

Next Generation 9-1-1 Session

Title: PSAP Borders and Emergency Services Delivery:
A Spatial View Pre-NG911 & Post NG911

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Washington State NG911 Subcommittee
Spokane County

Next Generation 9-1-1 Session

Abstract: This smolder/ignite presentation will discuss how moving from MSAG (Master Street Address Guide) call routing to a GIS-based (NG911) call routing methodology will affect Emergency Service delivery for problematic addresses and roads along a PSAP's (Public Safety Answering Point) boundary with neighboring PSAP's. A GIS-based story map is being used to document and resolve potential emergency services problems with local Fire and Law Emergency Services Providers.

Pre-NG911 MSAG View (Master Street Address Guide)

Dir	Street Name	Low Range	High range	O/E/B	Community	State	ESN	DATE	INITIALS	
E	10TH AVE	14800	14999		SPOKANE VALLEY	WA	5056	4/11/17	MES	ok
E	10TH AVE	18200	18599		SPOKANE VALLEY	WA	5055	10/11/10	MES	ok
W	10TH AVE	1000	2099		SPOKANE	WA	5157			ok
W	10TH AVE	2200	2299		SPOKANE	WA	5163			ok
W	10TH AVE	3000	3099		SPOKANE	WA	5156			ok
W	10TH AVE	10000	10499		AIRWAY HEIGHTS	WA	5027	6/23/16	MES	ok
W	10TH AVE	11500	11999		AIRWAY HEIGHTS	WA	5027	4/17/09	MES	ok
W	10TH AVE	12100	12799		AIRWAY HEIGHTS	WA	5027	11/1/11	MES	ok
W	10TH AVE	13000	13599		AIRWAY HEIGHTS	WA	5027	7/21/17	MES	ok
W	10TH CT	100	199		DEER PARK	WA	5041	12/13/16	MES	ok
W	10TH CT	8800	8899		SPOKANE	WA	5013	7/10/17	MES	
W	10TH CT	13600	13699		AIRWAY HEIGHTS	WA	5027	7/21/17	MES	
E	10TH LN	16200	16699		SPOKANE VALLEY	WA	5056	2/25/08	MES	ok
E	10TH LN	18900	19099		GREENACRES	WA	5050	10/14/08	MES	ok
N	10TH ST	0	299		CHENEY	WA	5017	6/18/15	MES	ok
N	10TH ST	300	499		CHENEY	WA	5016	6/18/15	MES	ok
S	10TH ST	12100	12499		MEDICAL LAKE	WA	5001			ok
W	10TH ST	0	99		DEER PARK	WA	5041	12/13/16	MES	ok
E	11TH AVE	200	599		SPOKANE	WA	5159	6/23/16	MES	ok
E	11TH AVE	800	999		SPOKANE	WA	5159	10/12/10	MES	ok
E	11TH AVE	1000	2099		SPOKANE	WA	5157			ok
E	11TH AVE	2100	2299		SPOKANE	WA	5150			ok
E	11TH AVE	2700	4299		SPOKANE	WA	5151	10/12/10	MES	ok
E	11TH AVE	5900	7499		SPOKANE VALLEY	WA	5051	6/23/16	MES	ok
E	11TH AVE	9800	10099		SPOKANE VALLEY	WA	5057			ok
E	11TH AVE	10500	10699		SPOKANE VALLEY	WA	5057	10/13/10	MES	ok
E	11TH AVE	11100	11699		SPOKANE VALLEY	WA	5057	10/13/10	MES	ok
E	11TH AVE	12500	13599		SPOKANE VALLEY	WA	5056	5/31/16	MES	ok
E	11TH AVE	14800	15199		SPOKANE VALLEY	WA	5056			ok
E	11TH AVE	15500	15999		SPOKANE VALLEY	WA	5056			ok
E	11TH AVE	18000	19599		GREENACRES	WA	5050	8/22/17	MES	
E	11TH AVE	20200	20299		GREENACRES	WA	5050	10/14/08	MES	ok
W	11TH AVE	800	899		SPOKANE	WA	5157	10/12/10	MES	ok
W	11TH AVE	1000	1999		SPOKANE	WA	5157	10/12/10	MES	ok

Post-NG911 -- GIS Spatial View

GIS street network.png - Photos

View all photos

Enter a WHERE clause to select records in the table window.

Method: Create a new selection

OBJECTID
StreetID
County
Jurisdiction
BlockNumber

Like And Or Not

Full Name = e 44th ave

Table

OBJECTID	StreetID	County	Jurisdiction	BlockNumber	FromLeft	ToLeft	FromRight	ToRight	FullName	MSAGLeft	MSAG Right	PrefixDirection	PrefixType	StreetName	StreetType	Highway Type	Highway Name	CityLeft	CityRight
36894	36894	Spokane	Spokane	3500	3501	3599	3500	3598	E 44th Ave	Spokane	Spokane	E	<Null>	44th	Ave	<Null>	<Null>	Spokane	Spokane
4334	4334	Spokane	Spokane	3900	3951	3999	3950	3998	E 44th Ave	Spokane	Spokane	E	<Null>	44th	Ave	<Null>	<Null>	Spokane	Spokane
21332	21332	Spokane	Spokane	4000	4001	4199	4000	4198	E 44th Ave	Spokane	Spokane	E	<Null>	44th	Ave	<Null>	<Null>	Spokane	Spokane
22713	22713	Spokane	Spokane	4200	4201	4299	4200	4298	E 44th Ave	Spokane	Spokane	E	<Null>	44th	Ave	<Null>	<Null>	Spokane	Spokane
22271	22271	Spokane	Spokane County	8400	8401	8599	8400	8598	E 44th Ave	SCO Spokane	SCO Spokane	E	<Null>	44th	Ave	<Null>	<Null>	Spokane	Spokane
29369	29369	Spokane	Spokane County	6600	6601	7103	6600	7102	E 44th Ave	SCO Spokane	SCO Spokane	E	<Null>	44th	Ave	<Null>	<Null>	Spokane	Spokane
3073	3073	Spokane	Spokane County	7100	7105	7523	7104	7522	E 44th Ave	SCO Spokane	SCO Spokane	E	<Null>	44th	Ave	<Null>	<Null>	Spokane	Spokane
38753	38753	Spokane	Spokane County	7500	7525	7599	7524	7598	E 44th Ave	SCO Spokane	SCO Spokane	E	<Null>	44th	Ave	<Null>	<Null>	Spokane	Spokane
16060	16060	Spokane	Spokane County	8400	8401	9099	8400	9098	E 44th Ave	SCO Spokane	SCO Spokane	E	<Null>	44th	Ave	<Null>	<Null>	Spokane	Spokane
8059	8059	Spokane	Spokane County	9100	9101	9399	9100	9398	E 44th Ave	SCO Spokane	SCO Spokane	E	<Null>	44th	Ave	<Null>	<Null>	Spokane	Spokane
1432	1432	Spokane	Spokane County	9400	9401	9449	9400	9448	E 44th Ave	SCO Spokane	SCO Spokane	E	<Null>	44th	Ave	<Null>	<Null>	Spokane	Spokane
11988	11988	Spokane	Spokane Valley	9400	9451	9499	9450	9498	E 44th Ave	Spokane Valley	Spokane Valley	E	<Null>	44th	Ave	<Null>	<Null>	Spokane Valley	Spokane Valley

Number of features selected: 56

-117.381 47.727 Decimal Degrees

10:45 AM 9/21/2017

7:44 AM 9/25/2017

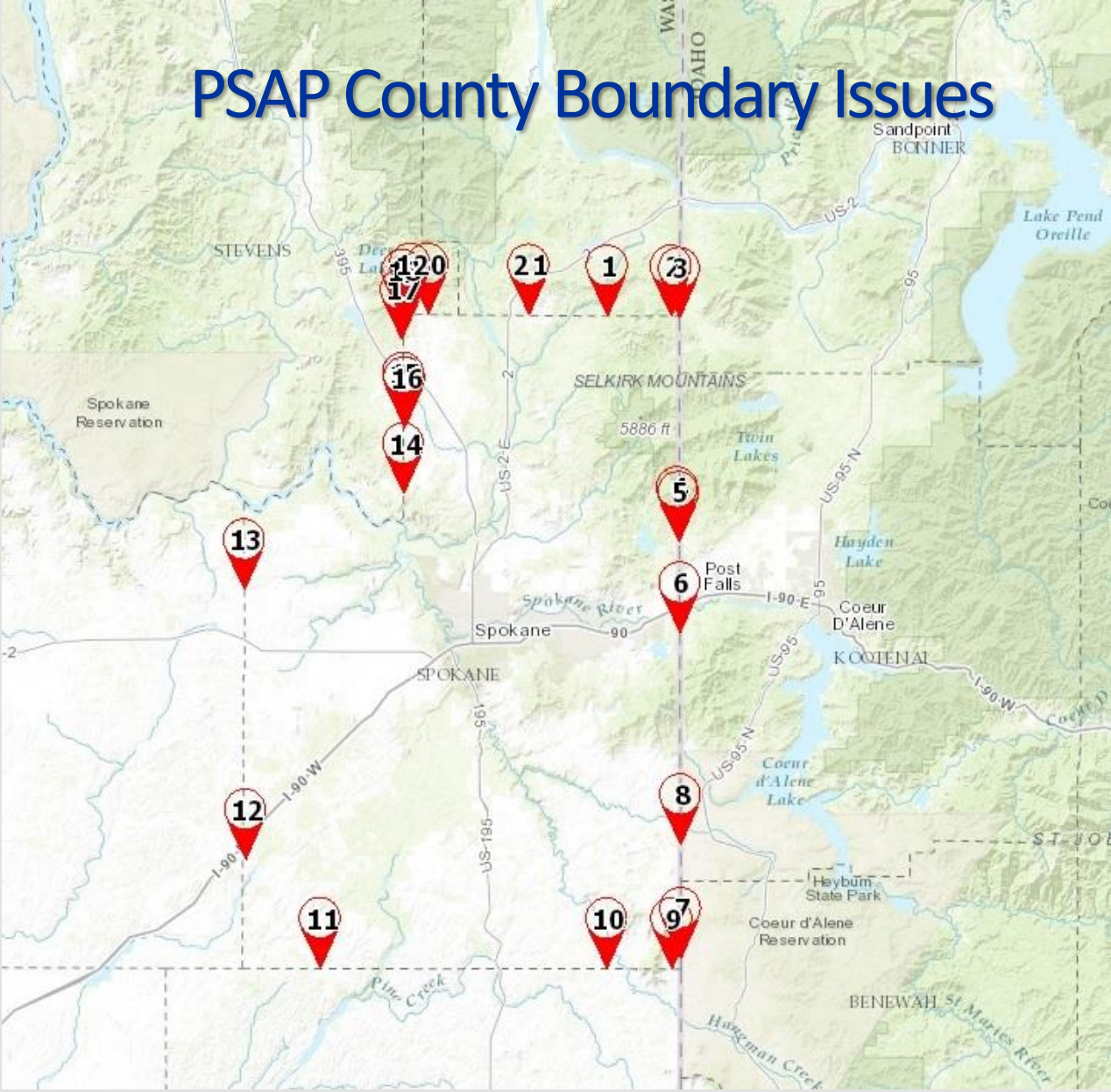
Current WA-State Reality



The Future



PSAP County Boundary Issues



PSAP County Boundary Issues

Spokane County Boundary Issue Story Map



PSAP County Boundary Issues

Issue #4



Issue #4

County Border Issue

Issue #4

Issue Description

26724 E Hauser Lake Rd address cannot be reached off of E Hauser Lake Rd. (No access to this address from within Spokane county) Access to this address is thru Kootenai County ID off of Newman Arm Rd. Service delivery issue.

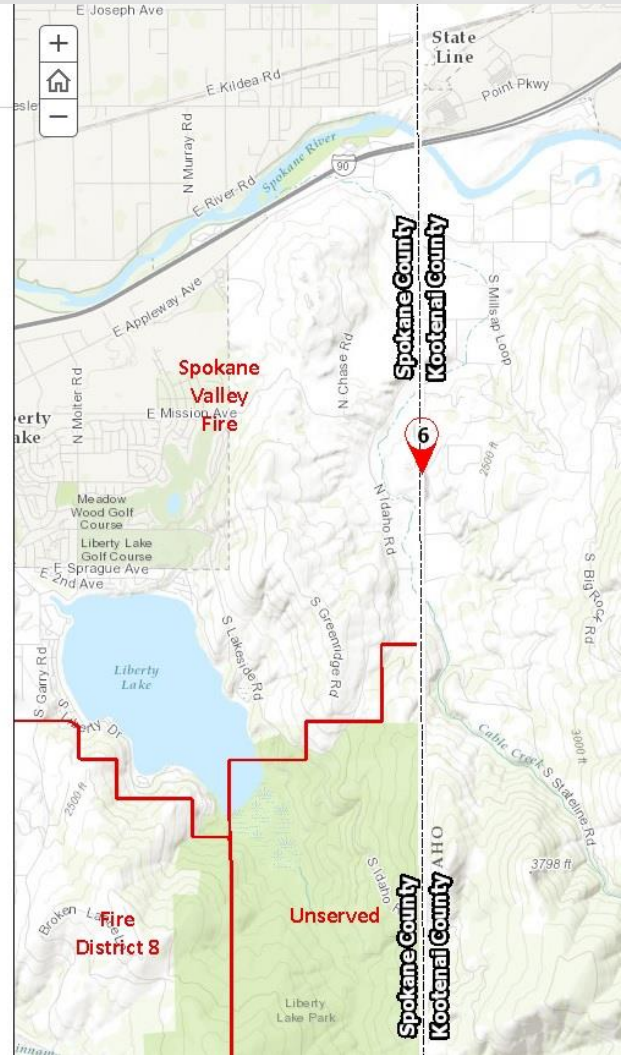
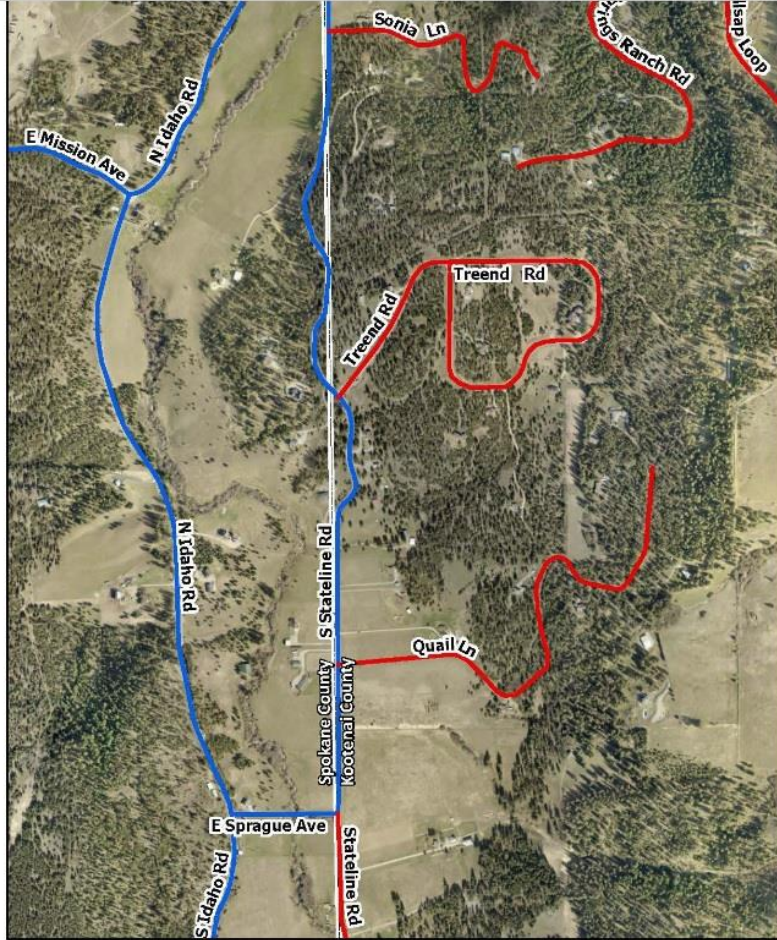
PSAP County Boundary Issues

Meandering Road between Idaho & Washington

Spokane County Boundary Issue Story Map

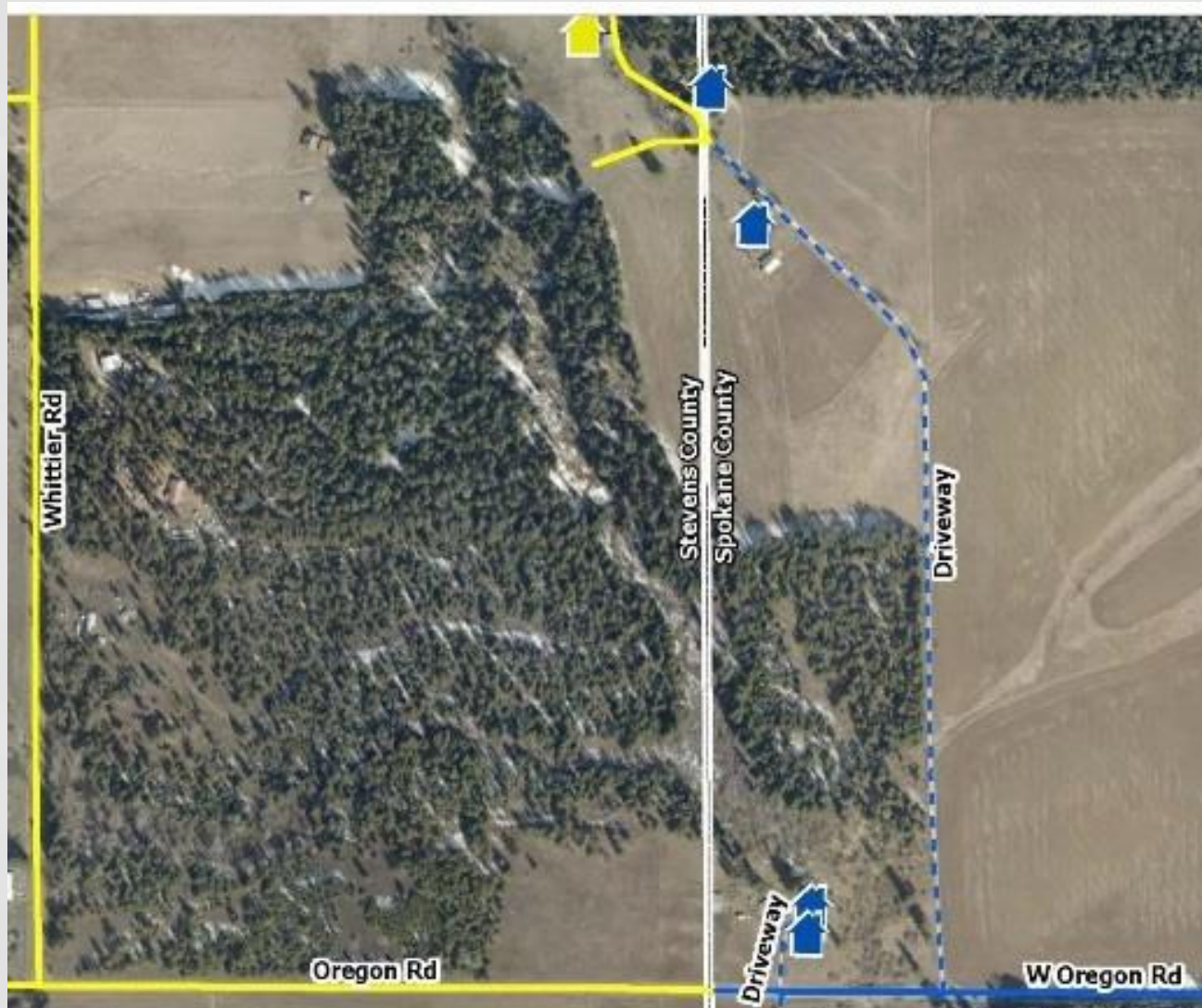


PSAP County Boundary Issues



PSAP County Boundary Issues

County Boundary Bisecting House



Solutions for Emergency Services Delivery for problematic border locations

1. Fire Districts Meetings
2. Law Enforcement Meetings

Countywide Addressing Standard

SPOKANE REGIONAL ADDRESSING STANDARDS

What is the current issue?

- Addressing authorities throughout Spokane County use a variety of methodologies to assign street names and addresses.
- Absent a countywide addressing standard, conflicts within our addressing system will continue to impede the ability of public safety agencies to provide timely and effective emergency response.

What is our goal?

- Development of a common countywide standard used by all addressing authorities within Spokane County to reduce addressing conflicts and enhance public safety agencies' abilities to provide emergency response.
- This standard should support Federal, State, and Local standards:
 - U.S. Postal Service
 - National Emergency Number Association (NENA)

Why is this necessary?

- There is no regional addressing standard, which results in conflicting and inconsistent addressing.
- Addressing & street naming processes are currently unique to each jurisdiction.
- Public Safety Dispatch Centers are highly reliant on computerized mapping (GIS).
- In order for Public Safety Dispatch Centers to function effectively and efficiently, standardized addressing is critical for the responders to actually find the address.
- Inconsistent addressing can cause issues for first responders in the field- with or without modern CAD systems.

What are the benefits?

- Consistent countywide addressing standard & processes.
- Provides predictability for all developers regardless of the jurisdiction they are working within.
- Includes an addressing appeal process for problematic addressing.
- Results in improved public safety response for our community and citizens.

Visit <http://bit.ly/AddressIssues> for an interactive view of addressing issues faced by First Responders

What do you need to do?

- Become familiar with the Addressing Standard.
- Schedule an Addressing Standard presentation for your organization (optional).
- Adopt the Addressing Standard ordinance.

Moving Forward

- Board of County Commissioner approval/adoption
- Goal: **Unincorporated County Adoption - 2016**
- Continued solicitation of regional partners
- Future Presentations to local government elected officials
- Receive/review comments from all stakeholders:
 - Homebuilders, Commissioners, City Councils
- Goal: **Countywide Adoption - March 2017**

Get in touch!
Ian VonEssen
Regional Public Safety GIS Manager
ivonessen@spokanecounty.org

Project History

Replacement of Fire Computer Aided Dispatch System (CAD) with a map-centric system

New Fire & Law Enforcement CADs require consistent Communitywide Addressing

2012
&
2013

Regional RFP for Law Enforcement CAD/RMS

New World Systems Awarded Contract

New GIS-based CAD systems allow for:
Faster & Higher Accuracy Dispatching
Automatic Vehicle Routing
Real time Law Enforcement & Fire Asset Management

2014

Initial Meetings w/ Addressing Authorities (May - July) by 911 and GIS staff

Drafting of Initial Addressing Standard (September)

Joint Addressing Authorities Committee Meetings (September 17th & October 13th)

Included addressing staff representatives from the following County & Municipal entities:
City of Airway Heights, City of Spokane, City of Spokane Valley, City of Cheney,
City of Deer Park, City of Liberty Lake, & Spokane County.

2015

Completion of Recommended Communitywide Addressing Standard (December)

Presentation to Spokane Home Builders Association (January 12th)

Presentation to Spokane County Board of Commissioners (January 26th)

Future Presentations to local government elected officials (Completion: September 2016)

Countywide System in place March 2017

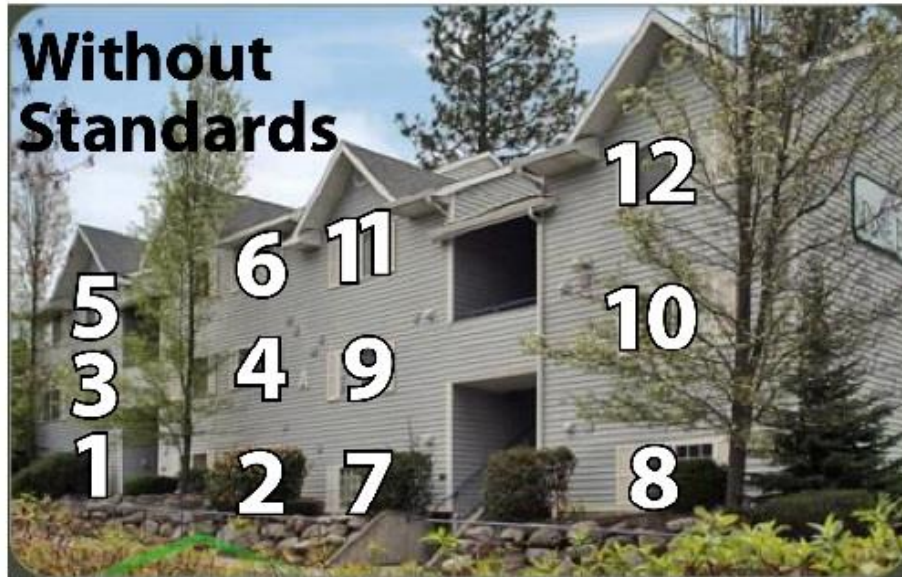
2016
&
2017

SPOKANE REGIONAL ADDRESSING STANDARDS



National States Geographic Information Council

Addressing w/ no enforced standard



Pines Rd - Apartment Numbers Are Not Intuitive



Visit <http://bit.ly/AddressIssues>
for an interactive view
of addressing issues faced
by First Responders

Countywide Addressing Standard

() PUBLIC SAFETY ROAD NAMING AND PHYSICAL ADDRESSING CODE

Article I. General Provisions

Sections:

Article I. General Provisions

xx.10.100	Short Title
xx.10.110	Purpose
xx.10.120	Applicability
xx.10.130	Administration
xx.10.140	Definitions
xx.10.150	Effective Date

Article II. Road Names

xx.20.200	Roads to Which Naming Requirements Apply
xx.20.210	Road Naming Standards
xx.20.220	Directional Prefix Standards
xx.20.230	Road Type Standards

Article III. Road Name Signs

xx.30.300	Road Name Signs Required
xx.30.310	Standards for Signage for Streets and Roads

Article IV. Addressing

xx.40.400	Addressing Grid Systems
xx.40.410	Addressing Standards
xx.40.420	Change in Road or Address Status
xx.40.430	Multiple Units
xx.40.440	Final Plat Addresses

Article V. Address Posting

xx.50.500	Display of Address
xx.50.510	Corner Lots
xx.50.520	Shared Access

Article VI. Records

xx.60.600	List of Established Road Names, Assigned Addressing, and Mapping
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Article VII. Deviations

xx.70.700	Deviations <u>From</u> Literal Compliance
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Article VIII. Appeals

xx.80.800	Appeals
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Article IX. Severability

xx.90.900	Severability
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xx.10.100 Short title

This chapter and amendments thereto, shall be known and may be cited as the “_____ Road Naming and Physical Addressing Resolution.”

xx.10.110 Purpose

- (1) The purpose of this chapter is to establish a uniform method for naming roads and assigning addresses for real property and structures within the (Choose one: “incorporated” or “unincorporated”) areas of _____, Washington.
- (2) The goals of this chapter are as follows:
 - (a) Facilitate expedient emergency response by medical, law enforcement, fire, rescue, and any other emergency services.
 - (b) Regulate the display of property address numbers and provide for accurate road name signage, installation, and maintenance thereof.
 - (c) Provide property owners, the general public, emergency responders, and government agencies and departments with an accurate and systematic means of identifying and locating property and/or structures.

xx.10.120 Applicability

- (1) This chapter applies to all public and private roads, addresses for real property, and structures situated within _____. _____ may name or rename roads and assign or reassign addresses as necessary to further the purpose of this chapter.
- (2) The provisions herein shall apply to the assignment of addresses to all new or existing buildings or properties within _____.
- (3) All non-conforming addresses may be changed to conform to this code.

xx.10.130 Administration

The _____ Department, under the direction of the Administrator, shall administer the provisions of this chapter, unless otherwise provided for herein.

xx.10.140 Definitions

- (1) The definitions contained in Chapters xx.xx.xxx, as amended, are adopted as part of this chapter.
- (2) The following definitions are used in this chapter in addition to the definitions in Chapter xx.xx.xxx and xx.30.350 of the _____ code:

Washington State NG911 GIS Subcommittee

NG 911 GIS Subcommittee Meeting September 7th, 2017

GIS Subcommittee

Subcommittee Chair – Chuck Buzzard;
 Subcommittee Vice-Chair – Melissa Liebert;
 NENA Working Group – GIS Data Model – Jason Guthrie; Cathy Udenberg;
 NENA Working Group – GIS Data Stewardship – Ivar Husa, Cori McKean, Dan Miller, Melissa Liebert, Lynn Palmer
 NENA Working Group – Location Validation Consistency – Melissa Liebert
 WA SECO – Dan Miller Dan.Miller@mil.wa.gov; Andy Leneweaver Andy.Leneweaver@mil.wa.gov
 WA Base Map Layers (Imagery and County Boundaries) – JoAnn Markert, Ian Von Essen.

Washington State NG 911 GIS Data Providers (Gray non-subcommittee members; Orange County alternate)

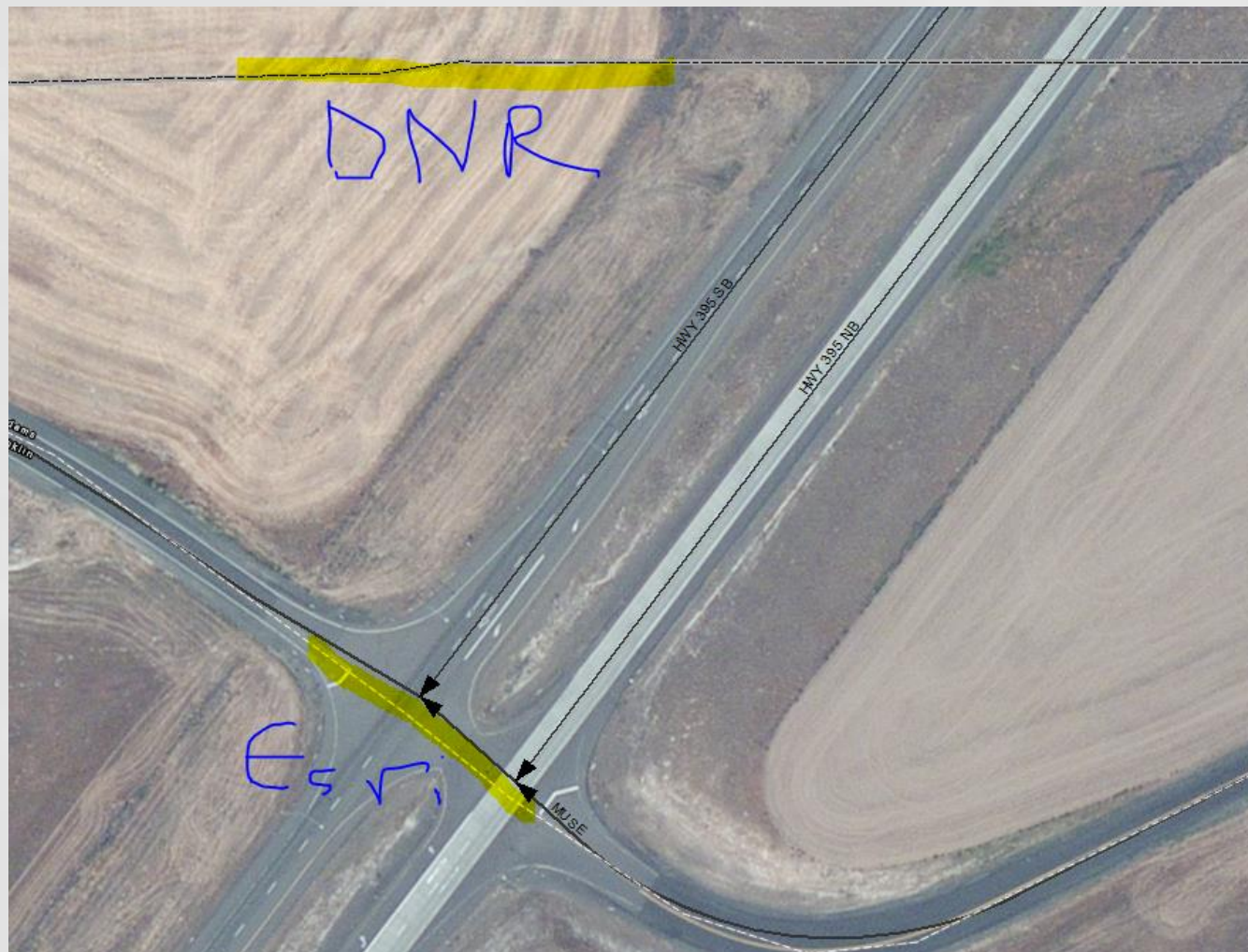
Washington State NG 911 GIS Providers				
County	Region	Name	Email	Status
Adams	9	Marsha Bradshaw	marshab@co.adams.wa.us	Good headway, perimeter roads, County Boundary issues
Asotin	9	Mark Janowski	markj@wsu.edu	No show
Benton	8	Ivar Husa	i.husa@bces.wa.gov	No show
Chelan	7	Lynn Palmer	lpalmer@rivercom911.org	Good headway, making use of exceptions
Clallam	2	Gary Brooks	gbrooks@cityofpa.us	Jason working on boundaries and roads. No recent QC submittal
Clark	4	Paul Newman	paul.newman@clark.wa.gov	August 97% ALI, 78% MSAG
Columbia	9	Cathy Udenberg	Cathy_Udenberg@co.columbia.wa.us	Software upgrade, Esri Geocoding pre-type for US Hwy or pre-modifier – when will CAD support NG addressing.
Cowlitz	4	Jim Williams	williamsj@co.cowlitz.wa.us	Submitted last week, no results yet.
Douglas	7	Lynn Palmer	lpalmer@rivercom911.org	See Chelan
Ferry	9	Kristen Winter	ferrygis@co.ferry.wa.us	Working on Road errors; Will start on address points.
Franklin	8	Michael Morgan	mmorgan@co.franklin.wa.us	No show
Garfield	9	Jim Nelson	jnelson@co.garfield.wa.us	Ran in August, 91% (as per GeoComm)
	9			
Grant	7	Garret Klein	g.klein@macc911.org	Submitted, accepted road centerlines, polygon layers are being recreated.
Grays Harbor	3	Andy Malchert	amalchert@gh911.org	Submitted 4 th this morning, around 4000 errors.

Washington State NG911 GIS Subcommittee
 October Meeting -- Date: Oct 12
 Time: 10 am -2 pm, 2017

Phone Conference Working Meeting
 Statewide layer analysis,
 Review of PSAP Boundary
 DNR Road Snap Points



DNR vs Local Gov't County Boundaries



Washington State DNR County Dialogue

Spokane County

.....It looks like the biggest discrepancy is along the Stevens County/Spokane County border where we differ by 300 ft. Many of the DNR's control points are flagged with a 999 code in the HZMEASMT to indicate that the method of determining the point coordinates is unknown.

Most of Spokane County's control points are from Records of Survey (that's noted in the field Source and in the field Comment). I believe that our data is more accurate. If you could update your boundary to match ours, we would greatly appreciate the effort.

Additionally, Spokane and Stevens Counties went through a court case to determine a portion of our joint boundary. That case is attached. It largely concerns the point at which the N-S Stevens/Spokane boundary meets the Spokane River.

FYI. We use Washington State Plane North,

Washington State DNR County Dialogue

DNR

..... Updating the Spokane County boundary in the DNR GIS is going to take a little more leg work on your end.

We took a close look at your data and find that yes, in places it appears more accurate than what we currently have.

Trouble is that in other places we seem to have equally uncertain positions for section corners etc.

In these instances I would need to get verification that the Counties on both sides of the common boundary are in agreement as to the “proper” position to utilize.

Washington State DNR County Dialogue

DNR Cont.

I also did a little spot-checking in places where DNR has performed surveys that happen to tie corners along the county boundary and am finding (usually small) differences; for instance the corner common to Spokane, Stevens, and Pend Oreille Counties was tied in a DNR survey in 2011 where your GIS has it calculated from a 1979 record of survey resulting in very slightly different coordinates.

So, in a nutshell, we can “true up” areas with verifiable survey information but in other places along your shared county boundary we will need to have agreement between all affected counties verified before changes are made to the DNR version of the county boundaries.

Take Away

- The spatial reality is a messy place.
- Standards are critical if your going to have any chance of fixing it.
- Interim compromises are going to be necessary if NG911 is ever going to happen.
- NG911 is about Call Routing via GIS vs the old tabular MSAG.
- Local governments are about using GIS data to deliver and route emergency services.

Ian Von Essen

Washington State NG911 Subcommittee

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