness can range from .080" to 0.125", but 0.080" are recommended.

- 5. Posts.** Posts for elevated signs vary from round to "U" channel. Both types of post are made of aluminum or galvanized steel. The type of post chosen may depend on the environment, soil type, cost, or preference of the installing and maintaining agency. Sign mounting hardware is available for both types of post. When installing posts, it is recommended to install anchor posts, such as "Lok-Set" post anchors. These anchors will help keep the sign from leaning and will also keep vandals from twisting the sign around, a very popular pastime among juveniles. Any new obstacles have to be a break away device approved by the Federal Highway Administration.
- 6. Heights.** The height of the sign is very important. Posts come in lengths of 8 feet to 14 feet. In most cases, the taller the better. As a general rule, signs should be 7 feet or more off the ground when mounted on the post. This keeps the signs visible and can reduce some types of vandalism.
- 7. Placement.** Sign placement is generally prescribed by state and federal rules. As a general guide, signs are placed on two sides of each four-way intersection and on the right hand side of a "T" intersection. It is generally recommended that a four-way sign be used, one that displays the name of both roads using a sign-to-sign bracket. If not economically possible to place the four-way sign at every intersection, an attempt should be made to place one at every other intersection.
- 8. Installation.** Before installing any road signs, a municipality or county must call Miss Utility of West Virginia, Inc. at least 48 hours before digging. Miss Utility can be contacted 24 hours a day, seven days a week by calling toll-free **1-800-245-4848**. Routine 48-hour notifications can be made via fax or e-mail. Notification must not be made more than 10 business working days in advance of the beginning of any such work due to the possible deterioration of the locate markings. The time requirements are exclusive of Saturdays, Sundays, and legal holidays.

For additional information on the design and installation of road name signing, please refer to the following standards of the West Virginia Division of Highways.

Standards for the Design and Installation of Road Name Signing

Proposed Location of Sign at Jct. Of: And:		Posted Speed	Letter Height	Border	Arrow	County Route No.	Bkgd. Color	Legend Color
US or WV Rte.	Local Serv. Rte.	All	3"	Yes	Yes	Yes	Green	White
US or WV Rte.	Private Drive	All	3"	Yes	Yes	No	Green	White
Local Serv. Rte.	Local Serv. Rte.	35 and Above	3"	Yes	Yes	Yes	Green	White
Local Serv. Rte.	Local Serv. Rte.	Less than 35	2" or 3"	Yes	Yes	2" No - 3" Yes	Green	White
Local Serv. Rte.	Private Drive	35 and Above	3"	Yes	Yes	No	Green	White
Local Serv. Rte.	Private Drive	Less Than 35	2"	Yes	No	No	Green	White

In addition to the above noted design criteria, the following installation procedures should also be followed:

- 1) WV DOH approved supports to be used.
- 2) Supports to be standard depth in ground (normally 3').
- 3) Lateral clearance of 6' - 12' from edge of pavement should be strived for.
- 4) Vertical clearance of 7' from edge of pavement to bottom of sign should be maintained.
- 5) Existing supports for existing signs should not be used to mount road name signing except on stop and yield signs, with the positioning of these signs not affecting the purpose of the signs.

