

AM NO. 14-043 (C6)

MEMO TO: City Council

FROM: John Marchione, Mayor

DATE: March 4, 2014

SUBJECT: **APPROVAL OF INTERLOCAL AGREEMENT FOR THE ACQUISITION OF CITYWIDE LIDAR DATA**

I. RECOMMENDED ACTION:

Approve the Interlocal Agreement between Kitsap County and the City of Redmond for the acquisition of citywide LiDAR data, and authorize the Mayor to sign the agreement.

II. DEPARTMENT CONTACT PERSONS:

Linda De Boldt, Director of Public Works	425-556-2733
Jon Spangler, Natural Resources Division Manager	425-556-2823
Andy Rheaume, Senior Planner	425-556-2741

III. DESCRIPTION:

LiDAR is remote sensing technology very similar to radar, but uses a high pulse laser that returns three dimensional data. LiDAR data is collected by an airplane equipped with LiDAR acquisition equipment. Due to advancements in LiDAR, the data can be used to perform multiple beneficial analyses that are useful to the Public Works Department (PW), Planning Department (PL), and the Parks and Recreation Department (PK). The following are examples on how the data could be used by the City:

- Climate Action Strategy (all): carbon sequestration analysis
- Tree Analysis (PW/PL/PK): tree canopy area; biomass; tree count; deciduous/coniferous partitioning of tree canopy.
- 3D model of City (PW/PL): 3D animation; 3D building, terrain, and tree height renderings
- Digital Elevation Model – bare earth (PW/PL): watershed delineation; stream channel delineation; excavation activity/earth movement
- Cartography (all) – high resolution hill shade effect maps

The Natural Resources Division of Public Works reviewed options to acquire LiDAR data and discovered the Puget Sound LiDAR Consortium (PSLC), <http://pugetsoundlidar.ess.washington.edu>. The PSLC is a consortium of local, state, and federal agencies that have standardized the procurement and data management of LiDAR for the region. In doing so, the cost to acquire LiDAR data is reduced for individual members and the data is centrally stored, managed and disseminated. The PSLC was able to “add on” Redmond to a much larger acquisition effort currently being flown to the east of Redmond, and encompasses the majority of the Snoqualmie Watershed.

Kitsap County, one of the consortium members, currently manages contracting new consortium members and manages the vendor contract. If approved, the City of Redmond would essentially utilize Kitsap County’s contract for LiDAR data acquisition.

IV. IMPACT:

A. Service/Delivery: This agreement will allow the City to acquire high resolution LiDAR data that can be used for multiple beneficial analyses.

B. Fiscal:

LiDAR Data Acquisition and Delivery	<u>\$24,360</u>
Total Fiscal	\$24,360

<u>Funding</u>	
Stormwater Utility	<u>\$24,360</u>
Total Funding	\$24,360

V. ALTERNATIVES:

The City Council could choose not to approve the Interlocal Agreement; however, this action would result in the City not procuring LiDAR data or procuring the data at a higher cost.

VI. TIME CONSTRAINTS:

The PSLC is currently collecting LiDAR data to the east of Redmond. If we delay, the cost benefit of acquiring LiDAR for Redmond at the same time as the Snoqualmie Valley would be lost.

VII. LIST OF ATTACHMENTS:

- A. Planning and Public Works Committee Handout on LiDAR
- B. Interlocal Agreement with Kitsap County

/s/
Linda E. De Boldt, Director of Public Works

2/24/2014
Date

Approved for Council Agenda _____
/s/
John Marchione, Mayor

2/24/2014
Date

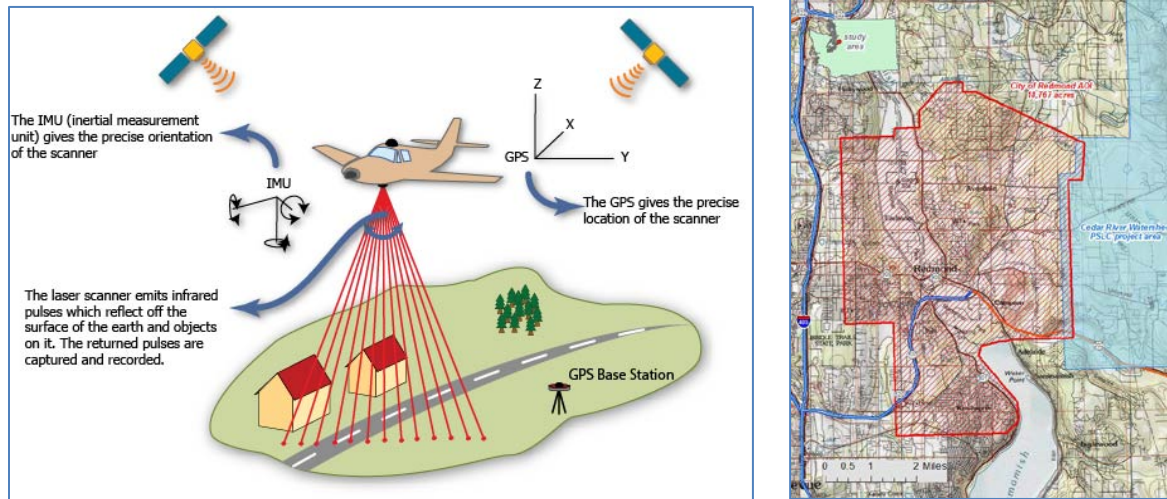
ATTACHMENT A

LiDAR Data Acquisition and Interlocal Agreement

Planning and Public Works Committee Meeting, February 11, 2014

What is LiDAR (Light Detection and Ranging)?

LiDAR is remote sensing technology very similar to radar, but returns three dimensional data. LiDAR data is collected by an airplane equipped with LiDAR acquisition equipment.



Accuracy

The data is very accurate, within 2 inches vertically, and within one foot horizontally. The laser hits the earth greater than 8 times per square yard while the plane is flying over the City.

LiDAR Data Uses

Due to the accuracy and utility of the data, cross departmental support and uses have been identified:

1. Climate Action Strategy (all): carbon sequestration
2. Tree Analysis (PW/PL/PK): including canopy area, biomass, tree count, deciduous/coniferous identification.
3. 3D model of City (PW/PL): digital elevation model, 3D animation, 3D building heights
4. Digital Elevation Model – bare earth (PW/PL): watershed delineation, stream channel delineation, excavation activity/earth movement
5. Cartography (all) – high resolution hill shade effect maps

Interlocal Agreement

The Puget Sound LiDAR Consortium (PSLC) is a group of government agencies that was founded in 1999 and staffed by the Puget Sound Regional Council (PSRC). The group includes Kitsap County, Seattle, PSRC, USGS, NASA, and others. The interlocal agreement will be between the City of Redmond and Kitsap County, who currently manages the interlocal agreements for the PSLC. The cost is \$25,000 and funds are available in the Stormwater Utility.

Example Imagery:



Paneled view of bare earth (L), highest hit (middle) and point cloud colored by 2013 NAIP imagery (R), Kent, WA.



ATTACHMENT B

**KITSAP COUNTY
DEPT. OF EMERGENCY MANAGEMENT**

911 Carver Street
Bremerton, WA 98312
(360) 307-5871

**INTERLOCAL COOPERATIVE AGREEMENT TO PURCHASE LIDAR DATA
FOR THE CITY OF REDMOND PROJECT**

KC-_____-2014

THIS AGREEMENT is between City of Redmond and, and Kitsap County, a municipal corporation, all in the State of Washington.

WITNESSETH:

WHEREAS, The Cooperation Act, as amended and codified in Chapter 39.34 of the Revised Code of Washington provides for Interlocal cooperation between governmental agencies; and

WHEREAS, Chapter 39.33 of the Revised Code of Washington provides for the intergovernmental disposition of property, and

WHEREAS, both parties are required to make certain purchases by formal advertisement and bid process, which is a time consuming and expensive process; and it is in the public interest to cooperate in the combination of bidding requirements to obtain the most favorable bid for each party where it is in their mutual interest; and

WHEREAS, the parties also wish to utilize each other's contracts where it is in their mutual interest;

NOW, THEREFORE, the parties agree as follows:

1. **PURPOSE.** The purpose of this agreement is to acknowledge the parties' mutual interest to jointly bid the acquisition of goods and services and disposition of property where such mutual effort can be planned in advance and to authorize the acquisition of goods and services and the purchase or acquisition of goods and services under contracts where a price is extended by either party's bidder to other governmental agencies;
2. **ADMINISTRATION.** No new or separate legal or administrative entity is created to administer the provision of this agreement. The Administrator of this agreement is the Director of Emergency Management of Kitsap County, Washington.
3. **SCOPE.** This agreement shall allow the following activities:
 - A. Purchase or acquisition of goods and services by each party acting as agent for either or both parties when agreed to in advance, in writing;
 - B. Purchase or acquisition of goods and services by each party where provision has been provided in contracts for other agencies to avail themselves of goods and services offered under the contract.
 - C. Disposal of goods by each party acting as agent for either, or both parties when agreed to in advance, in writing.
4. **DURATION OF AGREEMENT - TERMINATION.** This agreement shall remain in force until cancelled by either party in writing.

COOPERATIVE PURCHASING AGREEMENT

5. RIGHT TO CONTRACT INDEPENDENT ACTION PRESERVED. Each party reserves the right to contract independently for the acquisition of goods or services and or disposal of any property without notice to the other party and shall not bind or otherwise obligate the other party to participate in the activity.
6. COMPLIANCE WITH LEGAL REOUIREMENTS. Each party accepts responsibility for compliance with federal, state or local laws and regulations including, in particular, bidding requirements applicable to its acquisition of goods and services or disposal of property.
7. FINANCING. The method of financing of payment shall be through budgeted funds or other available funds of the party for whose use the property is actually acquired or disposed. Each party accepts no responsibility for the payment of the acquisition price of any goods or services intended for use by the other party.
8. FILING. Executed copies of this agreement shall be filed as required by Section 39.34.040 of the Revised Code of Washington prior to this agreement becoming effective.
9. INTERLOCAL COOPERATION DISCLOSURE. Each party may insert in its solicitations for goods a provision disclosing that other authorized government agencies may also wish to procure the goods being offered to the party and allowing the bidder the option of extending its bid to other agencies at the same bid price, terms and conditions.
10. NON-DELEGATION/NON-ASSIGNMENT. Neither party may delegate the performance of any contractual obligation, to a third party, unless mutually agreed in writing. Neither party may assign this agreement without the written consent of the other party.
- II. HOLD HARMLESS. Each party shall be liable and responsible for the consequences of any negligent or wrongful act or failure to act on the part of itself and its employees. Neither party assumes responsibility to the other party for the consequences of any act or admission of any person, firm or corporation not a party to this agreement.
12. SEVERABILITY. Any provision of this agreement, which is prohibited or unenforceable, shall be ineffective to the extent of such prohibition or unenforceability, without invalidating the remaining provision or affecting the validity or enforcement of such provision.
13. LiDAR SURVEY DATA. Kitsap County has contracted with Watershed Sciences, Inc. (Kitsap County to provide public-domain high-resolution LiDAR topographic survey data in Washington and Oregon). Pursuant to paragraph 3.A of this agreement, Kitsap County will act as the agent for the City of Redmond, Washington to obtain the data described in Exhibit B from Watershed Sciences, Inc. The total cost to the City of Redmond is also set out in Exhibits A and B and will not exceed \$24,360.00. Kitsap County will obtain this data from Watershed Sciences, Inc. under its contract with Watershed Sciences.

COOPERATIVE PURCHASING AGREEMENT

**Exhibit A
Puget Sound LiDAR Consortium Rate Structure**

Provider:	Kitsap County
Agreement No.:	KC-244-12
Agreement Title:	Remote Watershed LiDAR Services

Area Extent	Price per Acre	Price per Square Mile	Contours	Intensity Images	Gain-normalized Intensities
50 to 100 sq. miles (32,000 to 64,000 acres)	\$1.42	\$909	\$0.142	\$0	\$0.080
100 to 150 sq. miles (64,000 to 96,000 acres)	\$1.11	\$710	\$0.111	\$0	\$0.060
150 to 200 sq. miles (96,000 to 128,000 acres)	\$0.94	\$602	\$0.094	\$0	\$0.050
200 to 250 sq. miles (128,000 to 160,000 ac)	\$0.84	\$538	\$0.084	\$0	\$0.040
Greater than 250 sq. mi (Greater than 160,000 ac)	\$0.78	\$499	\$0.078	\$0	\$0.035

Consortium adds a 14% overhead to the total cost. For the City of Redmond, Wa. the consortium costs will be computed at the \$.78 per acre rate or Total acres X \$.78 X 14%