

7 APPENDICES

7.1 Appendix A (Normative): [Normative XSD](#)

The Address Standard XML Schema Definition is broken into 2 parts. The first part contains element definitions and corresponds to Part One of the Standard. The second part contains the Address Class definitions and corresponds to Part Two of the Standard.

7.1.1 addr_type.xsd

```
<?xml version="1.0" encoding="UTF-8"?>
<xsd:schema targetNamespace="addr_type"
  xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:addr_type="addr_type"
  xmlns:gml="http://www.opengis.net/gml">
  <!--
  Draft Address Standard, version 0.4 being prepared and tested by a
  Working Group coordinated by URISA and NENA and the Census Bureau for
  submittal to the FGDC.
  -->
  <!--
  During the initial draft period the rddl can be found at
  http://wfs.co.fulton.ga.us/urisa/addr_std/addr.xsd
  -->
  <xsd:include schemaLocation=""></xsd:include>
  <xsd:include schemaLocation=""></xsd:include>
  <xsd:include schemaLocation=""></xsd:include>
  <xsd:import namespace="http://www.opengis.net/gml"
    schemaLocation="base/gml.xsd">
  <xsd:annotation>
    <xsd:documentation>
      GML 3.1.1 from Open Geospatial Consortium
    </xsd:documentation>
  </xsd:annotation>
  </xsd:import>
  <xsd:simpleType name="version_type">
  <xsd:annotation>
    <xsd:documentation xml:lang="en">
      The ID for this version
      of the Address Standard.
    </xsd:documentation>
  </xsd:annotation>
```

3631 <xsd:restriction base="xsd:token">
3632 <xsd:enumeration value='0.4' />
3633 </xsd:restriction>
3634 </xsd:simpleType>
3635 <xsd:simpleType name="Separator_type">
3636 <xsd:annotation>
3637 <xsd:documentation xml:lang="en">
3638 A symbol or word
3639 required as a separator between
3640 components of a complex element or
3641 class. The separator
3642 is required for address number ranges and for
3643 intersection addresses, and it is occasionally needed in
3644 constructing complete street numbers.
3645 1. The default separator, an
3646 empty space, is implicit and is not shown
3647 in the syntaxes of complex
3648 elements and classes.
3649 2. An explicit separator is required for
3650 address ranges and
3651 intersection addresses.
3652 3. Within a given dataset,
3653 one
3654 value should be used consistently within
3655 a given complex
3656 element.
3657 4. For complete street numbers, the separator
3658 is rarely needed and
3659 its
3660 use should be minimized. As an
3661 alternative, the separator symbol
3662 usually can be
3663 included with the address number prefix or suffix.
3664 5.
3665 The separator is not needed in creating fractions (1/2,
3666 etc.) for
3667 address number suffixes.
3668 6. Some address parsing software permits the
3669 use of ampersands to
3670 signify intersection addresses. Be wary, though
3671 --in many
3672 programming languages, ampersands are reserved for other
3673 uses, which
3674 could complicate data exchange.
3675 </xsd:documentation>

```
3676 </xsd:annotation>
3677 <xsd:restriction base="xsd:string">
3678   <xsd:pattern value='.*' />
3679 </xsd:restriction>
3680 </xsd:simpleType>
3681 <xsd:simpleType name="ElementSequenceNumber_type">
3682   <xsd:annotation>
3683     <xsd:documentation xml:lang="en">
3684       The order in which the
3685       elements of a Complete Subaddress,
3686       Complete Landmark Name, or
3687       Complete Place Name should be written.
3688     </xsd:documentation>
3689   </xsd:annotation>
3690   <xsd:restriction base="xsd:integer" />
3691 </xsd:simpleType>
3692 <xsd:simpleType name="GNISFeatureID_type">
3693   <xsd:annotation>
3694     <xsd:documentation xml:lang="en">
3695       "A permanent, unique
3696       number assigned to a geographic feature for the
3697       sole purpose of
3698       uniquely identifying that feature as a record in any
3699       information
3700       system database, dataset, file, or document and for
3701       distinguishing it
3702       from all other feature records so identified. The
3703       number is assigned
3704       sequentially (highest existing number plus one)
3705       to
3706       new records as they
3707       are created in the Geographic Names Information
3708       System."
3709     </xsd:documentation>
3710     <xsd:documentation xml:lang="en">
3711       Definition
3712       Source Geographic Names Project, USGS, 523
3713       National Center,
3714       Reston, VA
3715       20192-0523, as posted August 25, 2009 at:
3716       http://geonames.usgs.gov/domestic/metadata.htm "Feature Identifier"
3717     </xsd:documentation>
3718   </xsd:annotation>
3719   <xsd:restriction base="xsd:integer" />
3720 </xsd:simpleType>
3721 <xsd:complexType name="AddressNumberPrefix_type">
3722   <xsd:annotation>
```

3721 <xsd:documentation xml:lang="en"> The portion of the
3722 Complete Address Number which precedes the Address Number itself.
3723 </xsd:documentation>
3724 </xsd:annotation>
3725 <xsd:simpleContent>
3726 <xsd:extension base="xsd:string">
3727 <xsd:attribute name="Separator" type="addr_type:Separator_type" />
3728 </xsd:extension>
3729 </xsd:simpleContent>
3730 </xsd:complexType>
3731 <xsd:simpleType name="AddressNumber_type">
3732 <xsd:annotation>
3733 <xsd:documentation xml:lang="en">
3734 The numeric identifier
3735 for a land parcel, house,
3736 building or other feature, as defined by
3737 the official
3738 address authority for the given jurisdiction.
3739 1. The
3740 address number is defined as an integer to
3741 support address sorting,
3742 parity (even/odd) definition,
3743 and in/out of address range tests.
3744 2.
3745 Special care should be taken with records where the
3746 address number is
3747 0 (zero). Occasionally zero is issued
3748 as a valid address number (e.g.
3749 Zero Prince Street,
3750 Alexandria, VA 22314) or it can be imputed (1/2
3751 Fifth
3752 Avenue, New York, NY 10003 (for which the address number
3753 would
3754 be 0 and the suffix would be "1/2")). More often,
3755 though, the address
3756 number is either missing or
3757 non-existent, and null value has been
3758 converted to zero.
3759 3. Some addresses may contain letters, fractions,
3760 hyphens, decimals and other non-integer content within
3761 the complete
3762 address number. Those non-integer elements
3763 should be placed in the
3764 Address Number Prefix if they
3765 appear before the site number, or in

3766 the Address Number
3767 Suffix if they follow the number.
3768 4. The address
3769 number must be converted to text when it
3770 is combined with the prefix
3771 and suffix into a complete
3772 address number.
3773 5. If necessary, the
3774 Separator can be used to separate
3775 the address number from the prefix
3776 or suffix elements in
3777 constructing the complete address number.
3778 </xsd:documentation>
3779 </xsd:annotation>
3780 <xsd:restriction base="xsd:string">
3781 <xsd:pattern value="[0-9]+" />
3782 </xsd:restriction>
3783 </xsd:simpleType>
3784 <xsd:complexType name="AddressNumberSuffix_type">
3785 <xsd:annotation>
3786 <xsd:documentation xml:lang="en">
3787 The non-integer portion
3788 of the identifier for the house,
3789 building or other feature which
3790 follows the address
3791 number itself, as defined by the official address
3792 authority for the given jurisdiction.
3793 1. This element will not be
3794 applicable for most
3795 addresses. When township-range or other
3796 non-numeric
3797 geographic index references follow an address number,
3798 they are placed in this field. The address number can
3799 then be
3800 maintained as an integer for sorting and quality
3801 control tests.
3802 2. If
3803 necessary, the Separator can be used to separate
3804 the address number
3805 from the prefix or suffix elements in
3806 constructing the complete
3807 address number.
3808 </xsd:documentation>
3809 </xsd:annotation>
3810 <xsd:simpleContent>

```
3811 <xsd:extension base="xsd:string">
3812 <xsd:attribute name="Separator" type="addr_type:Separator_type" />
3813 </xsd:extension>
3814 </xsd:simpleContent>
3815 </xsd:complexType>
3816 <!-- StreetName Content -->
3817 <xsd:complexType name="StreetNameModifier_type">
3818 <xsd:annotation>
3819 <xsd:documentation xml:lang="en">
3820 A word or phrase that
3821 precedes or follows all other
3822 elements of the street name and
3823 modifies it, but is
3824 separated from the street name by a street name
3825 pre-directional and/or pre-type.
3826 The street name pre-modifier is
3827 rarely needed and its
3828 use should be minimized. The modifier can be
3829 included in
3830 the Street Name element unless it is separated from the
3831 street name by a pre-type or a pre-directional.
3832 </xsd:documentation>
3833 </xsd:annotation>
3834 <xsd:simpleContent>
3835 <xsd:extension base="xsd:string">
3836 <xsd:attribute name="Separator" type="addr_type:Separator_type"></xsd:attribute>
3837 </xsd:extension>
3838 </xsd:simpleContent>
3839 </xsd:complexType>
3840 <xsd:complexType name="StreetNameDirectional_type">
3841 <xsd:annotation>
3842 <xsd:documentation xml:lang="en">
3843 A word preceding or
3844 following the street name that
3845 indicates the directional taken by the
3846 thoroughfare from
3847 an arbitrary starting point, or the sector where it
3848 is
3849 located.
3850 1. Standard USPS English abbreviations are E, W, S, N,
3851 NE,
3852 SE, SW, NW
3853 2. Standard USPS Spanish abbreviations are E, O, S, N,
3854 NE,
3855 SE, SO, NO 3. USPS Publication 28 recommends
```

3856 abbreviating
3857 post-directionals. The Address Standards
3858 Working Group differs, and
3859 recommends storing
3860 post-directionals fully spelled out, exactly as
3861 given by
3862 the local naming authority, to avoid confusion. For
3863 example:
3864 "N W Jones St": Is it Northwest Jones Street?
3865 Ned Walter Jones
3866 Street? North Walter Jones Street? The
3867 abbreviations create
3868 ambiguity. If stored unabbreviated,
3869 directionals can be exported as
3870 standard abbreviations
3871 as needed for mailing and other purposes.
3872 </xsd:documentation>
3873 </xsd:annotation>
3874 <xsd:simpleContent>
3875 <xsd:extension base="xsd:string">
3876 <xsd:attribute name="Separator" type="addr_type:Separator_type"></xsd:attribute>
3877 </xsd:extension>
3878 </xsd:simpleContent>
3879 </xsd:complexType>
3880 <xsd:complexType name="StreetNameType_type">
3881 <xsd:annotation>
3882 <xsd:documentation xml:lang="en">
3883 The element of the
3884 complete street name preceding or
3885 following the street name element
3886 that indicates the
3887 type of street.
3888 1. A street may have either a
3889 pre-type or a post-type,
3890 or neither, but not both. 2. USPS
3891 Publication 28
3892 provides the best list of pre-types and post-types,
3893 but
3894 it is not exhaustive.
3895 2. USPS Publication 28 provides a standard
3896 list of
3897 street type abbreviations, and recommends their use. The
3898 Address Standards Working Group differs, and recommends
3899 storing
3900 pre-types and post-types fully spelled out,

3901 exactly as given by the
3902 local naming authority, to avoid
3903 confusion. If stored unabbreviated,
3904 directionals can be
3905 exported as standard abbreviations as needed for
3906 mailing
3907 and other purposes.

3908 3. Pre-types are much less common than
3909 post-types in
3910 English. They are typically used for numbered highway
3911 routes and roads. They are much more common in Spanish
3912 and French
3913 language street names.

3914 4. Occasionally a street name may have neither
3915 a prefix
3916 type or a suffix type (e.g., "Broadway.")

3917 5. Names like
3918 "County Road 28", where the street type
3919 occurs in the middle of the
3920 name, should be treated as a
3921 street name with no pre-type or
3922 post-type.

3923 </xsd:documentation>
3924 </xsd:annotation>
3925 <xsd:simpleContent>
3926 <xsd:extension base="xsd:string">
3927 <xsd:attribute name="Separator" type="addr_type:Separator_type"></xsd:attribute>
3928 </xsd:extension>
3929 </xsd:simpleContent>
3930 </xsd:complexType>
3931 <xsd:simpleType name="StreetName_type">
3932 <xsd:annotation>
3933 <xsd:documentation xml:lang="en">
3934 Official name of a
3935 street as assigned by a local
3936 governing authority, or an alternate
3937 (alias) name that
3938 is used and recognized, excluding street types,
3939 directionals, and modifiers.

3940 1. Each jurisdiction should establish
3941 its own list of
3942 street names and use it as a domain of values to
3943 validate addresses. Alternate and Official names are
3944 distinguished by
3945 the address attribute "Alias Status

3946 Attribute"
3947 2. Local addressing
3948 authorities are urged to follow
3949 consistent internal street naming
3950 practices, and to
3951 resolve internal street name inconsistencies,
3952 especially
3953 for numbered streets ("Twentieth" or "20th" ?), internal
3954 capitalization ("McIntyre" or "Mcintyre" ?), hyphens,
3955 and
3956 apostrophes.
3957 3. If alternate or abbreviated versions of street names
3958 are needed for a specialized purpose such as mailing or
3959 emergency
3960 dispatch, they can be created in views or
3961 export routines.
3962 </xsd:documentation>
3963 </xsd:annotation>
3964 <xsd:restriction base="xsd:string">
3965 <xsd:pattern value='.*' />
3966 </xsd:restriction>
3967 </xsd:simpleType>
3968 <!-- Occupancy Types -->
3969 <xsd:simpleType name="SubaddressComponentOrder_type">
3970 <xsd:annotation>
3971 <xsd:documentation xml:lang="en">
3972 The order in which
3973 SubaddressType and
3974 SubaddressIdentifier appear within an
3975 SubaddressElement when expressed as text. "Apartment 7"
3976 </xsd:documentation>
3977 </xsd:annotation>
3978 <xsd:restriction base="xsd:integer">
3979 <xsd:enumeration value="1">
3980 <xsd:annotation>
3981 <xsd:documentation>SubaddressType first, then SubaddressIdentifier
3982 (or: SubaddressElement does not include an SubaddressType).
3983 Example: "Floor 7"</xsd:documentation>
3984 </xsd:annotation>
3985 </xsd:enumeration>
3986 <xsd:enumeration value="2">
3987 <xsd:annotation>
3988 <xsd:documentation>SubaddressIdentifier first, then SubaddressType.
3989 Example: "Empire Room"</xsd:documentation>
3990 </xsd:annotation>

```
3991 </xsd:enumeration>
3992 <xsd:enumeration value="3">
3993 <xsd:annotation>
3994 <xsd:documentation>Order is not known or unstated.
3995 </xsd:documentation>
3996 </xsd:annotation>
3997 </xsd:enumeration>
3998 </xsd:restriction>
3999 </xsd:simpleType>
4000 <xsd:simpleType name="SubaddressType_type">
4001 <xsd:annotation>
4002 <xsd:documentation xml:lang="en">
4003 This is a modifier to
4004 the SubaddressIdentifier element and this
4005 cannot exist without it.
4006 The type of structure (when
4007 several structures are found at the same
4008 address), e.g.,
4009 Apartment, Tower, Block. Used with Building
4010 Identifier
4011 to designate one of several structures at a given site.
4012 Fits within the general USPS definition of a "secondary
4013 address
4014 designator" and EPA definitions of "secondary
4015 address identifier"
4016 </xsd:documentation>
4017 </xsd:annotation>
4018 <xsd:restriction base="xsd:string" />
4019 </xsd:simpleType>
4020 <xsd:simpleType name="SubaddressIdentifier_type">
4021 <xsd:annotation>
4022 <xsd:documentation xml:lang="en">
4023 The letters, numbers,
4024 words or combination thereof used
4025 to distinguish one structure from
4026 another when several
4027 occur at the same address.
4028 Used with
4029 SubaddressType to designate one of several
4030 structures at a given
4031 site. Fits within the USPS
4032 definition of a "secondary address
4033 designator" and the
4034 general EPA definition of "secondary address
4035 identifier"
```

```
4036 </xsd:documentation>
4037 </xsd:annotation>
4038 <xsd:restriction base="xsd:string" />
4039 </xsd:simpleType>
4040 <xsd:complexType name="SubaddressElement_type">
4041 <xsd:annotation>
4042 <xsd:documentation xml:lang="en">
4043 A single combination of
4044 SubaddressType and
4045 SubaddressIdentifier (or, in some cases, a
4046 SubaddressIdentifier alone), which, alone or in
4047 combination with
4048 other SubaddressElements, distinguishes
4049 one subaddress within or
4050 between structures from another
4051 when several occur within the same
4052 feature. See
4053 CompleteSubaddress for a definition of "subaddress."
4054 </xsd:documentation>
4055 </xsd:annotation>
4056 <xsd:sequence>
4057 <xsd:element name="SubaddressType" type="addr_type:SubaddressType_type"
4058 maxOccurs="1" minOccurs="0" />
4059 <xsd:element name="SubaddressIdentifier"
4060 type="addr_type:SubaddressIdentifier_type"
4061 maxOccurs="1" minOccurs="1" />
4062 </xsd:sequence>
4063 <xsd:attribute name="ElementSequenceNumber"
4064 type="addr_type:ElementSequenceNumber_type" />
4065 <xsd:attribute name="SubaddressComponentOrder"
4066 type="addr_type:SubaddressComponentOrder_type" />
4067 <xsd:attribute name="Separator" type="addr_type:Separator_type" />
4068 <xsd:attribute name="GNISFeatureID"
4069 type="addr_type:GNISFeatureID_type"></xsd:attribute>
4070 </xsd:complexType>
4071 <!-- Landmark Name Type -->
4072 <xsd:complexType name="LandmarkName_type">
4073 <xsd:annotation>
4074 <xsd:documentation xml:lang="en">
4075 The name by which a
4076 prominent feature is publicly known.
4077 Landmarks usually have a street
4078 address. A landmark name
4079 does not imply official historic landmark
4080 status, but
```

4081 simply a commonly used name that substitutes for an
4082 address number and street name in identifying the
4083 location of a
4084 specific building or feature. Generally
4085 the use of a landmark's
4086 street address is preferable
4087 because it is unambiguous. All landmark
4088 names should be
4089 cross-referenced to a street address or other
4090 coordinate
4091 location.
4092 </xsd:documentation>
4093 </xsd:annotation>
4094 <xsd:simpleContent>
4095 <xsd:extension base="xsd:string">
4096 <xsd:attribute name="ElementSequenceNumber"
4097 type="addr_type:ElementSequenceNumber_type" />
4098 <xsd:attribute name="GNISFeatureID" type="addr_type:GNISFeatureID_type" />
4099 </xsd:extension>
4100 </xsd:simpleContent>
4101 </xsd:complexType>
4102 <!-- Area and Zone Elements -->
4103 <xsd:simpleType name="CommunityPlaceName_type">
4104 <xsd:annotation>
4105 <xsd:documentation xml:lang="en">
4106 A named area, sector,
4107 or development that is not an
4108 incorporated municipality or other
4109 governmental unit,
4110 such as a neighborhood in a city, or a rural
4111 settlement
4112 in unincorporated area. Often called "urbanization" in
4113 Puerto Rican addressing usage.
4114 1. "Urbanizacion", commonly used in
4115 urban areas of
4116 Puerto Rico, is an important part of the address.
4117 Street
4118 names and address ranges are often repeated in a city,
4119 especially where a city has annexed older towns; they
4120 are
4121 distinguished by their urbanizacion or community
4122 name.
4123 2. Certain
4124 other words can be used in place of
4125 "urbanizacion": extenciones,

4126 mansiones, reparto, villa,
4127 parque, jardine, altura, alturas, colinas,
4128 estancias,
4129 extension, quintas, sector, terraza, villa, villas.
4130 3. For
4131 more information on Puerto Rican addressing
4132 conventions, see USPS
4133 Publication 28 Section 29, and
4134 USPS "Addressing Standards for Puerto
4135 Rico and the
4136 Virgin Islands".
4137 </xsd:documentation>
4138 </xsd:annotation>
4139 <xsd:restriction base="xsd:string">
4140 <xsd:pattern value='.'+ '/'>
4141 </xsd:restriction>
4142 </xsd:simpleType>
4143 <xsd:simpleType name="PlaceNameType_type">
4144 <xsd:restriction base="xsd:string">
4145 <xsd:enumeration value="USPSCommunity">
4146 <xsd:annotation>
4147 <xsd:documentation xml:lang="en">
4148 The name given by the
4149 U.S. Postal Service to the
4150 post office from which mail is delivered
4151 to the
4152 address. In many places this will be different
4153 from the name
4154 of the municipality in which the
4155 address is physically located.
4156 The
4157 name given by the U.S. Postal Service to the
4158 post office from which
4159 mail is delivered to the
4160 address. In many places this will be
4161 different
4162 from the name of the incorporated municipality
4163 in which
4164 the address is physically located.
4165 </xsd:documentation>
4166 </xsd:annotation>
4167 </xsd:enumeration>
4168 <xsd:enumeration value="MunicipalJurisdiction">
4169 <xsd:annotation>
4170 <xsd:documentation xml:lang="en">

4171 The name of the
4172 municipality (city, township, or
4173 other non-county local government)
4174 in which the
4175 address is physically located. In many places
4176 this will
4177 be different than the city name used
4178 by the U.S. Postal Service.
4179 Required by most local governments for tax and
4180 services
4181 determinations. This will be null for
4182 addresses in unincorporated
4183 portions of
4184 counties.
4185 </xsd:documentation>
4186 </xsd:annotation>
4187 </xsd:enumeration>
4188 <xsd:enumeration value="County">
4189 <xsd:annotation>
4190 <xsd:documentation xml:lang="en">
4191 The primary
4192 administrative subdivision of a
4193 state in the United States.
4194 </xsd:documentation>
4195 </xsd:annotation>
4196 </xsd:enumeration>
4197 <xsd:pattern value=".+"></xsd:pattern>
4198 </xsd:restriction>
4199 </xsd:simpleType>
4200 <xsd:simpleType name="StateName_type">
4201 <xsd:annotation>
4202 <xsd:documentation xml:lang="en">
4203 The primary legal
4204 subdivision of the United States,
4205 represented by its two letter USPS
4206 abbreviation.
4207 This is the only element stored in abbreviated form.
4208 </xsd:documentation>
4209 </xsd:annotation>
4210 <xsd:restriction base="xsd:token">
4211 <!-- "US State and The District of Columbia" Abbreviations -->
4212 <xsd:pattern value=".*" />
4213 </xsd:restriction>
4214 </xsd:simpleType>
4215 <xsd:simpleType name="ZipCode_type">

4216 <xsd:annotation>
4217 <xsd:documentation xml:lang="en">
4218 A five-digit code that
4219 identifies a specific pseudo
4220 geographic delivery area. ZIP Codes can
4221 represent an
4222 area within a state, an area that crosses state
4223 boundaries (unusual condition) or a single building or
4224 company that
4225 has a very high mail volume. "ZIP" is an
4226 acronym for Zone Improvement
4227 Plan. Zero pad from the
4228 left to fill the range as in 01776.
4229 </xsd:documentation>
4230 </xsd:annotation>
4231 <xsd:restriction base="xsd:string">
4232 <xsd:pattern value="[0-9]{5}" />
4233 </xsd:restriction>
4234 </xsd:simpleType>
4235 <xsd:simpleType name="ZipPlus4_type">
4236 <xsd:annotation>
4237 <xsd:documentation xml:lang="en">
4238 A four-digit extension
4239 of the five-digit Zip Code that
4240 identifies a portion of a carrier
4241 route for USPS mail
4242 delivery. Zero pad from the left to fill the
4243 range as in
4244 0030.
4245 </xsd:documentation>
4246 </xsd:annotation>
4247 <xsd:restriction base="xsd:string">
4248 <xsd:pattern value="[0-9]{4}" />
4249 </xsd:restriction>
4250 </xsd:simpleType>
4251 <xsd:simpleType name="CountryName_type">
4252 <xsd:annotation>
4253 <xsd:documentation xml:lang="en">
4254 The name of the country
4255 in which the address is located.
4256 1.Although the scope of this
4257 standard is restricted to
4258 US addresses, this item is included for two
4259 reasons: to
4260 facilitate reconciliation with address standards of

4261 other
4262 nations, and to accommodate files which mix
4263 addresses from the US and
4264 other countries. 2. ISO 3166-1
4265 official short English names are
4266 specified because they
4267 a familiar and concise, and because ISO 3166-1
4268 is
4269 specified in the UPU address standard. 3. The names can
4270 be found
4271 at:
4272 <http://www.iso.org/iso/en/prods-services/iso3166ma/02iso-3166-code-lists/list-en1.html>
4273 </xsd:documentation>
4274 </xsd:annotation>
4275 <xsd:restriction base="xsd:string" />
4276 </xsd:simpleType>
4277 <xsd:simpleType name="USPSBoxType_type">
4278 <xsd:annotation>
4279 <xsd:documentation xml:lang="en">
4280 A box used for receipt
4281 of USPS mail. The box may be
4282 located in the post office lobby (e.g. PO
4283 Box), on the
4284 customer's premises or other USPS authorized place (e.g.
4285 rural route box).
4286 </xsd:documentation>
4287 </xsd:annotation>
4288 <xsd:restriction base="xsd:string">
4289 <xsd:pattern value='.*' />
4290 </xsd:restriction>
4291 </xsd:simpleType>
4292 <xsd:simpleType name="USPSBoxId_type">
4293 <xsd:annotation>
4294 <xsd:documentation xml:lang="en">
4295 The numbers or letters
4296 distinguishing one box from
4297 another within a post office. May include
4298 slash, hyphen
4299 or period.
4300 </xsd:documentation>
4301 </xsd:annotation>
4302 <xsd:restriction base="xsd:string">
4303 <xsd:pattern value='.*' />
4304 </xsd:restriction>
4305 </xsd:simpleType>


```
4306 <xsd:complexType name="USPSBox_type">
4307 <xsd:annotation>
4308 <xsd:documentation>A container for the receipt of USPS mail uniquely
4309 identified by the combination of a USPS Box Type and a USPS Box ID.
4310 </xsd:documentation>
4311 </xsd:annotation>
4312 <xsd:sequence>
4313 <xsd:element name="USPSBoxType" type="addr_type:USPSBoxType_type"
4314 maxOccurs="1" minOccurs="1" />
4315 <xsd:element name="USPSBoxId" type="addr_type:USPSBoxId_type"
4316 maxOccurs="1" minOccurs="1" />
4317 </xsd:sequence>
4318 </xsd:complexType>
4319 <xsd:simpleType name="USPSBoxGroupType_type">
4320 <xsd:annotation>
4321 <xsd:documentation xml:lang="en">
4322 A collection of postal
4323 boxes served from a single
4324 distribution point.
4325 This group includes
4326 rural routes, highway contract
4327 routes, postal service centers,
4328 overseas military common
4329 mail rooms and military unit numbers.
4330 </xsd:documentation>
4331 </xsd:annotation>
4332 <xsd:restriction base="xsd:string">
4333 <xsd:pattern value='.*' />
4334 </xsd:restriction>
4335 </xsd:simpleType>
4336 <xsd:simpleType name="USPSBoxGroupId_type">
4337 <xsd:annotation>
4338 <xsd:documentation xml:lang="en">
4339 The numbers or letters
4340 distinguishing one group of boxes
4341 from another within a distribution
4342 point. May include
4343 hyphen, slash or period.
4344 </xsd:documentation>
4345 </xsd:annotation>
4346 <xsd:restriction base="xsd:string">
4347 <xsd:pattern value='.*' />
4348 </xsd:restriction>
4349 </xsd:simpleType>
4350 <xsd:complexType name="USPSRoute_type">
```

```
4351 <xsd:sequence>
4352 <xsd:element name="USPSBoxGroupType"
4353 type="addr_type:USPSBoxGroupType_type"
4354 maxOccurs="1" minOccurs="1" />
4355 <xsd:element name="USPSBoxGroupId" type="addr_type:USPSBoxGroupId_type"
4356 maxOccurs="1" minOccurs="1" />
4357 </xsd:sequence>
4358 </xsd:complexType>
4359 <xsd:complexType name="USPSAddress_type">
4360 <xsd:sequence>
4361 <xsd:element name="USPSRoute" type="addr_type:USPSRoute_type"
4362 maxOccurs="1" minOccurs="1" />
4363 <xsd:element name="USPSBox" type="addr_type:USPSBox_type"
4364 maxOccurs="1" minOccurs="1" />
4365 </xsd:sequence>
4366 </xsd:complexType>
4367 <xsd:simpleType name="USPSGeneralDeliveryPoint_type">
4368 <xsd:annotation>
4369 <xsd:documentation xml:lang="en">
4370 A central point where
4371 mail may be picked up by the
4372 addressee. Two values are permitted:
4373 "General Delivery"
4374 (for post offices), and ship's names (for overseas
4375 military addresses).
4376 </xsd:documentation>
4377 </xsd:annotation>
4378 <xsd:restriction base="xsd:string">
4379 <xsd:pattern value='.*' />
4380 </xsd:restriction>
4381 </xsd:simpleType>
4382 <xsd:simpleType name="AddressAuthorityIdentifiertype_old">
4383 <xsd:annotation>
4384 <xsd:documentation xml:lang="en">
4385 A Concatenation of
4386 codes found in FIPS 5-2, 6-4, and
4387 55-3 data guides, with a locally
4388 defined code that MUST
4389 be defined in the metadata. The general format
4390 is
4391 (expressed as regular expressions)
4392 [0-9]{2}[0-9]{3}[0-9]{5}[0-9]{4}.
4393 </xsd:documentation>
4394 </xsd:annotation>
4395 <xsd:restriction base="xsd:string">
```

```
4396 <xsd:pattern value='.*' />
4397 </xsd:restriction>
4398 </xsd:simpleType>
4399 <!-- Locational type -->
4400 <xsd:simpleType name="AddressXCoordinate_type">
4401 <xsd:annotation>
4402 <xsd:documentation xml:lang="en">The X coordinate of the
4403 address location.</xsd:documentation>
4404 </xsd:annotation>
4405 <xsd:restriction base="xsd:double" />
4406 </xsd:simpleType>
4407 <xsd:simpleType name="AddressYCoordinate_type">
4408 <xsd:annotation>
4409 <xsd:documentation xml:lang="en">The Y coordinate of the
4410 address location.</xsd:documentation>
4411 </xsd:annotation>
4412 <xsd:restriction base="xsd:double" />
4413 </xsd:simpleType>
4414 <xsd:simpleType name="AddressLongitude_type">
4415 <xsd:annotation>
4416 <xsd:documentation xml:lang="en">
4417 The longitude
4418 coordinate of the address location, noted
4419 in decimal degrees. For
4420 point and polygon features,
4421 coordinate pairs typically locate the
4422 point of
4423 assignment: a centroid point, a point locating the entry
4424 to a
4425 property, etc.
4426 </xsd:documentation>
4427 </xsd:annotation>
4428 <xsd:restriction base="xsd:double" />
4429 </xsd:simpleType>
4430 <xsd:simpleType name="AddressLatitude_type">
4431 <xsd:annotation>
4432 <xsd:documentation xml:lang="en">
4433 The latitude coordinate
4434 of the address location, noted
4435 in decimal degrees. For point and
4436 polygon features,
4437 coordinate pairs typically locate the point of
4438 assignment: a centroid point, a point locating the entry
4439 to a
4440 property, etc.
```

```
4441 </xsd:documentation>
4442 </xsd:annotation>
4443 <xsd:restriction base="xsd:double" />
4444 </xsd:simpleType>
4445 <xsd:simpleType name="USNationalGridCoordinate_type">
4446 <xsd:annotation>
4447 <xsd:documentation xml:lang="en">
4448 The USNG or US National
4449 Grid is an alphanumeric
4450 reference system that overlays the Universal
4451 Transverse
4452 Mercator (UTM) numerical coordinate system. A USNG
4453 coordinate consists of three parts, the:
4454 1. Grid Zone Designation
4455 (GZD) for worldwide unique
4456 geoaddresses (two digits plus one letter,
4457 developed from
4458 the UTM system).
4459 2. 100,000-meter Square Identification
4460 for regional
4461 areas (two letters).
4462 3. Grid Coordinates for local areas
4463 (always an even
4464 number of digits between 2 and 10 depending upon
4465 precision necessary to uniquely identify the location).
4466 Look to
4467 www.fgdc.gov/standards/status/usng.html for a
4468 normative definition.
4469 Adapted from US National Grid, FDGC-STD-011-2001, Section 3.3
4470 </xsd:documentation>
4471 </xsd:annotation>
4472 <xsd:restriction base="xsd:string">
4473 <xsd:pattern value='.*' />
4474 </xsd:restriction>
4475 </xsd:simpleType>
4476 <xsd:simpleType name="AddressElevation_type">
4477 <xsd:annotation>
4478 <xsd:documentation xml:lang="en">Distance of the address
4479 in specified units above or below a vertical datum, as defined by a
4480 specified coordinate reference system. </xsd:documentation>
4481 </xsd:annotation>
4482 <xsd:restriction base="xsd:double" />
4483 </xsd:simpleType>
4484 <xsd:simpleType name="AddressZLevel_type">
4485 <xsd:annotation>
```

```
4486 <xsd:documentation xml:lang="en">
4487 Floor or level of the
4488 structure. The lowest level of a building is 1, and ascending
4489 numbers are assigned in order to each higher level.
4490 </xsd:documentation>
4491 </xsd:annotation>
4492 <xsd:restriction base="xsd:string">
4493 <xsd:pattern value='.*' />
4494 </xsd:restriction>
4495 </xsd:simpleType>
4496 <xsd:simpleType name="AddressCoordinateReferenceSystemID_type">
4497 <xsd:annotation>
4498 <xsd:documentation xml:lang="en">A name or number which,
4499 along with the Address Coordinate Reference System Authority,
4500 identifies the coordinate reference system to which Address X
4501 Coordinate and Address Y Coordinate. Address Latitude and Address
4502 Longitude, US National Grid Coordinate, or Address Elevation values
4503 are referenced. </xsd:documentation>
4504 </xsd:annotation>
4505 <xsd:restriction base="xsd:integer" />
4506 </xsd:simpleType>
4507 <xsd:simpleType name="AddressCoordinateReferenceSystemAuthority_type">
4508 <xsd:annotation>
4509 <xsd:documentation xml:lang="en">The Authority that
4510 assigns the unique Address Coordinate Reference System ID (number or
4511 name) to the Address Coordinate Reference System to which the
4512 Address X Coordinate and Address Y Coordinate, Address Latitude and
4513 Address Longitude, US National Grid Coordinate, or Address Elevation
4514 are referenced. </xsd:documentation>
4515 </xsd:annotation>
4516 <xsd:restriction base="xsd:string" />
4517 </xsd:simpleType>
4518 <xsd:complexType name="AddressCoordinateReferenceSystem_type">
4519 <xsd:sequence>
4520 <xsd:element name="AddressCoordinateReferenceSystemAuthority"
4521 type="addr_type:AddressCoordinateReferenceSystemAuthority_type" />
4522 <xsd:element name="AddressCoordinateReferenceSystemID"
4523 type="addr_type:AddressCoordinateReferenceSystemID_type"></xsd:element>
4524 </xsd:sequence>
4525 </xsd:complexType>
4526 <!-- Non Locational Elements -->
4527 <xsd:simpleType name="AddressID_type">
4528 <xsd:annotation>
4529 <xsd:documentation xml:lang="en">The unique
4530 identification number assigned to an address by the addressing
```

4531 authority. The ID number must be unique for each address assigned by
4532 an addressing authority.
4533 </xsd:documentation>
4534 </xsd:annotation>
4535 <xsd:restriction base="xsd:string">
4536 <xsd:pattern value='.*' />
4537 </xsd:restriction>
4538 </xsd:simpleType>
4539 <xsd:simpleType name="DataSetID_type">
4540 <xsd:annotation>
4541 <xsd:documentation xml:lang="en">An identifier in each
4542 record of a transmitted dataset, assigned by the sender or the
4543 receiver of the dataset, to link each record of the dataset to the
4544 file-level metadata that accompanies the dataset.
4545 </xsd:documentation>
4546 </xsd:annotation>
4547 <xsd:restriction base="xsd:string">
4548 <xsd:pattern value='.*' />
4549 </xsd:restriction>
4550 </xsd:simpleType>
4551
4552 <xsd:simpleType name="AddressReferenceSystemId_type">
4553 <xsd:annotation>
4554 <xsd:documentation xml:lang="en">A unique identifier of
4555 the Address Reference System for a specified area (Address Reference
4556 System Extent). </xsd:documentation>
4557 </xsd:annotation>
4558 <xsd:restriction base="xsd:integer" />
4559 </xsd:simpleType>
4560 <xsd:simpleType name="AddressReferenceSystemName_type">
4561 <xsd:annotation>
4562 <xsd:documentation xml:lang="en">The name of the address
4563 system used in a specified area (Address Reference System Extent).
4564 </xsd:documentation>
4565 </xsd:annotation>
4566 <xsd:restriction base="xsd:string" />
4567 </xsd:simpleType>
4568 <xsd:simpleType name="AddressReferenceSystemAuthority_type">
4569 <xsd:annotation>
4570 <xsd:documentation xml:lang="en">The Authority that
4571 assigns the unique Address Coordinate Reference System ID (number or
4572 name) to
4573 the Address Coordinate Reference System to which the Address
4574 X
4575 Coordinate and Address Y

4576 Coordinate, Address Latitude and Address
4577 Longitude, US National Grid
4578 Coordinate, or Address Elevation are
4579 referenced.
4580 </xsd:documentation>
4581 </xsd:annotation>
4582 <xsd:restriction base="xsd:string" />
4583 </xsd:simpleType>
4584 <xsd:complexType name="AddressReferenceSystemExtent_type">
4585 <xsd:annotation>
4586 <xsd:documentation xml:lang="en">Boundary of the area(s)
4587 within which an Address Reference System is used.
4588 </xsd:documentation>
4589 </xsd:annotation>
4590 <xsd:complexContent>
4591 <xsd:restriction base="gml:MultiSurfaceType" />
4592 </xsd:complexContent>
4593 </xsd:complexType>
4594 <xsd:simpleType name="AddressReferenceSystemType_type">
4595 <xsd:annotation>
4596 <xsd:documentation xml:lang="en">
4597 The category of address
4598 reference system in use. The
4599 type of reference system determines and
4600 guides the
4601 assignment of numbers within the Address Reference
4602 System
4603 Extent.
4604 </xsd:documentation>
4605 </xsd:annotation>
4606 <xsd:restriction base="xsd:string">
4607 <xsd:enumeration value="Axial"></xsd:enumeration>
4608 <xsd:enumeration value="Grid"></xsd:enumeration>
4609 <xsd:enumeration value="Radial"></xsd:enumeration>
4610 <xsd:enumeration value="Linear Non-Axial"></xsd:enumeration>
4611 <xsd:enumeration value="Distance"></xsd:enumeration>
4612 <xsd:enumeration value="Area Based"></xsd:enumeration>
4613 </xsd:restriction>
4614 </xsd:simpleType>
4615 <xsd:complexType name="AddressReferenceSystemRules_type">
4616 <xsd:annotation>
4617 <xsd:documentation xml:lang="en">
4618 The rules by which
4619 address numbers, street names and
4620 other components of a thoroughfare

```
4621 address are
4622 determined.
4623 </xsd:documentation>
4624 </xsd:annotation>
4625 <xsd:sequence>
4626 <xsd:element name="AddressReferenceSystemBlockRules"
4627 type="addr_type:AddressReferenceSystemBlockRules_type" minOccurs="0"
4628 maxOccurs="unbounded"></xsd:element>
4629 <xsd:element name="AddressReferenceSystemNumberingRules"
4630 type="addr_type:AddressReferenceSystemNumberingRules_type"
4631 minOccurs="0" maxOccurs="unbounded"></xsd:element>
4632 <xsd:element name="AddressReferenceSystemStreetNamingRules"
4633 type="addr_type:AddressReferenceSystemStreetNamingRules_type"
4634 minOccurs="0" maxOccurs="unbounded"></xsd:element>
4635 <xsd:element
4636 name="AddressReferenceSystemStreetTypeDirectionalAndModifierRules"
4637 type="addr_type:AddressReferenceSystemStreetTypeDirectionalAndModifierRules_type"
4638 >
4639 minOccurs="0" maxOccurs="unbounded"></xsd:element>
4640 <xsd:element
4641 name="AddressReferenceSystemPlaceNameStateCountyAndZipCodeRules"
4642 type="addr_type:AddressReferenceSystemPlaceNameStateCountryAndZipCodeRules_type"
4643 >
4644 minOccurs="0" maxOccurs="unbounded"></xsd:element>
4645 <xsd:element name="AddressReferenceSystemSubaddressRules"
4646 type="addr_type:AddressReferenceSystemSubaddressRules_type"
4647 minOccurs="0" maxOccurs="unbounded"></xsd:element>
4648 </xsd:sequence>
4649 </xsd:complexType>
4650 <xsd:simpleType name="AddressReferenceSystemBlockRules_type">
4651 <xsd:annotation>
4652 <xsd:documentation xml:lang="en">This element defines a
4653 block in an Address Reference System, and sets forth the rules for
4654 block ranges and block breaks. </xsd:documentation>
4655 </xsd:annotation>
4656 <xsd:restriction base="xsd:string" />
4657 </xsd:simpleType>
4658 <xsd:simpleType name="AddressReferenceSystemNumberingRules_type">
4659 <xsd:annotation>
4660 <xsd:documentation xml:lang="en">The rules for numbering
4661 along a thoroughfare, including parity (odd/even side definition),
4662 and numbering increment distance and value.</xsd:documentation>
4663 </xsd:annotation>
```



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4666 <xsd:restriction base="xsd:string" />
4667 </xsd:simpleType>
4668 <xsd:simpleType name="AddressReferenceSystemStreetNamingRules_type">
4669 <xsd:annotation>
4670 <xsd:documentation xml:lang="en">The rules for the
4671 selection and use of street names within an Address Reference System
4672 </xsd:documentation>
4673 </xsd:annotation>
4674 <xsd:restriction base="xsd:string" />
4675 </xsd:simpleType>
4676 <xsd:simpleType
4677 name="AddressReferenceSystemStreetTypeDirectionalAndModifierRules_type">
4678 <xsd:annotation>
4679 <xsd:documentation xml:lang="en">Rules pertaining to the
4680 use of street types (suffix and prefix), directionals (prefix and
4681 suffix), and modifiers (prefix and suffix) of street names.
4682 </xsd:documentation>
4683 </xsd:annotation>
4684 <xsd:restriction base="xsd:string" />
4685 </xsd:simpleType>
4686 <xsd:simpleType
4687 name="AddressReferenceSystemPlaceNameStateCountryAndZipCodeRules_type">
4688 <xsd:annotation>
4689 <xsd:documentation xml:lang="en">This element contains
4690 rules for the use of place names, state names, country names, and
4691 ZIP Codes within the jurisdiction of an Address Authority.
4692 </xsd:documentation>
4693 </xsd:annotation>
4694 <xsd:restriction base="xsd:string" />
4695 </xsd:simpleType>
4696 <xsd:simpleType name="AddressReferenceSystemSubaddressRules_type">
4697 <xsd:annotation>
4698 <xsd:documentation xml:lang="en">The rules that are
4699 applied to the addressing of areas within structures as subaddresses
4700 (units, suites, apartments, spaces, etc.) within a given Address
4701 Reference System</xsd:documentation>
4702 </xsd:annotation>
4703 <xsd:restriction base="xsd:string" />
4704 </xsd:simpleType>
4705 <xsd:complexType name="AddressReferenceSystemAxis_type">
4706 <xsd:annotation>
4707 <xsd:documentation xml:lang="en">The line that defines
4708 the points of origin for address numbering along thoroughfares that
4709 intersect it, or which are numbered in parallel to streets that
4710 intersect it. It may be a road, another geographic feature, or an
```

```
4711     imaginary line.</xsd:documentation>
4712 </xsd:annotation>
4713 <xsd:complexContent>
4714   <xsd:restriction base="gml:MultiCurveType">
4715     </xsd:restriction>
4716   </xsd:complexContent>
4717 </xsd:complexType>
4718 <xsd:complexType name="AddressReferenceSystemAxisPointOfBeginning_type">
4719   <xsd:annotation>
4720     <xsd:documentation xml:lang="en">Coordinate location of
4721     the beginning point of address numbering along an Address Reference
4722     System Axis. </xsd:documentation>
4723   </xsd:annotation>
4724   <xsd:complexContent>
4725     <xsd:extension base="gml:PointType"></xsd:extension>
4726   </xsd:complexContent>
4727 </xsd:complexType>
4728 <xsd:complexType name="AddressReferenceSystemReferencePolyline_type">
4729   <xsd:annotation>
4730     <xsd:documentation xml:lang="en">A street, geometric
4731     line, or other line used to measure address number assignment
4732     intervals and ranges within an Address Reference System. The Address
4733     Reference System Reference Polyline may consist of a beginning
4734     point, one or more segments of a street centerline, geographically
4735     identified line, such as a line of latitude or longitude, a
4736     land-division based line, such as a township, range, or section
4737     line, or an imaginary line constructed for the purpose of allocating
4738     address ranges and address numbers.</xsd:documentation>
4739   </xsd:annotation>
4740   <xsd:complexContent>
4741     <xsd:restriction base="gml:MultiCurveType"></xsd:restriction>
4742   </xsd:complexContent>
4743 </xsd:complexType>
4744 <xsd:complexType name="AddressReferenceSystemRangeBreakpoint_type">
4745   <xsd:annotation>
4746     <xsd:documentation xml:lang="en">A point along a street
4747     or other thoroughfare within an Address Reference System where an
4748     address range beginning and/or endpoint is located.
4749   </xsd:documentation>
4750 </xsd:annotation>
4751   <xsd:complexContent>
4752     <xsd:extension base="gml:PointType">
4753     </xsd:extension>
4754   </xsd:complexContent>
4755 </xsd:complexType>
```

```
4756 <xsd:complexType name="AddressReferenceSystemRangeBreakline_type">
4757 <xsd:annotation>
4758 <xsd:documentation xml:lang="en">A line connecting the
4759 Address Reference System Range Breakpoints with the same value
4760 within an Address Reference System</xsd:documentation>
4761 </xsd:annotation>
4762 <xsd:complexContent>
4763 <xsd:restriction base="gml:MultiCurveType">
4764 </xsd:restriction>
4765 </xsd:complexContent>
4766 </xsd:complexType>
4767 <xsd:complexType name="AddressReferenceSystemRangePolygon_type">
4768 <xsd:annotation>
4769 <xsd:documentation xml:lang="en">A line connecting the
4770 Address Reference System Range Breakpoints with the same value
4771 within an Address Reference System</xsd:documentation>
4772 </xsd:annotation>
4773 <xsd:complexContent>
4774 <xsd:restriction base="gml:MultiSurfaceType">
4775 </xsd:restriction>
4776 </xsd:complexContent>
4777 </xsd:complexType>
4778 <xsd:simpleType name="AddressReferenceSystemReferenceDocumentCitation_type">
4779 <xsd:annotation>
4780 <xsd:documentation xml:lang="en">A bibliographic
4781 reference to an ordinance, map, manual, or other document in which
4782 the rules governing an Address Reference System are written.
4783 </xsd:documentation>
4784 </xsd:annotation>
4785 <xsd:restriction base="xsd:string" />
4786 </xsd:simpleType>
4787 <xsd:complexType name="AddressReferenceSystem_type">
4788 <xsd:annotation>
4789 <xsd:documentation>An Address Reference System is a set of rules and
4790 geometries that define how addresses are
4791 assigned along thoroughfares
4792 and/or within a given area (Address Reference
4793 System Extent).
4794 At
4795 minimum, an Address Reference System must specify where Complete
4796 Address Number sequences
4797 begin and how Complete Address Numbers are
4798 assigned along the length of
4799 thoroughfares governed by
4800 the Address
```

4801 Reference System within the Address Reference System
4802 Extent. Address
4803 Reference Systems
4804 typically provide rules governing left-right parity
4805 of Complete Address
4806 Numbers, assignment of Street Names
4807 and street
4808 types, use of directionals and quadrants, and other aspects
4809 of
4810 address assignment. An Address
4811 Reference System that is based on axis
4812 lines, an Address Reference System
4813 Axis defined for each axis used
4814 to
4815 define address assignment. Each Address Reference System Axis must
4816 have an identified Address Reference
4817 System Axis Point Of Beginning.
4818 An Address Reference System is known by
4819 its Address Reference System
4820 Name (required). Additional business rules for an Address Reference
4821 System are described in the Address Reference
4822 System Rules.
4823 </xsd:documentation>
4824 </xsd:annotation>
4825 <xsd:sequence>
4826 <xsd:element name="AddressReferenceSystemId"
4827 type="addr_type:AddressReferenceSystemId_type" maxOccurs="1"
4828 minOccurs="1" />
4829 <xsd:element name="AddressReferenceSystemName"
4830 type="addr_type:AddressReferenceSystemName_type" maxOccurs="1"
4831 minOccurs="1" />
4832 <xsd:element name="AddressReferenceSystemAuthority"
4833 type="addr_type:AddressReferenceSystemAuthority_type" maxOccurs="1"
4834 minOccurs="0" />
4835 <xsd:element name="AddressReferenceSystemExtent"
4836 type="addr_type:AddressReferenceSystemExtent_type" maxOccurs="1"
4837 minOccurs="0" />
4838 <xsd:element name="AddressReferenceSystemType"
4839 type="addr_type:AddressReferenceSystemType_type" maxOccurs="1"
4840 minOccurs="0" />
4841 <xsd:element name="AddressReferenceSystemRules"
4842 type="addr_type:AddressReferenceSystemRules_type" maxOccurs="1"
4843 minOccurs="0" />
4844 <xsd:element name="AddressReferenceSystemAxis"
4845 type="addr_type:AddressReferenceSystemAxis_type" maxOccurs="1"

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4846 minOccurs="0" />
4847 <xsd:element name="AddressReferenceSystemAxisPointOfBeginning"
4848 type="addr_type:AddressReferenceSystemAxisPointOfBeginning_type"
4849 maxOccurs="1" minOccurs="0" />
4850 <xsd:element name="AddressReferenceSystemReferencePolyline"
4851 type="addr_type:AddressReferenceSystemReferencePolyline_type"
4852 maxOccurs="unbounded" minOccurs="0" />
4853 <xsd:element name="AddressReferenceSystemRangeBreakpoint"
4854 type="addr_type:AddressReferenceSystemRangeBreakpoint_type"
4855 maxOccurs="1" minOccurs="0" />
4856 <xsd:element name="AddressReferenceSystemRangeBreakline"
4857 type="addr_type:AddressReferenceSystemRangeBreakline_type"
4858 maxOccurs="unbounded" minOccurs="0" />
4859 <xsd:element name="AddressReferenceSystemReferenceDocumentCitation"
4860 type="addr_type:AddressReferenceSystemReferenceDocumentCitation_type"
4861 maxOccurs="unbounded" minOccurs="0" />
4862 </xsd:sequence>
4863 </xsd:complexType>
4864 <xsd:complexType name="RelatedAddressID_type">
4865 <xsd:annotation>
4866 <xsd:documentation xml:lang="en">
4867 The identifier of an
4868 address that is related to the
4869 identifier of another address.
4870 </xsd:documentation>
4871 </xsd:annotation>
4872 <xsd:simpleContent>
4873 <xsd:extension base="addr_type:AddressID_type">
4874 <xsd:attribute name="AddressRelationType"
4875 type="addr_type:AddressRelationType_type" />
4876 </xsd:extension>
4877 </xsd:simpleContent>
4878 </xsd:complexType>
4879 <xsd:simpleType name="AddressRelationType_type">
4880 <xsd:annotation>
4881 <xsd:documentation xml:lang="en">The manner in which an
4882 address identified by a RelatedAddressID is related to an address
4883 identified by an AddressID.
4884 </xsd:documentation>
4885 </xsd:annotation>
4886 <xsd:restriction base="xsd:string">
4887 <xsd:pattern value=".*" />
4888 </xsd:restriction>
4889 </xsd:simpleType>
4890 <xsd:simpleType name="RelatedTransportationFeatureID_type">
```

```
4891 <xsd:annotation>
4892 <xsd:documentation xml:lang="en">The unique identifier
4893 assigned (within the reference transportation base model) to a
4894 transportation feature to which an address is related. see U.S.
4895 Federal Geographic Data Committee, "Framework Data Content Standard
4896 Part 7: Transportation base."
4897 "Framework Data Content Standard Part
4898 7c: Roads."
4899 </xsd:documentation>
4900 </xsd:annotation>
4901 <xsd:restriction base="xsd:string">
4902 <xsd:pattern value='.*' />
4903 </xsd:restriction>
4904 </xsd:simpleType>
4905 <xsd:simpleType name="AddressTransportationFeatureID_type">
4906 <xsd:annotation>
4907 <xsd:documentation xml:lang="en">The unique identifier
4908 assigned to the particular feature that represents an address within
4909 a transportation base model. see U.S. Federal Geographic Data
4910 Committee, "Framework Data Content Standard Part 7: Transportation
4911 base."
4912 "Framework Data Content Standard Part 7c: Roads."
4913 </xsd:documentation>
4914 </xsd:annotation>
4915 <xsd:restriction base="xsd:string">
4916 <xsd:pattern value='.*' />
4917 </xsd:restriction>
4918 </xsd:simpleType>
4919 <xsd:simpleType name="AddressTransportationFeatureType_type">
4920 <xsd:annotation>
4921 <xsd:documentation xml:lang="en">The type of
4922 transportation feature (TranFeature) used to represent an address.
4923 For transportation features generally: U.S. Federal Geographic Data
4924 Committee, "Framework Data Content Standard Part 7: Transportation
4925 base."
4926 For roads features only: U.S. Federal Geographic Data
4927 Committee,
4928 "Framework Data Content Standard Part 7: Transportation
4929 base," as
4930 extended by "Framework Data Content Standard Part 7c:
4931 Roads."
4932 </xsd:documentation>
4933 </xsd:annotation>
4934 <xsd:restriction base="xsd:string">
4935 <xsd:pattern value='.*' />
```

```
4936 </xsd:restriction>
4937 </xsd:simpleType>
4938 <xsd:simpleType name="AddressTransportationSystemAuthority_type">
4939 <xsd:annotation>
4940 <xsd:documentation xml:lang="en">The authority that
4941 maintains the transportation base model specified by the Address
4942 Transportation System Name, and assigns Address Transportation
4943 Feature I Ds to the features it represents.
4944 </xsd:documentation>
4945 </xsd:annotation>
4946 <xsd:restriction base="xsd:string">
4947 <xsd:pattern value='.*' />
4948 </xsd:restriction>
4949 </xsd:simpleType>
4950 <xsd:simpleType name="AddressTransportationSystemName_type">
4951 <xsd:annotation>
4952 <xsd:documentation xml:lang="en">The name of the
4953 transportation base model to which the address is related.
4954 </xsd:documentation>
4955 </xsd:annotation>
4956 <xsd:restriction base="xsd:string">
4957 <xsd:pattern value='.*' />
4958 </xsd:restriction>
4959 </xsd:simpleType>
4960 <xsd:simpleType name="AddressParcelIdentifier_type">
4961 <xsd:annotation>
4962 <xsd:documentation xml:lang="en">The primary permanent
4963 identifier, as defined by the Address Parcel Identifier Source, for
4964 a parcel that includes the land or feature identified by an address.
4965 A parcel is "a single cadastral unit, which is the spatial
4966 extent of the past, present, and future rights and interests in real
4967 property."
4968 Definition source for "parcel identifier":
4969 Adapted from FGDC, May
4970 2008. "Geographic Information Framework
4971 Data Content Standard
4972 Part 1: Cadastral." Section 4.2.
4973 Definition source for "parcel": FGDC, May 2008.
4974 "Cadastral Data
4975 Content Standard for the National Spatial Data
4976 Infrastructure."
4977 Version 1.4 – Fourth Revision. p. 45. (Part 3.2
4978 "Parcel)
4979 </xsd:documentation>
4980 </xsd:annotation>
```

```
4981 <xsd:restriction base="xsd:string">
4982   <xsd:pattern value='.*' />
4983 </xsd:restriction>
4984 </xsd:simpleType>
4985 <xsd:simpleType name="AddressParcelIdentifierSource_type">
4986   <xsd:annotation>
4987     <xsd:documentation xml:lang="en">The permanent
4988     identifier for the agency, organization, or jurisdiction that
4989     assigns and maintains the Address Parcel Identifier.
4990     Definition
4991     source: FGDC, May 2008. "Geographic Information Framework Data
4992     Content Standard Part 1: Cadastral." Section 4.7.
4993   </xsd:documentation>
4994 </xsd:annotation>
4995   <xsd:restriction base="xsd:string">
4996     <xsd:pattern value='.*' />
4997   </xsd:restriction>
4998 </xsd:simpleType>
4999 <xsd:simpleType name="AddressUUID_type">
5000   <xsd:annotation>
5001     <xsd:documentation xml:lang="en">
5002     The unique
5003     identification number assigned to an address
5004     by the addressing
5005     authority. The ID number must be
5006     unique for each address assigned by
5007     an addressing
5008     authority. This, combined with the FIPS number of the
5009     addressing authority, can provide a unique ID for every
5010     address in
5011     the US.
5012   </xsd:documentation>
5013 </xsd:annotation>
5014   <xsd:restriction base="xsd:string">
5015     <xsd:pattern value='.*' />
5016   </xsd:restriction>
5017 </xsd:simpleType>
5018 <xsd:simpleType name="AssociatedAddressId_type">
5019   <xsd:annotation>
5020     <xsd:documentation xml:lang="en">
5021     The unique
5022     identification number of and address related to this one.
5023   </xsd:documentation>
5024 </xsd:annotation>
5025   <xsd:restriction base="xsd:string">
```



```
5026 <xsd:pattern value='.*' />
5027 </xsd:restriction>
5028 </xsd:simpleType>
5029 <xsd:simpleType name="MailableAddress_type">
5030 <xsd:annotation>
5031 <xsd:documentation xml:lang="en">
5032 Identifies whether an
5033 addresses receives USPS mail
5034 delivery (that is, the address is
5035 occupiable, and the
5036 USPS provides on-premises USPS mail
5037 delivery to
5038 it).
5039 </xsd:documentation>
5040 </xsd:annotation>
5041 <xsd:restriction base="xsd:string">
5042 <xsd:pattern value='.*' />
5043 <xsd:enumeration value="Yes">
5044 <xsd:annotation>
5045 <xsd:documentation>The USPS delivers mail to this address.
5046 </xsd:documentation>
5047 </xsd:annotation>
5048 </xsd:enumeration>
5049 <xsd:enumeration value="No">
5050 <xsd:annotation>
5051 <xsd:documentation>The USPS does not deliver mail to this address.
5052 </xsd:documentation>
5053 </xsd:annotation>
5054 </xsd:enumeration>
5055 <xsd:enumeration value="Unknown">
5056 <xsd:annotation>
5057 <xsd:documentation>It is unknown whether the USPS delivers mail to
5058 this address.</xsd:documentation>
5059 </xsd:annotation>
5060 </xsd:enumeration>
5061 </xsd:restriction>
5062 </xsd:simpleType>
5063 <xsd:simpleType name="AddressSideOfStreet_type">
5064 <xsd:annotation>
5065 <xsd:documentation xml:lang="en">
5066 The side of the
5067 transportation segment (right , left,
5068 both, none, unknown) on which
5069 the address is located.
5070 U.S. Federal Geographic Data Committee,
```

5071 "Framework Data
5072 Content Standard Part 7: Transportation base,"
5073 sections
5074 7.3.2 and B.3.6
5075 </xsd:documentation>
5076 </xsd:annotation>
5077 <xsd:restriction base="xsd:string">
5078 <xsd:pattern value='.*' />
5079 <xsd:enumeration value="right">
5080 <xsd:annotation>
5081 <xsd:documentation>
5082 The address is related to the right side of the
5083 street.
5084 </xsd:documentation>
5085 </xsd:annotation>
5086 </xsd:enumeration>
5087 <xsd:enumeration value="left">
5088 <xsd:annotation>
5089 <xsd:documentation>
5090 The address is related to the left side of the
5091 street.
5092 </xsd:documentation>
5093 </xsd:annotation>
5094 </xsd:enumeration>
5095 <xsd:enumeration value="both">
5096 <xsd:annotation>
5097 <xsd:documentation>
5098 The address pertains to both sides of the
5099 street.
5100 </xsd:documentation>
5101 </xsd:annotation>
5102 </xsd:enumeration>
5103 <xsd:enumeration value="none">
5104 <xsd:annotation>
5105 <xsd:documentation>The address is not on either or both sides of
5106 the street or the concept of side of street does not apply to the
5107 address.
5108 For instance an intersection address would have a
5109 AddressSideOfStreet
5110 of none.
5111 </xsd:documentation>
5112 </xsd:annotation>
5113 </xsd:enumeration>
5114 <xsd:enumeration value="unknown"></xsd:enumeration>
5115 </xsd:restriction>

```
5116 </xsd:simpleType>
5117 <xsd:simpleType name="AddressRangeSide_type">
5118 <xsd:annotation>
5119 <xsd:documentation xml:lang="en">
5120 The side of the
5121 transportation segment (right , left,
5122 both, none, unknown) on which
5123 the address range applies.
5124 </xsd:documentation>
5125 </xsd:annotation>
5126 <xsd:restriction base="xsd:string">
5127 <xsd:pattern value='.*' />
5128 <xsd:enumeration value="right">
5129 <xsd:annotation>
5130 <xsd:documentation>
5131 The address is related to the right side of the
5132 street.
5133 </xsd:documentation>
5134 </xsd:annotation>
5135 </xsd:enumeration>
5136 <xsd:enumeration value="left">
5137 <xsd:annotation>
5138 <xsd:documentation>
5139 The address is related to the left side of the
5140 street.
5141 </xsd:documentation>
5142 </xsd:annotation>
5143 </xsd:enumeration>
5144 <xsd:enumeration value="both">
5145 <xsd:annotation>
5146 <xsd:documentation>
5147 The address pertains to both sides of the
5148 street.
5149 </xsd:documentation>
5150 </xsd:annotation>
5151 </xsd:enumeration>
5152 <xsd:enumeration value="none">
5153 <xsd:annotation>
5154 <xsd:documentation>The address is not on either or both sides of
5155 the street or the concept of side of street does not apply to the
5156 address.
5157 For instance an intersection address would have a
5158 AddressSideOfStreet
5159 of none.
5160 </xsd:documentation>
```

```
5161 </xsd:annotation>
5162 </xsd:enumeration>
5163 <xsd:enumeration value="unknown"></xsd:enumeration>
5164 </xsd:restriction>
5165 </xsd:simpleType>
5166 <xsd:simpleType name="AddressRangeParity_type">
5167 <xsd:annotation>
5168 <xsd:documentation xml:lang="en">
5169 The set of Address
5170 Number Parity values specified in the Address Reference System
5171 Numbering Rules for the Address Numbers in an address range.
5172 </xsd:documentation>
5173 </xsd:annotation>
5174 <xsd:restriction base="xsd:string">
5175 <xsd:pattern value='.*' />
5176 <xsd:enumeration value="even">
5177 <xsd:annotation>
5178 <xsd:documentation>
5179 All Address Numbers in the range have an Address
5180 Number Parity of "even".
5181 </xsd:documentation>
5182 </xsd:annotation>
5183 </xsd:enumeration>
5184 <xsd:enumeration value="odd">
5185 <xsd:annotation>
5186 <xsd:documentation>
5187 All Address Numbers in the range have an Address
5188 Number Parity of "odd".
5189 </xsd:documentation>
5190 </xsd:annotation>
5191 </xsd:enumeration>
5192 <xsd:enumeration value="both">
5193 <xsd:annotation>
5194 <xsd:documentation>
5195 Both even and odd Address Numbers are found in
5196 the range.
5197 </xsd:documentation>
5198 </xsd:annotation>
5199 </xsd:enumeration>
5200 <xsd:enumeration value="none">
5201 <xsd:annotation>
5202 <xsd:documentation>
5203 No Address Number is found within the range.
5204 </xsd:documentation>
5205 </xsd:annotation>
```

5206 </xsd:enumeration>
5207 <xsd:enumeration value="unknown">
5208 <xsd:annotation>
5209 <xsd:documentation>The parity of the Address Numbers in the range
5210 in not known. </xsd:documentation>
5211 </xsd:annotation>
5212 </xsd:enumeration>
5213 </xsd:restriction>
5214 </xsd:simpleType>
5215 <xsd:simpleType name="OfficialStatus_type">
5216 <xsd:annotation>
5217 <xsd:documentation xml:lang="en">
5218 Whether the address,
5219 street name, landmark name, or
5220 place name is as given by the official
5221 addressing
5222 authority (official), or an alternate or alias (official
5223 or unofficial), or a verified error.
5224 </xsd:documentation>
5225 </xsd:annotation>
5226 <xsd:restriction base="xsd:string">
5227 <xsd:pattern value='.*' />
5228 <xsd:enumeration value="Official">
5229 <xsd:annotation>
5230 <xsd:documentation>
5231 The address or name as designated by the Address
5232 Authority.
5233 </xsd:documentation>
5234 </xsd:annotation>
5235 </xsd:enumeration>
5236 <xsd:enumeration value="Alternate or Alias">
5237 <xsd:annotation>
5238 <xsd:documentation>
5239 An alternate or alias to the official address or
5240 name that is also in official or popular use.
5241 The Related Address
5242 ID can be used to link an
5243 alternate or alias to the Address ID of
5244 the
5245 official address. There are two types of
5246 alternate or alias
5247 names, official and
5248 unofficial, each of which has subtypes.
5249 </xsd:documentation>
5250 </xsd:annotation>

```
5251 </xsd:enumeration>
5252 <xsd:enumeration value="Official Alternate or Alias">
5253 <xsd:annotation>
5254 <xsd:documentation>
5255     These are alternate names designated by an
5256     official Address Authority.
5257 </xsd:documentation>
5258 </xsd:annotation>
5259 </xsd:enumeration>
5260 <xsd:enumeration value="Official Renaming Action of the Address Authority">
5261 <xsd:annotation>
5262 <xsd:documentation>An Address Authority may replace one address or
5263     name with another, e.g. by renaming or renumbering. The prior,
5264     older address should be retained as an alias, to provide for
5265     conversion to the new address.</xsd:documentation>
5266 </xsd:annotation>
5267 </xsd:enumeration>
5268 <xsd:enumeration value="Alternates Established by an Address Authority">
5269 <xsd:annotation>
5270 <xsd:documentation>An Address Authority may establish a name or
5271     number to be used in addition to the official address or name. For
5272     example, a state highway designation (State Highway 7) may be
5273     given to a locally-named road, or a memorial name may be applied
5274     to an existing street by posting an additional sign, while the
5275     local or original name and addresses continue to be recognized as
5276     official.</xsd:documentation>
5277 </xsd:annotation>
5278 </xsd:enumeration>
5279 <xsd:enumeration value="Unofficial Alternate or Alias">
5280 <xsd:annotation>
5281 <xsd:documentation>
5282     These are addresses or names that are used by
5283     the public or by an individual, but are not
5284     recognized as official
5285     by the Address Authority.
5286 </xsd:documentation>
5287 </xsd:annotation>
5288 </xsd:enumeration>
5289 <xsd:enumeration
5290     value="Alternate Names Established by Colloquial Use in a Community">
5291 <xsd:annotation>
5292 <xsd:documentation>An address or name that is in popular use but is
5293     not the official name or an official alternate or alias.
5294 </xsd:documentation>
5295 </xsd:annotation>
```

```
5296 </xsd:enumeration>
5297 <xsd:enumeration value="Unofficial Alternate Names Frequently Encountered">
5298 <xsd:annotation>
5299 <xsd:documentation>In data processing, entry errors occur. Such
5300 errors if frequently encountered may be corrected by a direct
5301 match of the error and a substitution of a correct name.
5302 </xsd:documentation>
5303 </xsd:annotation>
5304 </xsd:enumeration>
5305 <xsd:enumeration
5306 value="Unofficial Alternate Names In Use by an Agency or Entity">
5307 <xsd:annotation>
5308 <xsd:documentation>For data processing efficiency, entities often
5309 create alternate names or abbreviations for internal use. These
5310 must be changed to the official form for public use and
5311 transmittal to external users.</xsd:documentation>
5312 </xsd:annotation>
5313 </xsd:enumeration>
5314 <xsd:enumeration value="Posted or Vanity Address">
5315 <xsd:annotation>
5316 <xsd:documentation>An address that is posted, but is not recognized
5317 by the Address Authority (e.g. a vanity address on a building);
5318 </xsd:documentation>
5319 </xsd:annotation>
5320 </xsd:enumeration>
5321 <xsd:enumeration value="Verified Invalid">
5322 <xsd:annotation>
5323 <xsd:documentation>
5324 An address that has been verified as being
5325 invalid, but which keeps appearing in address
5326 lists. Different from
5327 Unofficial Alternate Names
5328 in that these addresses are known not to
5329 exist.
5330 </xsd:documentation>
5331 </xsd:annotation>
5332 </xsd:enumeration>
5333 </xsd:restriction>
5334 </xsd:simpleType>
5335 <xsd:simpleType name="AddressStartDate_type">
5336 <xsd:annotation>
5337 <xsd:documentation xml:lang="en">
5338 The earliest date on
5339 which the address is known to
5340 exist.
```

```
5341 </xsd:documentation>
5342 </xsd:annotation>
5343 <xsd:restriction base="xsd:date" />
5344 </xsd:simpleType>
5345 <xsd:simpleType name="AddressEndDate_type">
5346 <xsd:annotation>
5347 <xsd:documentation xml:lang="en">
5348 The earliest date on
5349 which the address is known to no
5350 longer be valid.
5351 </xsd:documentation>
5352 </xsd:annotation>
5353 <xsd:restriction base="xsd:date" />
5354 </xsd:simpleType>
5355 <xsd:simpleType name="AddressClassification_type">
5356 <xsd:annotation>
5357 <xsd:documentation xml:lang="en">
5358 The type or
5359 classification of the address according to
5360 the classification
5361 standard.
5362 </xsd:documentation>
5363 </xsd:annotation>
5364 <xsd:restriction base="xsd:string">
5365 <xsd:enumeration value="NumberedThoroughfareAddress"></xsd:enumeration>
5366 <xsd:enumeration value="IntersectionAddress"></xsd:enumeration>
5367 <xsd:enumeration value="TwoNumberAddressRange"></xsd:enumeration>
5368 <xsd:enumeration value="FourNumberAddressRange"></xsd:enumeration>
5369 <xsd:enumeration value="UnnumberedThoroughfareAddress"></xsd:enumeration>
5370 <xsd:enumeration value="LandmarkAddress"></xsd:enumeration>
5371 <xsd:enumeration value="CommunityAddress"></xsd:enumeration>
5372 <xsd:enumeration value="USPSPostalDeliveryBox"></xsd:enumeration>
5373 <xsd:enumeration value="USPSPostal DeliveryRoute"></xsd:enumeration>
5374 <xsd:enumeration value="USPSGeneral DeliveryOffice"></xsd:enumeration>
5375 <xsd:enumeration value="GeneralAddressClass"></xsd:enumeration>
5376 </xsd:restriction>
5377 </xsd:simpleType>
5378 <xsd:simpleType name="AddressFeatureType_type">
5379 <xsd:annotation>
5380 <xsd:documentation xml:lang="en">
5381 The type of feature
5382 identified by the address
5383 Initial list of feature types: Building
5384 Utility Cabinet,
5385 Telephone Pole, Building, Street block, street block
```


5386 face, intersection, parcel, building, entrance, unit.
5387 The list might
5388 be expanded indefinitely to include
5389 infrastructure and other
5390 features.
5391 </xsd:documentation>
5392 </xsd:annotation>
5393 <xsd:restriction base="xsd:string">
5394 <xsd:pattern value='.'+ '/'>
5395 </xsd:restriction>
5396 </xsd:simpleType>
5397 <xsd:simpleType name="AddressLifecycle_type">
5398 <xsd:annotation>
5399 <xsd:documentation xml:lang="en">
5400 The Lifecycle status of
5401 the address.
5402 </xsd:documentation>
5403 </xsd:annotation>
5404 <xsd:restriction base="xsd:token">
5405 <xsd:enumeration value='PROPOSED' />
5406 <xsd:enumeration value='ACTIVE' />
5407 <xsd:enumeration value='RETIRED' />
5408 <xsd:enumeration value='TEMPORARY' />
5409 </xsd:restriction>
5410 </xsd:simpleType>
5411 <xsd:simpleType name="AddressLifecycleStatus_type">
5412 <xsd:annotation>
5413 <xsd:documentation xml:lang="en">
5414 The life cycle status
5415 of the address.
5416 </xsd:documentation>
5417 </xsd:annotation>
5418 <xsd:restriction base="xsd:token">
5419 <xsd:enumeration value="Potential">
5420 <xsd:annotation>
5421 <xsd:documentation>
5422 Address falls within a theoretical range, but
5423 has never been used.
5424 </xsd:documentation>
5425 </xsd:annotation>
5426 </xsd:enumeration>
5427 <xsd:enumeration value="Proposed">
5428 <xsd:annotation>
5429 <xsd:documentation>
5430 Application pending for use of this address

5431 (e.g., address tentatively issued for
5432 subdivision plat that is not
5433 yet fully
5434 approved).
5435 </xsd:documentation>
5436 </xsd:annotation>
5437 </xsd:enumeration>
5438 <xsd:enumeration value="Active">
5439 <xsd:annotation>
5440 <xsd:documentation>
5441 Address has been issued and is in use.
5442 </xsd:documentation>
5443 </xsd:annotation>
5444 </xsd:enumeration>
5445 <xsd:enumeration value="Retired">
5446 <xsd:annotation>
5447 <xsd:documentation>
5448 Address was issued, but is now obsolete (e.g.
5449 street name has been changed), building was
5450 demolished, etc.
5451 </xsd:documentation>
5452 </xsd:annotation>
5453 </xsd:enumeration>
5454 </xsd:restriction>
5455 </xsd:simpleType>
5456 <xsd:simpleType name="AddressOfficialStatus_type">
5457 <xsd:annotation>
5458 <xsd:documentation xml:lang="en">
5459 Whether the address is
5460 as given by the official
5461 addressing authority (official), or an
5462 unofficial
5463 variant or equivalent of it (alias).
5464 </xsd:documentation>
5465 </xsd:annotation>
5466 <xsd:restriction base="xsd:token">
5467 <xsd:enumeration value="Official">
5468 <xsd:annotation>
5469 <xsd:documentation>
5470 The address or name as designated by the
5471 addressing authority.
5472 </xsd:documentation>
5473 </xsd:annotation>
5474 </xsd:enumeration>
5475 <xsd:enumeration value="Alternate Name">

5476 <xsd:annotation>
5477 <xsd:documentation>
5478 In any of the address classes described in 2.2,
5479 the collective name element may have another
5480 acceptable form. Some
5481 alternate names may be
5482 conditional, on attempt, i.e. if the alias
5483 resolves the address no further alternate names
5484 should be
5485 considered. Other alternate names are
5486 always applied, such as
5487 official renamings. All
5488 alternate names carry a limit of
5489 applicability
5490 and a timeframe of applicability. The limit of
5491 applicability may be a limit to a single ZIP code,
5492 a naming
5493 authorities boundary, such as city or
5494 county limits, or a range of
5495 address numbers
5496 with such a boundary.
5497 </xsd:documentation>
5498 </xsd:annotation>
5499 </xsd:enumeration>
5500 <xsd:enumeration value="Alternate Renamed">
5501 <xsd:annotation>
5502 <xsd:documentation>
5503 Upon official renaming of an address, or
5504 renumbering of an address, or a series of
5505 addresses, the prior,
5506 older address will occur
5507 in address lists for a period of time and
5508 a
5509 conversion to current names or current addresses
5510 will need to be
5511 provided. Such an entity may
5512 match a single address or a range of
5513 addresses.
5514 </xsd:documentation>
5515 </xsd:annotation>
5516 </xsd:enumeration>
5517 <xsd:enumeration value="Alternate Authority Name">
5518 <xsd:annotation>
5519 <xsd:documentation>
5520 The alternate name is established by a separate,

5521 or the same, naming authority. Such names may
5522 apply to any address
5523 class, including landmarks.
5524 Such names would be established by
5525 naming
5526 authorities with a geographically larger area of
5527 responsibility, containing all or part of a
5528 naming authority with a
5529 smaller region, such as
5530 a state name overlaying a county name or a
5531 county name overlaying a city or town name.
5532 Examples would be a
5533 state highway designation
5534 (State Highway 7) overlaid upon locally
5535 named
5536 roads or a memorial highway overlaid on local
5537 road names or
5538 state highway names.
5539 </xsd:documentation>
5540 </xsd:annotation>
5541 </xsd:enumeration>
5542 <xsd:enumeration value="Alternate Colloquial Name">
5543 <xsd:annotation>
5544 <xsd:documentation>
5545 Local communities hold on to address names much
5546 longer than do regional agencies. A community
5547 may use a colloquial
5548 address name as much as 30
5549 years after that name has either expired
5550 or is
5551 no longer salient. This entry provides a
5552 conversion to a
5553 current name.
5554 </xsd:documentation>
5555 </xsd:annotation>
5556 </xsd:enumeration>
5557 <xsd:enumeration value="Unofficial Alternate Name">
5558 <xsd:annotation>
5559 <xsd:documentation>
5560 In data processing, entry errors occur. Such
5561 errors if frequently encountered may be
5562 corrected by a direct match
5563 of the error and a
5564 substitution to a current name.
5565 </xsd:documentation>

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5566 </xsd:annotation>
5567 </xsd:enumeration>
5568 <xsd:enumeration value="Unofficial Agency Name">
5569 <xsd:annotation>
5570 <xsd:documentation>
5571 For data processing efficiency, entities often
5572 create alternate names for internal use. When
5573 such alternate names
5574 are exposed to other
5575 entities they need to be resolved to a current
5576 name.
5577 </xsd:documentation>
5578 </xsd:annotation>
5579 </xsd:enumeration>
5580 <xsd:enumeration value="Posted Address">
5581 <xsd:annotation>
5582 <xsd:documentation>
5583 Address is posted, but not recognized by
5584 addressing authority (e.g. vanity address on a
5585 building).
5586 </xsd:documentation>
5587 </xsd:annotation>
5588 </xsd:enumeration>
5589 <xsd:enumeration value="Verified Invalid">
5590 <xsd:annotation>
5591 <xsd:documentation>
5592 Address is verified as being invalid, but keeps
5593 appearing in address lists. Different from
5594 Unofficial Alternate
5595 Names in that these are
5596 known not to exist; Address has been issued
5597 and
5598 is in use.
5599 </xsd:documentation>
5600 </xsd:annotation>
5601 </xsd:enumeration>
5602 <xsd:pattern value="."></xsd:pattern>
5603 </xsd:restriction>
5604 </xsd:simpleType>
5605 <xsd:simpleType name="AddressAnomalyStatus_type">
5606 <xsd:annotation>
5607 <xsd:documentation xml:lang="en">
5608 A status flag, or an
5609 explanatory note, for an address
5610 that is not correct according to the
```

5611 address schema in
5612 which it is located, but is nonetheless a valid
5613 address.
5614 This field may be used to identify the type of anomaly
5615 (e.g.
5616 wrong parity, out of sequence, out of range, etc.)
5617 rather than simply
5618 whether or not it is anomalous. Local
5619 jurisdictions may create
5620 specific categories for
5621 anomalies.
5622 </xsd:documentation>
5623 </xsd:annotation>
5624 <xsd:restriction base="xsd:string"></xsd:restriction>
5625 </xsd:simpleType>
5626 <xsd:simpleType name="AddressRangeSpan_type">
5627 <xsd:annotation>
5628 <xsd:documentation xml:lang="en">
5629 Whether an address
5630 range covers part of a transportation
5631 segment, one segment, multiple
5632 segments, or the entire
5633 thoroughfare within the Address Reference
5634 System Extent.
5635 </xsd:documentation>
5636 </xsd:annotation>
5637 <xsd:restriction base="xsd:string">
5638 <xsd:enumeration value="Partial Segment"></xsd:enumeration>
5639 <xsd:enumeration value="Single Segment"></xsd:enumeration>
5640 <xsd:enumeration value="Multi Segment"></xsd:enumeration>
5641 <xsd:enumeration value="Entire Street"></xsd:enumeration>
5642 <xsd:enumeration value="Unknown"></xsd:enumeration>
5643 <xsd:pattern value=".+"></xsd:pattern>
5644 </xsd:restriction>
5645 </xsd:simpleType>
5646 <xsd:simpleType name="AddressRangeDirectionality_type">
5647 <xsd:annotation>
5648 <xsd:documentation xml:lang="en">
5649 Whether the low
5650 Complete Address Number of an address range is closer to the
5651 from-node or the to-node of the transportation segment(s) that the
5652 range is related to.
5653 </xsd:documentation>
5654 </xsd:annotation>
5655 <xsd:restriction base="xsd:string">

5656 <xsd:enumeration value="With">
5657 <xsd:annotation>
5658 <xsd:documentation>The low address is nearer the from node; numbers
5659 ascend toward the to node.
5660 </xsd:documentation>
5661 </xsd:annotation>
5662 </xsd:enumeration>
5663 <xsd:enumeration value="Against">
5664 <xsd:annotation>
5665 <xsd:documentation>The low address is nearer the to node; numbers
5666 descend toward the to node.
5667 </xsd:documentation>
5668 </xsd:annotation>
5669 </xsd:enumeration>
5670 <xsd:enumeration value="With-Against">
5671 <xsd:annotation>
5672 <xsd:documentation>The numbers run in opposite directions on either
5673 side of the street. The low number on the left side is nearer the
5674 from node. The low number on the right side is nearer the to node.
5675 </xsd:documentation>
5676 </xsd:annotation>
5677 </xsd:enumeration>
5678 <xsd:enumeration value="Against-With">
5679 <xsd:annotation>
5680 <xsd:documentation>The numbers run in opposite directions on either
5681 side of the street. The low number on the left side is nearer the
5682 to node. The low number on the right side is nearer the from node.
5683 </xsd:documentation>
5684 </xsd:annotation>
5685 </xsd:enumeration>
5686 <xsd:enumeration value="Null">
5687 <xsd:annotation>
5688 <xsd:documentation>The address range has null values for the high
5689 and low Complete Address Numbers.
5690 </xsd:documentation>
5691 </xsd:annotation>
5692 </xsd:enumeration>
5693 <xsd:enumeration value="NA">
5694 <xsd:annotation>
5695 <xsd:documentation>Does not apply (transportation segment
5696 directionality is inconsistent within the range).
5697 </xsd:documentation>
5698 </xsd:annotation>
5699 </xsd:enumeration>
5700 <xsd:enumeration value="Unknown">

```
5701 <xsd:annotation>
5702 <xsd:documentation>The address range directionality is not known.
5703 </xsd:documentation>
5704 </xsd:annotation>
5705 </xsd:enumeration>
5706 </xsd:restriction>
5707 </xsd:simpleType>
5708 <xsd:simpleType name="AddressRangeType_type">
5709 <xsd:annotation>
5710 <xsd:documentation xml:lang="en">This attribute states
5711 whether an address range (either a Two Number Address Range or a
5712 Four Number Address Range) is actual or potential.
5713 </xsd:documentation>
5714 </xsd:annotation>
5715 <xsd:restriction base="xsd:string">
5716 <xsd:enumeration value="Actual">
5717 <xsd:annotation>
5718 <xsd:documentation>
5719 The low and high CompleteAddressNumbers are
5720 numbers that have been assigned and are in use
5721 along the addressed
5722 feature.
5723 </xsd:documentation>
5724 </xsd:annotation>
5725 </xsd:enumeration>
5726 <xsd:enumeration value="Potential">
5727 <xsd:annotation>
5728 <xsd:documentation>
5729 The low and high CompleteAddressNumbers are
5730 numbers that would be assigned if all possible
5731 numbers were in use
5732 along the addressed feature,
5733 and there were no gaps between the
5734 range and its
5735 preceding and following ranges.
5736 </xsd:documentation>
5737 </xsd:annotation>
5738 </xsd:enumeration>
5739 <xsd:enumeration value="Unknown">
5740 <xsd:annotation>
5741 <xsd:documentation>
5742 The relationship between the low and high
5743 CompleteAddressNumbers and the addressed feature
5744 is unknown.
5745 </xsd:documentation>
```



```
5746 </xsd:annotation>
5747 </xsd:enumeration>
5748 </xsd:restriction>
5749 </xsd:simpleType>
5750 <xsd:simpleType name="LocationDescription_type">
5751 <xsd:annotation>
5752 <xsd:documentation xml:lang="en">
5753 A text description
5754 providing more detail on how to
5755 identify or find the addressed
5756 feature.
5757 </xsd:documentation>
5758 </xsd:annotation>
5759 <xsd:restriction base="xsd:string"></xsd:restriction>
5760 </xsd:simpleType>
5761 <xsd:simpleType name="AddressNumberParity_type">
5762 <xsd:annotation>
5763 <xsd:documentation xml:lang="en"> The property of an
5764 Address Number with respect to being odd or even.
5765 "A relation between
5766 a pair of integers: if both integers
5767 are odd or
5768 both are even they
5769 have the same parity; if
5770 one is odd and the other
5771 is even they have
5772 different
5773 parity."
5774 </xsd:documentation>
5775 </xsd:annotation>
5776 <xsd:restriction base="xsd:token">
5777 <xsd:enumeration value="Even" />
5778 <xsd:enumeration value="Odd" />
5779 </xsd:restriction>
5780 </xsd:simpleType>
5781 <xsd:simpleType name="AttachedElement_type">
5782 <xsd:annotation>
5783 <xsd:documentation xml:lang="en">
5784 This attribute
5785 identifies when two or more Complete
5786 Address Number elements or two
5787 or more Complete Street
5788 Name elements have been combined without a
5789 space
5790 separating them.
```

```
5791 </xsd:documentation>
5792 </xsd:annotation>
5793 <xsd:restriction base="xsd:string">
5794 <xsd:enumeration value="Attached">
5795 <xsd:annotation>
5796 <xsd:documentation>
5797 The elements inside the CompleteAddressNumber or
5798 CompleteStreetName are attached and need special
5799 parsing rules.
5800 </xsd:documentation>
5801 </xsd:annotation>
5802 </xsd:enumeration>
5803 <xsd:enumeration value="Not Attached"></xsd:enumeration>
5804 <xsd:enumeration value="Unknown"></xsd:enumeration>
5805 </xsd:restriction>
5806 </xsd:simpleType>
5807 <xsd:simpleType name="AddressNumberSide_type">
5808 <xsd:annotation>
5809 <xsd:documentation xml:lang="en">
5810 "The Concept of Left
5811 and Right sides of a feature that a Number Range Applies to.
5812 </xsd:documentation>
5813 </xsd:annotation>
5814 <xsd:restriction base="xsd:token">
5815 <xsd:enumeration value="Left" />
5816 <xsd:enumeration value="Right" />
5817 <xsd:enumeration value="Unknown" />
5818 </xsd:restriction>
5819 </xsd:simpleType>
5820 <xsd:simpleType name="AddressNumberBounds_type">
5821 <xsd:annotation>
5822 <xsd:documentation xml:lang="en">
5823 "The Concept of Low or
5824 High of numbers participating in a Number Range Applies to.
5825 </xsd:documentation>
5826 </xsd:annotation>
5827 <xsd:restriction base="xsd:token">
5828 <xsd:enumeration value="Low" />
5829 <xsd:enumeration value="High" />
5830 <xsd:enumeration value="Unknown" />
5831 </xsd:restriction>
5832 </xsd:simpleType>
5833 <xsd:complexType name="StreetNameGroup">
5834 <xsd:annotation>
5835 <xsd:documentation xml:lang="en">
```

5836 A geographic area where
5837 the street names conform to a
5838 theme. For example, some neighborhoods
5839 feature streets
5840 named for birds, US presidents or trees. A subset of
5841 the
5842 complete street name domain applies to this area.
5843 </xsd:documentation>
5844 </xsd:annotation>
5845 <xsd:complexContent>
5846 <xsd:extension base="gml:MultiSurfaceType">
5847 <xsd:attribute name="name" type="xsd:string"></xsd:attribute>
5848 </xsd:extension>
5849 </xsd:complexContent>
5850 </xsd:complexType>
5851 <xsd:simpleType name="AddressSchemeName_type">
5852 <xsd:annotation>
5853 <xsd:documentation xml:lang="en">
5854 Name of the address
5855 scheme that operates over a
5856 specified area, i.e.: mountain addresses,
5857 plains
5858 addresses.
5859 </xsd:documentation>
5860 </xsd:annotation>
5861 <xsd:restriction base="xsd:string">
5862 <xsd:pattern value='.*' />
5863 </xsd:restriction>
5864 </xsd:simpleType>
5865 <xsd:simpleType name="AddressSchemeDescription_type">
5866 <xsd:annotation>
5867 <xsd:documentation xml:lang="en">
5868 A description of an
5869 Address Scheme that includes
5870 business rules about parity, naming
5871 conventions, and
5872 other matters concerning the assignment and
5873 maintenance
5874 of an addressing scheme.
5875 This element may refer to an
5876 address ordinance, Standard
5877 Operating Procedures manual or other
5878 external document
5879 wherein the rules for addresses in a given scheme
5880 are

```
5881    written.
5882    </xsd:documentation>
5883    </xsd:annotation>
5884    <xsd:restriction base="xsd:string">
5885      <xsd:pattern value=".*" />
5886    </xsd:restriction>
5887  </xsd:simpleType>
5888  <!-- add axes name as an attribute -->
5889  <!-- change data type to GML::Point -->
5890  <xsd:complexType name="AddressSchemeOrigin_type">
5891    <xsd:annotation>
5892      <xsd:documentation xml:lang="en">
5893        Location where the
5894        address axes meet.
5895      </xsd:documentation>
5896    </xsd:annotation>
5897    <xsd:complexContent>
5898      <xsd:extension base="gml:PointType">
5899        <xsd:attribute name="OriginValue" type="xsd:int"/></xsd:attribute>
5900        <xsd:attribute name="AxisId" type="xsd:string"/></xsd:attribute>
5901      </xsd:extension>
5902    </xsd:complexContent>
5903  </xsd:complexType>
5904  <xsd:complexType name="AddressSchemeAxes_type">
5905    <xsd:annotation>
5906      <xsd:documentation xml:lang="en">
5907        Address axes define the
5908        boundaries between adjoining
5909        zones in address schema. Those zones may
5910        be quadrants
5911        (northwest, northeast, southeast, southwest) or other
5912        geographic divisions. Lowest address numbers occur
5913        nearest an axis.
5914      </xsd:documentation>
5915    </xsd:annotation>
5916    <xsd:complexContent>
5917      <xsd:extension base="gml:MultiCurveType">
5918        <xsd:attribute name="AxisId" type="xsd:string"/></xsd:attribute>
5919      </xsd:extension>
5920    </xsd:complexContent>
5921  </xsd:complexType>
5922  <xsd:complexType name="AddressSchemeExtent_type">
5923    <xsd:annotation>
5924      <xsd:documentation xml:lang="en">
5925        Boundary of the area
```

5926 over which an address schema
5927 is used when assigning addresses.
5928 </xsd:documentation>
5929 </xsd:annotation>
5930 <xsd:complexContent>
5931 <xsd:extension base="gml:MultiSurfaceType" />
5932 </xsd:complexContent>
5933 </xsd:complexType>
5934 <xsd:simpleType name="AddressDirectSource_type">
5935 <xsd:annotation>
5936 <xsd:documentation xml:lang="en">
5937 Source from whom the
5938 data provider obtained the address,
5939 or with whom the data provider
5940 validated the address.
5941 Important if the data provider did not obtain
5942 the
5943 address directly from the local authority.
5944 </xsd:documentation>
5945 </xsd:annotation>
5946 <xsd:restriction base="xsd:string">
5947 <xsd:pattern value='.*' />
5948 </xsd:restriction>
5949 </xsd:simpleType>
5950 <xsd:simpleType name="AddressAuthority_type">
5951 <xsd:annotation>
5952 <xsd:documentation xml:lang="en">
5953 The authority (e.g.,
5954 municipality, county) that created
5955 or has jurisdiction over the
5956 creation of an address.
5957 The addressing authority may or may not be
5958 the same as
5959 the physical or postal jurisdiction noted for the
5960 address.
5961 </xsd:documentation>
5962 </xsd:annotation>
5963 <xsd:restriction base="xsd:string">
5964 <xsd:pattern value='.*' />
5965 </xsd:restriction>
5966 </xsd:simpleType>
5967 <xsd:simpleType name="AddressAuthorityIdentifier_type">
5968 <xsd:annotation>
5969 <xsd:documentation xml:lang="en">
5970 The FIPS or GNIs code

5971 for the authority (e.g.,
5972 municipality, county) that created or has
5973 jurisdiction
5974 over the creation of an address.
5975 The addressing authority
5976 may or may not be the same as
5977 the physical or postal jurisdiction
5978 noted for the
5979 address.
5980 </xsd:documentation>
5981 </xsd:annotation>
5982 <xsd:restriction base="xsd:string">
5983 <xsd:pattern value='.*' />
5984 </xsd:restriction>
5985 </xsd:simpleType>
5986 <!-- Complex Types -->
5987 <xsd:simpleType name="Action_type">
5988 <xsd:annotation>
5989 <xsd:documentation xml:lang="en">
5990 An action command for
5991 incremental datasets. Add
5992 indicates that the information is new.
5993 DELETE indicates
5994 that the information is to be removed.
5995 </xsd:documentation>
5996 </xsd:annotation>
5997 <xsd:restriction base="xsd:token">
5998 <xsd:enumeration value='ADD' />
5999 <xsd:enumeration value='DELETE' />
6000 </xsd:restriction>
6001 </xsd:simpleType>
6002 <xsd:simpleType name="DeliveryAddressType_type">
6003 <xsd:annotation>
6004 <xsd:documentation xml:lang="en">
6005 Whether the Delivery
6006 Address includes or excludes the Complete Subaddress.
6007 </xsd:documentation>
6008 </xsd:annotation>
6009 <xsd:restriction base="xsd:token">
6010 <xsd:enumeration value='SubAddress Included'>
6011 <xsd:annotation>
6012 <xsd:documentation>The Delivery Address includes the Complete
6013 Subaddress (if any) </xsd:documentation>
6014 </xsd:annotation>
6015 </xsd:enumeration>

```

6016 <xsd:enumeration value='SubAddress Excluded'>
6017 <xsd:annotation>
6018 <xsd:documentation>The Delivery Address includes the Complete
6019 Subaddress (if any) </xsd:documentation>
6020 </xsd:annotation>
6021 </xsd:enumeration>
6022 <xsd:enumeration value='Unstated'>
6023 <xsd:annotation>
6024 <xsd:documentation>Not stated/no information (default value)
6025 </xsd:documentation>
6026 </xsd:annotation>
6027 </xsd:enumeration>
6028 </xsd:restriction>
6029 </xsd:simpleType>
6030 <!-- Complex Elements -->
6031 <xsd:complexType name="DeliveryAddress_type">
6032 <xsd:annotation>
6033 <xsd:documentation xml:lang="en">
6034 The entire address,
6035 unparsed, except for the Place Name, State Name,
6036 Zip Code, Zip Plus
6037 4, Country Name, and, optionally,
6038 Complete Subaddress elements.
6039 </xsd:documentation>
6040 </xsd:annotation>
6041 <xsd:simpleContent>
6042 <xsd:extension base="xsd:string">
6043 <xsd:attribute name="DeliveryAddressType"
6044 type="addr_type:DeliveryAddressType_type" />
6045 </xsd:extension>
6046 </xsd:simpleContent>
6047 </xsd:complexType>
6048 <xsd:simpleType name="PlaceStateZip_type">
6049 <xsd:annotation>
6050 <xsd:documentation xml:lang="en">
6051 The unparsed
6052 accumulation of Postal City, State, and
6053 ZIPCode elements.
6054 </xsd:documentation>
6055 </xsd:annotation>
6056 <xsd:restriction base="xsd:string">
6057 <xsd:pattern value='.*' />
6058 </xsd:restriction>
6059 </xsd:simpleType>
6060 <xsd:complexType name="FeatureOccupancy_type">

```

```
6061 <xsd:annotation>
6062 <xsd:documentation xml:lang="en">
6063 This element is defined
6064 solely for use with the General
6065 Address class, which is constructed
6066 to accommodate and
6067 mix addresses of all types (e.g., a general postal
6068 mailing list or contact list). Place Name, State Name,
6069 Zip Code, and
6070 Zip Plus 4, which appear in all address
6071 classes, are kept separate
6072 from the rest of the address.
6073 No longer a parsed datatype. Content
6074 still represents it
6075 as such.
6076 </xsd:documentation>
6077 </xsd:annotation>
6078 <xsd:simpleContent>
6079 <xsd:extension base="xsd:string"></xsd:extension>
6080 </xsd:simpleContent>
6081 </xsd:complexType>
6082 <xsd:complexType name="GeneralAddress_type">
6083 <xsd:annotation>
6084 <xsd:documentation xml:lang="en">
6085 This element is defined
6086 solely for use with the General
6087 Address class, which is constructed
6088 to accommodate and
6089 mix addresses of all types (e.g., a general postal
6090 mailing list or contact list). Place Name, State Name,
6091 Zip Code, and
6092 Zip Plus 4, which appear in all address
6093 classes, are kept separate
6094 from the rest of the address.
6095 No longer a parsed datatype. Content
6096 still represents it
6097 as such.
6098 </xsd:documentation>
6099 </xsd:annotation>
6100 <xsd:simpleContent>
6101 <xsd:extension base="xsd:string" />
6102 </xsd:simpleContent>
6103 </xsd:complexType>
6104 <!-- -->
6105 <xsd:complexType name="LocationXY_type">
```



```
6106 <xsd:sequence>
6107   <xsd:element name="X" type="addr_type:AddressXCoordinate_type"
6108     minOccurs="1" maxOccurs="1" />
6109   <xsd:element name="Y" type="addr_type:AddressYCoordinate_type"
6110     minOccurs="1" maxOccurs="1" />
6111 </xsd:sequence>
6112 </xsd:complexType>
6113 <xsd:complexType name="CompleteStreetName_type">
6114   <xsd:sequence>
6115     <xsd:element name="StreetNamePreModifier"
6116       type="addr_type:StreetNameModifier_type"
6117       minOccurs="0" maxOccurs="1" />
6118     <xsd:element name="StreetNamePreDirectional"
6119       type="addr_type:StreetNameDirectional_type"
6120       minOccurs="0" maxOccurs="1" />
6121     <xsd:element name="StreetNamePreType" type="addr_type:StreetNameType_type"
6122       minOccurs="0" maxOccurs="1" />
6123     <xsd:element name="StreetName" type="addr_type:StreetName_type"
6124       minOccurs="1" maxOccurs="1" />
6125     <xsd:element name="StreetNamePostType" type="addr_type:StreetNameType_type"
6126       minOccurs="0" maxOccurs="1" />
6127     <xsd:element name="StreetNamePostDirectional"
6128       type="addr_type:StreetNameDirectional_type"
6129       minOccurs="0" maxOccurs="1" />
6130     <xsd:element name="StreetNamePostModifier"
6131       type="addr_type:StreetNameModifier_type"
6132       minOccurs="0" maxOccurs="1" />
6133   </xsd:sequence>
6134   <xsd:attribute name="AttachedElement" type="addr_type:AttachedElement_type" />
6135 </xsd:complexType>
6136 <xsd:group name="CompleteStreetName_group">
6137   <xsd:sequence>
6138     <xsd:element name="StreetNamePreModifier"
6139       type="addr_type:StreetNameModifier_type"
6140       minOccurs="0" maxOccurs="1" />
6141     <xsd:element name="StreetNamePreDirectional"
6142       type="addr_type:StreetNameDirectional_type"
6143       minOccurs="0" maxOccurs="1" />
6144     <xsd:element name="StreetNamePreType" type="addr_type:StreetNameType_type"
6145       minOccurs="0" maxOccurs="1" />
6146     <xsd:element name="StreetName" type="addr_type:StreetName_type"
6147       minOccurs="1" maxOccurs="1" />
6148     <xsd:element name="StreetNamePostType" type="addr_type:StreetNameType_type"
6149       minOccurs="0" maxOccurs="1" />
```

```

6150   <xsd:element name="StreetNamePostDirectional"
6151   type="addr_type:StreetNameDirectional_type"
6152   minOccurs="0" maxOccurs="1" />
6153   <xsd:element name="StreetNamePostModifier"
6154   type="addr_type:StreetNameModifier_type"
6155   minOccurs="0" maxOccurs="1" />
6156   </xsd:sequence>
6157   </xsd:group>
6158   <xsd:group name="CompleteAddressNumber_group">
6159   <xsd:sequence>
6160     <xsd:element name="AddressNumberPrefix"
6161     type="addr_type:AddressNumberPrefix_type"
6162     minOccurs="0" maxOccurs="1" />
6163     <xsd:element name="AddressNumber" type="addr_type:AddressNumber_type"
6164     minOccurs="1" maxOccurs="1" />
6165     <xsd:element name="AddressNumberSuffix"
6166     type="addr_type:AddressNumberSuffix_type"
6167     minOccurs="0" maxOccurs="1" />
6168   </xsd:sequence>
6169   </xsd:group>
6170   <xsd:complexType name="CompleteAddressNumber_type">
6171   <xsd:sequence>
6172     <xsd:element name="AddressNumberPrefix"
6173     type="addr_type:AddressNumberPrefix_type"
6174     minOccurs="0" maxOccurs="1" />
6175     <xsd:element name="AddressNumber" type="addr_type:AddressNumber_type"
6176     minOccurs="1" maxOccurs="1" />
6177     <xsd:element name="AddressNumberSuffix"
6178     type="addr_type:AddressNumberSuffix_type"
6179     minOccurs="0" maxOccurs="1" />
6180   </xsd:sequence>
6181   <xsd:attribute name="AddressNumberParity"
6182   type="addr_type:AddressNumberParity_type" />
6183   <xsd:attribute name="AttachedElement" type="addr_type:AttachedElement_type" />
6184   </xsd:complexType>
6185   <xsd:complexType name="AddressNumberRange_type">
6186   <xsd:annotation>
6187     <xsd:documentation xml:lang="en">
6188       { Complete Address
6189       Number (low)* } + { Separator Element
6190       *} + { Complete Address Number
6191       (high)* } A set of two
6192       address numbers, separated by a "Separator",
6193       representing the low and high numbers of an address
6194       range. An address

```

6195 number range element should be
6196 accompanied by an Address Range Type
6197 Attribute that
6198 describes the type of range presented in this element.
6199 </xsd:documentation>
6200 </xsd:annotation>
6201 <xsd:sequence>
6202 <xsd:element name="CompleteAddressNumber"
6203 type="addr_type:CompleteAddressNumber_type"
6204 minOccurs="2" maxOccurs="2" />
6205 </xsd:sequence>
6206 <xsd:attribute name="Separator" type="addr_type:Separator_type" />
6207 <xsd:attribute name="Parity" type="addr_type:AddressNumberParity_type" />
6208 <xsd:attribute name="Side" type="addr_type:AddressNumberSide_type" />
6209 </xsd:complexType>
6210 <xsd:complexType name="PlaceName_type">
6211 <xsd:simpleContent>
6212 <xsd:extension base="xsd:string">
6213 <xsd:attribute name="PlaceNameType" type="addr_type:PlaceNameType_type" />
6214 <xsd:attribute name="ElementSequenceNumber"
6215 type="addr_type:ElementSequenceNumber_type" />
6216 <xsd:attribute name="GNISFeatureID" type="addr_type:GNISFeatureID_type" />
6217 </xsd:extension>
6218 </xsd:simpleContent>
6219 </xsd:complexType>
6220 <xsd:complexType name="CompleteSubaddress_type">
6221 <xsd:sequence>
6222 <xsd:element name="SubaddressElement" type="addr_type:SubaddressElement_type"
6223 minOccurs="1" maxOccurs="unbounded" />
6224 </xsd:sequence>
6225 </xsd:complexType>
6226 <xsd:complexType name="CompleteLandmarkName_type">
6227 <xsd:sequence>
6228 <xsd:element name="LandmarkName" type="addr_type:LandmarkName_type"
6229 minOccurs="1" maxOccurs="unbounded" />
6230 </xsd:sequence>
6231 <xsd:attribute name="Separator" type="addr_type:Separator_type" />
6232 </xsd:complexType>
6233 <xsd:complexType name="CompletePlaceName_type">
6234 <xsd:sequence>
6235 <xsd:element name="PlaceName" type="addr_type:PlaceName_type"
6236 minOccurs="1" maxOccurs="unbounded" />
6237 </xsd:sequence>
6238 <xsd:attribute name="Separator" type="addr_type:Separator_type" />
6239 </xsd:complexType>

```
6240 <!-- Supporting Information -->
6241 <xsd:group name="AddressAttributes_group">
6242 <xsd:annotation>
6243 <xsd:documentation xml:lang="en">
6244 Support information and
6245 record level metadata for each Address
6246 </xsd:documentation>
6247 </xsd:annotation>
6248 <xsd:sequence>
6249 <xsd:element name="AddressId" type="addr_type:AddressID_type"
6250 minOccurs="0" maxOccurs="1" />
6251 <xsd:element name="AddressAuthority" type="addr_type:AddressAuthority_type"
6252 minOccurs="0" maxOccurs="1" />
6253 <xsd:element name="RelatedAddressId" type="addr_type:RelatedAddressID_type"
6254 minOccurs="0" maxOccurs="unbounded" />
6255 <xsd:element name="AddressXCoordinate"
6256 type="addr_type:AddressXCoordinate_type"
6257 minOccurs="0" maxOccurs="1" />
6258 <xsd:element name="AddressYCoordinate"
6259 type="addr_type:AddressYCoordinate_type"
6260 minOccurs="0" maxOccurs="1" />
6261 <xsd:element name="AddressLongitude" type="addr_type:AddressLongitude_type"
6262 minOccurs="0" maxOccurs="1" />
6263 <xsd:element name="AddressLatitude" type="addr_type:AddressLatitude_type"
6264 minOccurs="0" maxOccurs="1" />
6265 <xsd:element name="USNationalGridCoordinate"
6266 type="addr_type:USNationalGridCoordinate_type" minOccurs="0"
6267 maxOccurs="1" />
6268 <xsd:element name="AddressElevation" type="addr_type:AddressElevation_type"
6269 minOccurs="0" maxOccurs="1" />
6270 <xsd:element name="AddressCoordinateReferenceSystem"
6271 type="addr_type:AddressCoordinateReferenceSystem_type" minOccurs="0"
6272 maxOccurs="1" />
6273 <xsd:element name="AddressParcelIdentifierSource"
6274 type="addr_type:AddressParcelIdentifierSource_type" minOccurs="0"
6275 maxOccurs="unbounded" />
6276 <xsd:element name="AddressParcelIdentifier"
6277 type="addr_type:AddressParcelIdentifier_type" minOccurs="0"
6278 maxOccurs="unbounded" />
6279 <xsd:element name="AddressTransportationSystemName"
6280 type="addr_type:AddressTransportationSystemName_type" minOccurs="0"
6281 maxOccurs="1" />
6282 <xsd:element name="AddressTransportationSystemAuthority"
6283 type="addr_type:AddressTransportationSystemAuthority_type"
6284 minOccurs="0" maxOccurs="1" />
```

```
6285 <xsd:element name="AddressTransportationFeatureType"
6286 type="addr_type:AddressTransportationFeatureType_type" minOccurs="0"
6287 maxOccurs="1" />
6288 <xsd:element name="AddressTransportationFeatureID"
6289 type="addr_type:AddressTransportationFeatureID_type" minOccurs="0"
6290 maxOccurs="1" />
6291 <xsd:element name="RelatedTransportationFeatureID"
6292 type="addr_type:RelatedTransportationFeatureID_type" minOccurs="0"
6293 maxOccurs="unbounded" />
6294 <xsd:element name="AddressRangeType" type="addr_type:AddressRangeType_type"
6295 minOccurs="0" maxOccurs="2" />
6296 <xsd:element name="AddressRangeParity" type="addr_type:AddressRangeParity_type"
6297 minOccurs="0" maxOccurs="2" />
6298 <xsd:element name="AddressRangeDirectionality"
6299 type="addr_type:AddressRangeDirectionality_type" minOccurs="0"
6300 maxOccurs="2" />
6301 <xsd:element name="AddressRangeSpan" type="addr_type:AddressRangeSpan_type"
6302 minOccurs="0" maxOccurs="unbounded" />
6303 <xsd:element name="AddressClassification"
6304 type="addr_type:AddressClassification_type"
6305 maxOccurs="1" minOccurs="0" />
6306 <xsd:element name="AddressFeatureType"
6307 type="addr_type:AddressFeatureType_type"
6308 minOccurs="0" maxOccurs="unbounded" />
6309 <xsd:element name="AddressLifecycleStatus"
6310 type="addr_type:AddressLifecycleStatus_type"
6311 minOccurs="0" maxOccurs="1" />
6312 <xsd:element name="OfficialStatus" type="addr_type:OfficialStatus_type"
6313 minOccurs="0" maxOccurs="1" />
6314 <xsd:element name="AddressAnomalyStatus"
6315 type="addr_type:AddressAnomalyStatus_type"
6316 minOccurs="0" maxOccurs="1" />
6317 <xsd:element name="AddressSideOfStreet"
6318 type="addr_type:AddressSideOfStreet_type"
6319 minOccurs="0" maxOccurs="1" />
6320 <xsd:element name="AddressZLevel" type="addr_type:AddressZLevel_type"
6321 minOccurs="0" maxOccurs="1" />
6322 <xsd:element name="LocationDescription" type="addr_type:LocationDescription_type"
6323 minOccurs="0" maxOccurs="1" />
6324 <xsd:element name="MailableAddress" type="addr_type:MailableAddress_type"
6325 minOccurs="0" maxOccurs="1" />
6326 <xsd:element name="AddressStartDate" type="addr_type:AddressStartDate_type"
6327 minOccurs="0" maxOccurs="1" />
6328 <xsd:element name="AddressEndDate" type="addr_type:AddressEndDate_type"
6329 minOccurs="0" maxOccurs="1" />
```

```
6330 <xsd:element name="DataSetID" type="addr_type:DataSetID_type"
6331 minOccurs="0" maxOccurs="1" />
6332 <xsd:element name="AddressReferenceSystemId"
6333 type="addr_type:AddressReferenceSystemId_type" minOccurs="0"
6334 maxOccurs="1" />
6335 <xsd:element name="AddressReferenceSystemAuthority"
6336 type="addr_type:AddressReferenceSystemAuthority_type" minOccurs="0"
6337 maxOccurs="1" />
6338 </xsd:sequence>
6339 </xsd:group>
6340 <!-- End Content Types -->
6341 <!-- Begin Utility Groups -->
6342 <xsd:group name="ZipCode_group">
6343 <xsd:sequence>
6344 <xsd:element name="ZipCode" type="addr_type:ZipCode_type"
6345 minOccurs="1" maxOccurs="1" />
6346 <xsd:element name="ZipPlus4" type="addr_type:ZipPlus4_type"
6347 minOccurs="0" maxOccurs="1" />
6348 </xsd:sequence>
6349 </xsd:group>
6350 <xsd:group name="PlaceStateZip_group">
6351 <xsd:choice>
6352 <xsd:sequence>
6353 <xsd:element name="CompletePlaceName"
6354 type="addr_type:CompletePlaceName_type"
6355 minOccurs="1" maxOccurs="1" />
6356 <xsd:element name="StateName" type="addr_type:StateName_type"
6357 minOccurs="1" maxOccurs="1" />
6358 <xsd:group ref="addr_type:ZipCode_group" minOccurs="0"
6359 maxOccurs="1" />
6360 <xsd:element name="CountryName" type="addr_type:CountryName_type"
6361 maxOccurs="1" minOccurs="0" />
6362 </xsd:sequence>
6363 <xsd:element name="PlaceStateZip" type="addr_type:PlaceStateZip_type"
6364 maxOccurs="unbounded" minOccurs="1" />
6365 </xsd:choice>
6366 </xsd:group>
6367 <!-- End Utility Groups -->
6368 </xsd:schema>
6369
```

6370 7.1.2 addr.xsd

```
6371 <?xml version="1.0" encoding="UTF-8"?>
6372 <xsd:schema targetNamespace="addr"
6373   xmlns:xsd="http://www.w3.org/2001/XMLSchema" xmlns:addr="addr"
6374   xmlns:addr_type="addr_type" xmlns:gml="http://opengeospatial.net/gml">
6375   <!--
6376   Draft Address Standard, version 0.4 being prepared and tested by a
6377   Working Group coordinated by URISA and NENA and the Census Bureau for
6378   submittal to the FGDC.
6379   -->
6380   <!--
6381   During the initial draft period the rddl can be found at
6382   http://wfs.co.fulton.ga.us/urisa/addr_std/addr.xsd
6383   -->
6384   <xsd:import namespace="addr_type" schemaLocation="addr_type.xsd">
6385   <xsd:annotation>
6386     <xsd:documentation>
6387       Base types form the AddressStandard
6388     </xsd:documentation>
6389   </xsd:annotation>
6390 </xsd:import>
6391 <!-- Begin Base Class Types -->
6392 <!-- Thoroughfare Addresses -->
6393 <xsd:complexType name="NumberedThoroughfareAddress_type">
6394 <xsd:annotation>
6395   <xsd:documentation xml:lang="en">
6396     The Address Class
6397     associated with singular locations
6398     referenced off of a linear feature,
6399     having numeric
6400     identifiers.
6401   </xsd:documentation>
6402 </xsd:annotation>
6403 <xsd:sequence>
6404   <xsd:element name="CompleteAddressNumber"
6405     type="addr_type:CompleteAddressNumber_type"
6406     minOccurs="1" maxOccurs="1" />
6407   <xsd:element name="CompleteStreetName"
6408     type="addr_type:CompleteStreetName_type"
6409     minOccurs="1" maxOccurs="1" />
6410   <xsd:element name="CompleteSubaddress"
6411     type="addr_type:CompleteSubaddress_type" minOccurs="0"
6412     maxOccurs="1" />
6413   <xsd:group ref="addr_type:PlaceStateZip_group" minOccurs="0"
```

```
6414     maxOccurs="unbounded" />
6415     <xsd:group ref="addr_type:AddressAttributes_group"
6416     minOccurs="0" maxOccurs="1" />
6417 </xsd:sequence>
6418 <xsd:attribute name="action" type="addr_type:Action_type"
6419 use="optional" />
6420 </xsd:complexType>
6421 <xsd:group name="IntersectionAddress_StreetName_group" >
6422     <xsd:sequence>
6423         <xsd:element name="SeparatorElement" type="addr_type:Separator_type"
6424 maxOccurs="1" minOccurs="1"/>
6425         <xsd:element name="CompleteStreetName"
6426 type="addr_type:CompleteStreetName_type" maxOccurs="1" minOccurs="1"/>
6427     </xsd:sequence>
6428 </xsd:group>
6429
6430 <xsd:complexType name="IntersectionAddress_type">
6431 <xsd:sequence>
6432     <xsd:element name="CompleteStreetName"
6433 type="addr_type:CompleteStreetName_type" minOccurs="1"
6434 maxOccurs="1" />
6435     <xsd:group ref="addr:IntersectionAddress_StreetName_group" minOccurs="1"
6436 maxOccurs="unbounded"/>
6437     <xsd:group ref="addr_type:PlaceStateZip_group" minOccurs="1"
6438 maxOccurs="1" />
6439     <xsd:group ref="addr_type:AddressAttributes_group"
6440 minOccurs="0" maxOccurs="1" />
6441 </xsd:sequence>
6442 <xsd:attribute name="action" type="addr_type:Action_type"
6443 use="optional" />
6444 </xsd:complexType>
6445 <xsd:complexType name="TwoNumberAddressRange_type">
6446 <xsd:sequence>
6447     <xsd:element name="CompleteAddressNumber"
6448 type="addr_type:CompleteAddressNumber_type"
6449 minOccurs="1" maxOccurs="1" />
6450     <xsd:element name="SeparatorElement" type="addr_type:Separator_type"
6451 maxOccurs="1" minOccurs="1"/>
6452     <xsd:element name="CompleteAddressNumber"
6453 type="addr_type:CompleteAddressNumber_type"
6454 minOccurs="1" maxOccurs="1" />
6455     <xsd:element name="CompleteStreetName"
6456 type="addr_type:CompleteStreetName_type"
6457 minOccurs="1" maxOccurs="1" />
6458     <xsd:group ref="addr_type:PlaceStateZip_group" minOccurs="1"
```



```
6459     maxOccurs="unbounded" />
6460     <xsd:group ref="addr_type:AddressAttributes_group"
6461     minOccurs="0" maxOccurs="1" />
6462 </xsd:sequence>
6463 <xsd:attribute name="action" type="addr_type:Action_type"
6464 use="optional" />
6465 </xsd:complexType>
6466 <xsd:complexType name="FourNumberAddressRange_type">
6467 <xsd:annotation>
6468 <xsd:documentation> TIGER file ranges (left low, left high, right
6469 low, right high, street name) are the most widely-used example of
6470 block ranges Notes: Although they do not necessarily refer to one
6471 specific site, block addresses are important for municipal
6472 operations (such as snow plow dispatch), emergency dispatch, and
6473 geocoding. A block address range may be expressed by four numbers,
6474 representing the low and high end of the numeric range for each side
6475 of a block. By convention, the first number represents the low end
6476 of the range of addresses for the left side, the second number
6477 represents the high end of the range of addresses for the left side,
6478 the third number represents the low end of the range of addresses
6479 for the right side, and the fourth number represents the high end of
6480 the range for the right side. A block face is defined as one side of
6481 a thoroughfare between two intersecting street segments. Generally,
6482 but not always, a block face has addresses of a single parity, that
6483 is, either odd or even numbers. However, mixed parities do occur in
6484 some places. In other cases, where the numeric ranges on opposite
6485 sides of the same block are not within the same general range, it is
6486 preferable to express the range in terms of the left low-high, right
6487 low-high, or to provide individual block face ranges. A block range
6488 may refer to either a theoretical range (the possible range of
6489 addresses along that street segment) or to an actual or used range
6490 of addresses. These types (actual or theoretical) are distinguished
6491 by the range type attribute.
6492 </xsd:documentation>
6493 </xsd:annotation>
6494 <xsd:sequence>
6495 <xsd:element name="CompleteAddressNumber"
6496 type="addr_type:CompleteAddressNumber_type"
6497 minOccurs="1" maxOccurs="1" />
6498 <xsd:element name="SeparatorElement" type="addr_type:Separator_type"
6499 maxOccurs="1" minOccurs="1"/>
6500 <xsd:element name="CompleteAddressNumber"
6501 type="addr_type:CompleteAddressNumber_type"
6502 minOccurs="1" maxOccurs="1" />
```

```
6503     <xsd:element name="CompleteAddressNumber"
6504 type="addr_type:CompleteAddressNumber_type"
6505   minOccurs="1" maxOccurs="1" />
6506     <xsd:element name="SeparatorElement" type="addr_type:Separator_type"
6507 maxOccurs="1" minOccurs="1"/>
6508     <xsd:element name="CompleteAddressNumber"
6509 type="addr_type:CompleteAddressNumber_type"
6510   minOccurs="1" maxOccurs="1" />
6511     <xsd:element name="CompleteStreetName"
6512 type="addr_type:CompleteStreetName_type"
6513   minOccurs="1" maxOccurs="1" />
6514     <xsd:group ref="addr_type:PlaceStateZip_group" minOccurs="1"
6515 maxOccurs="1" />
6516     <xsd:group ref="addr_type:AddressAttributes_group"
6517 minOccurs="0" maxOccurs="1" />
6518 </xsd:sequence>
6519 <xsd:attribute name="action" type="addr_type:Action_type"
6520 use="optional" />
6521 </xsd:complexType>
6522 <xsd:complexType name="UnnumberedThoroughfareAddress_type">
6523 <xsd:annotation>
6524   <xsd:documentation xml:lang="en">
6525     The Address Class
6526     associated with singular locations
6527     referenced off of a linear feature,
6528     lacking numeric
6529     identifiers.
6530   </xsd:documentation>
6531 </xsd:annotation>
6532 <xsd:sequence>
6533   <xsd:element name="CompleteStreetName"
6534 type="addr_type:CompleteStreetName_type"
6535   minOccurs="1" maxOccurs="1" />
6536   <xsd:element name="CompleteSubaddress"
6537 type="addr_type:CompleteSubaddress_type"
6538   minOccurs="0" maxOccurs="1" />
6539   <xsd:group ref="addr_type:PlaceStateZip_group" minOccurs="1"
6540 maxOccurs="1" />
6541   <xsd:group ref="addr_type:AddressAttributes_group"
6542 minOccurs="0" maxOccurs="1" />
6543 </xsd:sequence>
6544 <xsd:attribute name="action" type="addr_type:Action_type"
6545 use="optional" />
6546 </xsd:complexType>
6547 <!-- Landmark Address Classes -->
```

```
6548 <xsd:complexType name="LandmarkAddress_type">
6549 <xsd:sequence>
6550 <xsd:element name="CompleteLandmarkName"
6551 type="addr_type:CompleteLandmarkName_type"
6552 minOccurs="1" maxOccurs="1" />
6553 <xsd:element name="CompleteSubaddress"
6554 type="addr_type:CompleteSubaddress_type"
6555 minOccurs="0" maxOccurs="1" />
6556 <xsd:group ref="addr_type:PlaceStateZip_group" minOccurs="1"
6557 maxOccurs="1" />
6558 <xsd:group ref="addr_type:AddressAttributes_group"
6559 minOccurs="0" maxOccurs="1" />
6560 </xsd:sequence>
6561 <xsd:attribute name="action" type="addr_type:Action_type"
6562 use="optional" />
6563 </xsd:complexType>
6564 <xsd:complexType name="CommunityAddress_type">
6565 <xsd:annotation>
6566 <xsd:documentation> 1. Community Addresses are commonly used for
6567 housing projects, Puerto Rican urbanizations, trailer courts, and
6568 similar developments that are built around unnamed interior walkways
6569 or roadways. Their Complete Address Numbers refer to the community
6570 name, not to a thoroughfare. 2. A Community Address includes a
6571 Complete Address Number, a community name, and a Place Name. The
6572 address does not include a Complete Street Name. The community name
6573 might be a treated as a Landmark Name or Place Name--the distinction
6574 is often arbitrary or unclear for community names. 3. If there is no
6575 Complete Address Number preceding the urbanization name, the address
6576 fits into the Landmark Address class. 4. If the address includes
6577 both a Complete Street Name and a community name, it fits in the
6578 Landmark Site Address class. 5. This class includes Puerto Rican
6579 urbanization addresses where the urbanization name is preceded by a
6580 number, and no street name is included. In Puerto Rico, an
6581 urbanization denotes an area, sector, or residential development
6582 within a geographic area. For more information on Puerto Rican
6583 addressing conventions, see USPS Publication 28 Section 29, and USPS
6584 "Addressing Standards for Puerto Rico and the Virgin Islands".
6585 </xsd:documentation>
6586 </xsd:annotation>
6587 <xsd:sequence>
6588 <xsd:element name="CompleteAddressNumber"
6589 type="addr_type:CompleteAddressNumber_type"
6590 minOccurs="1" maxOccurs="1" />
6591 <xsd:choice>
```

```
6592 <xsd:element name="CompleteLandmarkName"
6593 type="addr_type:CompleteLandmarkName_type"
6594 minOccurs="1" maxOccurs="1" />
6595 <xsd:element name="CompletePlaceName"
6596 type="addr_type:CompletePlaceName_type"
6597 minOccurs="1" maxOccurs="1" />
6598 </xsd:choice>
6599 <xsd:element name="CompleteSubaddress"
6600 type="addr_type:CompleteSubaddress_type"
6601 minOccurs="0" maxOccurs="1" />
6602 <xsd:group ref="addr_type:PlaceStateZip_group" minOccurs="1"
6603 maxOccurs="1" />
6604 <xsd:group ref="addr_type:AddressAttributes_group"
6605 minOccurs="0" maxOccurs="1" />
6606 </xsd:sequence>
6607 <xsd:attribute name="action" type="addr_type:Action_type"
6608 use="optional" />
6609 </xsd:complexType>
6610 <!-- Postal Delivery Address Classes -->
6611 <xsd:complexType name="USPSPostalDeliveryBox_type">
6612 <xsd:sequence>
6613 <xsd:element name="USPSBox" type="addr_type:USPSBox_type"
6614 minOccurs="1" maxOccurs="1" />
6615 <xsd:element name="CompleteSubaddress"
6616 type="addr_type:CompleteSubaddress_type"
6617 minOccurs="0" maxOccurs="1" />
6618 <xsd:group ref="addr_type:PlaceStateZip_group" minOccurs="1"
6619 maxOccurs="1" />
6620 <xsd:group ref="addr_type:AddressAttributes_group"
6621 minOccurs="0" maxOccurs="1" />
6622 </xsd:sequence>
6623 <xsd:attribute name="action" type="addr_type:Action_type"
6624 use="optional" />
6625 </xsd:complexType>
6626 <xsd:complexType name="USPSPostalDeliveryRoute_type">
6627 <xsd:sequence>
6628 <xsd:element name="USPSAddress" type="addr_type:USPSAddress_type"
6629 minOccurs="1" maxOccurs="1" />
6630 <xsd:group ref="addr_type:PlaceStateZip_group" minOccurs="1"
6631 maxOccurs="1" />
6632 <xsd:group ref="addr_type:AddressAttributes_group"
6633 minOccurs="0" maxOccurs="1" />
6634 </xsd:sequence>
6635 <xsd:attribute name="action" type="addr_type:Action_type"
6636 use="optional" />
```

```
6637 </xsd:complexType>
6638 <xsd:complexType name="USPSGeneralDeliveryOffice_type">
6639 <xsd:sequence>
6640 <xsd:element name="USPSGeneralDeliveryPoint"
6641 type="addr_type:USPSGeneralDeliveryPoint_type" />
6642 <xsd:group ref="addr_type:PlaceStateZip_group" minOccurs="1"
6643 maxOccurs="1" />
6644 <xsd:group ref="addr_type:AddressAttributes_group"
6645 minOccurs="0" maxOccurs="1" />
6646 </xsd:sequence>
6647 <xsd:attribute name="action" type="addr_type:Action_type"
6648 use="optional" />
6649 </xsd:complexType>
6650
6651 <xsd:complexType name="GeneralAddressClass_type">
6652 <xsd:choice>
6653 <xsd:element name="GeneralAddress"
6654 type="addr_type:GeneralAddress_type" />
6655 <xsd:sequence>
6656 <xsd:element name="USPSGeneralDeliveryPoint"
6657 type="addr_type:USPSGeneralDeliveryPoint_type" />
6658 <xsd:group ref="addr_type:PlaceStateZip_group"
6659 minOccurs="1" maxOccurs="1" />
6660 <xsd:group ref="addr_type:AddressAttributes_group"
6661 minOccurs="0" maxOccurs="1" />
6662 </xsd:sequence>
6663 </xsd:choice>
6664 <xsd:attribute name="action" type="addr_type:Action_type" />
6665 </xsd:complexType>
6666 <xsd:group name="AddressCollection_group">
6667 <xsd:annotation>
6668 <xsd:documentation>
6669 The Single Choice Union of all Address Types
6670 </xsd:documentation>
6671 </xsd:annotation>
6672 <xsd:choice>
6673 <xsd:element name="NumberedThoroughfareAddress"
6674 type="addr:NumberedThoroughfareAddress_type"
6675 minOccurs="0" maxOccurs="unbounded" />
6676 <xsd:element name="IntersectionAddress" type="addr:IntersectionAddress_type"
6677 minOccurs="0" maxOccurs="unbounded" />
6678 <xsd:element name="TwoNumberAddressRange"
6679 type="addr:TwoNumberAddressRange_type"
6680 minOccurs="0" maxOccurs="unbounded" />
```

```
6681 <xsd:element name="FourNumberAddressRange"
6682 type="addr:FourNumberAddressRange_type"
6683 minOccurs="0" maxOccurs="unbounded" />
6684 <xsd:element name="UnnumberedThoroughfareAddress"
6685 type="addr:UnnumberedThoroughfareAddress_type"
6686 minOccurs="0" maxOccurs="unbounded" />
6687 <xsd:element name="LandmarkAddress" type="addr:LandmarkAddress_type"
6688 minOccurs="0" maxOccurs="unbounded" />
6689 <xsd:element name="CommunityAddress" type="addr:CommunityAddress_type"
6690 minOccurs="0" maxOccurs="unbounded" />
6691
6692 <xsd:element name="USPSPostalDeliveryBox"
6693 type="addr:USPSPostalDeliveryBox_type"
6694 minOccurs="0" maxOccurs="unbounded" />
6695 <xsd:element name="USPSPostalDeliveryRoute"
6696 type="addr:USPSPostalDeliveryRoute_type"
6697 minOccurs="0" maxOccurs="unbounded" />
6698 <xsd:element name="USPSGeneralDeliveryOffice"
6699 type="addr:USPSGeneralDeliveryOffice_type"
6700 minOccurs="0" maxOccurs="unbounded" />
6701
6702 <xsd:element name="GeneralAddressClass" type="addr:GeneralAddressClass_type"
6703 minOccurs="0" maxOccurs="unbounded" />
6704 <xsd:element name="AddressReferenceSystem"
6705 type="addr_type:AddressReferenceSystem_type"
6706 minOccurs="0" maxOccurs="unbounded" />
6707 </xsd:choice>
6708 </xsd:group>
6709 <!-- End Complex Types -->
6710 <!-- Wrapper collecting a set of addresses -->
6711 <xsd:element name="AddressCollection">
6712 <xsd:complexType mixed="false">
6713 <xsd:choice minOccurs="1" maxOccurs="unbounded">
6714 <xsd:group ref="addr:AddressCollection_group" />
6715 </xsd:choice>
6716 <xsd:attribute name="version" type="addr_type:version_type"
6717 use="required" />
6718 </xsd:complexType>
6719 </xsd:element>
6720 </xsd:schema>
6721
```

6721 **7.2 Appendix B: [Address XML Examples](#) (Informative)**

6722 Address exchange packages can be simple, complex and anywhere in between. For clarity
 6723 each of the Address Classes are shown here in a complete exchange packaged for reference
 6724 and review.

6725 **7.2.1 Thoroughfare Address Classes**

6726 **7.2.1.1 Numbered Thoroughfare Address**

```

6727 <?xml version="1.0" encoding="UTF-8"?>
6728 <addr:AddressCollection version="0.4" xmlns:addr="addr"
6729 xmlns:addr_type="addr_type" xmlns:gml="http://www.opengis.net/gml"
6730 xmlns:smil20="http://www.w3.org/2001/SMIL20/"
6731 xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language"
6732 xmlns:xlink="http://www.w3.org/1999/xlink"
6733 xmlns:xml="http://www.w3.org/XML/1998/namespace"
6734 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="addr
6735 addr.xsd">
6736   <NumberedThoroughfareAddress>
6737     <CompleteAddressNumber>
6738       <AddressNumber>123</AddressNumber>
6739     </CompleteAddressNumber>
6740     <CompleteStreetName>
6741       <StreetName>Main</StreetName>
6742       <StreetNamePostType>Street</StreetNamePostType>
6743     </CompleteStreetName>
6744     <CompletePlaceName>
6745       <PlaceName>Buffalo Lake</PlaceName>
6746     </CompletePlaceName>
6747     <StateName>MN</StateName>
6748     <ZipCode>55314</ZipCode>
6749   </NumberedThoroughfareAddress>
6750 </addr:AddressCollection>
6751
```

6752 **7.2.1.2 Intersection Address**

```

6753 <?xml version="1.0" encoding="UTF-8"?>
```

```
6754 <addr:AddressCollection version="0.4" xmlns:addr="addr"
6755 xmlns:addr_type="addr_type" xmlns:gml="http://www.opengis.net/gml"
6756 xmlns:smil20="http://www.w3.org/2001/SMIL20/"
6757 xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language"
6758 xmlns:xlink="http://www.w3.org/1999/xlink"
6759 xmlns:xml="http://www.w3.org/XML/1998/namespace"
6760 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="addr
6761 addr.xsd ">
6762 <IntersectionAddress>
6763 <CompleteStreetName>
6764 <StreetName>Boardwalk</StreetName>
6765 </CompleteStreetName>
6766 <SeparatorElement>and</SeparatorElement>
6767 <CompleteStreetName>
6768 <StreetName>Park</StreetName>
6769 <StreetNamePostType>Place</StreetNamePostType>
6770 </CompleteStreetName>
6771 <CompletePlaceName>
6772 <PlaceName>Atlantic City</PlaceName>
6773 </CompletePlaceName>
6774 <StateName>NJ</StateName>
6775 </IntersectionAddress>
6776 </addr:AddressCollection>
6777
```

6778 7.2.1.3 Two Number Address Range

```
6779 <?xml version="1.0" encoding="UTF-8"?>
6780 <addr:AddressCollection version="0.4" xmlns:addr="addr"
6781 xmlns:addr_type="addr_type" xmlns:gml="http://www.opengis.net/gml"
6782 xmlns:smil20="http://www.w3.org/2001/SMIL20/"
6783 xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language"
6784 xmlns:xlink="http://www.w3.org/1999/xlink"
6785 xmlns:xml="http://www.w3.org/XML/1998/namespace"
6786 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="addr
6787 addr.xsd ">
6788 <TwoNumberAddressRange>
6789 <CompleteAddressNumber>
6790 <AddressNumber>401</AddressNumber>
6791 </CompleteAddressNumber>
6792 <SeparatorElement>-</SeparatorElement>
6793 <CompleteAddressNumber>
6794 <AddressNumber>418</AddressNumber>
```


6795 </CompleteAddressNumber>
6796 <CompleteStreetName>
6797 <StreetName>Green</StreetName>
6798 <StreetNamePostType>Street</StreetNamePostType>
6799 </CompleteStreetName>
6800 <CompletePlaceName>
6801 <PlaceName>Flint</PlaceName>
6802 </CompletePlaceName>
6803 <StateName>MI</StateName>
6804 <ZipCode>48503</ZipCode>
6805 </TwoNumberAddressRange>
6806 </addr:AddressCollection>
6807

6808 **7.2.1.4 Four Number Address Range**

6809 <?xml version="1.0" encoding="UTF-8"?>
6810 <addr:AddressCollection version="0.4" xmlns:addr="addr"
6811 xmlns:addr_type="addr_type" xmlns:gml="http://www.opengis.net/gml"
6812 xmlns:smil20="http://www.w3.org/2001/SMIL20/"
6813 xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language"
6814 xmlns:xlink="http://www.w3.org/1999/xlink"
6815 xmlns:xml="http://www.w3.org/XML/1998/namespace"
6816 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="addr
6817 addr.xsd ">
6818 <FourNumberAddressRange>
6819 <CompleteAddressNumber>
6820 <AddressNumber>1900</AddressNumber>
6821 </CompleteAddressNumber>
6822 <SeparatorElement>-</SeparatorElement>
6823 <CompleteAddressNumber>
6824 <AddressNumber>1908</AddressNumber>
6825 </CompleteAddressNumber>
6826 <CompleteAddressNumber>
6827 <AddressNumber>1901</AddressNumber>
6828 </CompleteAddressNumber>
6829 <SeparatorElement>-</SeparatorElement>
6830 <CompleteAddressNumber>
6831 <AddressNumber>1909</AddressNumber>
6832 </CompleteAddressNumber>
6833 <CompleteStreetName>
6834 <StreetName>Bear</StreetName>
6835 <StreetNamePostType>court</StreetNamePostType>

```
6836 </CompleteStreetName>
6837 <CompletePlaceName>
6838 <PlaceName>Fort Collins</PlaceName>
6839 </CompletePlaceName>
6840 <StateName>CO</StateName>
6841 <ZipCode>80525</ZipCode>
6842 </FourNumberAddressRange>
6843 </addr:AddressCollection>
```

6844 **7.2.1.5 Unnumbered Thoroughfare Address**

```
6845 <?xml version="1.0" encoding="UTF-8"?>
6846 <addr:AddressCollection version="0.4" xmlns:addr="addr"
6847 xmlns:addr_type="addr_type" xmlns:gml="http://www.opengis.net/gml"
6848 xmlns:smil20="http://www.w3.org/2001/SMIL20/"
6849 xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language"
6850 xmlns:xlink="http://www.w3.org/1999/xlink"
6851 xmlns:xml="http://www.w3.org/XML/1998/namespace"
6852 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="addr
6853 addr.xsd ">
6854 <UnnumberedThoroughfareAddress>
6855 <CompleteStreetName>
6856 <StreetName>Fagaima</StreetName>
6857 <StreetNamePostType>Road</StreetNamePostType>
6858 </CompleteStreetName>
6859 <CompletePlaceName>
6860 <PlaceName>Nu'uli</PlaceName>
6861 </CompletePlaceName>
6862 <StateName>AS</StateName>
6863 <ZipCode>96799</ZipCode>
6864 </UnnumberedThoroughfareAddress>
6865 </addr:AddressCollection>
6866
```

6867 **7.2.2 Landmark Address Classes**

6868 **7.2.2.1 Landmark Address**

```
6869 <?xml version="1.0" encoding="UTF-8"?>
6870 <addr:AddressCollection version="0.4" xmlns:addr="addr"
6871 xmlns:addr_type="addr_type" xmlns:gml="http://www.opengis.net/gml"
```

```
6872 xmlns:smil20="http://www.w3.org/2001/SMIL20/"
6873 xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language"
6874 xmlns:xlink="http://www.w3.org/1999/xlink"
6875 xmlns:xml="http://www.w3.org/XML/1998/namespace"
6876 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="addr
6877 addr.xsd ">
6878 <LandmarkAddress>
6879 <CompleteLandmarkName>
6880 <LandmarkName>Condominium Garden Hills Plaza</LandmarkName>
6881 </CompleteLandmarkName>
6882 <CompleteSubaddress>
6883 <SubaddressElement SubaddressComponentOrder="1">
6884 <SubaddressType>Torre</SubaddressType>
6885 <SubaddressIdentifier>2</SubaddressIdentifier>
6886 </SubaddressElement>
6887 <SubaddressElement>
6888 <SubaddressType>Apartamento</SubaddressType>
6889 <SubaddressIdentifier>905</SubaddressIdentifier>
6890 </SubaddressElement>
6891 </CompleteSubaddress>
6892 <CompletePlaceName>
6893 <PlaceName>Mayaguez</PlaceName>
6894 </CompletePlaceName>
6895 <StateName>PR</StateName>
6896 <ZipCode>00608</ZipCode>
6897 <ZipPlus4>1233</ZipPlus4>
6898 </LandmarkAddress>
6899 </addr:AddressCollection>
6900
```

6901 **7.2.2.2 Community Address**

```
6902 <?xml version="1.0" encoding="UTF-8"?>
6903 <addr:AddressCollection version="0.4" xmlns:addr="addr"
6904 xmlns:addr_type="addr_type" xmlns:gml="http://www.opengis.net/gml"
6905 xmlns:smil20="http://www.w3.org/2001/SMIL20/"
6906 xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language"
6907 xmlns:xlink="http://www.w3.org/1999/xlink"
6908 xmlns:xml="http://www.w3.org/XML/1998/namespace"
6909 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="addr
6910 addr.xsd ">
6911 <CommunityAddress>
6912 <CompleteAddressNumber>
```

```

6913    <AddressNumberPrefix>A</AddressNumberPrefix>
6914    <AddressNumber>17</AddressNumber>
6915    </CompleteAddressNumber>
6916    <CompleteLandmarkName>
6917    <LandmarkName>Jardine Fagota</LandmarkName>
6918    </CompleteLandmarkName>
6919    <CompletePlaceName>
6920    <PlaceName>Ponce</PlaceName>
6921    </CompletePlaceName>
6922    <StateName>PR</StateName>
6923    <ZipCode>00731</ZipCode>
6924    </CommunityAddress>
6925    </addr:AddressCollection>
6926

```

6927 7.2.3 Postal Delivery [Address Classes](#)

6928 7.2.3.1 USPS Postal Delivery Box

```

6929    <?xml version="1.0" encoding="UTF-8"?>
6930    <addr:AddressCollection version="0.4" xmlns:addr="addr"
6931    xmlns:addr_type="addr_type" xmlns:gml="http://www.opengis.net/gml"
6932    xmlns:smil20="http://www.w3.org/2001/SMIL20/"
6933    xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language"
6934    xmlns:xlink="http://www.w3.org/1999/xlink"
6935    xmlns:xml="http://www.w3.org/XML/1998/namespace"
6936    xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="addr
6937    addr.xsd ">
6938    <USPSPostalDeliveryBox>
6939    <USPSBox>
6940    <USPSBoxType>PO BOX</USPSBoxType>
6941    <USPSBoxId>159753</USPSBoxId>
6942    </USPSBox>
6943    <CompleteSubaddress>
6944    <SubaddressElement>
6945    <SubaddressType>PMB</SubaddressType>
6946    <SubaddressIdentifier>3571</SubaddressIdentifier>
6947    </SubaddressElement>
6948    </CompleteSubaddress>
6949    <CompletePlaceName>
6950    <PlaceName>Herndon</PlaceName>

```

6951 </CompletePlaceName>
6952 <StateName>VA</StateName>
6953 <ZipCode>22071</ZipCode>
6954 </USPSPostalDeliveryBox>
6955 </addr:AddressCollection>
6956

6957 **7.2.3.2 USPS Postal Delivery Route**

6958 <?xml version="1.0" encoding="UTF-8"?>
6959 <addr:AddressCollection version="0.4" xmlns:addr="addr"
6960 xmlns:addr_type="addr_type" xmlns:gml="http://www.opengis.net/gml"
6961 xmlns:smil20="http://www.w3.org/2001/SMIL20/"
6962 xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language"
6963 xmlns:xlink="http://www.w3.org/1999/xlink"
6964 xmlns:xml="http://www.w3.org/XML/1998/namespace"
6965 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="addr
6966 addr.xsd ">
6967 <USPSPostalDeliveryRoute>
6968 <USPSAddress>
6969 <USPSRoute>
6970 <USPSBoxGroupType>RR</USPSBoxGroupType>
6971 <USPSBoxGroupId>2</USPSBoxGroupId>
6972 </USPSRoute>
6973 <USPSBox>
6974 <USPSBoxType>Box</USPSBoxType>
6975 <USPSBoxId>18</USPSBoxId>
6976 </USPSBox>
6977 </USPSAddress>
6978 <CompletePlaceName>
6979 <PlaceName>Largo</PlaceName>
6980 </CompletePlaceName>
6981 <StateName>FL</StateName>
6982 <ZipCode>33777</ZipCode>
6983 </USPSPostalDeliveryRoute>
6984 </addr:AddressCollection>
6985

6986 **7.2.3.3 USPS General Delivery Office**

6987 <?xml version="1.0" encoding="UTF-8"?>

```
6988 <addr:AddressCollection version="0.4" xmlns:addr="addr"
6989 xmlns:addr_type="addr_type" xmlns:gml="http://www.opengis.net/gml"
6990 xmlns:smil20="http://www.w3.org/2001/SMIL20/"
6991 xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language"
6992 xmlns:xlink="http://www.w3.org/1999/xlink"
6993 xmlns:xml="http://www.w3.org/XML/1998/namespace"
6994 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="addr
6995 addr.xsd ">
6996 <USPSGeneralDeliveryOffice>
6997 <USPSGeneralDeliveryPoint>General Delivery</USPSGeneralDeliveryPoint>
6998 <CompletePlaceName>
6999 <PlaceName>Tampa</PlaceName>
7000 </CompletePlaceName>
7001 <StateName>FL</StateName>
7002 <ZipCode>33602</ZipCode>
7003 <ZipPlus4>9999</ZipPlus4>
7004 </USPSGeneralDeliveryOffice>
7005 </addr:AddressCollection>
7006
```

7007 **7.2.4 General Address Class**

7008 **7.2.4.1 General Address Type 1**

```
7009 <?xml version="1.0" encoding="UTF-8"?>
7010 <addr:AddressCollection version="0.4" xmlns:addr="addr"
7011 xmlns:addr_type="addr_type" xmlns:gml="http://www.opengis.net/gml"
7012 xmlns:smil20="http://www.w3.org/2001/SMIL20/"
7013 xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language"
7014 xmlns:xlink="http://www.w3.org/1999/xlink"
7015 xmlns:xml="http://www.w3.org/XML/1998/namespace"
7016 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="addr
7017 addr.xsd ">
7018 <GeneralAddressClass>123 Main Street, Apt 1, Ames, IA
7019 50010</GeneralAddressClass>
7020 </addr:AddressCollection>
7021
```

7022 7.2.4.2 General Address Type 2

```
7023 <?xml version="1.0" encoding="UTF-8"?>
7024 <addr:AddressCollection version="0.4" xmlns:addr="addr"
7025 xmlns:addr_type="addr_type" xmlns:gml="http://www.opengis.net/gml"
7026 xmlns:smil20="http://www.w3.org/2001/SMIL20/"
7027 xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language"
7028 xmlns:xlink="http://www.w3.org/1999/xlink"
7029 xmlns:xml="http://www.w3.org/XML/1998/namespace"
7030 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="addr
7031 addr.xsd ">
7032   <GeneralAddressClass>
7033     <DeliveryAddress>123 Main Street, Apt 1</DeliveryAddress>
7034   </GeneralAddressClass>
7035 </addr:AddressCollection>
7036
```

7037 7.2.4.3 General Address Type 3

```
7038 <?xml version="1.0" encoding="UTF-8"?>
7039 <addr:AddressCollection version="0.4" xmlns:addr="addr"
7040 xmlns:addr_type="addr_type" xmlns:gml="http://www.opengis.net/gml"
7041 xmlns:smil20="http://www.w3.org/2001/SMIL20/"
7042 xmlns:smil20lang="http://www.w3.org/2001/SMIL20/Language"
7043 xmlns:xlink="http://www.w3.org/1999/xlink"
7044 xmlns:xml="http://www.w3.org/XML/1998/namespace"
7045 xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="addr
7046 addr.xsd ">
7047   <GeneralAddressClass>
7048     <DeliveryAddress>123 Main Street, Apt 1</DeliveryAddress>
7049     <CompletePlaceName>
7050       <PlaceName>Ames</PlaceName>
7051     </CompletePlaceName>
7052     <StateName>IA</StateName>
7053     <ZipCode>50010</ZipCode>
7054   </GeneralAddressClass>
7055 </addr:AddressCollection>
7056
```

7057

7058

7.3 Appendix C (Informative): Table of Element Relationships

Note: The elements listed as part of or contained in other elements may be either mandatory, conditional, or optional. Please see the individual element definitions to determine the parameters for each element.

Element Name	Element Type	Complex Elements This Element is Part Of	Element Contains These Simple Elements
Address Number Prefix	Simple	Complete Address Number	
Address Number	Simple	Complete Address Numbers	
Address Number Suffix	Simple	Complete Address Number	
Separator Element	Simple	Complete Address Number	
Complete Address Number	Complex	Delivery Address	Address Number Prefix Address Number Address Number Suffix Separator Element
Street Name Pre Modifier	Simple	Complete Street Name Delivery Address	
Street Name Pre Directional	Simple	Complete Street Name Delivery Address	
Street Name Pre Type	Simple	Complete Street Name Delivery Address	
Street Name	Simple	Complete Street Name Delivery Address	
Street Name Post Type	Simple	Complete Street Name Delivery Address	
Street Name Post Directional	Simple	Complete Street Name Delivery Address	
Street Name Post Modifier	Simple	Complete Street Name Delivery Address	
Complete Street Name	Complex	Delivery Address	Street Name Pre Modifier Street Name Pre Directional

			Street Name Pre Type Street Name Street Name Post Type Street Name Post Directional Street Name Post Modifier
Subaddress Type	Simple	Subaddress Element	
Subaddress Identifier	Simple	Subaddress Element	
Subaddress Element	Complex	Complete Subaddress	Subaddress Type SubaddressIdentifier
Complete Subaddress	Complex	Delivery Address	Subaddress Element Subaddress Type Subaddress Identifier
Place Name	Simple	Place State ZIP	
State Name	Simple	Place State ZIP	
Zip Code	Simple	Place State ZIP	
Zip Plus 4	Simple	Place State ZIP	
Country Name	Simple		
USPS Box Type	Simple	Delivery Address	
USPS Box ID	Simple	Delivery Address	
USPS Box Group Type	Simple	Delivery Address	
USPS Box Group ID	Simple	Delivery Address	
Delivery Address	Complex		Complete Address Number Complete Street Name Complete Subaddress
Place State ZIP	Complex		Place Name State Name ZIP Code ZIP Plus 4

7.4 Appendix D (Informative): Relationship of Addresses to Transportation Features and Linear Reference Locations

7.4.1 Introduction

Part 7.4: Appendix D presents the relationship between the Address Standard and the transportation part of the Framework Standard in three sections:

- Section 2 sets forth the relation between the addresses and transportation networks, and differentiates the scopes of the address standard and the transportation standard.
- Section 3 lists key transportation features defined in the framework standard transportation base part, and states how address classes are related to transportation features.
- Section 4 summarizes (from Annex B of the Framework Standard Transportation Base Part) the definition of linear reference systems and their components, and shows how addresses can be expressed as linear reference locations.

7.4.2 Address Systems and Transportation Networks

Addresses are a means by which people specify the location of travel origins and destinations and relate them to the transportation network. Most addresses specify locations for structures, land parcels, incidents, infrastructure components such as poles or hydrants, None of these features are transportation segments or nodes. By relating non-transportation features to the transportation network, thoroughfare addresses enable people to locate the address using the transportation network and travel to it along network paths. The Address Standard provides

the data elements and structures—most of them non-geometric—needed to relate people's specific travel origins and destinations to the transportation network. The address standard also defines certain elements needed within the transportation standard to describe transportation features, most notably address numbers, address ranges, and street names.

The Transportation Part of the framework standard defines the geometric elements and structures needed to construct transportation networks, and the non-geometric attributes needed to describe them. Transportation networks show the paths of travel from origin to destination.

Transportation networks model the thoroughfares that thoroughfare addresses refer to, the particular thoroughfare segments by which individual addresses may be grouped into address ranges, the nodes that define intersections, and the left/right side by which odd/even parities are located. [Numbered Thoroughfare Addresses](#) and some ranges are typically modeled as point events (or occasionally linear events) located along the thoroughfare segments. [Intersection Addresses](#) and most ranges correspond to nodes and segments respectively. Thus the Framework Standard Transportation Part provides the geometric elements and structures needed to relate addresses to their corresponding transportation system segments and nodes.

The Address Standard and the Transportation Part are so closely related as to be interdependent. The following principles differentiate their scopes so as to be complementary and mutually exclusive:

1. The Address Standard defines the address classes, elements and attributes, none of which are network elements and almost all of which are non-geometric, and the

Transportation Part incorporates them by reference.

2. The Address Standard provides for the description of Address Reference Systems, containing the rules for address assignment, and forming a basis for validation and quality testing of addresses. The elements of an Address Reference system include geometric components including [Address Reference System Extent](#), [Address Reference System Axis](#), [Address Reference System Axis Point Of Beginning](#), [Address Reference System Reference Polyline](#), [Address Reference System Range Breakpoint](#), [Address Reference System Range Breakline](#), and [Address Reference System Range Polygon](#). These geometric elements can be related to the transportation elements as nodes, segments, point events, and linear events.

3. The Transportation Part defines the geometric structures and elements needed to comprise thoroughfare networks, and the address standard incorporates them by reference. They include transportation networks, nodes, and segments; point events and linear events.

7.4.3 Addresses And Transportation Features

7.4.3.1 Key Transportation Feature Definitions

The Transportation Part is Part 7 of the Framework Data Content Standard. It is comprised of five sub-parts: the Transportation Base part (Part 7), and five specialized subparts: Rail, Roads, Transit, and Inland Waterways (Parts 7b through 7e). (Part 7a, Transportation - Air, was drafted but not endorsed.)

7123 The Base part (Part 7, section 5) defines several terms needed to articulate the relationship
7124 between addresses and transportation features:

- 7125 • transportation system - *"set of components that allow movement of goods and people*
7126 *between locations"* (sec. 5.25)
- 7127 • event - *"mechanism for locating an attribute value or feature along a transportation*
7128 *feature."* (sec. 5.4)
- 7129 • Point event - *"event that occurs at a single position along a linear feature."* (sec. 5.12)
- 7130 • Linear event - *"event that occurs for an interval along the length of a feature."* (sec.
7131 5.8)
- 7132 • transportation point (TranPoint) - *"topological connection between transportation*
7133 *segments."* (sec. 5.22)
- 7134 • transportation segment (TranSeg) - *"linear section of the physical transportation*
7135 *network."* (sec. 5.23)
- 7136 • transportation path (TranPath) - *"ordered list of whole or partial...transportation*
7137 *segments."* (sec. 5.21)
- 7138 • transportation segmentation model - *"set of transportation features (TranPath,*
7139 *TranPoint, and TranSeg) and their topological relationships which together define all*
7140 *possible movements through the transportation system"* (sec. 5.24)
- 7141 • transportation feature (TranFeature) - *"representation of transportation entities that*
7142 *include transportation segmentation model features, as well as other features relevant*
7143 *to transportation"* (sec. 5.20)

7144 **7.4.3.2 Representing Addresses As Transportation Features**

7145 An address can be represented within a transportation network (e.g. a road centerline model)
7146 in various ways, depending on the class of the address and how it is mapped. This subsection
7147 gives the transportation feature types that can be used to represent each address class. The
7148 feature types are defined and explained in the FGDC's "Framework Data Content Standard
7149 Part 7: Transportation." See in particular "Transportation Base," Sections 5 (Terms and
7150 Definitions) and 7 (Requirements), and "Part 7c: Roads."

7151 **7.4.3.2.1 Representation of a [Numbered Thoroughfare Address](#) as a Transportation** 7152 **Feature**

- 7153 • (If the address is mapped as a point): Point event, related to one or more transportation
7154 segments.
- 7155 • (If the address is mapped as a line or polygon): Linear event, related to one or more
7156 transportation segments.

7157 **7.4.3.2.2 Representation of an [Intersection Address](#) as a Transportation Feature**

- 7158 • One or more transportation points (TranPoints).
- 7159 • Note that for complex intersections, or where roads are represented as two or more
7160 centerlines, one [Intersection Address](#) may be represented by multiple TranPoints.

7161 **7.4.3.2.3 Representation of a [Two Number Address Range](#) as a Transportation** 7162 **Feature**

- 7163 • (If the range covers part of one transportation segment): Linear event, related to a

7164 transportation segment (TranSeg).

7165 • (If the range covers one complete transportation segment): Transportation segment

7166 (TranSeg).

7167 • (If the range covers more than one complete transportation segment): Transportation

7168 path (TranPath).

7169 **7.4.3.2.4 Representation of a [Four Number Address Range](#) as a Transportation**

7170 **Feature**

7171 • (If the range covers part of one transportation segment): Linear event, related to a

7172 transportation segment (TranSeg).

7173 • (If the range covers one complete transportation segment): Transportation segment

7174 (TranSeg).

7175 • (If the range covers more than one complete transportation segment): Transportation

7176 path (TranPath).

7177 **7.4.3.2.5 Representation of an [Unnumbered Thoroughfare Address](#) as a**

7178 **Transportation Feature**

7179 • (If the thoroughfare has only one segment): Transportation segment (TranSeg)

7180 • (If the thoroughfare has more than one segment): Transportation path (TranPath)

7181 **7.4.3.2.6 Representation of a [Landmark Address](#) as a Transportation Feature**

7182 Cannot be specified within this standard. Addresses of this class have no defined relation to a

7183 transportation data model. A Landmark Address might be mapped as a point or a line or a

7184 polygon, and if represented as a polygon it might relate to zero or one or many transportation
7185 points or segments or paths.

7186 **7.4.3.2.7 Representation of a [Community Address](#) as a Transportation Feature**

7187 Cannot be specified within this standard. Addresses of this class have no defined relation to a
7188 transportation data model. A Community Address might be mapped as a point or a line or a
7189 polygon, and it might relate to zero or one or many transportation points or segments or paths.

7190 **7.4.3.2.8 Representation of a [USPS Postal Delivery Box](#) as a Transportation Feature**

7191 **7.4.3.2.9 Representation of a [USPS Postal Delivery Route](#) as a Transportation Feature**

7192 [USPS Postal Delivery Route](#) addresses have no definite relation to any transportation feature.

7193 Within the US, if the location of the delivery points are known, then Rural route and HC route
7194 addresses could be mapped as points, treated as point events, and related to a transportation
7195 segment. Overseas military addresses have no relation to any transportation feature.

7196 **7.4.3.2.10 Representation of a [USPS General Delivery Office](#) as a Transportation**
7197 **Feature**

- 7198 • A [USPS General Delivery Office](#) could be mapped to a post office, or it could be said
7199 to have no relation to any transportation feature.
- 7200 • Overseas military addresses have no relation to any transportation feature.

7201 **7.4.4 Expressing Address Locations as Linear Reference Positions**

7202 **7.4.4.1 Linear Reference Systems and Addresses.**

7203 Linear reference systems specify locations by reference to distance travelled along a route
7204 within a transportation network. Linear reference systems differ fundamentally from address
7205 reference systems and coordinate reference systems, and thus offer a third way to specify
7206 address locations. Linear reference systems are used primarily in surveying and engineering,
7207 but they are also useful in address administration. Linear referencing explicitly ties an address
7208 to a specific position along its corresponding street segment. Linear reference systems are
7209 useful in visualizing address lists and building address zone information when side of street
7210 matters. Linear referencing can therefore be useful in detecting mislocated thoroughfare
7211 addresses (out of sequence or wrong parity) and erroneous ranges.

7212 Transportation Base Part (Annex B) provides normative classes and types needed to define
7213 linear reference systems and specify positions along curvilinear transportation features. Annex
7214 B, Section 5, defines several terms of interest:

- 7215 • Position expression - "expression used to describe a position using linear referencing
7216 and comprised of a measured value (distance expression), the curvilinear element
7217 being measured, (linear element), the method of measurement (LRM), and an optional
7218 lateral offset (offset expression)."
- 7219 • Distance expression - "linear distance measured along a linear element (a component
7220 of a position expression)."
- 7221 • Linear element - "underlying curvilinear element along which a linearly referenced

7222 measure is taken."

7223 • Offset - "Optional part of a linearly referenced position expression which specifies the

7224 lateral distance left or right of the linear element being measured."

7225 **7.4.4.2 Linear Referencing Locations and the Address Standard.**

7226 Linear reference locations must be specified by reference to a transportation network as

7227 defined in the Transportation Part of the Framework Standard. The Transportation Part defines

7228 all the elements needed to construct the network and represent addresses within it (typically as

7229 point events). The Transportation Part also defines all the elements needed to establish and

7230 document linear reference locations, such as route, point of beginning, units of measure,

7231 method of measuring along the route, etc. Because linear reference locations can be

7232 constructed entirely within the domain of the Transportation Part of the framework standard,

7233 no linear reference attributes are provided or needed within the Address Standard.

7234

7234

7.5 Appendix E (Informative): Element Measure Index

<u>Element Name</u>	<u>Component or Subject</u>	<u>Simple or Complex</u>	<u>Measure</u>
Address Number	Address Number	Simple	Data Type Measure
Address Number	Address Number	Simple	Spatial Domain Measure +
Address Number	Address Number	Simple	Tabular Domain Measure
Address Number	Address Number	Simple	Address Number Fishbones Measure +
Address Number Prefix	Address Number	Simple	Range Domain Measure
Address Number Prefix	Address Number	Simple	Spatial Domain Measure +
Address Number Prefix	Address Number	Simple	Tabular Domain Measure
Address Number Prefix	Address Number	Simple	Address Number Fishbones Measure +
Address Number Suffix	Address Number	Simple	Spatial Domain Measure +
Address Number Suffix	Address Number	Simple	Tabular Domain Measure
Address Reference System Id	Address Reference System Elements	Simple	Tabular Domain Measure
Address Reference System Name	Address Reference System Elements	Simple	Tabular Domain Measure
Address Reference System Extent	Address Reference System Elements	Simple	Address Reference System Description
Address Reference System Type	Address Reference System Elements	Simple	Tabular Domain Measure
Address Reference System Rules	Address Reference System Elements	Complex	Address Reference System Rules Measure +
Address Reference System Block Rules	Address Reference System Elements	Simple	See Address Reference System Rules Measure .
Address Reference System Numbering Rules	Address Reference System Elements	Simple	See Address Reference System Rules Measure .
Address Reference System Street Naming Rules	Address Reference System Elements	Simple	See Address Reference System Rules Measure .
Address Reference System Street Type Directional And Modifier Rules	Address Reference System Elements	Simple	See Address Reference System Rules Measure .

Address Reference System Place Name State Country And Zip Code Rules	Address Reference System Elements	Simple	See Address Reference System Rules Measure .
Address Reference System Subaddress Rules	Address Reference System Elements	Simple	See Address Reference System Rules Measure .
Address Reference System Axis	Address Reference System Elements	Simple	Address Reference System Axes Point Of Beginning Measure +
Address Reference System Reference Polyline	Address Reference System Elements	Simple	See Address Reference System Rules Measure .
Address Reference System Range Breakpoint	Address Reference System Elements	Simple	See Address Reference System Rules Measure .
Address Reference System Range Breakline	Address Reference System Elements	Simple	See Address Reference System Rules Measure .
Address Reference System Range Polygon	Address Reference System Elements	Simple	See Address Reference System Rules Measure .
Address Reference System Reference Document Citation	Address Reference System Elements	Simple	See Address Reference System Rules Measure .
Address Reference System	Address Reference System Elements	Complex	Address Reference System Rules Measure +
Complete Address Number	Address Number	Complex	Pattern Sequence Measure
Complete Landmark Name	Landmark Name Elements	Complex	Complex Element Sequence Number Measure
Complete Landmark Name	Landmark Name Elements	Complex	Repeated Element Uniqueness Measure
Complete Place Name	Larger-Area Elements	Complex	Complex Element Sequence Number Measure
Complete Place Name	Larger-Area Elements	Complex	Repeated Element Uniqueness Measure
Complete Street Name	Street Name	Complex	Complete Street Name Tabular Domain Measure
Complete Street Name	Street Name	Complex	Pattern Sequence Measure
Complete Street Name	Street Name	Complex	Duplicate Street Name Measure +
Complete Subaddress	Subaddress Elements	Complex	Complex Element Sequence Number Measure
Complete Subaddress	Subaddress Elements	Complex	Repeated Element

			Uniqueness Measure
Country Name	Larger-Area Elements	Simple	Spatial Domain Measure +
Country Name	Larger-Area Elements	Simple	Tabular Domain Measure
Delivery Address	USPS Address Lines	Simple	Pattern Sequence Measure
Landmark Name	Landmark Name Elements	Simple	Uniqueness Measure
Place Name	Larger-Area Elements	Simple	Spatial Domain Measure +
Place Name	Larger-Area Elements	Simple	Tabular Domain Measure
Place State ZIP	USPS Address Lines	Complex	Pattern Sequence Measure
Private Mail Box	Subaddress Elements	Simple	None
Separator Element	Element	Simple	Tabular Domain Measure
State Name	Larger-Area Elements	Simple	Spatial Domain Measure +
State Name	Larger-Area Elements	Simple	Tabular Domain Measure
Street Name	Street Name	Simple	Spatial Domain Measure +
Street Name	Street Name	Simple	Tabular Domain Measure
Street Name Post Directional	Street Name	Simple	Spatial Domain Measure +
Street Name Post Directional	Street Name	Simple	Tabular Domain Measure
Street Name Post Modifier	Street Name	Simple	Spatial Domain Measure +
Street Name Post Modifier	Street Name	Simple	Tabular Domain Measure
Street Name Post Type	Street Name	Simple	Spatial Domain Measure +
Street Name Post Type	Street Name	Simple	Tabular Domain Measure
Street Name Pre Directional	Street Name	Simple	Spatial Domain Measure +
Street Name Pre Directional	Street Name	Simple	Tabular Domain Measure
Street Name Pre Modifier	Street Name	Simple	Spatial Domain Measure +
Street Name Pre Modifier	Street Name	Simple	Tabular Domain Measure
Street Name Pre Type	Street Name	Simple	Spatial Domain Measure +
Street Name Pre Type	Street Name	Simple	Tabular Domain Measure

Subaddress Element	Subaddress Elements	Complex	Pattern Sequence Measure
Subaddress Element	Subaddress Elements	Complex	Spatial Domain Measure +
Subaddress Identifier	Subaddress Elements	Simple	None
Subaddress Type	Subaddress Elements	Simple	Tabular Domain Measure
USPS Box Group ID	USPS Postal Address Elements	Simple	Tabular Domain Measure
USPS Box Group Type	USPS Postal Address Elements	Simple	Tabular Domain Measure
USPS Box ID	USPS Postal Address Elements	Simple	Tabular Domain Measure
USPS Box Type	USPS Postal Address Elements	Simple	Tabular Domain Measure
USPS General Delivery Point	USPS Postal Address Elements	Simple	Tabular Domain Measure
USPS Address	USPS Postal Address Elements	Complex	Pattern Sequence Measure
USPS Box	USPS Postal Address Elements	Complex	Tabular Domain Measure
USPS Route	USPS Postal Address Elements	Simple	Tabular Domain Measure
Zip Code	Larger-Area Elements	Simple	Spatial Domain Measure +
Zip Code	Larger-Area Elements	Simple	Tabular Domain Measure
Zip Plus 4	Larger-Area Elements	Simple	Spatial Domain Measure + (linear?)
Zip Plus 4	Larger-Area Elements	Simple	Tabular Domain Measure

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7236 **7.6 Appendix F (Informative): [Attribute Measure Index](#)**

Attribute Name	Component or Subject	Measure
Address Anomaly Status	Descriptive Attributes	None
Address Authority	Address Lineage Attributes	Tabular Domain Measure
Address Classification	Descriptive Attributes	Pattern Sequence Measure
Address Classification	Descriptive Attributes	Tabular Domain Measure
Address Coordinate Reference System	Address Coordinates	Tabular Domain Measure
Address Coordinate Reference System Authority	Address Coordinates	Tabular Domain Measure
Address Coordinate Reference System ID	Address Coordinates	Tabular Domain Measure
Address Elevation	Address Coordinates	Address Elevation Measure
Address End Date	Address Lineage Attributes	Future Date Measure
Address End Date	Address Lineage Attributes	Start End Date Order Measure
Address Feature Type	Descriptive Attributes	Address Reference System Description
Address Feature Type	Descriptive Attributes	Tabular Domain Measure
Address ID	Address ID	Uniqueness Measure
Address Latitude	Address Coordinates	XY Coordinate Completeness Measure
Address Latitude	Address Coordinates	XY Coordinate Spatial Measure
Address Lifecycle Status	Descriptive Attributes	Address Lifecycle Status Date Consistency Measure
Address Lifecycle Status	Descriptive Attributes	Tabular Domain Measure
Address Longitude	Address Coordinates	XY Coordinate Completeness Measure
Address Longitude	Address Coordinates	XY Coordinate Spatial Measure
Address Number Parity	Attributes Describing Specific Address Elements	Address Number Parity Measure
Address Range Parity	Attributes Describing Specific Address Elements	Address Number Range Parity Consistency Measure

Address Range Side	Attributes Describing Specific Address Elements	Address Left Right Measure
Address Range Side	Attributes Describing Specific Address Elements	Left Right Odd Even Parity Measure
Address Range Type	Attributes Describing Specific Address Elements	None
Address Reference System	Address Reference System Attributes	Refer to component elements
Address Reference System Axis Point Of Beginning	Address Reference System Attributes	Address Reference System Axes Point Of Beginning Measure -
Address Reference System Description	Address Reference System Attributes	None
Address Reference System Extent	Address Reference System Attributes	Compare with the Address Reference System Description
Address Reference System Name	Address Reference System Attributes	Tabular Domain Measure
Address Relation Type	Descriptive Attributes	Tabular Domain Measure
Address Scheme X Axis	Address Reference System Attributes	Address Reference System Axes Point Of Beginning Measure
Address Scheme Y Axis	Address Reference System Attributes	Address Reference System Axes Point Of Beginning Measure
Address Scheme Y Axis Origin	Address Reference System Attributes	Address Reference System Axes Point Of Beginning Measure -
Address Start Date	Address Lineage Attributes	Future Date Measure
Address Start Date	Address Lineage Attributes	Start End Date Order Measure
Address UUID	Address ID	Refer to validation specific to the software used to create the UUID
Address X Coordinate	Address Coordinates	XY Coordinate Completeness Measure
Address X Coordinate	Address Coordinates	XY Coordinate Spatial Measure
Address Y Coordinate	Address Coordinates	XY Coordinate Completeness Measure
Address Y Coordinate	Address Coordinates	XY Coordinate Spatial Measure
Address Z Level	Descriptive Attributes	Subaddress Element Z Level Measure
Attached Element	Attributes Describing Specific Address Elements	Check Attached Pairs Measure

Attached Element	Attributes Describing Specific Address Elements	Complete Street Name Tabular Domain Measure
Data Set ID	Address Lineage Attributes	Related Not Null Measure
Delivery Address Type	Attributes Describing Specific Address Elements	Delivery Address Type Subaddress Measure
Delivery Address Type	Attributes Describing Specific Address Elements	Tabular Domain Measure
Element Sequence Number	Attributes Describing Specific Address Elements	Element Sequence Number Measure
Element Sequence Number	Attributes Describing Specific Address Elements	Uniqueness Measure
GNIS Feature ID	Attributes Describing Specific Address Elements	Related Not Null Measure
Location Description	Descriptive Attributes	None
Official Status	Descriptive Attributes	Official Status Address Authority Consistency Measure
Official Status	Descriptive Attributes	Tabular Domain Measure
Place Name Type	Attributes Describing Specific Address Elements	None
Related Address ID	Descriptive Attributes	Related Element Uniqueness Measure
Related Address ID	Descriptive Attributes	Related Not Null Measure
Related Address ID	Descriptive Attributes	Tabular Domain Measure
Subaddress Component Order	Attributes Describing Specific Address Elements	Subaddress Component Order Measure
Subaddress Component Order	Attributes Describing Specific Address Elements	Tabular Domain Measure
US National Grid Coordinate	Address Coordinates	Usng Coordinate Spatial Measure

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7.7 Appendix G (Informative): Classification Measure Index

<u>Classification Name</u>	<u>Subject</u>	<u>Measure</u>
<u>Community Address</u>	Landmark Address Classes	<u>Pattern Sequence Measure</u>
<u>Four Number Address Range</u>	Thoroughfare Address Classes	<u>Address Number Range Completeness Measure</u>
<u>Four Number Address Range</u>	Thoroughfare Address Classes	<u>Address Number Range Parity Consistency Measure</u>
<u>Four Number Address Range</u>	Thoroughfare Address Classes	<u>Address Number Range Sequence Measure</u>
<u>Four Number Address Range</u>	Thoroughfare Address Classes	<u>Left Right Odd Even Parity Measure</u>
<u>Four Number Address Range</u>	Thoroughfare Address Classes	<u>Low High Address Sequence Measure</u>
<u>Four Number Address Range</u>	Thoroughfare Address Classes	<u>Overlapping Ranges Measure</u>
<u>Four Number Address Range</u>	Thoroughfare Address Classes	<u>Pattern Sequence Measure</u> +
<u>Four Number Address Range</u>	Thoroughfare Address Classes	<u>Range Domain Measure</u>
<u>General Address Class</u>	General Address Class	<u>Pattern Sequence Measure</u>
<u>Intersection Address</u>	Thoroughfare Address Classes	<u>Intersection Validity Measure</u>
<u>Intersection Address</u>	Thoroughfare Address Classes	<u>Pattern Sequence Measure</u>
<u>Landmark Address</u>	Landmark Address Classes	<u>Pattern Sequence Measure</u>
<u>Landmark Site Address</u>	Thoroughfare Address Classes	<u>Address Number Fishbones Measure</u>
<u>Landmark Site Address</u>	Thoroughfare Address Classes	<u>Address Number Range Completeness Measure</u>
<u>Landmark Site Address</u>	Thoroughfare Address Classes	<u>Left Right Odd Even Parity Measure</u>
<u>Landmark Site Address</u>	Thoroughfare Address Classes	<u>Pattern Sequence Measure</u> +
<u>Numbered Thoroughfare</u>	Thoroughfare Address	<u>Address Completeness Measure</u>

Address	Classes	
Numbered Thoroughfare Address	Thoroughfare Address Classes	Address Number Fishbones Measure
Numbered Thoroughfare Address	Thoroughfare Address Classes	Left Right Odd Even Parity Measure
Numbered Thoroughfare Address	Thoroughfare Address Classes	Pattern Sequence Measure +
Two Number Address Range	Thoroughfare Address Classes	Address Number Range Completeness Measure
Two Number Address Range	Thoroughfare Address Classes	Address Number Range Parity Consistency Measure
Two Number Address Range	Thoroughfare Address Classes	Address Number Range Sequence Measure
Two Number Address Range	Thoroughfare Address Classes	Low High Address Sequence Measure
Two Number Address Range	Thoroughfare Address Classes	Low High Address Sequence Measure
Two Number Address Range	Thoroughfare Address Classes	Overlapping Ranges Measure
Two Number Address Range	Thoroughfare Address Classes	Pattern Sequence Measure +
Two Number Address Range	Thoroughfare Address Classes	Range Domain Measure
USPS General Delivery Office	Landmark Address Classes	Pattern Sequence Measure
USPS Postal Delivery Box	Postal Delivery Address Classes	Pattern Sequence Measure
Unnumbered Thoroughfare Address	Thoroughfare Address Classes	Pattern Sequence Measure

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7240 **7.8 Appendix H (Informative): Quality Measures By Data Quality**7241 **Report**

<u>Measure</u>	<u>Attribute (Thematic) Accuracy</u>	<u>Completeness</u>	<u>Lineage</u>	<u>Logical Consistency</u>	<u>Positional Accuracy</u>	<u>Temporal Accuracy</u>
<u>Address Completeness Measure</u>		•				
<u>Address Left Right Measure</u>	•					
<u>Address Lifecycle Status Date Consistency Measure</u>				•		•
<u>Address Number Fishbones Measure</u>				•		
<u>Address Number Parity Measure</u>				•		
<u>Address Number Range Completeness Measure</u>				•		
<u>Address Number Range Parity Consistency Measure</u>				•		
<u>Address Number Range Sequence Measure</u>				•		
<u>Address Range Directionality</u>				•		

Measure						
Address Reference System Axes Point Of Beginning Measure				•		
Address Reference System Rules Measure				•		
Check Attached Pairs Measure				•		
Complete Street Name Tabular Domain Measure	•					
Complex Element Sequence Number Measure	•					
Data Type Measure				•		
Delivery Address Type Subaddress Measure				•		
Duplicate Street Name Measure				•		
Element Sequence Number Measure	•					
Future Date Measure						•
Intersection Validity Measure				•		

Left Right Odd Even Parity Measure				•		
Location Description Field Check Measure			•		•	
Low High Address Sequence Measure				•		
Official Status Address Authority Consistency Measure				•		
Overlapping Ranges Measure				•		
Pattern Sequence Measure				•		
Range Domain Measure	•					
Related Element Uniqueness Measure	•					
Related Not Null Measure				•		
Repeated Element Uniqueness Measure	•					
Segment Directionality Consistency Measure				•		
Spatial Domain Measure					•	
Start End Date						•

Order Measure						
Subaddress Component Order Measure	•					
Subaddress Element Z Level Measure	•					
Tabular Domain Measure	•					
Uniqueness Measure	•					
Usng Coordinate Spatial Measure					•	
XY Coordinate Completeness Measure				•		
XY Coordinate Spatial Measure					•	

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7244 **7.9 Appendix I (Informative): Compatibility of the Address**7245 **Standard with the FGDC Geographic Information Framework**7246 **Data Content Standard for the NDSI**

7247 **7.9.1 Introduction**7248 **7.9.1.1 Purpose and Structure.**

7249 This appendix assesses the compatibility of the address standard with the FGDC's *Geographic*
 7250 *Information Framework Data Content Standard* (hereinafter called the "framework
 7251 standard"). This appendix is presented in three sections:

- 7252 • Section 1 states why and how the assessment was done, and summarizes the results.
- 7253 • Section 2 provides a brief statement of the scope of each part of the framework
 7254 standard, whether the address standard is consistent with that part, and how the
 7255 evaluation should be independently confirmed.
- 7256 • Section 3 shows in detail whether and to what extent the address standard meets the
 7257 conformance tests set forth in Part Zero (Base Part) of the framework standard.

7258 **7.9.1.2 The Framework Standard and the Address Standard.**

7259 The framework standard “*provides interrelated thematic standards in seven data areas:*
 7260 *cadastral, digital orthoimagery, elevation, geodetic control, governmental unit boundaries*
 7261 *and other geographic area boundaries, hydrography, and transportation.*” The seven core
 7262 themes “*are considered framework data of critical importance to the spatial data*
 7263 *infrastructure of the Nation... The standard is divided into eight parts, one for each of the*
 7264 *seven data themes and a base document containing information common to two or more*
 7265 *themes.*” (Framework standard Base Part, Introduction and Sec. 1.1)

7266 Address data are used in conjunction with several of the framework themes, most notably
 7267 cadastral data and transportation data. Addresses and transportation features (especially road
 7268 networks) are so closely related that their standards are interdependent. Addresses are used by
 7269 the public to identify cadastral parcels and specify their locations. Street names form an

7270 integral part of thoroughfare addresses, and street segments and their network geometry form
7271 the basis for [Address Reference Systems](#) and their components. In addition, addressed features
7272 have elevations; and place names within addresses are often determined by governmental
7273 boundaries.

7274 **7.9.1.3 Assessing the Compatibility of the Address Standard with the Framework**

7275 **Standard.**

7276 Because address data are closely tied to several framework data themes, the address standard
7277 should be compatible with the framework standard. Compatibility assessment requires two
7278 types of tests:

- 7279 • **Consistency tests**, to find whether the address standard is consistent with the
7280 standards for the seven data themes, and
- 7281 • **Conformity tests**, to determine whether the address standard conforms to the
7282 requirements set forth in the Base Part of the framework standard, which govern the
7283 seven thematic parts of the framework standard.

7284 **7.9.1.4 Consistency Tests and Results.**

7285 The consistency tests evaluate, for each thematic part, whether the part shares any classes,
7286 elements, or defined terms with the address standard, and if so, whether the shared classes,
7287 elements, or terms are defined and used consistently. Three outcomes are possible:

- 7288 • **Unrelated** - The framework part shares no classes, elements, or defined terms with the
7289 address standard.
- 7290 • **Consistent** - The framework part shares classes, elements, or defined terms with the
7291 address standard; and they are defined and used consistently; and the two standards are
7292 complementary and mutually exclusive in scope.
- 7293 • **Inconsistent** - The framework part shares classes, elements, or defined terms with the
7294 address standard, but they are not defined and used consistently, and/or the two
7295 standards overlap in scope.

7296 The address standard relates to the data theme parts as follows:

- 7297 • **Unrelated** - Digital Orthoimagery, Geodetic Control, and Hydrography.
- 7298 • **Consistent** - Cadastral, Elevation, and Governmental Unit Boundaries and Other
7299 Geographic Area Boundaries.
- 7300 • **Inconsistent** - Transportation (see 2.8.2 below).

7301 **7.9.1.5 Conformity Tests and Results**

7302 Section 3 sets forth, section by section, all the conformance requirements given in the
7303 framework standard Base Part and analyzes whether and how the address standard conforms
7304 to the requirements. The address standard satisfies all of the requirements. Section 3 below
7305 details the specific requirements and shows how the address standard conforms to them.

7306 **7.9.1.6 Relating the Address Standard to the Framework Standard Cadastral and**

7307 **Transportation Parts**

7308 The close relation of address data with cadastral data and with transportation data raises the
7309 question of how the address standard should be related to the cadastral and transportation parts
7310 of the framework standard. If, for example, an address record is to be related to a land parcel
7311 record, the address standard should not have to reinvent or repeat the entire cadastral part in
7312 order to make use of the data found in a cadastral dataset. This address standard incorporates a
7313 framework approach:

- 7314 • To best serve geographic data users, the address standard should provide explicitly for
7315 relationships with other standards.
- 7316 • This is best done by defining a minimum set of attributes needed to relate features
7317 across different themes (e.g. an address to a parcel, or an address to a transportation
7318 feature), that is, to provide for the foreign key needed to relate address records to
7319 cadastral features or transportation features; and
- 7320 • Those key attributes should be defined by reference to the other standard.

7321 The Content Part of the address standard includes two elements, [Address Parcel Identifier](#)
7322 [Source](#) and [Address Parcel Identifier](#), that were created to relate addresses with parcels.

7323 The Content Part address standard includes five attributes by which an address feature can be
7324 related to a transportation event and a transportation segment or path: [Address Transportation](#)
7325 [System Name](#), [Address Transportation System Authority](#), [Address Transportation Feature](#)
7326 [Type](#), [Address Transportation Feature ID](#), and [Related Transportation Feature ID](#). In addition,
7327 the Content Part includes five address range attributes, so that address ranges can be properly
7328 related to the transportation segments or paths they describe: [Address Range Type](#), [Address](#)
7329 [Range Parity](#), [Address Range Side](#), [Address Range Directionality](#), and [Address Range Span](#).

7330 **7.9.1.7 Format Note**

7331 Within this appendix, quotations from the framework standard are italicized and set in
7332 quotation marks.

7333 **7.9.1.8 Sources**

7334 This appendix refers to the May 2008 versions of the *Geographic Information Framework*
7335 *Data Content Standard* as posted on the FDGC website at:
7336 http://www.fgdc.gov/standards/standards_publications/. Complete citations are given in Part
7337 6: References.

7338 **7.9.2 Relationship of the Address Standard to Each of the Eight Parts of the**
7339 **Geographic Information Framework Data Content Standard**

7340 **7.9.2.1 Part 0: Base**

7341 **7.9.2.1.1 Scope of Part 0: Base.**

7342 The Base Part provides “A high-level view of the seven framework data themes[,] [a]n overall
7343 integrating Unified Modeling Language (UML) model that is supplemented by detail in the
7344 part for each data theme, [and] [t]erminology and other information common to two or more
7345 themes” (Part 0, Sec 1.2).

7346 The Base Part defines the abstract model that underlies and unifies the seven data themes. It
7347 sets forth, for the data themes, specific conformance requirements as to definitions of terms
7348 and abbreviations, UML model notation, data dictionary content and formatting, element and
7349 attribute naming, incorporation of metadata and record identifiers, and conformance to ISO
7350 reference standards and the abstract framework data model.

7351 **7.9.2.1.2 Relation of Part 0 to Address Standard.**

7352 To be compatible with the framework standard, the address standard must meet the
7353 conformance requirements given in the Base Part, or at least not contradict them. As shown in
7354 the detailed analysis in Section 3, the address standard conforms to all of the requirements.

7355 **7.9.2.1.3 Conclusion**

7356 The address standard conforms to the Base Part.

7357 **7.9.2.2 [Part 1: Cadastral](#)**

7358 **7.9.2.2.1 Scope of Part 1: Cadastral.**

7359 Part 1 “*provides the information necessary to identify the existence of parcel-level cadastral*
7360 *information and the source of that information.*” (Part 1, Sec. 1).

7361 Part 1 is a profile of the FGDC's *Cadastral Data Content Standard* (FGDC-STD-003). The
7362 *Cadastral Data Content Standard* “*contains the standardization of the definition of entities*
7363 *and objects related to cadastral information including survey measurements, transactions*
7364 *related to interests in land, general property descriptions, and boundary and corner evidence*
7365 *data.*” (Part 1, Introduction).

7366 **7.9.2.2.2 Relation of Part 1 and the Cadastral Data Content Standard to the Address Standard.**

7367 The address standard is consistent with both the Cadastral Part of Framework Standard and the
7368 Cadastral Data Content Standard. The address standard includes two address attributes,
7369 [Address Parcel Identifier](#) and [Address Parcel Identifier Source](#), both defined by reference to
7370 the *Cadastral Data Content Standard*. They correspond to the Parcel ID and Source Identifier
7371 (or Parcel ID Assigner) elements, respectively, in the Cadastral Part and the Cadastral Data
7372 Content Standard.

7373 Because addresses and parcels are created and altered independently of each other, no specific
7374 address-parcel relationship can be assumed. They should be treated as independent entities,
7375 and the relationship between them should be considered, in relational database terms, as a
7376 many-to-many relationship--that is, an address can relate to any number of parcels, and a
7377 parcel can relate to any number of addresses.

7378 The [Address Parcel Identifier](#) and the [Address Parcel Identifier Source](#) are both defined by
7379 reference to the Cadastral Standard, and they are the only parcel elements included or needed
7380 within the address standard. Except for those two attributes, the address and cadastral
7381 standards do not share any defined terms, data elements, or data classes. All other parcel
7382 elements are defined within the Cadastral Standard and need not be repeated in the address
7383 standard. All address elements and classes are defined in the address standard and need not be
7384 repeated in the Cadastral Standard. Thus the two standards are consistent in their shared
7385 elements, and mutually exclusive and complementary in their scopes.

7386 **7.9.2.2.3 Conclusion**

7387 The Address Standard is consistent with the Framework Standard Part 1: Cadastral.

7388 **7.9.2.3 [Part 2: Digital Orthoimagery](#)**

7389 **7.9.2.3.1 Scope of Part 2: Digital Orthoimagery.**

7390 Part 2 “*specifies data content and logical structure for the description and interchange of*
7391 *framework digital orthoimagery. To a certain extent, it also provides guidelines for the*
7392 *acquisition and processing of imagery (leading toward the generation of digital*
7393 *orthoimagery), and specifies the documentation of those acquisition and processing steps.*”
7394 (Part 2, Sec 1.1)

7395 **7.9.2.3.2 Relation of Part 2 to Address Standard.**

7396 The address standard does not refer to digital orthoimagery, and it does not share any defined
7397 terms, data elements, or data classes with Part 2.

7398 **7.9.2.3.3 Conclusion**

7399 The address standard is unrelated to the Digital Orthoimagery Part.

7400 **7.9.2.4 [Part 3: Elevation](#)**

7401 **7.9.2.4.1 Scope of Part 3: Elevation.**

7402 Part 3 “*defines the geospatial data model entities and attributes that permit the exchange of*
7403 *digital elevation data consistent with the National Spatial Data Infrastructure’s (NSDI)*
7404 *framework for elevation data.*” (Part 3, Sec. 1)

7405 **7.9.2.4.2 Relation of Part 3 to Address Standard.**

7406 The address standard includes address attributes that define horizontal and vertical coordinates
7407 for address points, and the coordinate reference system to which the coordinates are
7408 referenced. The attributes are:

7409 **Horizontal:** [Address X Coordinate](#), [Address Y Coordinate](#), [Address Longitude](#), [Address](#)
7410 [Latitude](#), [US National Grid Coordinate](#)

7411 **Vertical:** [Address Elevation](#)

7412 **Coordinate Reference System:** [Address Coordinate Reference System ID](#), [Address](#)
7413 [Coordinate Reference System Authority](#); Complex Element: [Address Coordinate Reference](#)
7414 [System](#)

7415 The address attributes listed above are consistent with Part 3, and otherwise the two standards
7416 are independent and unrelated.

7417 **7.9.2.4.3 Conclusion**

7418 The address standard is consistent with the Elevation Part.

7419 **7.9.2.5 [Part 4: Geodetic Control](#)**

7420 **7.9.2.5.1 Scope of Part 4: Geodetic Control.**

7421 Part 4 “*provides a common methodology for creating datasets of horizontal coordinate values*
7422 *and vertical coordinate values for geodetic control points represented by survey monuments,*
7423 *such as brass disks and rod marks. It provides a single data structure for relating coordinate*
7424 *values obtained by one geodetic survey method (for example, a classical line-of-sight traverse)*
7425 *with coordinate values obtained by another geodetic survey method (for example, a Global*
7426 *Positioning System geodetic control survey).*” (Part 4, Sec .1.2)

7427 **7.9.2.5.2 Relation of Part 4 to Address Standard.**

7428 The address standard does not refer to control points, and it does not share any defined terms,
7429 data elements, or data classes with Part 4.

7430 **7.9.2.5.3 Conclusion**

7431 The address standard is unrelated to the Geodetic Control Part.

7432 **7.9.2.6 [Part 5: Governmental Units and Other Geographic Area Boundaries](#)**

7433 **7.9.2.6.1 Scope of Part 5: Governmental Units and Other Geographic Area Boundaries.**

7434 “*The purpose of ...Part 5...is to establish the content requirements for the collection and*
7435 *interchange of governmental units and other geographic area boundary data and to facilitate*
7436 *the maintenance and use of that information.*” (Part 5, Sec 1).

7437 The part recognizes four types of areas (definitions are quoted from Part 5, Sec.5.5):

- 7438 • governmental unit - *"geographic area with legally defined boundaries established*
7439 *under Federal, Tribal, State, or local law, and with the authority to elect or appoint*
7440 *officials and raise revenues through taxes"* (Sec. 5.5.12)
- 7441 • administrative unit - *"area established by rule, treaty, or regulation of a legislative,*
7442 *executive, or judicial governmental authority, a non-profit organization, or private*
7443 *industry for the execution of some function"* (Sec. 5.5.1)
- 7444 • statistical unit - *"geographic area defined for the collection, tabulation, and/or*
7445 *publication of demographic, and/or other statistical data"* (sec. 5.5.20)
- 7446 • other unit - *"geographic area that is not a governmental unit, administrative unit, or*
7447 *statistical unit, as defined herein, and that is not an area defined or described in other*
7448 *framework parts"* (Sec. 5.5.17)

7449 **7.9.2.6.2 Relation of Part 5 to Address Standard.**

7450 The address standard is related to the Governmental Units and other Geographic Area
7451 Boundaries Part in two ways:

- 7452 • Government unit names and other geographic area names often also serve as address
7453 [Place Names](#), [State Names](#), or [Country Names](#).
- 7454 • Part 5 defines boundaries and spatial relationships. The Data Quality Part of the
7455 address standard uses spatial relationships to test whether the address is within the
7456 polygon that represents the address [Place Name\(s\)](#), [State Name](#), or [Country Name](#).

7457 To provide for consistency of terminology:

- 7458 • The address standard definition of [Place Name](#) is based in part on the Framework
7459 Standard Part 5.
- 7460 • Tables 11, 13, and 15 of Part 5, which provide an extensive list of terms and
7461 definitions for various types of communities and local governments, are cited in the
7462 address standard [Place Name](#) notes.
- 7463 • Relevant terms from tables 11, 13, and 15 are listed in the address standard under
7464 [Place Name](#) as “Other Common Names for the Element.”
- 7465 • The address standard notes for [State Name](#) cite the definition of “state” given in
7466 framework standard part 5, Table 13.
- 7467 • The address standard definition of [Country Name](#) incorporates the definition of
7468 “country” given in framework standard part 5, Table 13.
- 7469 ○ The data quality tests use boundary polygons and spatial relationships in a
7470 manner consistent with the definitions of Part 5.

7471 **7.9.2.6.3 Conclusion**

7472 The address standard is consistent with the Governmental Units and other Geographic Area
7473 Boundaries Part.

7474 **7.9.2.7 [Part 6: Hydrography](#)**

7475 **7.9.2.7.1 Scope of Part 6: Hydrography.**

7476 *“The purpose of ... Part 6 ... is to establish the content requirements for the collection and*
7477 *interchange of hydrography features and to facilitate the maintenance and use of that*
7478 *information by all users of geographic information. The Hydrography part identifies and*
7479 *defines terminology, encoding schema, and the data components required for describing*
7480 *hydrographic features, along with the metadata needed for the hydrography data exchange....*
7481 *The scope of this part is limited to the information regarding surface water features and*
7482 *hydrographic networks for the purpose of cartography and network analysis.” (Part 6, Sec.*
7483 *1.1)*

7484 **7.9.2.7.2 Relation of Part 6 to Address Standard.**

7485 The address standard does not refer to hydrography or hydrographic features, and it does not
7486 share any defined terms, data elements, or data classes with Part 6.

7487 **7.9.2.7.3 Conclusion**

7488 The address standard is unrelated to the Hydrography Part.

7489 **7.9.2.8 [Part 7: Transportation](#)**

7490 **7.9.2.8.1 Scope of Part 7: Transportation.**

7491 Part 7 *“defines the data model for describing transportation systems components of*
7492 *transportation systems for five [sic] modes that compose the Transportation theme of the*
7493 *NSDI.” (Part 7, Sec. 1).*

7494 Part 7 is comprised of five sub-parts: the Transportation Base Part (Part 7), and Rail, Roads,
7495 Transit, and Inland Waterways (Parts 7b through 7e). (Part 7a, Transportation - Air, was
7496 drafted but not endorsed.) The Base, Roads, and Transit subparts are especially germane to the
7497 address standard.

7498 7.9.2.8.2 Relation of Part 7 to Address Standard.

7499 Addresses and transportation networks--and the standards that define them--are so closely
7500 related as to be interdependent. In particular, the thoroughfare address classes locate addresses
7501 by reference to a thoroughfare; thoroughfare networks are defined and described in the
7502 Transportation Part of the Framework Standard. [Part 7.4: Appendix D](#) (informative) describes
7503 the interdependence and complementarity of the two standards in detail.

7504 The address standard includes five elements by which an address feature can be related to a
7505 transportation event and a transportation segment or path: [Address Transportation System](#)
7506 [Name](#), [Address Transportation System Authority](#), [Address Transportation Feature Type](#),
7507 [Address Transportation Feature ID](#), and [Related Transportation Feature ID](#).

7508 The address standard includes five address range attributes, so that address ranges can be
7509 properly related to the transportation segments they describe: [Address Range Type](#), [Address](#)
7510 [Range Parity](#), [Address Range Side](#), [Address Range Directionality](#), and [Address Range Span](#).

7511 These elements are defined to incorporate by reference the transportation model defined in the
7512 Transportation Part, without overlapping it.

7513 Because the Transportation Part was completed before the address standard was started, it
7514 overlaps with the address standard in certain respects. Within the Transit subpart, Annex D
7515 (Informative) describes an address extension to the transit model. The model is inconsistent
7516 with the address standard. In addition, the following classes, attributes, and code list values
7517 overlap and in some respects are inconsistent with elements in the address standard:

- 7518 • Transit, Table 1 (Data Dictionary for TransitStop) attributes: address, street side
- 7519 • Transit, Table 10(Data Dictionary for Landmark) class and attributes: Landmark,
7520 landmarkName, landmarkType, address
- 7521 • Transit, Table 11 (Data Dictionary for Facility) attributes: address
- 7522 • Roads, Table 3 (Code List for RoadLinearEventType) code list values:
7523 directionalPrefix, directionalSuffix, addressInformation, alternateNameBody,
7524 alternateNameText, alternateStreetName, alternateStreetNameBody,
7525 alternateStreetNameText, firstHouseNumber, houseNumberRange,
7526 houseNumberStructure, intermediateHouseNumber, lastHouseNumber, postalCode

7527 7.9.2.8.3 Conclusion

7528 The address standard and the Transportation Part are inconsistent. They can be made
7529 consistent by replacing or redefining Annex D and the class, attributes and values listed above
7530 with reference to the address standard.

7531 **7.9.3 Conformance Of The Address Standard To Framework Standard Part**

7532 **Zero Base Part**

7533 The framework standard Base Part defines the abstract model that underlies and unifies the
7534 framework seven data themes. It sets forth, for the data themes, specific conformance
7535 requirements as to definitions of terms and abbreviations, UML model notation, data
7536 dictionary content and formatting, element and attribute naming, incorporation of metadata
7537 and record identifiers, and conformance to ISO reference standards and the abstract
7538 framework data model.

7539 Section 3 sets forth the conformance requirements given in the framework standard Base Part,
7540 section by section, and analyzes whether and how the address standard conforms to the
7541 requirements. As shown below, the address standard conforms to all of the requirements.

7542 **7.9.3.1 Conformance to Base Part Section 1: Scope**

7543 Framework Base Part Section 1 states the scope of the Framework Standard, the Base Part and
7544 the seven data theme parts. It is descriptive; it imposes no conformance requirements that
7545 would apply to the address standard.

7546 **7.9.3.2 Conformance to Base Part Section 2: Conformance**

7547 **Framework Base Part Section 2** states in full: “2. *Conformance. Each thematic part of the*
7548 *Framework Data Content Standard includes a data dictionary based on the conceptual*
7549 *schema presented in that part. To conform to the standard, a thematic dataset shall satisfy the*
7550 *requirements of the data dictionary for that theme. It shall include a value for each mandatory*
7551 *element, and a value for each conditional element for which the condition is true. It may*
7552 *contain values for any optional element. The data type of each value shall be that specified for*
7553 *the element in the data dictionary and the value shall lie within the domain specified for the*
7554 *element.*”

7555 **Address Standard Conformance to Section 2:** The address standard includes a data
7556 dictionary (the Content Part) and a conceptual schema (the XSD in the Exchange Part). The
7557 Content Part provides data types and (if applicable) domains for each elements and attribute.
7558 The Classification Part shows which elements are mandatory for each class. The address
7559 standard thus includes all information needed to determine whether a given dataset conforms
7560 to the standard.

7561 **7.9.3.3 Conformance to Base Part Section 3: Normative References**

7562 Framework Base Part Section 3 refers to Annex A, which lists normative references to
7563 standards that affect two or more parts of the Framework Data Content Standard. This section
7564 imposes no conformance requirements that would apply to the address standard.

7565 **7.9.3.4 Conformance to Base Part Section 4: Maintenance Authority**

7566 Framework Base Part Section 4 states that the FGDC is the maintenance authority for the Base
7567 Part, and it provides a contact point for questions. This section imposes no conformance
7568 requirements that would apply to the address standard.

7569 **7.9.3.5 Conformance to Base Part Section 5: Terms and Definitions**

7570 **Framework Base Part Section 5** defines terms used in the Base Part or common to two or
7571 more parts of the standard. Two of the terms are pertinent to the address standard:

7572 *“5.12 data content standard – standard that specifies what information is contained within a*
7573 *geospatial dataset and provides an application schema”*

7574 **Address Standard Conformance to 5.12:** The address standard specifies what information is
7575 contained within an address dataset and provides an address schema. Thus the address
7576 standard fits the definition of a data content standard.

7577 *“5.22 feature type – category of real world phenomena with common properties [ISO*
7578 *19126]”*

7579 **Address Standard Conformance to 5.22:** Addresses are real world phenomena with
7580 common properties. The Classification Part of the address standard specifies the common
7581 properties of the various classes of addresses. Addresses therefore meet the definition of
7582 “feature type.”

7583 **7.9.3.6 Conformance to Base Part Section 6: Symbols, Abbreviated Terms, and**

7584 **Notations**

7585 Framework Base Part Section 6 lists abbreviations used in the Base Part or common to two or
7586 more parts of the Framework Standard. Abbreviations used in the address standard are
7587 consistent with the abbreviations listed in the Base Part.

7588 **7.9.3.7 Conformance to Base Part Section 7: Requirements**

7589 **7.9.3.7.1 Conformance to Base Part Subsection 7.1: Unified Modeling Language (UML) model**

7590 **Framework Base Part Section 7.1** reads in full: “*7.1 Unified Modeling Language (UML)*
7591 *model. A data model expressed in UML is provided in each theme part in one of the following*
7592 *ways:*

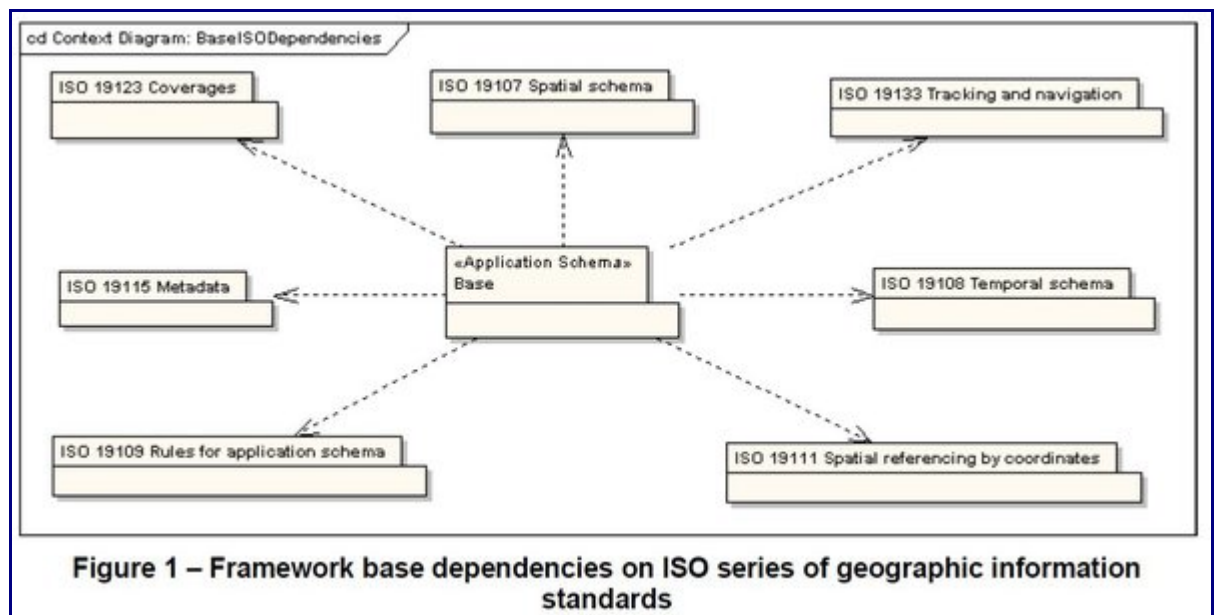
- 7593 • *Incorporated in the body text in each section that needs it*
7594 • *Incorporated in the body text in a UML model-only section*
7595 • *Incorporated in a normative annex and referenced in the body text*
7596 • *Incorporated in the body text, but only at a high level or in a general way with detailed*
7597 *data components of the model presented in a normative annex*

7598 “*The use of UML class diagrams in the Framework Data Content Standard is an application-*
7599 *neutral approach to depict the inherent description of and relationships among data entities.*
7600 *These diagrams should neither be interpreted as requiring object-oriented implementation –*
7601 *methods or interfaces are not typically shown on these data classes – nor should they be*
7602 *interpreted as representing tables in relational databases. Instead, the UML classes should be*
7603 *used as the basis for translation to and from internal organization data stores and*
7604 *applications. UML modeling environments typically support conversion of logical UML*
7605 *models into implementations in various programming environments through rule-based*
7606 *transforms.*”

7607 **Address Standard Conformance to Base Part 7.1:** The Data Exchange Part provides a
7608 UML model of the standard, and a complete XSD.

7609 **7.9.3.7.2 Conformance to Base Part Subsection 7.2: Dependence on ISO 19100 series of geographic**
7610 **information standards**

7611 **Framework Base Part Section 7.2** reads in full: “*7.2 Dependence on ISO 19100 series of*
7612 *geographic information standards. The Framework Data Content Standard is dependent on*
7613 *structures and concepts from several standards in the ISO 19100 series of geographic*
7614 *information standards, as shown in Figure 1. Full titles for these standards are found in*
7615 *Annex A. The digital orthoimagery and elevation data parts also are dependent on ISO 19123.*
7616 *Data standards for certain transportation modes are dependent on ISO 19133. All parts have*
7617 *dependencies on ISO 19107, ISO 19108, ISO 19109, ISO 19111, and ISO 19115.*”



Address Standard Conformance to Base Part 7.2. The address standard is not directly dependent on any of the ISO 19100 series of geographic information standards, because there is no ISO 19100 standard for addresses. To the extent that the address standard is indirectly dependent on other ISO standards that govern the framework standard, conformance to this section (7.2) is shown by the conformance of the address standard to the Base Part of the Framework Standard.

7.9.3.7.3 Conformance to Base Part Subsection 7.3: Application schema

Framework Base Part Section 7.3 reads in full: “7.3 *Application schema. Each of the thematic Framework Data Content Standard parts includes an integrated application schema expressed in the Unified Modeling Language (UML) according to ISO 19109, Geographic information – Rules for application schema, and its normative references. The application schema specifies, as appropriate, the feature types, attribute types, attribute domain, feature relationships, spatial representation, data organization, and metadata that define the information content of a dataset.*

“The UML models included in the parts of the standard describe the common content and structures that can be exchanged between members of the geospatial community. The use of UML and abstract modeling concepts allows the standard to be technology independent but permits current and future implementation cases to be derived from the UML model.

“Whenever possible, the standard references abstract UML object types from the ISO 19100 series of standards and OGC specifications. Specialization of these classes of objects allows each theme to inherit properties and behaviors and ensure their propagation when transformed into an encoding such as XML.

7642 “UML concepts and notation are described in Annex B.” (Base Part subsection 7.3, quoted in
7643 full)

7644 **Address Standard Conformance to Base Part 7.3.** The UML model and XSD provided in
7645 the Data Exchange Part express an integrated application schema that define the information
7646 content of the standard.

7647 **7.9.3.7.4 Conformance to Base Part Subsection 7.4: Data dictionary**

7648 **7.9.3.7.4.1 Conformance to Base Part Subsection 7.4.1: General requirements**

7649 **Framework Base Part Section 7.4.1** reads in full: “7.4.1 General requirements. Each of the
7650 thematic Framework Data Content Standard parts contains, as appropriate, documentation of
7651 all features, attributes, and relationships and their definitions. A data dictionary table
7652 describes the characteristics of the UML model diagrams.

7653 “The data dictionary (see Table 1) is structured as follows:

- 7654 • Each UML model class equates to a data dictionary entity
- 7655 • Each UML model class attribute equates to a data dictionary element
- 7656 • Each UML model role name equates to a data dictionary element
- 7657 • The shaded rows define entities
- 7658 • The entities and elements within the data dictionary are defined by six attributes based
7659 on those specified in ISO/IEC 11179-3 for the description of data element concepts,
7660 that is, data elements without representation.”

Table 1 – Data dictionary table format

Line	Name/Role Name	Definition	Obligation/Condition	Maximum Occurrence	Data Type	Domain
1						
2						
3						

7661
7662
7663 **Address Standard Conformance to Base Part 7.4.1.** The address standard Content Part
7664 provides a data dictionary of all the elements and attributes specified in the address standard .
7665 The dictionary provides the required information about each element and attribute, and
7666 extends the base standard by including additional items.

7667 In the address standard each address data element is described by giving its:

- 7668 1. Element name: The name of the element.
- 7669 2. Other common names for this element: Common words or phrases having the same or

- 7670 similar meaning as the element name.
- 7671 3. Definition: The meaning of the element.
- 7672 4. Definition Source: The source of the definition. ("New" indicates that the definition is
- 7673 original.)
- 7674 5. Data Type: Whether the element is a characterString, integer, datetime, etc.
- 7675 6. Existing Standards for this Element: Other standards that govern this element (if any).
- 7676 7. Domain of Values for this Element: The range or set of values (if any) to which the
- 7677 element is restricted.
- 7678 8. Source of Values: The source (if any) for the domain of values.
- 7679 9. How Defined: How the domain of values is defined.
- 7680 10. Example: Illustrative examples of the element.
- 7681 11. Notes/Comments: Notes and comments giving further explanation about the element.
- 7682 12. XML Tag: The XML tag for the element.
- 7683 13. XML Model: XML model of the element.
- 7684 14. XML Example: The XML model applied to a specific example of the element.
- 7685 15. XML Notes: Explanatory notes about the XML model.
- 7686 16. Quality Measures: Quality tests applied to the class.
- 7687 17. Quality Notes: Explanatory notes about the quality measures applied to this element.

7688 The list above includes all the information required by the Base Part 7.4.1. Specifically:

- 7689 1. Name/Role Name is provided under "Element Name"
- 7690 2. Definition is provided under "Definition"
- 7691 3. Obligation/Condition is provided in the XML model
- 7692 4. Maximum Occurrence is provided in the XML model
- 7693 5. Data Type is provided under "Data Type"
- 7694 6. Domain is provided under "Domain of Values for this Element"

7695 The address standard data dictionary includes additional information to encourage widespread

7696 and consistent use of the standard by providing clear and complete explanatory information,

7697 notes, and examples about each element and attribute. The documentation for address data

7698 elements in the Address Standard meets the requirements used by the Framework Data

7699 Standard, and provides for additional attributes.

7700 **7.9.3.7.4.2 Conformance to Base Part Subsection 7.4.2: Name/Role name**

7701 **Framework Base Part Section 7.4.2** reads in full: "7.4.2: Name/Role name. The name/role

7702 name is a label assigned to a data dictionary entity or to a data dictionary element.

7703 *The class name begins with an upper case letter. Spaces do not appear in an entity name:*

7704 *instead, multiple words are concatenated, with each word starting with a capital letter*

7705 *(example: XnnnYmmm). Entity names are unique within a data theme.*

7706 *Element names start with a lower case letter. Spaces do not appear in an element name:*

7707 *instead, multiple words are concatenated, with subsequent words starting with a capital letter*

7708 *(example: xnnnYmmm). Element names are unique within an entity. Combinations of the*
7709 *entity and element names (example: Dataset.name) are therefore unique within a data theme.*

7710 *Role names are used to identify the roles of the classes at the ends of a model association and*
7711 *are preceded by the term “Role name” followed by a colon to distinguish them from other*
7712 *types of data dictionary elements.”*

7713 **Address Standard Conformance to Base Part 7.4.2.** The address standard conforms to this
7714 section in substance, but not in form:

- 7715 • The address standard (specifically the content and class parts) provides unique names
7716 for every element, attribute, and class.
- 7717 • Consistent naming conventions are used for class, element, and attribute names and
7718 XML tags.
- 7719 • The address standard does not define any roles nor specify any role names.

7720 **7.9.3.7.4.3 Conformance to Base Part Subsection 7.4.3: Definition**

7721 **Framework Base Part Section 7.4.3** reads in full: “7.4.3: *Definition. The*
7722 *definition is the entity or element description.*”

7723 **Address Standard Conformance to Base Part 7.4.3.** The address standard
7724 (specifically the content and class parts) includes a formal definition for every
7725 element, attribute, and class in the standard.

7726 **7.9.3.7.4.4 Conformance to Base Part Subsection 7.4.4: Obligation/Condition**

7727 **Framework Base Part Section 7.4.4** reads in full:

7728 “7.4.4.1 *General*

7729 “*Used only in rows that contain elements, Obligation/Condition is a descriptor indicating*
7730 *whether the element shall always be populated (that is, contain a value or values) or*
7731 *sometimes will be populated for every instance of its owning entity. If the element is a role*
7732 *name, then the obligation/condition shall apply to the element indicated by the Data Type.*
7733 *This descriptor may have the following values: M (mandatory), C (conditional), or O*
7734 *(optional).*

7735 “7.4.4.2 *Mandatory (M)*

7736 “*Mandatory (M) indicates that the entity or element shall be populated.*

7737 “7.4.4.3 *Conditional (C)* “*Conditional (C) specifies an electronically manageable condition*
7738 *under which at least one entity or element is mandatory. “Conditional” is used for one of the*
7739 *three following possibilities:*

7740 • *Expressing a choice between two or more options. At least one option is mandatory*
7741 *and must be populated*
7742 • *Populating an entity or element if another element has been populated*
7743 • *Populating an element if a specific value for another element has been populated.*
7744 *“To facilitate reading by humans, the specific value is used in plain text (for example, “C/not*
7745 *defined by encoding?”). However, the code shall be used to verify the condition in electronic*
7746 *user interface,*

7747 *“If the answer to the condition is positive, then the entity or the element shall be populated.*

7748 *“7.4.4.4 Optional (O)*

7749 *“The entity or the element may be populated. Optional (O) entities and optional elements have*
7750 *been defined to provide a guide to those looking to fully document their data. (Use of this*
7751 *common set of defined elements will help promote interoperability among framework data*
7752 *users and producers.) Optional entities may have mandatory elements. If the optional entity is*
7753 *used, the mandatory elements shall be used. If an optional entity is not used, the elements*
7754 *contained within that entity (including mandatory elements) will also not be used. “*

7755 **Address Standard Conformance to Base Part 7.4.4.** Obligation/conditionality is indicated
7756 in the XML model of each element and attribute, and in syntax descriptions and XML model
7757 of each address class.

7758 **7.9.3.7.4.5 Conformance to Base Part Subsection 7.4.5: Maximum occurrence**

7759 **Framework Base Part Section 7.4.5** reads in full: *“7.4.5: Maximum occurrence Used only in*
7760 *rows that contain elements, maximum occurrence specifies the maximum number of instances*
7761 *the element may have. Single occurrences are shown by “1”; unconstrained number of*
7762 *instances are represented by an asterisk “*”. Fixed number occurrences, other than one, are*
7763 *allowed and will be represented by the corresponding number (that is, “2”, “3” ...and so on).*
7764 *If the element is a role name, then the maximum occurrence shall apply to the element*
7765 *indicated by the Data Type.”*

7766 **Address Standard Conformance to Base Part 7.4.5.** The XML model for each class and
7767 complex element shows the maximum occurrence for each of the elements and attributes that
7768 may comprise it.

7769 **7.9.3.7.4.6 Conformance to Base Part Subsection 7.4.6: Data type**

7770 **Framework Base Part Section 7.4.6** reads in full: *“7.4.6: Data type. Specifies a set of*
7771 *distinct values for representing the elements (example: integer, real, CharacterString,*
7772 *DateTime, and Boolean). The data type attribute is also used to define stereotypes for entities*
7773 *and entity names for elements which are role names. These data types are generic types that*
7774 *do not infer an implementation.” (Base Part 7.4.6, quoted in full)*

7775 **Address Standard Conformance to Base Part 7.4.6.** The data type for each element and
7776 attribute is specified in its description in the Content Part. Data types are named and defined in
7777 accordance with the Code List for Data Type (see Base Part section 7.8.2.2, Table 4), except
7778 for certain address reference system elements, which are geometric. All geometric data types
7779 are defined in the Open Geospatial Consortium's "OpenGIS(R) Geography Markup Language
7780 (GML)" version 3.1.1 (see Part 6: References for a complete citation):

7781 **7.9.3.7.4.7 Conformance to Subsection Base Part 7.4.7: Domain**

7782 **Framework Base Part Section 7.4.7** reads in full: *"7.4.7: Domain. For an entity, the domain*
7783 *indicates line numbers covered by the elements of that entity in the table.*

7784 *"For an element, the domain specifies the values allowed. "Unrestricted" indicates that no*
7785 *restrictions are placed on the data type of the element. Code lists provide a list of potential*
7786 *values, although additional values can be used. Enumerations provide a non-extensible list of*
7787 *potential values."* (Base Part 7.4.7, quoted in full)

7788 **Address Standard Conformance to Base Part 7.4.7.** Domain information for each element
7789 and attribute is provided in its description in the Content Part. For address classes, no domain
7790 information is provided, because no address class has any domains.

7791 **7.9.3.7.5 Conformance to Subsection Base Part 7.5: Metadata**

7792 **Framework Base Part Section 7.5** reads in full:

7793 *"7.5.1 Requirement for metadata*

7794 *"All datasets shall have metadata that conforms to at least the minimal set of mandatory*
7795 *elements of either ISO 19115, Geographic Information – Metadata, or FGDC-STD-001-1998,*
7796 *Content Standard for Digital Geospatial Metadata (revised June 1988). However, more*
7797 *extensive metadata should be provided.*

7798 *"7.5.2 Associating metadata entry with data transfer*

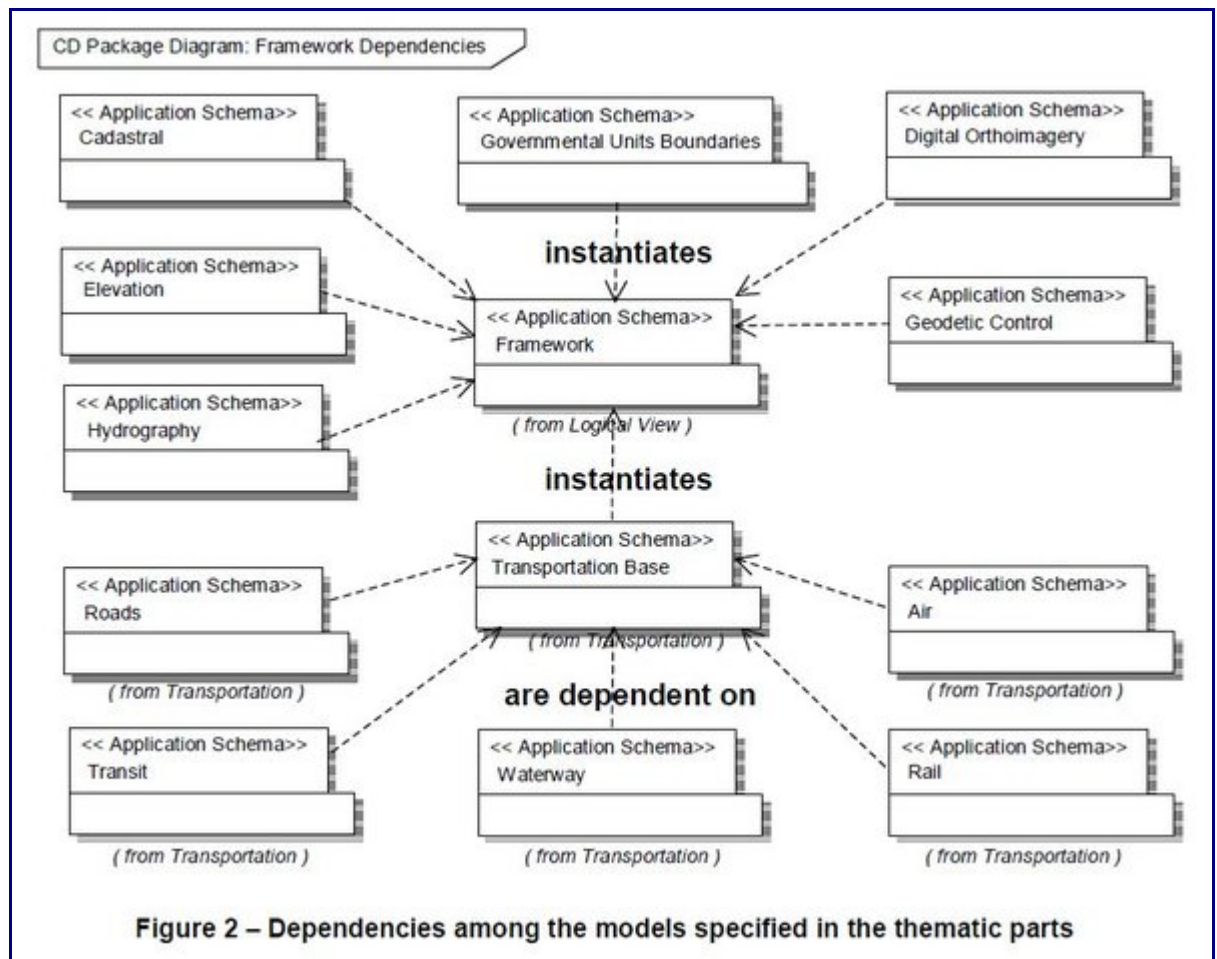
7799 *"The mechanism used to associate a structured metadata entry with a data transfer is not*
7800 *explicitly declared in the Framework Data Content Standard due to possible complex*
7801 *dependencies on either the structure of FGDC or ISO metadata being used. It is the intention*
7802 *of the standard to logically insert the appropriately structured metadata from either standard*
7803 *wherever the class attribute "metadata" occurs. The implementation of this capability may be*
7804 *specified in the implementation annexes as referenced to external metadata schemas in the*
7805 *appropriate implementation or programming environment."*

7806 **Address Standard Conformance to Base Part 7.5.** The address standard incorporates by
7807 reference, for address data files, the FGDC's *Content Standard for Digital Geospatial*

7808 *Metadata* (CSDGM)(FGDC 1998). The address standard extends the CSDGM by providing
7809 attributes for record-level address metadata.

7810 **7.9.3.7.6 Conformance to Subsection Base Part 7.6: Model integration**

7811 **Framework Base Part Section 7.6** reads in full: “7.6: *Model integration. The dependencies*
7812 *among the models specified in the thematic parts of the standard are shown in Figure 2. In*
7813 *Figure 2, the parenthetical text (from Transportation) means that there is a UML package*
7814 *called “Transportation” in which all transportation constructs reside, including*
7815 *Transportation Base.”*



7816 **Address Standard Conformance to Base Part 7.6.** If the address standard were to be
7817 incorporated into the Framework Data Standard, it would be instantiated by and dependent on
7818 the Base Part. The address standard is also be related directly to the Cadastral and
7819 Transportation themes, as described in Sections 2.2 and 2.8 this Appendix.

7822 **7.9.3.7.7 Conformance to Subsection Base Part 7.7: Establishment of identifiers**

7823 **Framework Base Part Section 7.7** reads in full (omitting the footnote): “7.7: *Establishment*
7824 *of identifiers. Every UML class that represents a feature type includes attributes for identifier*
7825 *and an optional identifier authority. This construct can be used to distinguish between similar*
7826 *values in different datasets. Policies may be developed within a community for assigning*
7827 *namespaces and permanent identifiers to features and expressing equivalencies among*
7828 *features that have been assigned different namespaces and, therefore, different identifiers,*
7829 *which may be permanent. If there is no standard way to create and manage identifiers, users*
7830 *may develop their own schema and include its description in the dataset metadata.”*

7831 **Address Standard Conformance to Base Part 7.7.** The address standard defines an address
7832 attributes, [Address ID](#), to serve as an address identifier, and another attribute, [Address](#)
7833 [Authority](#), to serve as an authority identifier. [Address ID](#) may be implemented as a local ID or
7834 as a UUID.

7835 **7.9.3.7.8 Conformance to Base Part Subsection 7.8: Framework feature model and common classes**

7836 **7.9.3.7.8.1 Conformance to Subsection Base Part 7.8.1: Introduction**

7837 **Framework Base Part Section 7.8.1** reads in full: “7.8.1: *Introduction. The Framework*
7838 *Data Content Standard organizes information using the ISO General Feature Model [ISO*
7839 *19109]. Features are abstractions of real-world phenomena or man-made constructs that*
7840 *typically have a persistent or assigned identity, such as a name or code, a location*
7841 *represented by a formalized geometry, and a set of other properties and relationships.*

7842 “Each framework theme, represented by a part in the standard, documents one or more
7843 formal feature types using a logical information model (attributes, associations,
7844 conditionality) represented as class diagrams in UML. All feature types (see darker shaded
7845 classes in Figure 3) are denoted in UML using the stereotype <<Feature>>. All features in
7846 every part of the standard are subclasses of this common framework Feature and thus inherit
7847 its properties as shown in the diagram. Except for identifier, all properties are optional and
7848 most of them are repeatable.

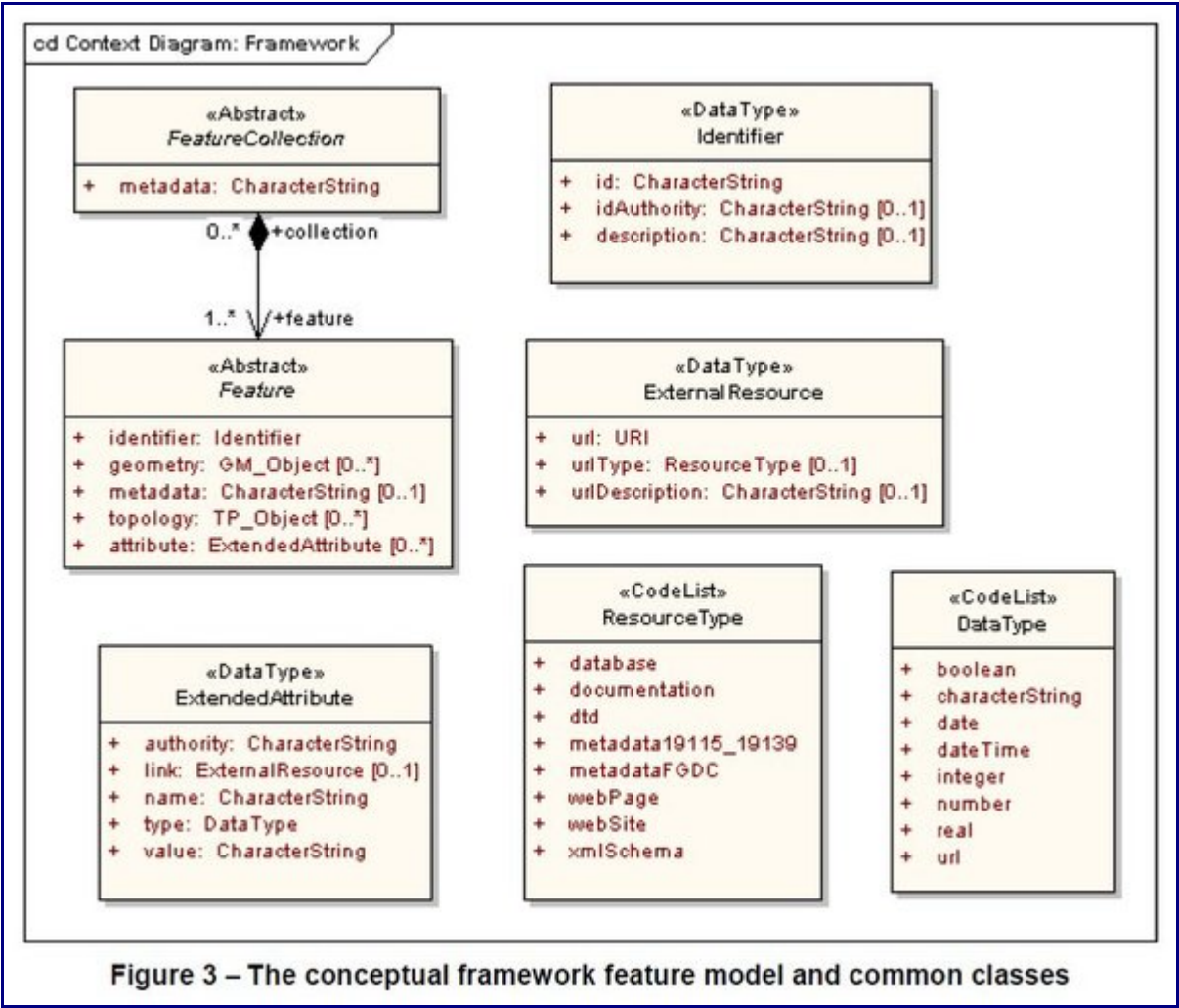
7849 “All classes stereotyped as <<Feature>> implement the Abstract class named “Feature” in
7850 the Base and inherit all of its properties. Likewise, any class stereotyped as
7851 <<FeatureCollection>> implements the Abstract class of the same name in the Base and
7852 inherits its property of “metadata”. Inheritance is also shown through an italicized parent
7853 classname in the upper right corner of the child class.

7854 “The Framework Data Content Standard supports the transfer of geographic data from one
7855 party to another. A group of features, known as a feature collection, would define a transfer.
7856 Metadata may be associated with the contents of the transfer, as is done now with FGDC

7857
7858
7859

“dataset-level” metadata. This feature collection may include features from one or more thematic parts of the standard, depending on the application and its requirements.

“Table 2 represents the information from Figure 3 in data dictionary format.



7860
7861

7862

Table 2 – Description of common UML classes

Table 2 – Description of common UML classes

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
1	FeatureCollection	Aggregation of all features being transferred			<<Abstract>>	Lines 2-3
2	metadata	Structured or unstructured metadata as defined by the community of practice	M	1	CharacterString	May be text or structured metadata fragment or URI
3	Role name: feature	Features in the feature collection	M	*	<<Abstract>> Feature	Unrestricted
4	Feature	Abstraction of a real world phenomenon			<<Abstract>>	Lines 5-10
5	identifier	Label that uniquely identifies a feature, unique within the transfer	M	1	<<DataType>> Identifier	Unrestricted
6	geometry	Geometric representation of the feature	O	*	<<Type>> GM_Object	Defined in ISO 19107
7	metadata	Structured or unstructured metadata as defined by the community of practice	O	1	CharacterString	May be text or structured metadata fragment or URI
8	topology	Connectivity between one feature and another	O	*	<<Type>> TP_Object	Defined in ISO 19107
9	attribute	Producer-defined attribute for inclusion in transfer	O	*	<<DataType>> ExtendedAttribute	Unrestricted
10	Role name: collection	Collection of which this feature is a part	O	*	<<Abstract>> FeatureCollection	Unrestricted
11	Identifier	Construct to group an identifier with an authority and a description			<<DataType>>	Lines 12-14
12	id	Identification value (ID)	M	1	CharacterString	Unrestricted
13	idAuthority	Name of the issuing authority for the identifier	O	1	CharacterString	Unrestricted

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Federal Geographic Data Committee
Geographic Information Framework Data Content Standard
Part 0: Base document

FGDC-STD-014.0-2008

Line	Name/Role Name	Definition	Obligation/Condition	Maximum Occurrence	Data Type	Domain
14	description	Description or qualification of the identification value within the namespace of the authority	O	1	CharacterString	Unrestricted
15	ExtendedAttribute	Property that permits the identification and transport of an unofficial feature attribute			<<DataType>>	Lines 16-20
16	authority	Name of the organization responsible for the naming of this attribute	M	1	CharacterString	Unrestricted
17	link	Identification of an external resource that provides documentation of this attribute	O	1	<<DataType>> ExternalResource	Unrestricted
18	name	Name of the attribute being transferred	M	1	CharacterString	Unrestricted
19	type	Data type of the attribute being transferred	M	1	<<CodeList>> DataType	Unrestricted
20	value	Value of the attribute being transferred	M	1	CharacterString	Constrained by the valid companion data type
21	ExternalResource	Qualified link to a network accessible object			<<DataType>>	Lines 22-24
22	url	Network accessible resource in the form of a Uniform Resource Locator (URL) or valid Uniform Resource Identifier (URI)	M	1	URI	Unrestricted
23	urlType	Classification of the information content referenced by the URL	O	1	<<CodeList>> ResourceType	Unrestricted
24	urlDescription	Additional characteristics of the URL for advice or display	O	1	CharacterString	Unrestricted

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7867 *"The extensibility mechanism shown in Figure 3 (ExtendedAttribute) allows for the*
7868 *description and transfer of additional ad hoc data content without requiring changes or*
7869 *extensions to the data schema. This repeatable structure may carry one or more additional*
7870 *attributes and their values for use in peer-to-peer transfer of unofficial feature properties. Any*
7871 *feature class may incorporate this reference to the ExtendedAttribute class. The link property*
7872 *of ExtendedAttribute expands to a triplet of elements associated with a Uniform Resource*
7873 *Locator (URL) for external documentation. Some ResourceTypes are shown as a code list to*
7874 *characterize the information content found at the referenced URL. For Transportation parts*
7875 *of this standard, events provide an alternative method of extending attributes when their*
7876 *values are not necessarily constant for the entire length of a feature."*

7877 **Address Standard Conformance to Base Part 7.8.1.** The address standard meets this
7878 requirement. Addresses meet the definition of "feature." The Classification Part defines an
7879 abstract Address class and defines subclasses of the feature "addresses", using a logical
7880 information model. The model is presented as both a UML model and an XSD. The standard
7881 supports both record-level and file-level metadata, and the Exchange Part provides a template
7882 for both monolithic and transactional exchanges. The data model is extensible.

7883 **7.9.3.7.8.2 Conformance to Base Part Subsection 7.8.2: Code lists**

7884 **Framework Base Part Section 7.8.2** reads in full:

7885 “7.8.2.1 *ResourceType* code list

7886 “ *ResourceType* is a *CodeList* of values for the attribute *urlType*.

7887 “Table 3 – *CodeList* for *ResourceType*

<u>Name</u>	<u>Definition</u>
database	Collection of records where each record has the same structure of data elements
documentation	Resource file that describes usage of referenced URL
dtd	Schema expressed via a set of declarations written in Document Type Definition (DTD) language*
metadata 19115_19139	Metadata records formatted using structure from ISO 19115, Geographic information – Metadata, and ISO 19139, Geographic information – Metadata - XML schema implementation
metadataFGDC	Metadata records formatted using structure from a version of the FGDC Content Standard for Digital Geospatial Metadata
webPage	Resource on the World Wide Web usually in Hypertext Markup Language (HTML) format
webSite	Collection of Web pages that common to a particular domain name or subdomain on the World Wide Web
xmlSchema	Schema expressed using a version of the XML Schema World Wide Web Consortium (W3C) Recommendation

7888 “7.8.2.2 *DataType* code list

7889 “ *DataType* is a *CodeList* of values for the attribute *dataType*.

7890 “Table 4 – *CodeList* for *DataType*

<u>Name</u>	<u>Definition</u>
boolean	True or False
characterString	A CharacterString is an arbitrary-length sequence of characters including accents and special characters from repertoire of one of the adopted character sets
date	Values for year, month, and day
dateTime	A combination of year, month, and day and hour, minute, and second
integer	Any member of the set of positive whole numbers, negative whole numbers and zero
number	One of a series of symbols of unique meaning in a fixed order which may be

	derived by counting
real	Real numbers are all numbers that can be written as a possibly never repeating decimal fraction
url	Network accessible resource in the form of a Uniform Resource Identifier (URI)

7891 **Address Standard Conformance to Base Part 7.8.2.** All data types in the data dictionary
 7892 conform to the code list in Table 4, except for certain address reference system elements,
 7893 which are geometric features. The address standard includes no resource types, so Table 3
 7894 does not apply to the address standard.

7895 **7.9.3.8 Conformance to Base Part Section 8: Encoding of framework data content**

7896 **Framework Base Part Section 8** reads in full: “8: *Encoding of framework data content. To*
 7897 *support data exchange, the parts of the Framework Data Content Standard may include*
 7898 *informative annexes that provide guidance to implementers on the transformation of the UML*
 7899 *information content into a specific encoding environment. These annexes not only document*
 7900 *the context and environment of implementation and validation schema for the information*
 7901 *content unique to a part of the standard, but also may include encoding or schema*
 7902 *representation of heterogeneous collections of features from multiple themes. Because the*
 7903 *standard includes a single UML model of all themes that are exposed progressively through a*
 7904 *series of limited diagrams in the context of a theme, it represents an integrated set of classes*
 7905 *for all framework data.*”

7906 **Address Standard Conformance to Base Part 8.** The address standard provides both a
 7907 UML model and an XSD. The XSD provides guidance on the transformation of address
 7908 information into a specific encoding environment. The Content and Classification parts of the
 7909 address standard provide XML models for each class, element, and attribute defined in the
 7910 standard. The Exchange part of the standard integrates the XML element, attribute, and class
 7911 models into a single XSD. The XSD provides complete, open, standard XML data exchange
 7912 templates for both monolithic and transactional data exchanges. For validation tests, similar
 7913 guidance is provided by inclusion of complete SQL pseudocode in each test defined in the
 7914 Data Quality Part of the address standard.

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