

ORMAP Grant Application

Section I. County and Grant Information			
A. County: Linn County		B. Funding Cycle: Spring 2007	
C. Project will help meet ORMAP Goal(s): 1 <input type="checkbox"/> 2 <input type="checkbox"/> 3 <input type="checkbox"/> 4 x 5 <input type="checkbox"/> 6 <input type="checkbox"/>		D. Fund Request: \$ 50,775	
Section II. Summary of Project			DOR Assessment
A. Brief Overview of the Request.			<input type="checkbox"/> Pass <input type="checkbox"/> Fail
<p>Large portion of the Linn County Boundaries do not match up with the boundaries provided by neighboring counties. The difference in the boundaries varies from place to place, but is often off by hundreds of feet. Linn county is proposing to send a survey crew out to find and gather control for 350 points along the Linn County Boundary. The total includes 338 points along the Linn/Lane County Boundary and 12 points along the Linn/Marion boundary. (Linn and Marion Counties previously paid to have control gathered for most of their boundary.) With a few exceptions along the Linn/Lane boundary most of the points in question have not been visited in at least 20 years. (A large number of the points were last visited in 1905.) Gathering control along the boundary will allow all three counties to settle their common boundaries.</p>			
Scope and Deliverables			
Check	Deliverables	Brief description of the deliverables	
<input type="checkbox"/>	Taxlot Conversion		
<input type="checkbox"/>	Tax Map Conversion		
x	Control Points	350 control points largely made up of angle points.	
<input type="checkbox"/>	Scanning		
<input type="checkbox"/>	Reports		
<input type="checkbox"/>	Development		
<input type="checkbox"/>	Other Assistance		
<input type="checkbox"/>	Other Deliverable		
<input type="checkbox"/>	Hardware/Software		
B. Timeline (funding not to exceed one year from award date)			
July 2007 to June 2008			
C. Costs of Total Project (add lines as necessary)			
Deliverable	Number of Items	Cost per Item	Total Cost
GPS control points	350	238	83575
D. Partnerships and Contributions (add lines as necessary):			
Partner	Contribution		
Linn County Surveyor	\$32,800 of corner fund/ general fund money to pay for locating and providing coordinates for government corners in the project area.		
Linn County GIS Department	Coordination with Revenue, software support for boundary conversion.		

A. Assessor's Signature & Date:	
F. Fiscal Coordinator – Name & Contact Number:	
G. Project Coordinator – Name & Title:	Steve Barnett GIS Program Manager
E-mail address:	sbarnett@co.linn.or.us
Phone Number:	541.924.6903
Mailing Address:	PO Box 100 Albany OR 97321

Section III. Detail Project Information –Answer all questions

A. Overview

- 1. Describe what the project is trying to accomplish.**
Linn County is attempting to gain the control necessary to create an accurate GIS version of the county boundary. Currently Linn County and its neighbors do not agree on where the boundary is located. In some cases along the difference along the unsettled Linn/Marion line ranges as high as 350 feet and averages 170 feet. The large Linn/Lane boundary has few recent control coordinates along it. In places the two counties differ by nearly a thousand feet in where they have the boundary. By going out and visiting the government corners and the angle points and getting GPS coordinates Linn County will be able to accurately set the county boundaries.
- 2. Does this project relate to any previous ORMAP-funded projects? If yes, please explain.**
This project does not relate to previous ORMAP funded projects. It does tie closely with previous county funded projects that set the boundary between Linn and Benton Counties and a good deal of the line between Linn and Marion counties.
- 3. What is the status/outcome of the previous ORMAP-funded projects? (Please include contract numbers and a status map.)**

B. Project Design – Current Proposal

- 1. Identify the ORMAP and the regional/county goal(s) that this project addresses.**
To reach goal 4 Linn county needs better control along its boundary region to meet the spatial standards laid out by the program. By funding this project, ORMAP will help Linn, Marion and Lane counties to edge match their cadastral data along their common boundaries.
- 2. Describe in detail your technical approach to the project (mapping methodology).**
A two-person field crew from Linn county would go out into the field and attempt to locate each of the government corners, and the angle points described and used to set the Linn County boundaries. At Linn Counties expense, they will attempt to reestablish any government corners that are needed for control of the county line. They will also attempt to locate and GPS each of the angle points described in previous surveys along the county boundary.
- 3. Describe the project deliverables. (DOR will bill against these deliverables)**
Linn County will deliver 350 GPS points (338 on the Linn/Lane border 12 on the Linn/Marion border.)
- 4. Will this proposal fund staff that is doing work other than ORMAP projects? If so, describe how the time and cost will be tracked for the different projects.**

Staff working on this project will keep track of their time using existing billing control processes.

5. Who will be doing the work (county staff, contractor, DOR staff, etc.)? Please define their role(s).

County survey crews will be doing the work. These crews work under direction of the county surveyor.

6. Describe the maintenance plan for this product.

Once the control points are GPS'ed, the expectation is that they will not need to be updated unless technology allows for measurements that are more accurate. The Linn County Surveyors office will gather new coordinates for the points as they revisit them in the future.

7. Will this comply with *Oregon Cadastral Data Exchange Standard*?

Yes

8. Describe where this project fits within the County's overall mapping/GIS work plan.

The project will provide the county the control necessary to finalize the GIS location of its northern and southern boundary's. This information will be used not only by the assessment cartographers but also by all people using the counties GIS data.

9. Provide a project timeline with milestones or phase-completion dates

See counties online business plan

10. Does this project promote partnerships, if so, with whom?

This project uses equipment from one county office to provide information needed by multiple other county offices. In creating the project, the Linn County Surveyor has consulted with and gained the support of the Marion County Surveyor and the Lane County Surveyor.

11. Describe any innovations that will be utilized by this project.

This project builds on projects previously done by Linn County.

12. Detail Costs (who is paying for what).

Linn County is paying corner restoration work. ORMAP is being asked to pay for GPSing the coordinate of angle points along the county boundaries.

C. Quality Control

1. Who will be responsible for quality control?

The Linn County Surveyor.

2. Will county cartography staff review the deliverables?

The control generated by the project will be available to cartography staff in Linn, Lane and Marion counties.

3. Will there be a review by Department of Revenue cartography staff?

No.

4. Describe quality control procedures.

The deputy county surveyor will differentially correct the GPS information. The points and the documentation provided with them will be checked to make sure it meets the sub meter criteria. This includes checking to make sure the following variable fall within accepted surveying guidelines for sub meter GPS points: the distance between the base station and the roving receiver, the occupation period, the number of visible satellites, the number of multipath signals, the Position Dilution of Precision (PDOP) number, the satellite elevations, the signal-to-noise ratio (SNR) and the post processing work.

D. Data Availability

Identify this product's restrictions on data sharing or licensing issues.

There is no restriction on the control data or the ensuing Linn County Boundary. The adjusted Linn county tax lots are licensed under the terms of the Linn County Data licensing agreement.

E. Background Information

Any other information that you feel may help support the project. Please attach an updated copy of your county's ORMAP business plan if it has not been updated on the ORMAP website.

G. Other Issues - Please identify.

The issue has been raised about whether this project gathers control at a level beyond what is called for in the ORMAP specs. The current GIS county boundary in the project areas is based only on conjecture. Comparing our boundary with the boundaries from the neighboring counties shows considerable discrepancy. Unfortunately, with a county boundary there is not a way to get them into the ORMAP threshold without locating the key points along the boundary. (The boundary in these areas is based elevation and section lines, neither of which can be accurately seen in aerial photography.) The cost of determining coordinates for the boundary is the same because no matter what the accuracy of the control the key points must still be visited and recorded.

Submit completed forms to:

Mail	Contact Information
ORMAP Project Coordinator Oregon Department of Revenue Property Tax Division - CDOT 955 Center St. NE Salem OR 97301-2555	503-945-8493 Fax: 503-945-8737 or.map@state.or.us

ORMAP Grant Application Addendum– Request for Additional Information

Complete only if requested by ORMAP Technical Group

Section IV. County and Grant Information	
a. County: Linn	b. Funding Cycle: Spring 2007
	c. Fund Request: \$ 30,950
Section V. Project – Additional Information as Requested	
<i>1. Control Amount Revision</i>	
<p>After receiving the questions from the Tech Committee about the amount of control in the project area, the Linn County Surveyor gathered additional information from the Lane County Surveyor on work done in the area. Using this information, Linn County is revising the amount of control needed from 350 points to 250 points at a \$255 a point total cost. While the \$255 is \$17 more per point then we previously estimated; ORMAP’s share of the cost has been reduced over \$21 per point to \$123.80 from the previous estimate of \$145.07 a point. These revisions bring the total project costs down to \$63,750. Of that, total Linn County is requesting \$30,950 (48.55% of the cost) from ORMAP with the Linn County Surveyor paying \$32,800 (51.45%) of the total cost.</p>	
<i>2. The number of control points seems to exceed what is required to meet ORMAP Technical Specifications for “resource” A&T maps.</i>	
<p>In determining the number of control points to acquire, Linn County focused on how many points were needed to resolve the question of where the boundary is actually located. Currently the county boundary produced by Linn County criss-crosses the boundary produced by Lane County. The difference between the boundaries ranges from 1 foot in one area to nearly 900 feet in another with a median difference of around 160 feet (four times the ORMAP standard for resource maps.) In reality both counties are calculating the location of the boundary and do not know its location. Both sides have used different methods to determine the location. Neither county is willing to declare that their current boundary meets the accuracy laid out in the ORMAP specifications. In areas where the boundary follows a physical feature this can be resolved by coming up with an agreement line. Linn County has done this along a large portion of the Marion County boundary. We have not been able to come up with a method for doing this along non-visible portions of our boundary (which the Lane County boundary largely is). In order to resolve this issue we have proposed what we believe to be the most cost effective way of settling the issue. Since only a portion of the boundary has coordinates along it, we need the extra control to properly locate this non-visible feature.</p>	
<i>3. How will the County Cartographer and the Assessor’s office be working with the county surveyor to determine where control needs to be collected?</i>	
<p>In the case of the County Boundary the Assessment cartographers are fully relying on the County Surveyor to determine the level and location of the control needed to identify it. Once the boundary is identified they will adjust the maps to it as part of there regular workflow. Locating the boundary is necessary to meet the Department of Revenues requirement that our maps edge match. It is not needed as part of our internal mapping process.</p>	
<i>4. Section III.B.9 – Please provide more detail about timeline, percent complete, and percent of county covered by this grant?</i>	

The control requested in this project would provide Linn County with the information necessary to resolve edge-matching issues along the unresolved areas of its two longest borders (Lane and Marion.) Linn County already spent over a million dollars of county funds establishing and resolving all ensuing issues along its shared boundary with Benton county. We also have survey control along the Polk County boundary. This leaves only our eastern boundary unsettled. At this point, we have not compared our eastern boundary with Jefferson or Deschutes counties to determine how far we are off. Since there is very little control in the area any difference could not be easily resolved at this time. We are currently a little less than half way done with our edge matching. This project would bring us to around 85 percent complete. Until we compare boundaries with Jefferson and Deschutes counties, we will not know how to resolve the other 15%. The most likely solution would be to declare the area an exception area since only a few dozen people live anywhere near our eastern boundary.