

## Surveying Portions of Sections

Stuntzner is often contacted by landowners with requests to survey aliquot parcels that are portions of Sections, such as the Southwest 1/4 of the Northeast 1/4. These parcels are controlled by the Public Land Survey System (PLSS).

The PLSS was originally developed in 1785 by the Federal government as a means to distribute property and has evolved over time. Based on Oregon statutory requirements, surveyors are required to abide by the guidelines provided in the current “United States Manual of Survey Instructions” (which is currently the 2009 edition) when resurveying.

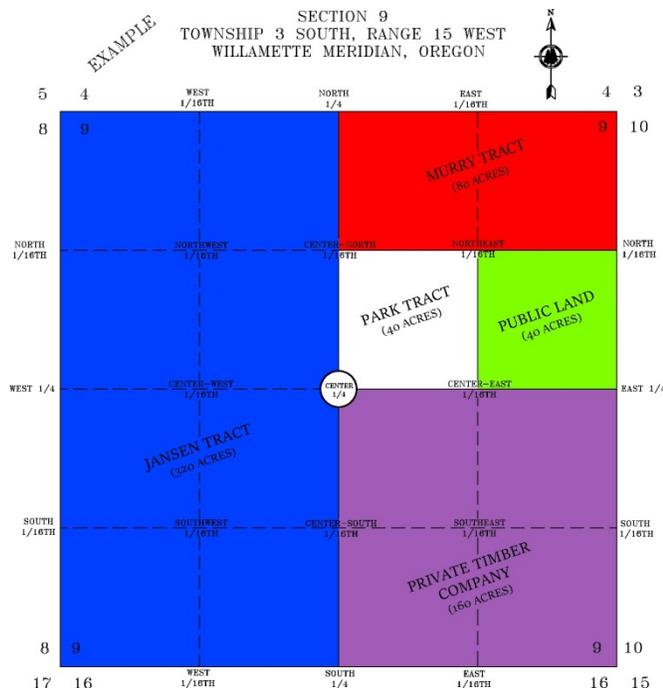
Landowners are often surprised when they learn of the amount of work required to establish their boundaries in the correct locations and that the bulk of this labor might not even be performed on their property. Also, we’re frequently asked by property owners why it is necessary for us to enter their property to measure to a monument when the survey we’re performing is 1/2 mile or more away.

The example scenario shown is of a survey to locate the boundaries of the “Park Tract”. Park would like to have property corners established and his property lines marked to assist with a future timber sale. Note that for this example we’re assuming a standard section and that no previous surveying has taken place within the interior of the section.

To survey the boundaries of the Park Tract, which is described in his deed as “the Southwest quarter of the Northeast quarter of Section 9”, the following would be required:

The Center 1/4 corner of Section 9 (Park’s southwest corner) will be established at the intersection of lines drawn between the 1/4 corners. To determine this location, it will be necessary to make measurements to all four of the 1/4 corners.

Once we have measured to all of the quarter corners and the Center 1/4 position is determined we are able to also determine where Park’s northwest (Center-North 1/16) and southeast (Center-East 1/16) corners are located. These 1/16 corners will be calculated at the midpoints between the Center 1/4 corner and the 1/4 corners.



We still don’t have the necessary information to set the Park’s northeast corner (Northeast 1/16 corner). The Northeast 1/16 corner is established in much the same process as the Center 1/4. It is located at the intersection of the lines between the 1/16 corners. Our previous work has determined the locations of two of them but we still need to determine the locations of the East 1/16 on the north boundary of the Section and the North 1/16 on the east boundary of the Section. These corners are placed at midpoint between the 1/4 corners and the northeast section corner. As a result, we’ll also need a measurement to the northeast corner.

As you can see, much of the work for this project lies off-site in measuring to the corners on the exterior of the section. In this example the required monuments were found, although should one of the other 1/4 corners be lost, such as the West 1/4 corner, then it would be necessary to also measure to the southwest and northwest section corners to determine the location of the lost West 1/4 corner. Lost monuments can significantly impact the amount of work necessary. Depending on the terrain and groundcover this can be a time consuming and labor intensive process – all taking place off of the client’s

property. Fortunately, GPS technology can sometimes provide us a means to avoid spending time traversing miles through the brush to make these measurements.

# Stuntzner Employees Prepare for More Questions Regarding Water Rights in Oregon



Staff from the Stuntzner Engineering recently attended the Certified Water Rights Examiner workshop offered in Salem by the Oregon Water Resources Department (OWRD). Corey Woodruff, Bill Flatz, Nick Blundon, Jeffrey Kee, Ralph Dunham and James Terrel all reinforced and expanded their knowledge of Oregon water rights.

The newest development is the ability to split a permit. This allows landowners to separate out their portion of a water right that may lie across multiple ownerships and properties.

OWRD has concluded that the series of Oregon newspaper articles highlighting their management challenges was probably good for the agency of about 130 employees. They hope that the legislature will allocate additional resources to help them more closely monitor groundwater in multiple watersheds.

Presenters mentioned that OWRD will be asking for a 16% increase in fees starting in 2017.

The most interesting news shared was a new irrigation design that is even more efficient than low elevation pivot misting. Alfalfa growers in eastern Oregon have been able to reduce water needs by 20 percent using a ‘pivot drip’ system. This system drags hoses behind a pivot, applying the water directly to the soil. Any improvements documented in irrigation delivery systems are eligible to be evaluated as part of the Allocation of Conserved Water Program (ACWP). ACWP is one way to secure new water rights that have additional flexibility for movement.

*Jeffrey Kee, CWRE, Stuntzner Forest Grove office*

## New Erosion and Sediment Control Inspection Requirements for 2017 and Beyond

Earth disturbing activities in Oregon will have new inspection requirements beginning on January 1st, 2017.

The Oregon Department of Environmental Quality (DEQ) has required more stringent inspections in order to meet a variety of state and federal rules to protect sediment laden water and pollutants from reaching waters of the state.

As of January 1st, 2017, projects over 5 acres in size will be required to have a Certified Erosion Control Lead (CESCL) to inspect construction sites as well as to monitor and maintain Best Management Practices (BMP’s). These inspectors also are required to be certified through CESCL training. Experience will no longer be an acceptable means of qualification.

The 13 elements of an effective Storm Water Pollution Protection Plan (SWPPP) include:

- Preserve existing vegetation
- Establish construction access
- Control flow rates
- Install sediment controls
- Stabilize soils, Protect slopes
- Protect drain pipes
- Stabilize channels and outlets
- Control-pollutants
- Control-dewatering
- Maintain-best management practices
- Manage the project
- Protect best management practices

Bill Flatz and Nick Blundon, civil engineers from the Forest Grove office, received CESCL certifications after attending a workshop in Fairview, Oregon. Once certified, CESCL’s are required to attend training for 8 hours every 3 years.

*Jeffrey Kee, CWRE, Stuntzner Forest Grove office*

# High Landslide Hazard Locations (HLHL)

For those that file numerous Notification of Operations/Permit to Operate Power-Driven Machinery (NOAP) with the Oregon Department of Forestry (ODF), they have probably noticed an increased emphasis by ODF in dealing with HLHL on harvesting and road building operations.

In 1999, Senate Bill 12 directed ODF to adopt public safety rules to deal with shallow, Rapidly Moving Landslides. ODF adopted these rules on January 1, 2003, per OAR 629-623-0000 through 0800.

The rules “reduce the risk of serious bodily injury or death caused by shallow, rapidly moving landslides directly related to forest practices”. Although there can be other risk areas, the primary ones are occupied schools, dwellings or buildings and paved public roads averaging over 500 vehicles per day that fall in a debris flow-prone locations, such as those below canyon, creek or very steep, unstable slopes. The dwellings, schools and building must be occupied during the rainstorm season, typically November 1<sup>st</sup> through April 30<sup>th</sup>.

ODF has HLHL maps that will be reviewed during the notification process. If a concern arises, ODF will comment and that likely will be followed by a site visit with the operator and ODF to assess the category and impact rating of the HLHL area(s). The process can result in timber being left standing unless risk can be mitigated or proposed road construction location denied.

The specific criteria for determination of HLHL sites is found in OAR 629-623-0100 (3) and applied if after a review of ODF HLHL maps, field measurements and inspection are warranted:

- (a) The presence, as measured on site, of any slope in western Oregon (excluding competent rock outcrops) steeper than 80 percent, except in the Tye Core Area, where it is any slope steeper than 75 percent; or
- (b) The presence, as measured on site, of any headwall or draw in western Oregon steeper than 70 percent, except in the Tye Core Area, where it is any headwall or draw steeper than 65 percent.
- (c) Notwithstanding the slopes specified in (a) or (b) above, field identification of atypical conditions by a geotechnical specialist may be used to develop site specific slope steepness thresholds for any part of the state where the hazard is equivalent to (a) or (b) above.

ODF has mapped the Tye Core Area. Generally, it lies west of I-5 in the Coquille, Coos, Umpqua and Siuslaw River drainages.

Once an HLHL site is confirmed, ODF will assign Exposure Categories to the site(s) as follows:

**Exposure Category A** includes habitable residences, schools, and other buildings where people are normally present during periods when wet season rainstorms are common.

**Exposure Category B** includes paved public roads averaging over 500 vehicles per day, as determined, if possible, during periods when wet season rainstorms are common.

**Exposure Category C** includes barns, outbuildings, recreational dwellings not included in Exposure Category A, low-use public roads, and other constructed facilities where people are not usually present when wet season rainstorms are common.

Finally, an impact rating for the site(s) is determined. The landowner/operator may hire a geotechnical engineer or engineering geologist to submit a geotechnical determination of the shallow, rapidly moving landslide impact rating per the following:

## Rapidly moving landslide impact rating definitions:

- **“Unlikely”** impact rating indicates that any shallow, rapidly moving landslide initiating within the operation area is unlikely to reach the structure or road.
- **“Moderate”** impact rating indicates that any shallow, rapidly moving landslide initiating within the operation area is likely to stop prior to the structure or road, or will not directly impact the structure or road. However, a moderate rating also indicates that dangerous impacts cannot be reasonably ruled out.
- **“Serious”** impact rating indicates that any shallow, rapidly moving landslide initiating within the operation area is likely to directly impact a structure or road.
- **“Extreme”** impact rating indicates that any shallow, rapidly moving landslide initiating within the operation area is likely to directly impact a structure or road and, in addition, there are unusual conditions that make dangerous impacts almost certain.

Table 1 is a matrix that shows how Exposure Category [OAR629-600-0100(21), 0200(2)-(4)] and Rapidly Moving Landslide Impact Rating [OAR 629-623-0250(1), (2)] are used to determine Public Safety Risk Level [OAR 629-623-0300(1)].

**Table 1. Downslope Public Safety Risk Levels**

<b>Exposure Category</b>	<b>Rapidly Moving Landslide Impact Rating</b>			
	<b>EXTREME</b>	<b>SERIOUS</b>	<b>MODERATE</b>	<b>UNLIKELY</b>
<b>A</b>	Substantial	Substantial	Intermediate	Low
<b>B</b>	Substantial*	Intermediate	Low	Low
<b>C</b>	Intermediate*	Low	Low	Low

\*When determined by the State Forester

The state Forester has the final determination of the impact rating. Substantial downslope public safety risk level prohibits all timber harvest and new roads on HLHL (with some exceptions).

Intermediate risk level allows various scenarios for harvesting and new road construction.

For the low risk level, harvesting and road building operations are not subject to restrictions for landslide and public safety. However, there are restrictions: no skid roads constructed, no use of ground-based equipment, minimize soil disturbance from timber falling and yarding.

For further information, contact your nearest ODF office. Also see ODF Technical Notes Number 2 and 6 on HLHL.

REFERENCES: ODF OAR'S, ODF Technical Note Numbers 2 and 6.

*Ron Stuntzner, Forest Engineer and Land Surveyor for Stuntzner Engineering & Forestry, LLC.*

## Staff News at Stuntzner

**Garrett Kleiner**, a forester in our Coos Bay office, has recently been appointed to the Southwest Regional Forest Practice Committee.

“Regional Forest Practice Committees are panels of citizens, mandated under Oregon Law, that advise the Oregon Board of Forestry on current forestry issues and forest management approaches. Three Regional Forest Practice Committees, serving the Northwest, Southwest and Eastern regions of the state, were created by the 1971 Oregon Forest Practices Act. Under Oregon law a majority of Regional Forest Practice Committees members must be private forest landowners and logging or forest operations companies.” <https://www.oregon.gov/ODF/Board/Pages/RFPD.aspx>

**James Kirkpatrick** is our new Forest Technician. He graduated from high school in North Bend, OR, attended OSU for four years and graduated in the spring of 2016 with a degree in Forest Engineering. After getting his degree, James moved back to the Coos Bay/North Bend area to work for Stuntzner Engineering out of the Coos Bay office. He passed the EIT exam in August. On James’ days off he enjoys duck hunting, golfing, skiing, and most other things outdoors. James looks forward to the years to come with the company!

There’s another new face in the Coos Bay office...**Logan Lucero**. Logan has lived in North Bend all his life. He graduated from Oregon State University in June of 2016 with a B.S. in Forest Engineering. Before starting at Stuntzner Engineering & Forestry as a Forest Technician, Logan worked for Coos Watershed as a survey tech where he conducted sediment surveys. He is signed up to take the Fundamentals of Engineering exam and after he passes, Logan will begin to prepare for the Professional Engineering Exam. In his free time he likes to fish, hunt, golf, and spend time with his family.

*Enjoy Your Holiday Season!*