Public Land Survey System (PLSS), Surface and Subsurface Status

SPATIAL DATA STANDARD

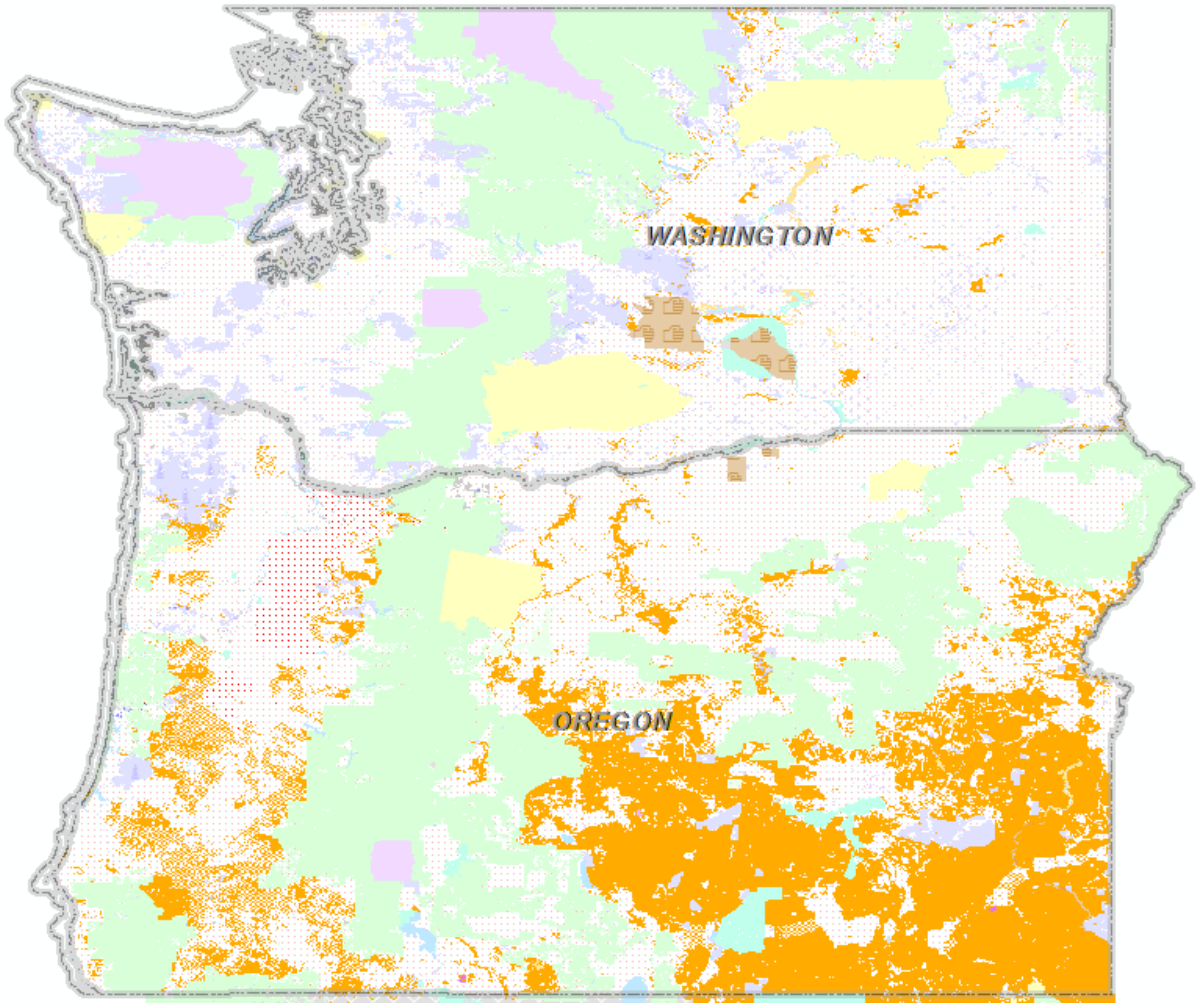

TABLE OF CONTENTS

1. GENERAL INFORMATION

Dataset (Theme) Name: PLSS, Surface and Subsurface Status
Feature Dataset (Classes): Land_Lines (PLSSPoint, PLSSIntersected, PLSSArcs, STATUS_ARC, OWNERSHIP_POLY, SUBSURFACE_RIGHTS_POLY)

1.1 ROLES AND RESPONSIBILITIES

Roles	Responsibilities
State Data Stewards	The State Data Stewards, Travis Thomas, at (503) 808-6177, for PLSS and Frank Lahm, at (503) 808-6428, for Ownership and Subsurface Status, are responsible for approving data standards and business rules, developing Quality Assurance/Quality Control procedures, identifying potential privacy issues, and ensuring that data is managed as a corporate resource. The State Data Steward coordinates with field office data stewards, the state data administrator, Geographic Information System (GIS) coordinators, and national data stewards. The State Data Steward also reviews geospatial metadata for completeness and quality.
Lead GIS Specialist	The Lead GIS Specialist, Frank Lahm, at (503) 808-6428, works with data stewards to convert business needs into GIS applications and derive data requirements and participates in the development of data standards. The GIS specialist coordinates with system administrators and GIS coordinators to manage the GIS databases. The lead GIS specialist works with data editors to make sure data is being input into the Spatial Database Engine consistently and in accordance with the established data standard. The lead GIS specialist is a resource for the editors when they have questions or when they are new to editing a particular data set, and can help answer questions about how to query and display the data set for mapping and analysis.
State Data Administrator	The acting State Data Administrator, Georgia Boss at 503-808-6120, provides information management leadership, data modeling expertise and custodianship of the state data models. The State Data Administrator ensures that defined processes for development of data standards and metadata are followed, and that they are consistent and complete. The State Data Administrator is responsible for making data standards and metadata accessible to all users. The State Data Administrator also coordinates with data stewards and GIS coordinators to respond to national spatial data requests.
State Records Administrator	The acting State Records Administrator, Janice Johnson at 503-808-6430, assists the State Data Steward to identify any privacy issues related to spatial data. The State Records Administrator also provides direction and guidance on data release and fees. The State Records Administrator also ensures that data has been classified under the proper records retention schedule and determines appropriate Freedom of Information Act category.

Table 1 Role and Responsibilities

1.2 FOIA CATEGORY

Public

1.3 RECORDS RETENTION SCHEDULE

General Records Schedule (GRS) BLM 20/52 (Electronic Records/Geographic Information Systems) TEMPORARY. Delete when no longer needed for administrative, legal, audit, or other operational purposes (subject to any records freeze or holds that may be in place).

1.4 SECURITY/ACCESS/SENSITIVITY

The PLSS, Surface and Subsurface Status set of themes do not require any additional security other than that provided by the General Support System (the hardware/software infrastructure of the Oregon/Washington (OR/WA) Bureau of Land Management (BLM)).

This data is not sensitive and there are no restrictions on access to this data either from within the BLM or external to the BLM.

There are or no privacy issues or concerns associated with these data themes.

1.5 KEYWORDS

Keywords that can be used to locate this dataset include:

Management [BLM Thesaurus]

Administrative and Political Boundaries (boundaries), 003 [International Organization for Standardization (ISO) Thesaurus]

Locations and Geodetic Networks (locations), 013 [ISO Thesaurus]

Landlines (LLI)

Public Land Survey System (PLSS)

Township/Range/Section

Control Points

Ownership

Subsurface Mineral Estate

Base Data

Framework

GCDB

Jurisdiction

CadNSDI

Status

Surface Management Agency

Cadastral

Cadastral Reference

Parcels

Geographic Coordinate Database

2. DATASET OVERVIEW

2.1 DESCRIPTION

This dataset represents information related to the PLSS, surface managing agency rights, and federal subsurface interests information of lands in the BLM administrative state of Oregon and Washington (OR/WA).

The Land_Lines Feature Dataset contains seven Feature Classes:

PLSSIntersected is the line representation of the Public Land Survey System Geometry for a given area and includes lines for Township and Range, Sections and smaller aliquot parts.

PLSSPoint is the point representation of the Public Land Survey System Geometry for a given area. It contains information about the collection method and accuracy of each point. The lines of PLSSIntersected are snapped to PLSSPoint.

PLSSArcs is a working feature class used to prepare and determine the correct geometry that will be included in PLSSIntersected and PLSSPoint. It is only used by the editors creating the geometry, not by the data users and is not included in publication data. Attributes are provided in Appendix B. In the future, the lines could be used to capture survey information used to create the PLSSIntersected polygons (for example, bearing and distance from the plat, surveyor name, etc.).

PLSSReferenceGrid is created from the PLSSSecondDivision publication feature class, dissolving on the QSec and QQSec fields to create nominal quarters. Where the PLSS has not been subdivided into aliquot parts, an automated process performs mid-point subdivision (except not on fractional or non-rectangular features). It is used only by data stewards (subject matter experts) to query and index current, potential and previous legal descriptions. It is not intended to depict the current PLSS and is not included in publication data. Rather, it is used to assist in the automated mapping of legal descriptions that reference previous or potential legal descriptions that are not found in the PLSS geometry (see REFGRIDNO attribute).

OWNERSHIP_POLY contains the surface managing agency responsibility for a given area. The polylines are coincident with PLSSIntersected arcs. The attributes come from land status deeds and records.

SUBSURFACE_RIGHTS_POLY contains the Federal interest for mineral rights for a given area. The polylines are coincident with PLSSIntersected arcs. The attributes come from land status deeds and

records.

STATUS_ARC contains lines intended primarily for the capturing of source information for the boundaries of the parcel polygons included in OWNERSHIP_POLY and SUBSURFACE_RIGHTS_POLY. Lines are attributed (and can be symbolized) according to coordinate source.

2.2 USAGE

This dataset is used to identify the federal interests and their relationship to non-federal interests of the surface managing agency and the subsurface status. The dataset is also used to provide a representation of the Public Land Survey System and to provide a legal land description for each PLSS parcel.

All BLM planning and management actions are governed by the federal interests of the lands within the planning or project boundary.

2.3 SPONSOR/AFFECTED PARTIES

The sponsor for this data set is the Deputy State Director, Resource Planning, Use and Protection. Other federal, state, county and non-federal organizations rely on the products derived from this data to provide them with an authoritative source representing the federal interests, and an accurate representation of the Public Land Survey System for the States of Oregon & Washington.

2.4 RELATIONSHIP to OTHER DATASETS, DATABASES or FILES

This dataset provides the spatial representation of the legal descriptions for the federal interests in the States of Oregon and Washington. This dataset also provides the spatial representation for the Public Land Survey System covering the States of Oregon and Washington. The attribution provides the legal land description that may be used to link to the national BLM land records Legacy Rehost (LR2000) database.

The PLSSIntersected and PLSSPoint feature classes follow the National Spatial Data Infrastructure data standard for Cadastral (CadNSDI).

This dataset is designed to facilitate the export of feature classes according to the CadNSDI Publication standard and also to the National Surface Managing Agency data set. Additionally, it will be used to publish a variety of in-house products that meet OR/WA BLM business needs.

The relationship to BLM's Master Title Plats (MTPs) is twofold. The spatial component from the CadNSDI PLSSIntersected data is used to build the geometry represented on the MTP. The MTP is a primary reference for the determination of the federal interest represented in the Ownership and Subsurface Status feature classes. Non-federal jurisdiction represented on the Ownership Status feature class is obtained from the relevant State and County agency. The LR2000 database and PLSSIntersected feature class are used by a series of unique processes that extract a combined spatial and attribute component that defines the federal interests needed to successfully manage federal lands.

The OWNERSHIP and SUBSURFACE_RIGHTS feature classes contain current status. Proposed changes to status are found on the "Proposed Acquisition or Disposal" (ACQ_DSP_P) dataset, described under a different data standard. When (if) a proposed change occurs, Ownership and/or Subsurface Rights status are updated. Historical status is found in the "Acquisition and Disposal" (ACQ_DSP) dataset under the same data standard. The ACQ_DSP dataset will never contain a complete history. The complete history of acquisitions and disposals of federal interests is found in the Historical Indices of MTPs.

The relationship between PLSS as represented on old USGS topographic map series and PLSSIntersected can be confusing. The Township/Range and Sections seen on old USGS topographic maps formed the basis of many GIS datasets, including the PLSS itself and as a reference to locate other data of all types. The PLSS grid on these older maps has been superseded by PLSSIntersected. Maps and data created using the older USGS map-based grid should either be updated or have an appropriate disclaimer.

The Land_Lines dataset replaces a dataset of the same name in the OR/WA enterprise spatial database. The following table summarizes the change in the transactional edit database, orsoedit. Section 8, Publication Views, summarizes the change in publication layers.

Old Land_Lines	New Land_Lines
OWNERSHIP_POLY	OWNERSHIP_POLY
SUBSURFACE_RIGHTS_POLY	SUBSURFACE_RIGHTS_POLY
LEGAL_DESCRIPTION_ARC	STATUS_ARC
PLSS_SECTION_POLY	PLSSIntersected
PLSS_TOWNSHIP_POLY	PLSSIntersected
SURFACE_RIGHTS_POLY	<<none>>

2.5 DATA CATEGORY/ARCHITECTURE LINK

These data themes are a portion of the Oregon Data Framework (ODF). The ODF utilizes the concept of inheritance to define specific instances of data. All OR/WA resource-related data are divided into three general categories: Activities, Resources, and Boundaries. These general categories are broken into sub-categories that inherit spatial characteristics and attributes from their parent category. These sub-categories may be further broken into more specific groups until the basic data can no longer be sub-divided. The basic data sets inherit all characteristics of all groups (categories) above them. The basic datasets are where physical data is populated (the groups/categories above them do not contain actual data, but set parameters that all data of that type must follow). See the ODF Overview (Figure 2) for a simplified schematic of the entire ODF showing the overall organization and entity inheritance. The Land_Lines entities are highlighted. For additional information about the ODF, contact:

OR/WA State Data Administrator
Bureau of Land Management
P.O. Box 2965
Portland, OR 97208

503-808-6009

In the ODF, Land_Lines is considered a boundary, and categorized as follows:

ODF
- Boundaries
  - Land Status, Existing
    - Land_Lines
      - PLSSIntersected
      - PLSSPoint
      - PLSSArcs
      - PLSSReferenceGrid
      - STATUS_ARC
      - OWNERSHIP_POLY
      - SUBSURFACE_RIGHTS_POLY

2.6 RELATIONSHIP TO THE DEPARTMENT OF THE INTERIOR ENTERPRISE ARCHITECTURE - DATA RESOURCE MODEL

The Department of the Interior (DOI) Enterprise Architecture contains a component called the Data Resource Model. This model addresses the concepts of data sharing, data description, and data context. This data standard provides information needed to address each of those areas. Data sharing is addressed through complete documentation and simple data structures which make sharing easier. Data description is addressed through the section on Attribute Descriptions. Data context is addressed through the data organization and structure portions of this document. In addition, the DOI Data Resource Model categorizes data by use of standardized Data Subject Areas and Information Classes. For this data set, the Data Subject Area and Information Class are:

- Data Subject Area: Geospatial
- Information Class: Location

2.7 PLSS, Ownership and Subsurface Status Data Organization/Structure

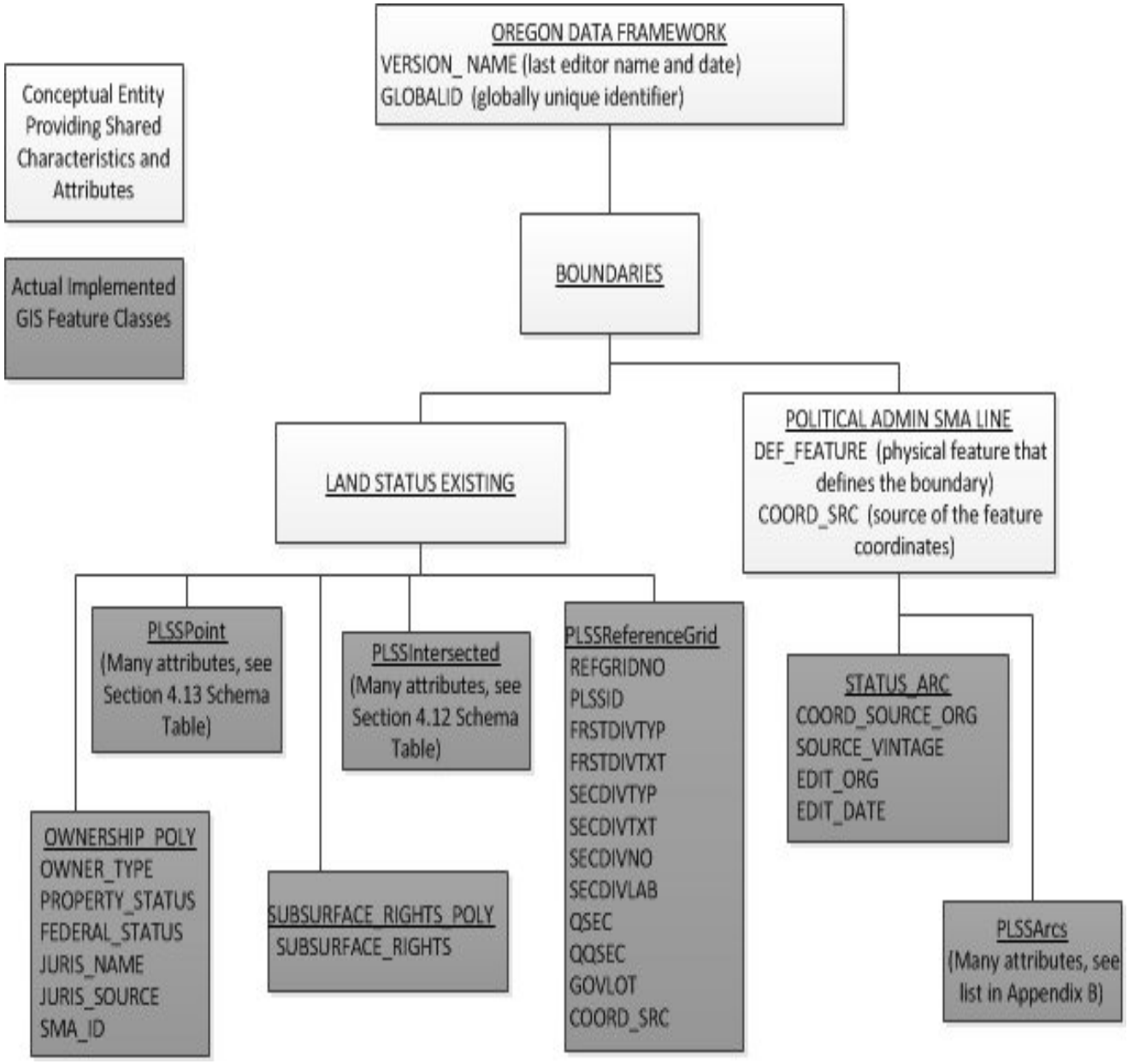

Figure 1 Data Organization Structure

3. DATA MANAGEMENT PROTOCOLS

3.1 ACCURACY REQUIREMENTS

The Land_Lines feature dataset is the trusted source for the PLSS and the federal surface and subsurface estate for the States of Oregon and Washington. The geometry and attribution have undergone a rigorous analysis and continue to be updated on a real time basis. The statements below detail the methods used to achieve the accuracies required.

- **Spatial Accuracy:** The accuracy of the polygon geometry can be determined by comparing it to the PLSSPoint feature class. The PLSSPoint feature class has a field (RELYTXT) that states the relative accuracy in feet of each position based on the results of a least squares analysis and adjustment. In addition, the Cadastral Surveyors professional judgment of the quality of the data is used to compute the position.

- **Attribute Accuracy:** The accuracy of the attributes relating to the federal interest can be determined by comparing the attributes initially to the secondary source data (master title plats and LR2000 database); and in cases of conflict, to the primary source (deed of record). Attributes relating to the non-federal interests can be determined by comparing to the County Assessor's Maps, and then to the deed of record in cases of conflict. A reference to the data source shall exist in the feature class table for both federal and non-federal attributes.

3.2 COLLECTION,INPUT, AND MAINTENANCE PROTOCOLS

Collection and Input Protocols:.
The spatial context of the data has been created using Federal and State Authority Surveys as a reference. The survey record information was combined and adjusted using several techniques; primarily using a least square analysis to derive a "best fit" for the geometry leaving no gaps or overlaps within the dataset. The attribution of the data is derived by reference to the MTPs, and the LR2000 data base. Both the MTP and the LR2000 data base are second level sources for authoritative data. They are derived from the primary source which is the actual record (deed, acts, or laws for example).

The State Data Steward will provide direction to the District Data Stewards for the input protocols of the Land_Lines dataset.

Geometry collected to create the dataset will come from multiple sources. Consideration for incorporation into the dataset will occur with the following order of precedence:
1. Data created from Federal and State authority documents relating to the Public Land Survey System.
2. Data obtained from other Government Agencies with metadata attesting to the accuracy.
3. Data created using accepted methods from other source information (e.g. orthoimagery).

Attribute information relating to ownership will ultimately come from the primary source (deed of record).

Maintenance Protocols: The Land_Lines dataset will have an on-going maintenance program. Generally, program activity will dictate when and where maintenance will occur. New and changing data may be reported in several ways. The State Data Stewards, District Data Stewards, or District GIS

Coordinators will be sources of contact for maintenance. A Land Surveyor must be involved with the final review of edits that involve change of Land Status or the addition, change or removal of geometry involving the Public Land Survey System.

This is a restricted edit dataset. For ownership and subsurface rights, district editors will be identified by the district data stewards and approved by the State Data Steward. Editors will have the authority to create versions from the transactional database to accomplish the edits and submit the version to the State Data Steward for approval and inclusion to the corporate database**.** For changes in ownership or subsurface rights, district editors must provide a copy of the authoritative source records (deed or patent) to the State Data Steward. For PLSS, edits will be done only by a Federally Certified Land Surveyor at OSO. Districts inform the State Data Steward of found errors or updates needed.

There is a User Guide for the Land_Lines dataset that will provide editing guidance. Additional Guides and publicatons that will be helpful with this standard are:

PublicationHandbookOct2013
GCSv2ImportUser Guide
Annotated_Bibliograpy Final
GMM DomainCodes
CadNSDI Production Editing Overview

The Land_Lines User Guide and additional guides and publications will be available in the PLSS and Ownership Approved Data Standard location under the OR/WA Data Management internal web page.

3.3 UPDATE FREQUENCY AND ARCHIVAL PROTOCOLS

Changes to the PLSS, surface and subsurface status can occur at any time and affect small or large areas. Changes to the PLSS occur with new record of survey or updated control points. Changes to surface status are more common and often do not involve a change to the PLSS. Subsurface status may or may not change with a change in surface status.

The priority for requests for maintenance will be first for the BLM, second to other federal agencies, third to state and county agencies, and fourth to other non-federal entities.

The Land_Lines dataset is archived annually at the end of the fiscal year and whenever there is a significant change to the dataset.

3.4 STATEWIDE MONITORING

The State Data Stewards have the responsibility to review and approve all updates to the dataset. There will be two stewards for this data set.

The Status steward has the responsibility to review and approve changes made to the OWNERSHIP_POLY, STATUS_ARC, and SUBSURFACE_RIGHTS_POLY feature classes. They will review the accuracy of the attribution, comparing it to the authoritative sources, or in the instance of a specific reference, checking that reference for validity. They will also confirm that the updated

geometry represents the described parcel.

The PLSS steward has the responsibility to review the accuracy of the attribution, comparing it to the authoritative sources representing the changes. They will confirm that the geometry follows the rules of subdivision and that the intent of any legal description referred to has been determined correctly. This data steward must be a federally certified Land Surveyor.

4. PLSS, Surface and Subsurface Status SCHEMA (simplified)

General Information: Attributes are listed in the order they appear in the geodatabase feature class. The order is an indication of the importance of the attribute for theme definition and use. Aliases occur with PLSSIntersected & PLSSPoint. The domains used in this data standard can be found in Appendix A. These are the domains at the time the data standard was approved. Domains can be changed without a re-issue of the data standard. Many (but not all) of the domains used in this data standard are available at the following web site: http://www.blm.gov/or/datamanagement/index.php

For domains not listed at that site contact:

OR/WA State Data Administrator
Bureau of Land Management
P.O. Box 2965
Portland, OR 97208
503-808-6009

4.1 Land_Lines Feature Dataset

4.11 OWNERSHIP_POLY Feature Class

Attribute Name (Alias, if any)	Data Type	Length	Default Value	Required?	Domain
OWNER_TYPE	Subtype		0	Yes	1 - Federal, 2 - Non Federal
PROPERTY_STATUS	String	5		Yes	dom_LLI_FED_PROP_STATUS or dom_LLI_OTHER_PROP_STATUS
FEDERAL_STATUS	String	5	UND	Yes	dom_LLI_FEDERAL_STATUS
JURIS_NAME	String	30			
JURIS_SOURCE	String	30			dom_COORD_SRC
SMA_ID	Integer	Short		Yes*	

*Automatically generated

4.12 PLSSIntersected Feature Class

Attribute Name (Alias, if any)	Data Type	Length	Default Value	Required	Domain
STATEABBR (State Abbreviation)	String	2		Yes	
PRINMERCD (Principal Meridian Code)	String	2	33	Yes	
PRINMER (Principal Meridian Text)	String	40	Willamette Meridian	Yes	
TWNSHPNO (Township Number)	String	3		Yes	
TWNSHPFRAC (Township Fraction)	String	1	0	Yes	
TWNSHPDIR (Township Direction)	String	1		Yes	
RANGENO (Range Number)	String	3		Yes	
RANGEFRAC (Range Fraction)	String	1	0	Yes	

RANGEDIR (Range Direction)	String	1		Yes	
TWNSHPDPCD (Township Duplicate)	String	1		Yes	
PLSSID (Township Identifier)	String	16		Yes	
STEWARD (Data Steward)	String	50	BLM Cadastral - OR	Yes	
TWNSHPLAB (Township Label)	String	20		Yes	
FRSTDIVID (First Division Identifier)	String	22		Yes	
FRSTDIVTYP (First Division Type Code)	String	2		Yes	FirstDivType
FRSTDIVTXT (First Division Type Text)	String	50		Yes	First_Div_Text
FRSTDIVNO (First Division Number)	String	10		Yes	
FRSTDIVDUP (First Division Duplicate)	String	1	0	Yes	
FRSTDIVLAB (First Division Label)	String	20		Yes	
SECDIVID (Second Division Identifier)	String	50		Yes	
SECDIVTYP (Second Division Type Code)	String	1		Yes	SurveyType
SECDIVTXT (Second Division Type Text)	String	50		Yes	SurveyText
SECDIVNO (Second Division Number)	String	50		Yes	
SECDIVSUF (Second Division Suffix)	String	10		Yes	
SECDIVNOTE (Second Division Note)	String	50		Yes	
SECDIVLAB (Second Division Label)	String	50		Yes	
SURVID (Survey Identifier)	String	50			
SURVTYP (Survey Type Code)	String	2			SurveyType
SURVTYPTXT (Survey Type Text)	String	50			SurveyText
SRVNAME (Survey Name for PLSS Areas)	String	60			
SURVNO (Survey Number)	String	50			
SURVSUF (Survey Suffix)	String	5			
SURVNOTE (Survey Note)	String	50			
SURVDIV (Special Survey Division)	String	50			
SURVLAB (Survey Label)	String	50			
QSEC (Quarter Section)	String	4		Yes	
QQSEC (Quarter Quarter Section)	String	4			
GOVLOT (Government Lot Number)	String	4			
SOURCEREF (Source Doc Link or Reference)	String	50			
SOURCEDATE (Source Doc Date)	Date	8			
RECRDAREATX (Record Area)	String	20		Yes*	
RECRDAREANO (Record Area Number)	Double				
GISACRE (GIS Area Acres)	Double			Yes*	

* The values for these fields are generated during publication

4.13 PLSSPoint Feature Class

Attribute Name (Alias, if any)	Data Type	Length	Default Value	Required	Domain
PLSSID (Township Identifier)	String	16		yes	
POINTID (Corner Point ID)	String	25		yes	
POINTLAB (Corner Point Label)	String	25		yes	
XCOORD (X or East Coordinate)	Double			yes	
YCOORD (Y or North Coordinate)	Double			yes	
ZCOORD (Z or Height Coordinate)	Double			yes	
ELEV (Average Township Elevation)	Double			yes	
RELYTXT (Reliability Text)	String	25		yes	
RELYNUMB (Reliability Number)	Double			yes	
ERRORX (Error in X)	Integer	Short		yes	
ERRORY (Error in Y)	Integer	Short		yes	
ERRORZ (Error in Z)	Integer	Short			
HDATUM (Horizontal Datum)	String	20		yes	
VDATUM (Vertical Datum)	String	20			
COORDMETH (Coordinate Collection Method)	String	25		yes	COORDMETH
COORDSYS (Coordinate System)	String	50	Geographic	yes	
STEWARD1 (Data Steward)	String	50	BLM Cadastral - OR	yes	
STEWARD2 (Second Data Steward)	String	50			
LOCAL1 (First PLSS Point Alternate Name)	String	25			
LOCAL2 (Second PLSS Point Alternate Name)	String	25			
LOCAL3 (Third PLSS Point Alternate Name)	String	25			
LOCAL4 (Fourth PLSS Point Alternate Name)	String	25			
SURVEYYEAR (Survey Year)	Integer	Short			
REVISEDDATE (Revised Date)	Date				

4.14 STATUS_ARC Feature Class

Attribute Name (Alias, if any)	Data Type	Length	Default Value	Required?	Domain
DEF_FEATURE	String	25	Unknown	Yes	dom_DEF_FEATURE
COORD_SOURCE	String	7	UNK	Yes	dom_COORD_SRC

COORD_SOURCE_ORG	String	16	OT_UNKNOWN	Yes	dom_ORGANIZATION
SOURCE_VINTAGE	Date				
SOURCE_LAYER	String	15			
EDIT_ORG	String	16		Yes	dom_ORGANIZATION
EDIT_DATE	Date			Yes	

4.15 SUBSURFACE_RIGHTS_POLY Feature Class

Attribute Name (Alias, if any)	Data Type	Length	Default Value	Required?	Domain
SUBSURFACE_ RIGHTS	String	5	Unknown	Yes	dom_LLI_SUBSURFACE _RIGHTS

4.16 PLSSArcs Feature Class

Attribute listing in Appendix B

4.17 PLSSReferenceGrid

Attribute Name (Alias, if any)	Data Type	Length	Default Value	Required?	Domain
REFGRIDNO (Reference Grid Number)	String	50		Yes	
PLSSID (Township Identifier)	String	16		Yes	
FRSTDIVTYP (First Division Type Code)	String	2		No	FirstDivType
FRSTDIVTXT (First Division Type Text)	String	50		No	First_Div_Text
FRSTDIVNO (First Division Number)	String	10		No	
SECDIVTYP (Second Division Type Code)	String	1		No	SurveyType
SECDIVTXT (Second Division Type Text)	String	50		No	SurveyText
SECDIVNO (Second Division Number)	String	50		No	
SECDIVLAB (Second Division Label)	String	50		No	
QSEC (Quarter Section)	String	4		Y	
QQSEC (Quarter Quarter Section)	String	4		Y	
GOVLOT (Government Lot Number)	String	4		N	
COORD_SRC	String	7		Y	dom_COORD_SRC

5. PROJECTION AND SPATIAL EXTENT

All feature classes and feature datasets are in Geographic, North American Datum 83. Units are decimal degrees. Spatial extent (area of coverage) includes all lands managed by the BLM OR/WA, bordered on the North by Latitude 49.5, on the South by Latitude 41.5, on the East by Longitude -116 and on the West by Longitude -125. See the metadata for this data set for more precise description of the extent.

6. SPATIAL ENTITY CHARACTERISTICS

Status_arc

Description: Instances of Status_arc lines are intended primarily for the cartographic depiction of boundaries for those themes included in Ownership_Status_poly and Subsurface_Status_poly. Symbolization of the polygon themes themselves often results in confusing overlapping symbols. Lines in this theme can be categorized and symbolized based on the differences in values of adjacent polygons across all Land Status themes.

Geometry: Simple, non-overlapping lines that are split at intersections with other arcs.

Topology: Yes. All polygon boundaries in Land Status themes will be covered by a single line feature, with no more than one polygon of a given feature class on each side of the line. The rules are:

- Must not intersect or touch
- Must not self intersect
- Must be Single Part
- Must not self overlap

Integration Requirements: Integrate with source GCDB data and other layers as defined in the legal description arc SOURCE_LAYER and DEF_FEATURE fields. This feature class should collectively represent all boundaries created by the Ownership_Status_poly and the Subsurface_Status_poly feature classes.

Ownership_Status_poly

Description: The surface managing agency responsibility for a given area.

Geometry: Polygons that form a continuous seamless cover across both states with no gaps or overlaps.

Topology: Yes. The rules are:

- Must not have Gaps
- Must not have Overlaps
- Must be Covered by Status_arc
- Area boundary must be Covered by boundary of PLSSIntersected

Integration Requirements: Integrate with source GCDB data and other layers as defined in the status arc SOURCE_LAYER and DEF_FEATURE fields. This feature class represents federal and non-federal interests as derived from a variety of authoritative sources including but not limited to: Master Title Plats, Assessors Plats, and Deeds.

Subsurface_Status_poly

Description: The federal interest for mineral rights for a given area.

Geometry: Polygons that form a continuous seamless cover across both states with no gaps or overlaps.

Topology: Yes. The rules are:

- Must not have Gaps
- Must not have Overlaps

- Must be covered by Ownership lines
- Must cover each other; PLSSIntersected
- Boundary must be covered by Status_arc

Integration Requirements: Integrate with source GCDB data and other layers as defined in the status arc SOURCE_LAYER and DEF_FEATURE fields. This feature class represents federal sub-surface interests as derived from authoritative sources including but not limited to: Master Title Plats and Deeds.

PLSSIntersected

Description: The representation of the Public Land Survey System Geometry for a given area.
Geometry: Polygons that form a continuous seamless cover across both states with no gaps or overlaps.
Topology: Yes. The rules are:

- Must not have Gaps
- Must Not Overlap (stacked polygons will be an exception)
- Must cover each other ; Ownership_Status

Integration Requirements: Integrate with updated data from federal and state authority surveys and approved alternate source data. This data represents Public Land Survey System and the legal descriptions derived therefrom.

PLSSPoint

Description: The representation of the Public Land Survey System Geometry for a given area.
Geometry: Points that represent the corners or angle points of the Public Land Survey System.
Topology: Yes. The rules are:

- Must be covered by PLSSIntersected

Integration Requirements: Integrate with updated data from federal and state authority surveys and approved alternate source data. This data represents Public Land Survey System and the legal descriptions derived therefrom.

PLSSArcs

Description: A working feature class used to prepare and determine the correct geometry that will be included in PLSSIntersected and PLSSPoint. It is only used by the editors creating the geometry, not by the data users and is not included in publication data.
Geometry: Lines that represent directions and distances for the creation of the Public Land Survey System.
Topology: No.
Integration Requirements: Integrate with updated data from federal and state authority surveys and approved alternate source data. This data represents Public Land Survey System and the legal descriptions derived therefrom.

PLSSReferenceGrid

Description: Created from the PLSSSecondDivision publication feature class, dissolving on the QSec and QQSec fields to create nominal quarters. Used to assist in the automated mapping of legal descriptions that reference previous or potential legal descriptions not found in the PLSS geometry.

7. ATTRIBUTE CHARACTERISTICS AND DEFINITION (in alphabetical order)

7.1 COORD_SRC

Geodatabase Name (Alias, if any)	COORD_SRC
BLM Structured Name	Coordinate_Source_Code
Inheritance	Inherited from Entity POLITICAL ADMIN SMA LINE
Feature Class Use	Status_Arc, PLSSReferenceGrid
Definition	The actual source of the GIS coordinates for the polylines. If the line is copied from another theme, and already has COORD_SRC, it should be reviewed and may need to be changed for use in this dataset.
Required/Optional	Required
Domain (Valid Values)	dom_COORD_SRC
Data Type	String (length 7)

7.2 COORD_SOURCE_ORG

Geodatabase Name (Alias, if any)	COORD_SOURCE_ORG
BLM Structured Name	
Inheritance	Inherited from Entity POLITICAL ADMIN SMA LINE
Feature Class Use	Status_Arc
Definition	The organization (source) that supplied the GIS coordinates for the polylines. If the line is copied from another theme, and already has COORD_SRC, it should be reviewed and may need to be changed for use in this dataset.
Required/Optional	Required
Domain (Valid Values)	dom_ORGANIZATION
Data Type	String (length 16)

7.3 COORD_METH

Geodatabase Name (Alias, if any)	COORD_METH (Coordinate Collection Method)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The method of adjustment used to derive the final GIS coordinate value of

	the point.
Required/Optional	Required
Domain (Valid Values)	dom_Coordmeth
Data Type	String (length 25)

7.4 COORDSYS

Geodatabase Name (Alias, if any)	COORDSYS (Coordinate System)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The datum used for the display of the X & Y values field. This may be different than the database datum.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: Geographic
Data Type	String (length 50)

7.5 DEF_FEATURE

Geodatabase Name (Alias, if any)	DEF_FEATURE
BLM Structured Name	Defining_Feature_Code
Inheritance	Inherited from entity POLITICAL ADMIN SMA LINE
Feature Class Use	Status_Arc
Definition	The physical or legal feature that defines the boundary used to create the line according to the legal boundary description. In general the lowest level defining feature, but it depends on how the boundary segment is actually defined. For example, PLSS or a natural boundary (i.e. SUBDIVISION rather than COUNTY unless the boundary segment is specifically defined as following the COUNTY boundary). If the line is copied from another theme and already has DEF_FEATURE it should be reviewed and may need to be changed for use in this dataset.
Required/Optional	Required
Domain (Valid Values)	dom_DEF_FEATURE
Data Type	String (length 25)

7.6 EDIT_DATE

Geodatabase Name (Alias, if any)	EDIT_DATE
BLM Structured Name	
Inheritance	Inherited from entity POLITICAL ADMIN SMA LINE
Feature Class Use	Status_Arc
Definition	When the feature was edited.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: MM/DD/YYYY, i.e. 12/11/2012
Data Type	Date

7.7 EDIT_ORG

Geodatabase Name (Alias, if any)	EDIT_ORG
BLM Structured Name	
Inheritance	Inherited from entity POLITICAL ADMIN SMA LINE
Feature Class Use	Status_Arc
Definition	Who created or edited the feature.
Required/Optional	Required
Domain (Valid Values)	dom_ORGANIZATION
Data Type	String (length 16)

7.8 ELEV

Geodatabase Name (Alias, if any)	ELEV (Average Township Elevation)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	This is an average elevation for the entire PLSS Township.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: 121.92024384
Data Type	Double

7.9 ERRORX

Geodatabase Name (Alias, if any)	ERROR (Error in X)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The error in the X direction.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 1, 24, 999
Data Type	Short integer

7.10 ERRORY

Geodatabase Name (Alias, if any)	ERRORY (Error in Y)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The error in the Y direction.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 47, 78, 1659
Data Type	Short integer

7.11 ERRORZ

Geodatabase Name (Alias, if any)	ERRORZ (Error in Z)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The error in the Z direction.
Required/Optional	Optional
Domain (Valid Values)	No domain. Example: <Null>
Data Type	Short integer

7.12 FEDERAL_STATUS

Geodatabase Name (Alias, if any)	FEDERAL_STATUS
BLM Structured Name	
Inheritance	Inherited from entity EXISTING LAND STATUS
Feature Class Use	OWNERSHIP_POLY
Definition	Stores federal status. If OWNERTYPE = Federal(1) then domain dom_LLI_FEDERAL_STATUS is used. If OWNERTYPE = Non-Federal(2) then no domain is used.
Required/Optional	Required
Domain (Valid Values)	dom_LLI_FEDERAL_STATUS
Data Type	String (length 5)

7.13 FRSTDIVDUP

Geodatabase Name (Alias, if any)	FRSTDIVDUP (First Division Duplicate)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	This is a code to indicate whether the first division is a duplicated area or identifier.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 0, 2, T
Data Type	String (length 1)

7.14 FRSTDIVID

Geodatabase Name (Alias, if any)	FRSTDIVID (First Division Identifier)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	This is a unique identifier for the first division that is built by appending the first division elements on the township identifier.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: OR330250S0140W0SN250
Data Type	String (length 22)

7.15 FRSTDIVLAB

Geodatabase Name (Alias, if any)	FRSTDIVLAB (First Division Label)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	This is the label for the first division that is used for cartographic web display purposes.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: 36
Data Type	String (length 20)

7.16 FRSTDIVNO

Geodatabase Name (Alias, if any)	FRSTDIVNO (First Division Number)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected, PLSSReferenceGrid
Definition	This is the number, letter, or designator for the first division of the PLSS Township.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: 36
Data Type	String (length 10)

7.17 FRSTDIVTXT

Geodatabase Name (Alias, if any)	FRSTDIVTXT (First Division Type Text)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected, PLSSReferenceGrid
Definition	This is the first division type as a text field.
Required/Optional	Required
Domain (Valid Values)	First_Div_Text
Data Type	String (length 50)

7.18 FRSTDIVTYP

Geodatabase Name (Alias, if any)	FRSTDIVTYP (First Division Type Code)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected, PLSSReferenceGrid
Definition	This is the type of first division and is commonly the section but may be a lot, quarter township or other division type. The domains for these codes are in the LU_FirstDiv table.
Required/Optional	Required
Domain (Valid Values)	FirstDivType
Data Type	String (length 2)

7.19 GISACRE

Geodatabase Name (Alias, if any)	GISACRE (GIS Area Acres)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	The area of the feature in acres – computed from the GIS, this is not the record area. This field is filled during publication.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 39.5, 39.511000000000003
Data Type	Double

7.20 GOVLOT

Geodatabase Name (Alias, if any)	GOVLOT (Government Lot Number)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected, PLSSReferenceGrid
Definition	This field is used when there are Government Lot numbers or identifiers.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: L 01, L1, L 07, L7
Data Type	String (length 4)

7.21 HDATUM

Geodatabase Name (Alias, if any)	HDATUM (Horizontal Datum)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	This is the horizontal datum for the coordinate value, the datum the reported coordinate value is reported in, and may be different than the GIS horizontal datum.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: NAD 83, NAD 27
Data Type	String (length 20)

7.22 JURIS_NAME

Geodatabase Name (Alias, if any)	JURIS_NAME (Juris Source)
BLM Structured Name	
Inheritance	Inherited from entity EXISTING LAND STATUS
Feature Class Use	OWNERSHIP_POLY
Definition	Descriptive name further defining the Property Status (e.g. State Parks, Reservation Name, Water Bodies).
Required/Optional	Optional
Domain (Valid Values)	No domain. Example: Confederated Tribes

7.23 JURIS_SOURCE

Geodatabase Name (Alias, if any)	JURIS_SOURCE
BLM Structured Name	
Inheritance	Inherited from entity EXISTING LAND STATUS
Feature Class Use	OWNERSHIP_POLY
Definition	The document or record from which the attributes were obtained (e.g. MTP, Deed, County data).
Required/Optional	Optional
Domain (Valid Values)	dom_COORD_SRC
Data Type	String (Character length 30)

7.24 LOCAL1

Geodatabase Name (Alias, if any)	LOCAL1 (First PLSS Point Alternate Name)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The first alias for the control point, most common on PLSS township boundaries.
Required/Optional	Optional
Domain (Valid Values)	No domain. Example: <Null>
Data Type	String (Character length 25)

7.25 LOCAL2

Geodatabase Name (Alias, if any)	LOCAL2 (Second PLSS Point Alternate Name)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The second local identifier or alias for the control point, most common on corners on PLSS township boundaries.
Required/Optional	Optional
Domain (Valid Values)	No domain. Example: <Null>
Data Type	String (Character length 25)

7.26 LOCAL3

Geodatabase Name (Alias, if any)	LOCAL3 (Third PLSS Point Alternate Name)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The third alias for the control point, most common on PLSS township boundaries.
Required/Optional	Optional
Domain (Valid Values)	No domain. Example: <Null>
Data Type	String (Character length 25)

7.27 LOCAL4

Geodatabase Name (Alias, if any)	LOCAL4 (Fourth PLSS Point Alternate Name)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The fourth alias for the control point, most common on PLSS township boundaries.
Required/Optional	Optional
Domain (Valid Values)	No domain. Example: <Null>
Data Type	String (Character length 25)

7.28 OWNER_TYPE

Geodatabase Name (Alias, if any)	OWNER_TYPE
BLM Structured Name	
Inheritance	Inherited from entity EXISTING LAND STATUS
Feature Class Use	Ownership_Status_Poly
Definition	Identifies the managing Agency. IF OWNERTYPE = Federal(1) then dom_LLI_FED_PROP_STATUS is used. IF OWNERTYPE = Non-Federal(2) then dom_LLI_OTHER_PROP_STATUS is used.
Required/Optional	Required
Domain (Valid Values)	dom_LLI_FED_PROP_STATUS, dom_LLI_OTHER_PROP_STATUS
Data Type	Long Integer (Subtype)

7.29 PLSSID

Geodatabase Name (Alias, if any)	PLSSID (Township Identifier)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected, PLSSPoint, PLSSReferenceGrid
Definition	Concatenation of the principal meridian, township, range, and duplication code that form a unique ID.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: OR330250S0140W0
Data Type	String (length 16)

7.30 POINTID

Geodatabase Name (Alias, if any)	POINTID (Corner Point ID)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	Unique point identifier being a concatenation of the PLSSID and POINTLAB.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: OR330220S0070W0_637100
Data Type	String (length 25)

7.31 POINTLAB

Geodatabase Name (Alias, if any)	POINTLAB (Corner Point Label)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	A 6 digit number identifying the point in relationship to PLSS; used as a label for cartographic output or web display.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 320437, 803035
Data Type	String (length 25)

7.32 PRINMER

Geodatabase Name (Alias, if any)	PRINMER (Principle Meridian Text)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Principal meridian name displayed as text.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: Willamette Meridian
Data Type	String (length 40)

7.33 PRINMERCD

Geodatabase Name (Alias, if any)	PRINMERCD (Principle Meridian Code)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Principal meridian code from the BLM code list.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: 33
Data Type	String (length 2)

7.34 PROPERTY_STATUS

Geodatabase Name (Alias, if any)	PROPERTY_STATUS
BLM Structured Name	
Inheritance	Inherited from entity EXISTING LAND STATUS
Feature Class Use	OWNERSHIP_POLY
Definition	Stores surface jurisdiction (ownership status). If OWNER_TYPE = Federal(1) then domain dom_LLI_FED_PROP_STATUS is used. If OWNER_TYPE = Non-Federal(2) then dom_LLI_OTHER_PROP_STATUS is used.
Required/Optional	Required
Domain (Valid Values)	dom_LLI_FED_PROP_STATUS or dom_LLI_OTHER_PROP_STATUS
Data Type	String (length 5)

7.35 QQSEC

Geodatabase Name (Alias, if any)	QQSEC (Quarter Quarter Section)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected, PLSSReferenceGrid
Definition	This is the quarter quarter (Second Division) PLSS reference.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: MULT, NWNE
Data Type	String (length 4)

7.36 QSEC

Geodatabase Name (Alias, if any)	QSEC (Quarter Section)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected, PLSSReferenceGrid
Definition	Quarter section identifier, a two letter label (NE, SE, SW, NW).
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: MULT, NW, OT, SE
Data Type	String (length 4)

7.37 RANGEDIR

Geodatabase Name (Alias, if any)	RANGEDIR (Range Direction)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Range direction. The direction of a column of townships from a Public Land Survey System Origin. These are typically east or west in the West but may be north or south in Ohio.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: W
Data Type	String (length 1)

7.38 RANGEFRAC

Geodatabase Name (Alias, if any)	RANGEFRAC (Range Fraction)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Range fractions are a result of accounting for Gaps that occurred between Ranges during their original creation.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 0, 2
Data Type	String (length 1)

7.39 RANGENO

Geodatabase Name (Alias, if any)	RANGENO (Range_Number)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Range number. The range number indicates the number of columns of townships, east or west from a Public Land Survey System Origin.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: 014
Data Type	String (length 3)

7.40 RECRDAREANO

Geodatabase Name (Alias, if any)	RECRDAREANO (Record_Area_Number)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	The historic record or recorded area as a numeric field.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 12.27, 12.300000000000001
Data Type	Double

7.41 RECRDAREATX

Geodatabase Name (Alias, if any)	RECRDAREATX (Record Area)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	A label denoting the authoritative record area of a parcel in acres. This field is filled in during publication.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 0.02 Acres, 9.92 Acres
Data Type	String (length 5)

7.42 REFGRIDNO

Geodatabase Name (Alias, if any)	REFGRIDNO (Reference Grid Number)
BLM Structured Name	
Inheritance	Not Inherited
Feature Class Use	PLSSReferenceGrid
Definition	Derived from the 2008 CadNSDI standard. An identifier for tabular legal descriptions which is either the Township, First Division ID or Second Division ID. This is the ID necessary for automated location of tabular legal descriptions.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples:
Data Type	String (length 50)

7.43 RELYNUMB

Geodatabase Name (Alias, if any)	RELYNUMB (Reliability Number)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	This is the reliability of the reported coordinate values as a number. The units for the number are reported in the data producer metadata.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 83, 112, 1397
Data Type	Double-precision floating-point number (Length 8)

7.44 RELYTXT

Geodatabase Name (Alias, if any)	RELYTXT (Reliability Text)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	This is the reliability of the reported coordinate values as a text or character. This may be a coded classification of the reliability or a number with accompanying units.
Required/Optional	Required

Domain (Valid Values)	No domain. Examples: 8 Feet, 824 Feet
Data Type	String (length 25)

7.45 REVISEDDATE

Geodatabase Name (Alias, if any)	REVISEDDATE (Revised Date)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The last revision date for the coordinate value for the PLSS Corner.
Required/Optional	Optional
Domain (Valid Values)	No domain. Example: MM/DD/YYYY
Data Type	Date

7.46 SECDIVID

Geodatabase Name (Alias, if any)	SECDIVID (Second Division Identifier)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Unique identifier for the second division.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: OR330280S0072W0SN300L1
Data Type	String (length 50)

7.47 SECDIVLAB

Geodatabase Name (Alias, if any)	SECDIVID (Second Division Label)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	PLSS second division label for cartographic output or web display.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: Water, L 29, NWSE
Data Type	String (length 50)

7.48 SECDIVNO

Geodatabase Name (Alias, if any)	SECDIVNO (Second Division Number)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Second division number or aliquot part reference.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: H, 6, 55,W2NWSE, NENENENW
Data Type	String (length 50)

7.49 SECDIVNOTE

Geodatabase Name (Alias, if any)	SECDIVNOTE (Second Division Note)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Extra information about the second division of the PLSS such as R for replaced or other notes about the use and interpretation of the second division.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: A, Remainder, X
Data Type	String (Character length 50)

7.50 SECDIVSUF

Geodatabase Name (Alias, if any)	SECDIVSUF (Second Division Suffix)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Second division suffix used to identify duplicates or suffix to the name.
Required/Optional	Required
Domain (Valid Values)	No domain.
Data Type	String (length 10)

7.51 SECDIVTXT

Geodatabase Name (Alias, if any)	SECDIVTXT (Second Division Type Txt)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Second division type text description.
Required/Optional	Required
Domain (Valid Values)	SurveyText
Data Type	String (length 50)

7.52 SECDIVTYP

Geodatabase Name (Alias, if any)	SECDIVTYP (Second Division Type Code)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Code for the type of second division.
Required/Optional	Required
Domain (Valid Values)	SurveyType
Data Type	String (length 1)

7.53 SMA_ID

Geodatabase Name (Alias, if any)	SMA_ID
BLM Structured Name	
Inheritance	Inherited from entity EXISTING LAND STATUS
Feature Class Use	OWNERSHIP_POLY
Definition	National level status code. The unique identifier key associated to the unique combination of master SMA information made up of administrative department, administrative agency, and land designation.
Required/Optional	Required
Domain (Valid Values)	No domain. (SMA_ID codes from the SMAMasterTable for SMA_ID and HOLD_ID; Examples: SMA_ID = 1309, Umpqua National Forest)

Data Type	Short Integer

7.54 SOURCE_LAYER

Geodatabase Name (Alias, if any)	SOURCE_LAYER
BLM Structured Name	
Inheritance	Inherited from entity POLITICAL ADMIN SMA LINE
Feature Class Use	Status_arc
Definition	Where the source data came from.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: BOR, DNR, CADNSDI
Data Type	Text (length 15)

7.55 SOURCE_VINTAGE

Geodatabase Name (Alias, if any)	SOURCE_VINTAGE
BLM Structured Name	
Inheritance	Inherited from entity POLITICAL ADMIN SMA LINE
Feature Class Use	Status_arc
Definition	When the source data was created.
Required/Optional	Optional
Domain (Valid Values)	No domain. Example: 2/16/1989
Data Type	Date

7.56 SOURCE_DATE

Geodatabase Name (Alias, if any)	SOURCE_DATE (Source Doc Date)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	The date of the source document.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: <Null>, 8/8/2013
Data Type	Date

7.57 SOURCE_REF

Geodatabase Name (Alias, if any)	SOURCE_REF (Source Doc Link or Reference)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	The reference to the source document, could be a reference to a map, or plat, or a deed. This could include document type.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: <Null>
Data Type	String (length 50)

7.58 SRV_NAME

Geodatabase Name (Alias, if any)	SRV_NAME (Survey Name for PLSS Areas)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	A common or otherwise recognized name for a portion of area for a PLSS Survey, for example the refugee lands in Ohio or in cases where a PLSS Township has a recognized name.
Required/Optional	Optional
Domain (Valid Values)	No domain. Example: Un Numbered
Data Type	String (length 60)

7.59 STATEABBR

Geodatabase Name (Alias, if any)	STATEABBR (State Abbreviation)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	The State abbreviation code is the two letter postal code.
Required/Optional	Required
Domain (Valid Values)	No domain
Data Type	String (length 2)

7.60 STEWARD

Geodatabase Name (Alias, if any)	STEWARD (Data Steward)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Data steward for the polygon feature class.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: BLM Cadastral - OR
Data Type	String (length 50)

7.61 STEWARD1

Geodatabase Name (Alias, if any)	STEWARD1 (Data Steward)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The primary data steward for the PLSSPoint feature class.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: BLM Cadastral - OR
Data Type	String (length 50)

7.62 STEWARD2

Geodatabase Name (Alias, if any)	STEWARD2 (Second Data Steward)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The second data steward for the PLSSPoint feature class, if there is a second steward, such as on a county boundary or a federal ownership boundary.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: j1wilkin, tkek, twoods
Data Type	String (length 50)

7.63 SUBSURFACE_RIGHTS

Geodatabase Name (Alias, if any)	SUBSURFACE_RIGHTS
BLM Structured Name	
Inheritance	Inherited from entity EXISTING LAND STATUS
Feature Class Use	SUBSURFACE_RIGHTS_POLY
Definition	Federal subsurface (mineral) rights.
Required/Optional	Required
Domain (Valid Values)	dom_LLI_SUBSURFACE_RIGHTS
Data Type	String (length 5)

7.64 SURVDIV

Geodatabase Name (Alias, if any)	SURVDIV (Special Survey Division)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	The name or designation for any division of a PLSS Special Survey such as a Lot in a Tract.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: OR330250S0120W0SN130W
Data Type	String (length 50)

7.65 SURVEYYEAR

Geodatabase Name (Alias, if any)	SURVEYYEAR (Survey Year)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The name or designation for any division of a PLSS Special Survey such as a Lot in a Tract.
Required/Optional	Optional
Domain (Valid Values)	No domain. Example: <Null>
Data Type	Small Integer

7.66 SURVID

Geodatabase Name (Alias, if any)	SURVID (Survey Identifier)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Unique identifier for a PLSS Special Survey feature.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: OR330230S0070W0SN050Q51
Data Type	String (length 50)

7.67 SURVLAB

Geodatabase Name (Alias, if any)	SURVLAB (Survey Label)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Label that is used for cartographic output or web display.
Required/Optional	Optional
Domain (Valid Values)	No domain. Examples: DC 37, MS 33, Q 37
Data Type	String (length 50)

7.68 SURVNO

Geodatabase Name (Alias, if any)	SURVNO (Survey Number)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Unique identifier or designator for non-rectangular PLSS areas.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 28, 33, 256
Data Type	String (length 50)

7. 69 SURVNOTE

Geodatabase Name (Alias, if any)	SURVNOTE (Survey Note)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Extra information about the Special Survey of the PLSS such as R for replaced or other notes about the use and interpretation of the Special Survey.
Required/Optional	Optional
Domain (Valid Values)	No domain Examples: A, C, D, R
Data Type	String (length 50)

7.70 SURVSUF

Geodatabase Name (Alias, if any)	SURVSUF (Survey Suffix)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Special survey suffix designation that makes the identification of the area unique.
Required/Optional	Optional
Domain (Valid Values)	No domain. Example: 01, 02, 03
Data Type	String (length 5)

7.71 SURVTYP

Geodatabase Name (Alias, if any)	SURVTYP (Survey Type Code)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Code for the type of special survey.
Required/Optional	Optional
Domain (Valid Values)	SURVEYTYPE
Data Type	String (length 2)

7.72 SURVTYPTXT

Geodatabase Name (Alias, if any)	SURVTYPTXT (Survey Type Text)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Special survey type text description.
Required/Optional	Optional
Domain (Valid Values)	SURVEYTEXT
Data Type	String (length 50)

7.73 TWNSHPDIR

Geodatabase Name (Alias, if any)	TWNSHPDIR (Township Direction)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	The direction of a row of Townships from a Public Land Survey System Origin. These are typically north and south in the West but may be east and west in Ohio.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: S
Data Type	String (length 1)

7.74 TWNSHPDPCD

Geodatabase Name (Alias, if any)	TWNSHPDPCD (Township Duplicate)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	If there is more than one township with the same ID, duplicate Status is used to establish uniqueness. A is the first duplicate, B is the second, etc. A zero (0) in this field indicates no duplicate.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: 0, A
Data Type	String (length 1)

7.75 TWNSHPFRAC

Geodatabase Name (Alias, if any)	TWNSHPFRAC (Township Fraction)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Township fractions are a result of an accounting for gaps that occurred between Townships during their original creation.
Required/Optional	Required
Domain (Valid Values)	No domain. Examples: 0, 2
Data Type	String (length 1)

7.76 TWNSHPLAB

Geodatabase Name (Alias, if any)	TWNSHPLAB (Township Label)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	Township label that is used for cartographic output or web display.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: T25S R07.5W
Data Type	String (length 20)

7.77 TWNSHPNO

Geodatabase Name (Alias, if any)	TWNSHPNO (Township Number)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSIntersected
Definition	The Township number indicates the number of rows of Townships, north or south from the Public Land Survey System origin.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: 025
Data Type	String (length 3)

7.78 VDATUM

Geodatabase Name (Alias, if any)	VDATUM (Vertical Datum)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	The vertical datum for an observed Z value (or height).
Required/Optional	Optional
Domain (Valid Values)	No domain. Example: NAVD88, NGVD 29
Data Type	String (length 20)

7.79 VERSION_NAME

Geodatabase Name (Alias, if any)	VERSION_NAME (Geodatabase Version Text)
BLM Structured Name	
Inheritance	Inherited from Entity ODF
Feature Class Use	All Feature Classes
Definition	Name of the corporate geodatabase version previously used to edit the record. InitialLoad = feature has not been edited in current edition of ArcSDE. Format: username.XXX-mmddyy-hhmmss = version name of last edit (hours might be a single digit; leading zeros are trimmed for hours only). XXX=theme abbreviation. Example: sfrazier.FIRE_POLY-121210-111034 Only appears in the transactional (edit) version. Public version (which is also the version used internally for mapping or analysis) does not contain this attribute.
Required/Optional	Required (automatically generated)
Domain (Valid Values)	No domain
Data Type	Variable Characters (50)

7.80 XCOORD

Geodatabase Name (Alias, if any)	XCOORD (X or East Coordinate)
BLM Structured Name	

Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	X, longitude or east coordinate value for the corner.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: OR330220S0070W0_637100
Data Type	Double

7.81 YCOORD

Geodatabase Name (Alias, if any)	YCOORD (Y or North Coordinate)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	Y, latitude or north coordinate value for the corner.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: 43.075189629999997
Data Type	Double

7.82 ZCOORD

Geodatabase Name (Alias, if any)	ZCOORD (Z or Height Coordinate)
BLM Structured Name	
Inheritance	Inherited from CadNSDI National Standard
Feature Class Use	PLSSPoint
Definition	Z, Height, observed elevation for the corner.
Required/Optional	Required
Domain (Valid Values)	No domain. Example: <Null>
Data Type	Double

8. LAYER FILES (PUBLICATION VIEWS)

Master corporate feature classes/datasets maintained in the edit database (currently orsoedit) are "published" to the user database (currently orsovctr) in several ways:

A. Copied completely with no changes (replicated).

B. Copied with no changes except to omit one or more feature classes from a feature dataset.

C. Minor changes made (e.g., clip, dissolve, union with ownership) in order to make the data easier to use. Feature classes that have been changed are indicated by "PUB" in their name. They are created through scripts that can be automatically executed and are easily rebuilt from the master (orsoedit) data whenever necessary.

The Land_Lines dataset will be used to publish a variety of data using any of the three methods outlined above.

The Land_Lines dataset shall be refreshed to the OR/WA enterprise publication SDE database, orsovctr, as approved edits occur. Extraction from SDE for use by OR/WA District GIS users and posting to the public web site shall occur twice weekly, following the regular refresh cycle of the other GIS data.

Layer files are not new data requiring storage and maintenance but point to existing data. They have appropriate selection and symbolization for correct use and display of the data. They provide the guidance for data published on the web. Layer files are created by simple, documented processes, and can be deleted and recreated at any time.

The following feature classes, related to PLSS, will be published from the Land_Lines dataset into SDE orsovctr and also exported into the CadNSDI_PLSS geodatabase under G:\corp\BLMReplication and also posted on the public web site:
CadastralReference\MeanderedWater
CadastralReference\MetadataGlance
CadastralReference\PLSSFirstDivision
CadastralReference\PLSSIntersected
CadastralReference\PLSSPoint
CadastralReference\PLSSSecondDivision
CadastralReference\PLSSSpecialSurvey

The following feature classes, related to Status, will be published from the Land_Lines dataset into SDE orsovctr and also exported into the land_lines geodatabase under G:\corp\BLMReplication and also posted on the public web site:

Land_Lines\OWNERSHIP_POLY
Land_Lines\SUBSURFACE_RIGHTS_POLY
Land_Lines\STATUS_ARC
ownership_poly_dissolve

The following layer files that show or derive data from the Land_Lines dataset will be maintained in the OR/WA State Office layer browser:

CadNSDIPublication (full CadNSDI publication standard)
PLSS Editor (full dataset, replaces LLI editor)
Land Ownership (Ownership_Status_poly)
Land Ownership - Dissolved (Ownership_Status_poly dissolved on PROPERTY_STATUS)
Township and Range, Sections
QQSections

9. EDITING PROCEDURES

9.1 Managing Overlap

"Overlap" means there are potentially more than one feature in the same feature class that occupies the same space ("stacked" polygons), or a portion of the same space. **Depending on the query, the areas of these polygons may be be double-counted**.

POLY/ARC feature dataset means there is a polygon feature class plus an arc feature class that represents the perimeter of the polygon. In this case, the polygons must be kept coincident with the polyline.

In this discussion, an area entity may consist of more than one polygon, and a line entity may consist of more than one arc. They would represent multiple records in the spatial table and may have identical attributes. Multi-part features are not allowed. Multi-part features are easily created inadvertently and not always easy to identify. If they are not consciously and consistently avoided, feature classes will end up with a mixture of single and multi-part features. Multi-part features can be more difficult to edit, query, and select, along with impacting overall performance.

Overlap is only allowed in the ODF in limited and controlled scenarios. In each case, the "cause" of the overlap (the attribute changes that "kick off" a new feature which may overlap an existing feature) is carefully defined and controlled. In other words, in feature classes that permit overlap when there is a change in spatial extent there is always a new feature created which may overlap an existing feature, but in addition there are certain attribute(s) that will result in a new feature even if there is no spatial change. The feature classes (and the one feature dataset) that allow overlap, and the attributes that lead to a new, possibly overlapping feature, are described below.

1. Overlapping Polygons where polygons are part of a POLY/ARC feature dataset.
Topology rules apply only to the POLY/ARC relationship (Polylines in the POLY feature class covered by arcs in the ARC feature class and vice versa; Arcs must not have dangles, intersect, self-overlap or overlap adjacent arcs). In this standard, the PLSSIntersected has overlaps existing as stacked polygons. The spatial representation is identical, but the attribution is not. An example of this is a Government Lot that covers multiple nominal locations. The multiple nominal locations need to be represented, but the spatial extent of the lot must not be split to create that representation. A second example is that of an Aliquot part that has been divided into one or more Government lots. The Aliquot part; now historical, must still be represented so as to make a link to any actions in the government record that may have occurred and the newly created Government Lots need to be represented as well.

2. Overlapping Polygons where polygons are a stand-alone feature class.
No topology rules.

a) Species Occurrence Group: These are distinct sites defined by species and time. A different species creates a new polygon which may overlap another site in whole or part. A change in time (new visit date) will create a new polygon if it is desired that the old spatial extent and date is retained (as historic). Additionally, for wildlife, a different season/type of use (e.g., winter range vs. spring breeding) will create new polygon that may overlap others. Examples:

WEEDS_POLY, GB_FLORA_SITE.

b) Survey Group: Within each feature class a new survey is created only for a new date. This group might also include proposed surveys in separate feature classes. Examples: GB_SURVEY, Archeological Survey (CULT_SURV).

c) Treatment Activity Group: Within each feature class (BURN, HARV, MECH, CHEM, BIO, REVEG, PROT), an overlapping treatment area is created only for a new date, and sometimes for a different method (if it is not possible to SPLIT the treatment area by method and it is important to capture more than one method applied to the same area on the same day). This group also includes proposed treatments which could overlap existing treatments and have additional overlap created by different treatment alternatives.

d) Recreation Site Polygons (RECSITE_POLY): An overlapping site polygon is created only for different name, type or development level.

e) Land Status Encumbrances Group: A new, possibly overlapping polygon is created for a new casefile number even if it is the same area. Examples: easement/ROW areas (ESMTROW_POLY) and land acquisitions/disposals (ACQ_DSP_POLY).

3. Overlapping Arcs where arcs are a stand-alone feature class.

No topology rules.

Examples: easement/ROW lines (ESMTROW_ARC) a new, possibly overlapping arc is created for a new casefile number; structures (STRCT_ARC) a new, possibly overlapping arc is created for a different name, type, RIPS number or construction date.

4. Overlapping Points.

Generally these are allowed and do not cause a problem since points have no spatial extent. However, it is easy to inadvertently create more than one point making it important to search for and delete duplicates.

9.2 Editing Quality Control

1. Duplicate features. Checking for undesired duplicates is critical. Polygons or arcs that are 100% duplicate are easily found by searching for identical attributes along with identical Shape_Area and/or Shape_Length. Searching for partially overlapping arcs or polygons is harder, and each case must be inspected to determine if the overlap is desired or not.

2. Gap and overlap slivers. These can be hard to find if there are no topology rules. A temporary map topology can be created to find overlap slivers. Gap slivers can be found by constructing polygons from all arcs and checking polygons with very small area.

3. Buffer and dissolve considerations. Where polygons are created with the buffer tool, the correct

option must be selected. The default option is "None," which means overlap will be retained. Sometimes the overlap should be dissolved and the option changed to "All." Lines resulting from buffer have vertices too close together, especially around the end curves. They should be generalized to thin the vertices. If the dissolve tool is used on polygons or arcs, the "Create multipart features" should be unchecked.

4. GPS considerations. GPS linework is often messy and should always be checked and cleaned up as necessary. Often vertices need to be thinned (generalize) especially at line ends. Multi-part polygons are sometimes inadvertently created when GPS files with vertices too close together or crossing lines or spikes are brought into ArcGIS. Tiny, unwanted polygons are created but are "hidden" because they are in a multi-part.

5. Be careful when merging lines. Multi-part lines will be created if there are tiny unintentional (unknown) gaps and it can be difficult to find these unless the multi-parts are exploded.

6. Null geometry. Check any features that have 0 or very small Shape_Area or Shape_Length. If a feature has 0 geometry and you can't zoom to it, it is probably an inadvertently created "Null" feature and should be deleted. Very small features may also be unintended, resulting from messy linework.

7. Check tolerances. In general, set Cluster Tolerance as small as possible. This is 0.000000009 Degree (0.000007 degree is approximately 1 meter).

8. Snapping considerations. Where line segments with different COORD_SRC meet, the most accurate or important (in terms of legal boundary representation) are kept unaltered, and other lines snapped to them. In general, the hierarchy of importance is PLSS (CadNSDI points/lines) first, with DLG or SOURCEL next, then DEM, and MAP last. When snapping to the data indicated in COORD_SRC (as opposed to duplicating with copy/paste), be sure there are exactly the same number of vertices in the target, and source theme arcs. When the DEF_FEATURE is "SUBDIVISION," snap the line segment to PLSS points, and make sure there are the same number of vertices in the line as PLSS points.

9.3 Vertical Integration

In the ODF, the need for vertical integration is confined to, and characteristic of, the "Boundaries" group of themes. Boundaries polygons have perimeters that are defined by other features and are *required* to stay that way. Activities and Resources polygon perimeters are "self-defining." For example, a road, ownership or watershed line might be used to build a prescribed burn unit, but the unit perimeter is *defined* by the actual burned area.

Boundaries polylines (arcs) have attributes DEF_FEATURE and COORD_SRC which provide the information needed for vertical integration. When the GIS feature class indicated by COORD_SRC changes, the arc might need to be re-snapped.

Many boundaries are defined largely by legal land lines and therefore should be snapped to the feature class PLSSPoint. Theoretically, whenever PLSSPoint is updated, all polylines with COORD_SRC =

"CADNSDI" (or "GCD") should be re-snapped, but not all themes have the same need or priority. Sub-groups of ODF Boundaries provide a prioritization with the "Land Status" group being the highest priority, followed by the "Political and Administrative" group then the "Special Management Area" group.

Vertical Integration to updated legal land lines is accomplished simply by re-snapping vertices to PLSS Point and is not difficult as long as the polylines have vertices that coincide with PLSS points. Datasets can be updated independently of each other and partially, as time permits.

When arcs are copied from one boundary dataset to another, DEF_FEATURE may need to be changed. For example, a Resource Area Boundary (RAB) polylines might be defined as "SUBDIVISION", but when it is copied to Plan Area Boundary (PLANBDY) the plan boundary is defined by Resource Area and DEF_FEATURE should be changed to "BLM_ADMIN". It is important that boundary lines copied from other themes NOT be merged, even though the attributes are all the same. The splits in the original source theme should be retained in order to retain exact coincidence and facilitate future updates.

9.4 THEME SPECIFIC GUIDANCE

There is much in the data standard that addresses editing and provides guidance especially in the Data Management Protocols (Section 3). There will be a Users Guide for the Land_Lines dataset that will provide editing guidance. Additional Guides and publications that will be helpful with this standard are:

PublicationHandbookOct2013
GCSv2ImportUser Guide
Annotated_Bibliograpy Final
GMM DomainCodes
CasNSDI Production Editing Overview

10. OREGON/WASHINGTON DATA FRAMEWORK OVERVIEW

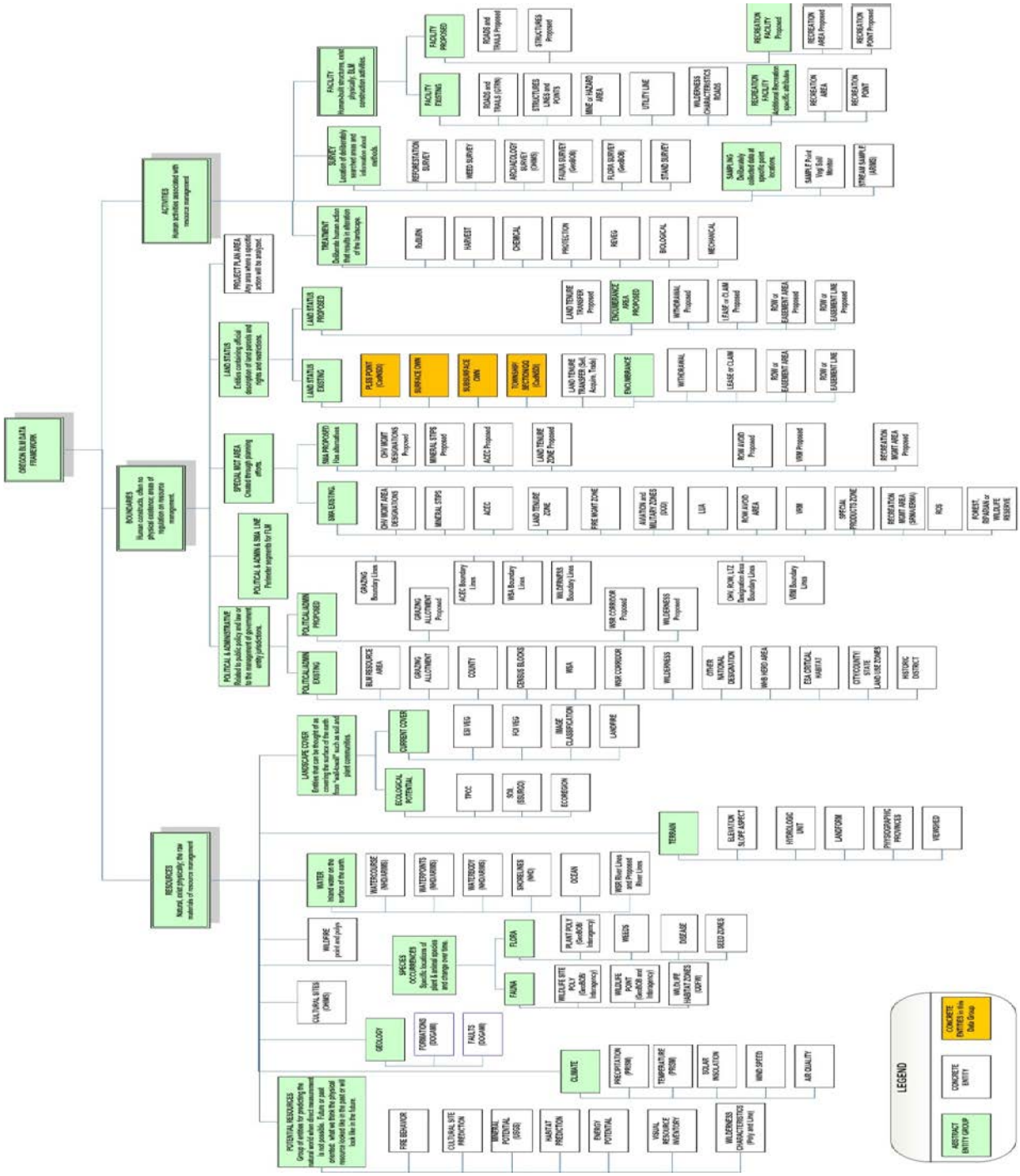

Figure 2 Oregon Data Framework Overview

11. ABBREVIATIONS AND ACRONYMS USED

(does not include abbreviations/acronyms used as codes for particular data attributes)

Abbreviations	Descriptions
BLM	Bureau of Land Management, U.S. Department of the Interior
CADNSDI	Cadastral National Spatial Data Infrastructure
DEM	Digital Elevation Model
DLG	Digital Line Graphs
FOIA	Freedom of Information Act
GCDB	Geographic Coordinate Data Base
GIS	Geographic Information System
GPS	Global Positioning System
IDP	Interdisciplinary
LR2000	Legacy Rehost database
MTP	Master Title Plat
NAD	North American Datum
NARA	National Archives and Records Administration
ODF	Oregon Data Framework
OR/WA	Oregon/Washington BLM
PLSS	Public Land Survey System
SDE	Spatial Database Engine

Table 2 Abbreviations/Acronyms Used

APPENDIX A: DOMAINS (VALID VALUES)

The domains listed below are those that were in effect at the time the data standard was approved. Domains can be changed without a re-issue of the data standard. Current domains are found on the internal OR/WA SharePoint data management page. Some of the domains used in this data standard are also available at the following web site: http://www.blm.gov/or/datamanagement/index.php

For domains not listed at that site contact:

OR/WA State Data Administrator
Bureau of Land Management
P.O. Box 2965
Portland, OR 97208
503-808-6009

A.1 COORD_SRC

CADNSDI	CADNSDI – Lines from or snapped to the CADNSDI dataset
CFF	CFF – Lines duplicated or buffered from Cartographic Feature Files
DEM	DEM − Digital Elevation Model (30m or better accuracy) used for creation of contours
DLG	DLG − Lines duplicated or buffered from (24K scale accuracy) USGS Digital Line Graphs Typical Accuracies (40 feet)
DIS	DIS – Lines generated to connect discontinuous features
DLG	DLG – Lines duplicated or buffered from USGS Digital Line Graphs
DOQ	DOQ – Screen digitized linework over Digital Orthoquad backdrop
DRG	DRG − Screen digitized linework over Digital Raster Graphic (USGS) backdrop
GCD	GCD − Lines snapped to Geographic Coordinate Database Points
GPS	GPS − Lines obtained from a Global Positioning System device
IMG	IMG – Linework derived from interpretation of non-photographic imagery
MAP	MAP − Digitized line work from hardcopy map
MTP	MTP − Lines duplicated from Digital Master Title Plat
SOURCEL	SOURCEL − Source layer from BLM GIS
SRV	SRV − Survey methods were used to create the linework
TIGER	TIGER – Tiger data
TRS	TRS – Coordinates only given as a legal description (township, range, section)
UNK	UNK − Unknown coordinate source
WOD	WOD – WODDB (Western Oregon Digital Database) Photogrammetric

A.2 DEF_FEATURE

ADMIN_REC_SITE	ADMIN_REC_SITE – Administrative or Recreation facility or site boundary
BLM_ADMIN	BLM_ADMIN-Bureau of Land Management administrative boundary
CLOSURE	CLOSURE-Closure extension. Used to close small gaps.

COAST_3MILE	COAST_3MILE-Separating coastal water from territorial sea at 3-mile
COUNTY	COUNTY-County boundary
ELEVATION	ELEVATION-Line of common elevation
FENCE	FENCE-Fence line
FOREST_SERVICE_ADMIN	FOREST_SERVICE_ADMIN-Forest Service administrative boundaries
GRAZING_BOUNDARY	GRAZING_BOUNDARY-Pasture or other administrative grazing boundary that is not fenced and does not follow a subdivision or some other legal boundary.
HU	HU-Hydrologic unit divide
JETTY	JETTY-Jetty
JURISDICTION	JURISDICTION-Surface jurisdiction boundary
LAVA	LAVA-Edge of lava flow
LEVEE	LEVEE-Dike or levee
MARSH	MARSH-Edge of Marsh, wetland, swamp, or bog boundary
MINERAL_DISTURBANCE	MINERAL_DISTURBANCE-Edge of quarry, mine, gravel stockpile or other mineral surface disturbance area
NLCS_BOUNDARY	NLCS_BOUNDARY-Wilderness, Wild and Scenic River, Historic District or other NLCS designation boundary.
OTHER	OTHER - Known boundary not represented by other domain options.
PARKING_AREA	PARKING_AREA-Motorized vehicle parking area.
POINT-TO-POINT	POINT-TO-POINT-Boundary defined by a straight line segment between two points
POWERLINE	POWERLINE-Power transmission line or buffer offset
RIDGE	RIDGE-Ridge
RIGHT-OF-WAY	RIGHT-OF-WAY-A legal right of way forms boundary
RIM	RIM-Line generally follows a natural topographic barrier
ROAD	ROAD-Routes managed for use by low or high-clearance (4WD) vehicles, but not ATVs
ROAD_OFFSET	ROAD_OFFSET-Boundary is offset from a road (not necessarily a consistent buffer)
SHORELINE	SHORELINE-Lake, pond, reservoir, bay or ocean shoreline or meander line
SMA_DSG	SMA_DSG – BLM Special Management Area designation such as ACEC or VRM
STREAM_LBANK	STREAM_LBANK-Downstream left stream bank
STREAM_RBANK	STREAM_RBANK-Downstream right stream bank
SUBDIVISION	SUBDIVISION-Public Land Survey System derived aliquot (1/2s, 1/4s) parts and lots
TRAIL	TRAIL-Routes managed for human-powered, stock or off-highway vehicle forms of travel

TRAIL_OFFSET	TRAIL_OFFSET – Boundary is offset from a trail (not necessarily a consistent buffer)
UNKNOWN	UNKNOWN-Defining feature is unknown
VEGETATION	VEGETATION-Seeding boundary or other relatively permanent vegetation change
WATERCOURSE	WATERCOURSE-Stream, river, ditch, canal or drainage centerline
WATERCOURSE_OFFSET	WATERCOURSE_OFFSET - Boundary is offset from a watercourse (not a consistent buffer)
WILDLIFE	WILDLIFE – Animal location or habitat, possibly buffered.

A.3 LLI_FED_PROP_STATUS

BLM	Bureau of Land Management
BPA	Bonneville Power Administration
BR	Bureau of Reclamation
COE	Corps of Engineers
USCG	U.S. Coast Guard
USDA	U.S. Dept. of Agriculture (except Forest Service)
DOD	U.S. Dept. of Defense (except Corps of Engineers)
FWS	U.S. Fish and Wildlife Service
GSA	General Services Administration
BIA	Bureau of Indian Affairs
NPS	National Park Service
DOE	U.S. Dept. of Energy
USFS	U.S. Forest Service
FAA	Federal Aviation Administration

A.4 LLI_OTHER_PROP_STATUS

LG	Local Government
PV	Private Individual or Company
PVI	Lands Managed by Private Industry
PVN	Private Non-Industrial Owner
PVU	Private Urban Lands
ST	State Agency
STF	State Dept. of Forestry
STL	Division of State Lands
STP	State Dept. of Parks and Recreation
STW	State Dept. of Fish and Wildlife
UND	Undetermined
WATER	Water

A.5 LLI_FEDERAL_STATUS

PD	Public Domain
OC	Revested Oregon and California Railroad Lands
CB	Revested Coos Bay Wagon Road Lands
AQ	Land Acquired (other than Land Utilization Projects)
LU	Land Utilization Projects (i.e. Bankhead Jones)
UND	Undetermined Ownership
HST	Historic State Lands
IAF	Indian Fee Lands
IAT	Indian Trust Lands

A.6 LLI_SUBSURFACE_RIGHTS

ACQ	Acquired minerals (All)
ALL	All minerals
ALX	All minerals with some fractional exception
COG	Coal, oil, and gas
COL	Coal
GAS	Gas
GEO	Geothermal
GES	Geothermal, sand, and gravel
GET	Geothermal and thorium
GEU	Geothermal and unknown
HRD	Hard rock (locatable) minerals
NON	None
OIL	Oil
O&G	Oil and gas
OGE	Oil, gas, and geothermal
OSP	Oil, gas, geothermal, sodium, and potassium
OTH	Other
POT	Potassium
RST	Restricted
S&G	S&G – Sand and Gravel (Salables)
SOD	Sodium
SOP	Sodium and potassium
THR	Thorium
URA	Uranium
URT	Uranium and thorium
XGE	All minerals except geothermal
XGG	All minerals except oil, gas, and geothermal
XOG	All minerals except oil and gas
XSG	All minerals except sand and gravel
UND	Undetermined
WATER	Water

A.7 Coordmeth

Least Squares Adjustment	Least Squares Adjustment
Compass Rule Adjustment	Compass Rule Adjustment
No Adjustment	No Adjustment

A.8 FirstDivType

DC	Donation Claim
FS	Fractional Section
HE	Homestead Entry
MW	Meandered Water
MS	Mineral Survey
OT	Other
PC	Parcel
PB	Protraction Block
SN	Section
TR	Tract
UA	Unsectionalized Area
UP	Unsurveyed Protracted
UN	Unsurveyed Unprotracted
W	Water, Surveyed & Submerged

A.9 First_Div_Text

Unsectionalized Area	Unsectionalized Area
Section	Section
Tract	Tract
Protraction Block	Protraction Block
Parcel	Parcel
Water, Surveyed & Submerged	Water, Surveyed & Submerged
Unsurveyed Protracted	Unsurveyed Protracted
Unsurveyed Unprotracted	Unsurveyed Unprotracted
Other	Other
Mineral Survey	Mineral Survey
Meandered Water	Meandered Water
Homestead Entry	Homestead Entry
Fractional Section	Fractional Section
Donation Claim	Donation Claim

A.10 SurveyType

A	Aliquot Part
D	Allotment
K	Block & Lot Within Townsite
C	Coal
Q	Donation Land Claim
1	Exceptions
X	Exchange Survey
F	Farm Unit
L	Government Lot
H	Homestead Entry Survey
I	Indian Allotment
G	Land Grant
E	Metes and Bounds
M	Mineral Survey
B	Minor Aliquot Part
R	Non Federal Land
P	Parcel
J	Small Holding Claim
S	Suspect
N	Townsite
Y	Townsite Outlot
T	Tract
2	Tracts NonFederal
V	Undetermined
?	Unknown
O	Unnumbered Lot
U	Unsurveyed Protracted
Z	Unsurveyed Unprotracted
W	Water

A.11 SurveyText

Aliquot Part	Aliquot Part
Block & Lot Within Townsite	Block & Lot Within Townsite
Coal Survey	Coal Survey
Donation Land Claim	Donation Land Claim
Exchange Survey	Exchange Survey
Farm Unit	Farm Unit
Government Lot	Government Lot
Homestead Entry Survey	Homestead Entry Survey
Indian Allotment	Indian Allotment
Land Grant	Land Grant

Metes and Bounds	Metes and Bounds
Mineral Survey	Mineral Survey
Minor Aliquot Part	Minor Aliquot Part
Non Federal Survey	Non Federal Survey
Parcel	Parcel
Small Holding Claim	Small Holding Claim
Townsite	Townsite
Townsite Outlot	Townsite Outlot
Tract	Tract
Tract NonPLSS	Tract NonPLSS
U.S. Survey	U.S. Survey
Unknown	Unknown
Unnumbered Lot	Unnumbered Lot
Unsurveyed Lot	Unsurveyed Lot
Unsurveyed Protracted	Unsurveyed Protracted
Unsurveyed Unprotracted	Unsurveyed Unprotracted
Water	Water

A.12 ORGANIZATION

BLM_ID_ISO	Idaho State Office, BLM
BLM_OR_BNS	Burns District, BLM
BLM_OR_BNS_ADR	Andrews Resource Area, BLM
BLM_OR_BNS_THR	Three Rivers Resource Area, BLM
BLM_OR_CBY	Coos Bay District, BLM
BLM_OR_CBY_MRW	Myrtlewood Resource Area, BLM
BLM_OR_CBY_UMR	Umpqua Resource Area, BLM
BLM_OR_EUG	Eugene District, BLM
BLM_OR_EUG_SIU	Siuslaw Resource Area, BLM
BLM_OR_EUG_UPW	Upper Willamette Resource Area, BLM
BLM_OR_LAK	Lakeview District, BLM
BLM_OR_LAK_KLF	Klamath Falls Resource Area, BLM
BLM_OR_LAK_LAK	Lakeview Resource Area, BLM
BLM_OR_MED	Medford District, BLM
BLM_OR_MED_ASH	Ashland Resource Area, BLM
BLM_OR_MED_BTF	Butte Falls Resource Area, BLM
BLM_OR_MED_GLD	Glendale Resource Area, BLM
BLM_OR_MED_GTP	Grants Pass Resource Area, BLM
BLM_OR_OSO	Oregon State Office, BLM
BLM_OR_PRI	Prineville District, BLM
BLM_OR_PRI_CNO	Central Oregon Resource Area, BLM
BLM_OR_PRI_DCH	Deschutes Resource Area, BLM

BLM_OR_RSB	Roseburg District, BLM
BLM_OR_RSB_SOR	South River Resource Area, BLM
BLM_OR_RSB_SWR	Swiftwater Resource Area, BLM
BLM_OR_SLM	Salem District, BLM
BLM_OR_SLM_CAS	Cascades Resource Area, BLM
BLM_OR_SLM_MPK	Mary's Peak Resource Area, BLM
BLM_OR_SLM_TLM	Tillamook Resource Area, BLM
BLM_OR_SPO	Spokane District, BLM
BLM_OR_SPO_BRD	Border Resource Area, BLM
BLM_OR_SPO_WEN	Wenatchee Resource Area, BLM
BLM_OR_VAL	Vale District, BLM
BLM_OR_VAL_BKR	Baker Resource Area, BLM
BLM_OR_VAL_JOR	Jordan Resource Area, BLM
BLM_OR_VAL_NML	Malheur Resource Area, BLM
BLM_ST	National Science and Technology Center, BLM
BLM_WO	Washington Office, BLM
BOC	Bureau of the Census
BOR	Bureau of Reclamation
CI_OR	City Government, OR
CI_OR_ONT	City of Ontario, OR
CT_OR	County Government, OR
CT_WA	County Government, WA
FS_GSC	Forest Service-Geometronics Service Center
FS_PNW_COL	Colville National Forest
FS_PNW_CRG	Columbia River Gorge National Scenic Area, FS
FS_PNW_DES	Deschutes National Forest
FS_PNW_FRM	Fremont National Forest
FS_PNW_GPN	Gifford Pinchot National Forest
FS_PNW_ICB	Interior Columbia Basin Ecosystem Management Project, FS
FS_PNW_MAL	Malheur National Forest
FS_PNW_MBS	Mt. Baker-Snoqualmie National Forest
FS_PNW_MTH	Mt. Hood National Forest
FS_PNW_MTH_ZZAG	Zig Zag Ranger District, FS
FS_PNW_OCH	Ochoco National Forest
FS_PNW_OKA	Okanogan National Forest
FS_PNW_OLY	Olympic National Forest
FS_PNW_RO	Pacific Northwest Regional Office, FS
FS_PNW_ROG	Rogue River National Forest
FS_PNW_RSC	Pacific Northwest Research Station, FS

FS_PNW_SIS	Siskiyou National Forest
FS_PNW_SIU	Siuslaw National Forest
FS_PNW_UMA	Umatilla National Forest
FS_PNW_UMP	Umpqua National Forest
FS_PNW_WAW	Wallowa-Whitman National Forest
FS_PNW_WEN	Wenatchee National Forest
FS_PNW_WIL	Willamette National Forest
FS_PNW_WIN	Winema National Forest
FS_PSW_KLA	Klamath National Forest
FS_PSW_MOD	Modoc National Forest
FWS	U.S. Fish and Wildlife Service
GS	U.S. Geologic Survey
GS_EROS	EROS Data Center, U.S. Geologic Survey
GS_GNIS	GNIS, U.S. Geologic Survey
GS_WAT	Water Resources, U.S. Geologic Survey
IBC	International Boundary Commission
MMS	Minerals Management Service
NAT	The National Atlas
NGS	National Geodetic Survey
NOAA	National Oceanic and Atmospheric Administration
NPS	National Park Service
NRCS	Natural Resources Conservation Service
OT_REO	Regional Ecosystem Office
OT_UNKNOWN	Unknown Source
PV_EOSAT	Space Imaging
PV_ESRI	Environmental Systems Research Institute
PV_TITAN	Titan Geospatial Inc.
PV_TNC	The Nature Conservancy
PV_WEYERHAEUSER	Weyerhaeuser Corporation
ST_ID_WAT	Department of Water Resources, State of Idaho
ST_OR_DOGAMI	Department of Mineral Industries, State of Oregon
ST_OR_ODF	Department of Forestry, State of Oregon
ST_OR_ODFW	Department of Fish and Wildlife, State of Oregon
ST_OR_ODOT	Department of Transportation, State of Oregon
ST_OR_ODSL	Department of State Lands, State of Oregon
ST_OR_OGIS	GIS Service Center, State of Oregon
ST_OR_OSHPO	Historic Preservation Office, State of Oregon
ST_OR_OSL	Oregon State Legislature, State of Oregon
ST_OR_OSU_CLIM	Oregon Climate Service, Oregon State University

ST_OR_OSU_FOR	College of Forestry, Oregon State University
ST_OR_OSU_GAP	Oregon GAP Analysis Program, Oregon State University
ST_OR_OSU_NHP	Oregon Natural Heritage Program, Oregon State University
ST_UT_USU_LEMA	Landscape Ecology, Management, and Analysis Lab, Utah State Univ
ST_WA_DNR	Department of Natural Resources, State of Washington
ST_WA_DOT	Department of Transportation, State of Washington
ST_WA_WDF	Department of Fisheries, State of Washington
ST_WA_WRC	Washington State Redistricting Committee, State of Washington
USA	U.S. Government

APPENDIX B: PLSSArcs Attribute List

FIELD	ALIAS	TYPE
CREATEDBY	createdby	String
DATECREATED	datecreated	Date
MODIFIEDBY	modifiedby	String
DATEMODIFIED	datemodified	Date
TOWNSHIPOID	townshipoid	Integer
DIR	dir	Double
LENGTH	length	Double
FROMPOINTOID	frompointoid	Integer
TOPOINTOID	topointoid	Integer
TIE	tie	SmallInteger
NOT_MEAS	not_meas	SmallInteger
SID_OID	sid_oid	Integer
VISIBILITY	visibility	SmallInteger
ORIGDIRTYPE	origdirtype	SmallInteger
ORIGDISTTYPE	origdisttype	SmallInteger
ORIGHZDATUM	orighzdatum	SmallInteger
ORIGCOORDSYS	origcoordsys	SmallInteger
ORIGDISTUNITS	origdistunits	SmallInteger
ORIGDIRUNITS	origdirunits	SmallInteger
LINEMETHOD	linemethod	SmallInteger
HZANGLE	hzangle	Double
HZANGLETYPE	hzangletype	SmallInteger
SETUPOID	setupoid	Integer
CREATEDBYCOMPOID	createdbycompoid	Integer
LSA	lsa	SmallInteger
LSA_OID	lsa_oid	Integer
LINETYPE	linetype	SmallInteger
VISIBLE	visible	SmallInteger
PROVISIONAL	provisional	SmallInteger
ORIGDIR	origdir	Double
ORIGLENGTH	origlength	Double
BMLINEOID	bmlineoid	Integer
SE_LENGTH_SHAPE_	SE_Length_shape_	Double
SURVEYOR	Surveyor	String
SURVAUTH	SurvAuth	String
SURVYR	Survey Year	Date
RECORDID	Record ID	String