

ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT MINUTES

15 June 2018

A quorum was present.

Water Board: Ron Schiffman, Vice-President
Debra Birkby, Treasurer
Linda Murray
Dan Seifer

Excused Absent: Virginia Birkby, President

Sanitary Board: Casey Short (non-voting)
Darr Tindall (non-voting)

Public: Rick Gardner
Ben Dair, Sustainable Northwest
Mike Manzulli
David and Jeannie Stockton

Staff: Phil Chick, District Manager
Steve Hill, Secretary

Mr. Ron Schiffman opened the meeting at 6:03pm.

Public Comments: Mr. Rick Gardner asked about the potential purchase price of the proposed watershed property and how the valuation would be determined. Mr. Schiffman responded that the district had applied for a federal grant for the watershed purchase but were unsure at this stage what additional funds if any would be required. He added that Schwabe Law was acting pro bono on the district's behalf and that we hoped to move forward with Ecotrust and the North Coast Land Conservancy with the \$55K provided for in the 2018-19 budget for a timber cruise and appraisal. Mr. Seifer said that the previously developed long range financial plan was useful but didn't address the potential watershed purchase and that no conclusion could be drawn from this document into the future beyond next year.

Agenda: Change compensation policy and auditor search to Action on the agenda. Mr. Seifer moved acceptance of the agenda as modified which was seconded by Ms. Murray. All in favor. Motion carried.

Consent Agenda: Hold the minutes. Ms. Debra Birkby moved adoption of the consent agenda as amended which was seconded by Ms. Murray. All in favor. Motion carried.

Old Business:

Watershed Update:

EFM Non-Disclosure Agreement: (Information) Changes requested in the agreement (attached) related to being a public agency but were felt to not necessarily go far enough to clearly allow the district to use information about the acquisition to be shared with the community in efforts to obtain support. Mr. Chick said he would reach out to EFM to address these concerns.

Silvia Terra Timber Cruise Contract: (Action) Mr. Chick said the proposed contract would provide a cruise assessment utilizing imaging and software at a reduced cost to an on the ground timber cruise. Mr. Ben Dair offered that it was accepted and valued technology presently being used by Weyerhaeuser.

Mr. Seifer moved execution of the contract (attached) which was seconded by Ms. Debra Birkby. All in favor. Motion carried.

Joint Finance Plan Development – Outline Draft: (Information) Mr. Chick reported that he was working with Jon Wickersham and Ben Dair from Sustainable Northwest on a Finance Plan document between the North Coast Land Conservancy and the district that would guide future efforts. Mr. Ben Dair provided an outline (attached) and said that he had experience with these plans and would work with Mr. Chick.

Outreach Coordinator Position RFP: (Information) Mr. Chick said that the RFP (attached) would be advertised in the Daily Astorian in addition to being shown on our web site and that he would report back to the board on its progress.

Auditor Search: (Action) Ms. Birkby said she would wish to know what we would be charged for consultation services if required by the district before approving a contract.

Mr. Short moved that the Accuity engagement letter (attached) and contract (attached) be executed which was seconded by Ms. Tindall. Mr. Schiffman, Mr. Seifer and Ms. Murray voted yes. Ms. Debra Birkby voted no. Motion carried.

Fire Suppression Line Connection: (Information) Mr. Chick reported that he had spoken to Manzanita which at this point hadn't developed a policy. They didn't anticipate charging a system development charge (SDC). He added that Mr. Vito Cerelli would not require a four (4") inch line connection for his project. The City of Bend has a fire suppression policy, no SDC but a monthly service charge. Arch Cape is responsible for the connection to the property line and the customer is responsible beyond that point.

Mr. Chick recommended that we have no SDC charge but establish a resolution for fire suppression support and make a monthly charge to cover maintenance and meter reading. He added that Curt McLeod of CMI also recommended that the district not make an SDC charge.

Consideration was given to consultation with counsel regarding this type of connection and division of responsibility at installation and ongoing maintenance.

Compensation Policy: (Information) Ms. Debra Birkby moved adoption of RES 18-06 WD Compensation Policy Amendment (attached) which was seconded by Mr. Seifer. All in favor. Motion carried.

New Business:

Planning Update – Second Source, Asbury Water Right Certification & Master Plan:

(Information) Mr. Chick reported that with the failure to find water with the exploratory well the project is closed out. The final IFA reimbursement request will be made soon.

CMI will provide a cost estimate for pursuing certification of water right for Asbury Creek. He added that the master plan was thirteen years old but according to CMI there was no need to update this document.

Officer Elections: (Information) Mr. Schiffman indicated that he would be affected with his term coming up in the sanitary district and that Ms. Virginia Birkby's term is up in the water district. Ms. Debra Birkby is up for election as treasurer. Two, two year terms are the established limit.

Resolution 18-04 WD Budget Appropriation 2018-19: (Action)

Public Hearing: Mr. Schiffman opened a public hearing at 7:34pm to take questions and comments from the public and hearing none closed the proceeding at 7:36pm.

Mr. Seifer moved approval of RES 18-04 WD Budget Appropriation for 2018-19 as approved by the budget committee (attached) which was seconded by Ms. Debra Birkby. All in favor. Motion carried. No reference was made to the long range financial plan.

Ratification of Vice President Action in Absence of President: (Action) Ms. Debra Birkby moved ratification of Mr. Ron Schiffman's actions on behalf of the district in the absence of the President, Ms. Virginia Birkby which was seconded by Mr. Seifer. All in favor. Motion carried.

Resolution 18-05 WD 2017-18 Budget Amendment: (Action) Mr. Seifer moved approval of RES 18-05 WD (attached) amending the 2017-18 budget which was seconded by Ms. Debra Birkby. All in favor. Motion carried.

Reports:

Accounts Receivable: Water district receivables were reported to be in excellent condition.

District Managers Report: (attached) Mr. Chick said that May was the second driest on record. He expressed thanks to Mr. Hill for his work during the budgeting process and said he would forward a letter of appreciation to the community members of the budget committee.

Treasurer's Report: All accounts were reported to be balanced.

Board of Directors' Comments and Reports: None.

July Agenda Items: (Information) Fire suppression hook up, Non disclosure agreement, officer elections, water rights certification, master plan update, and risk management assessment.

Public Comment: Mr. Rick Gardner said that he enjoyed hanging out with the board and that it brought back memories.


The meeting was adjourned by Mr. Ron Schiffman at 7:46 pm.

Respectfully submitted,



Steve Hill

Attest



Mr. Ron Schiffman, Vice President

CONFIDENTIALITY AGREEMENT

This Confidentiality Agreement (this “Agreement”) is made this 18th day of May, 2018, by and between Ecotrust Forest Management, Inc., an Oregon corporation (“EFM”), and Arch Cape Domestic Water Supply District (“Buyer”)

RECITALS

- A. EFM manages property in Oregon depicted on attached **Exhibit A** (the “Property”).
- B. The parties have engaged in preliminary discussions concerning a possible purchase and sale of the Property (the “Potential Transaction”).
- C. In connection with the foregoing, EFM is willing to provide Buyer access to the Property and certain information relating to the Property.

AGREEMENT

Now therefore, in consideration of the mutual promises between the parties contained in this Agreement, the parties agree as follows:

1. All data, records, reports, calculations, documents, and other information previously provided or hereafter provided by EFM to Buyer related to the Property, or its operations, written or oral and whether or not noted thereon to be confidential, and all information obtained by Buyer’s inspection of the Property, and all compilations, analyses and studies prepared by Buyer based upon such information, shall be considered as “Confidential Information,” except: (a) information which at the date hereof is publicly available; (b) information which after the date hereof becomes publicly available through no fault of Buyer, or their Representatives or advisors; (c) information which Buyer can show was in their possession prior to the date hereof and was not acquired by Buyer directly or indirectly from EFM or any other party under an obligation of confidentiality to EFM; and (d) information received by Buyer without restriction as to disclosure from a third party who has the lawful right to disclose the same.
2. Buyer agrees that the Confidential Information will be used solely for the purpose of evaluating the Potential Transaction, and that such information will be kept confidential by Buyer and its Representatives (defined below); provided, however, that (i) the Confidential Information may be disclosed to any of Buyer’s Representatives who need to know such information for the purpose of evaluating the Potential Transaction (it being understood and agreed that such Representatives shall be informed by Buyer of the confidential nature of such information and the terms of this Agreement and shall be directed by Buyer to treat such information confidentially), and (ii) any disclosure of such information may be made to which EFM consents in advance in writing. Buyer agrees that Buyer shall be responsible for any breach of the terms of this Agreement by any of its Representatives. As used in this Agreement, (1) the term “Representative” means a person’s affiliates and its and their directors, officers, employees, agents, advisors (including, without limitation, financial advisors, foresters, forest

carbon consultants, counsel and accountants), lenders, and controlling persons, and (2) the term “person” shall be broadly interpreted to include, without limitation, any entity or individual.

3. Buyer assumes all risks associated with entry upon or inspection of the Property. Buyer hereby waives any and all claims they may now or hereafter have against EFM, known or unknown, of any kind or nature including without limitation personal injury or property damage, arising out of or related to entry upon or inspection of the Property in connection with the Potential Transaction, except claims that may arise from the gross negligence or willful misconduct of EFM or its employees, agents, consultants, contractors, or Representatives.

4. Buyer hereby agrees to indemnify EFM, its affiliated companies, and their respective officers, members, directors and agents against and hold them harmless from any and all loss, liability claims, damages, cost or expense, including reasonable attorneys fees and costs of litigation, suffered or incurred by either or any of them, and arising out of or related to entry upon the Property by Buyer or its employees, agents, consultants, contractors, or Representatives.

5. EFM specifically disclaims any representation or warranty as to the accuracy or completeness of any information disclosed to Buyer.

6. Buyer shall not, and shall not permit its Representatives to, reproduce or disclose any Confidential Information received from EFM, or any other Confidential Information obtained by contacting EFM’s designated representatives, or by viewing or making studies of any of the Property, to any third person, in whole or in part, at any time, without the express written permission of EFM. In the event that Buyer or any of its Representatives receive a request to disclose all or any part of the Confidential Information under the terms of a subpoena, discovery request, or order issued by a court of competent jurisdiction or by another governmental agency, Buyer shall promptly notify EFM of the existence, terms and circumstance surrounding such request so that EFM may seek an appropriate protective order and/or waive compliance with the provisions hereof. If, in the absence of a protective order or the receipt of a waiver hereunder, Buyer or any of its Representatives are nonetheless, in the opinion of counsel, compelled to disclose the Confidential Information or else stand liable for contempt or suffer other censure or penalty, Buyer or such Representative may disclose only such portion of the Confidential Information they are advised by counsel is legally required to be disclosed. Buyer further agrees that Buyer or such Representatives will use its best efforts to preserve the confidentiality of the Confidential Information, including, without limitation, by cooperating with EFM in its efforts to obtain reliable assurance that confidential treatment will be afforded to such portion of the Confidential Information as is required to be disclosed.

7. If the parties agree not to pursue the Potential Transaction with respect to the Property, Buyer shall return to EFM all information concerning the Property provided by EFM and not retain any copies.

8. Without the prior written consent of the other party, neither Buyer, EFM nor any of their officers, employees, agents and Representatives will disclose to any person or entity that any investigations, discussions or negotiations are taking place concerning the Potential Transaction between the Buyer and EFM, that Buyer and EFM are considering a transaction

concerning the Property, that the Buyer and EFM have entered into this Agreement, or the status of the Potential Transaction. Buyer and EFM understand and agree that no contract or agreement regarding a transaction (other than this Agreement) shall be deemed to exist between them unless and until a definitive agreement has been executed and delivered. Unless and until such a definitive agreement has been executed and delivered, neither party has a legal obligation of any kind whatsoever with respect to any transaction except for matters specifically agreed to in this Agreement.

9. The parties agree that facsimile or electronic mail signatures are authorized and shall be binding to the same extent as an original signature.

10. The rights and obligations of the parties under or relating to this Agreement shall be governed by the laws of the State of Oregon (without regard to choice of law provisions). In the event suit or action is filed by any party to enforce this Agreement or with respect to a breach of this Agreement, the prevailing party shall be entitled to recover, in addition to all other costs, damages and awards, its reasonable attorney fees at trial, and upon any appeal and petitions for review and any bankruptcy and insolvency proceeding.

11. This Agreement will terminate three years from the date hereof.

12. This Agreement contains the entire understanding of the parties relative to the protection of Confidential Information, and the other matters addressed herein and supersedes all prior collateral communications, if any, between the parties regarding the Confidential Information, such other information and such other matters. No amendment or other modification or waiver of any provision hereof shall be binding unless in writing and signed by you and the Company or unless signed by the party to be bound.

ARCH CAPE DOMESTIC WATER
SUPPLY DISTRICT

By: _____

Its: _____

ECOTRUST FOREST MANAGEMENT, INC.

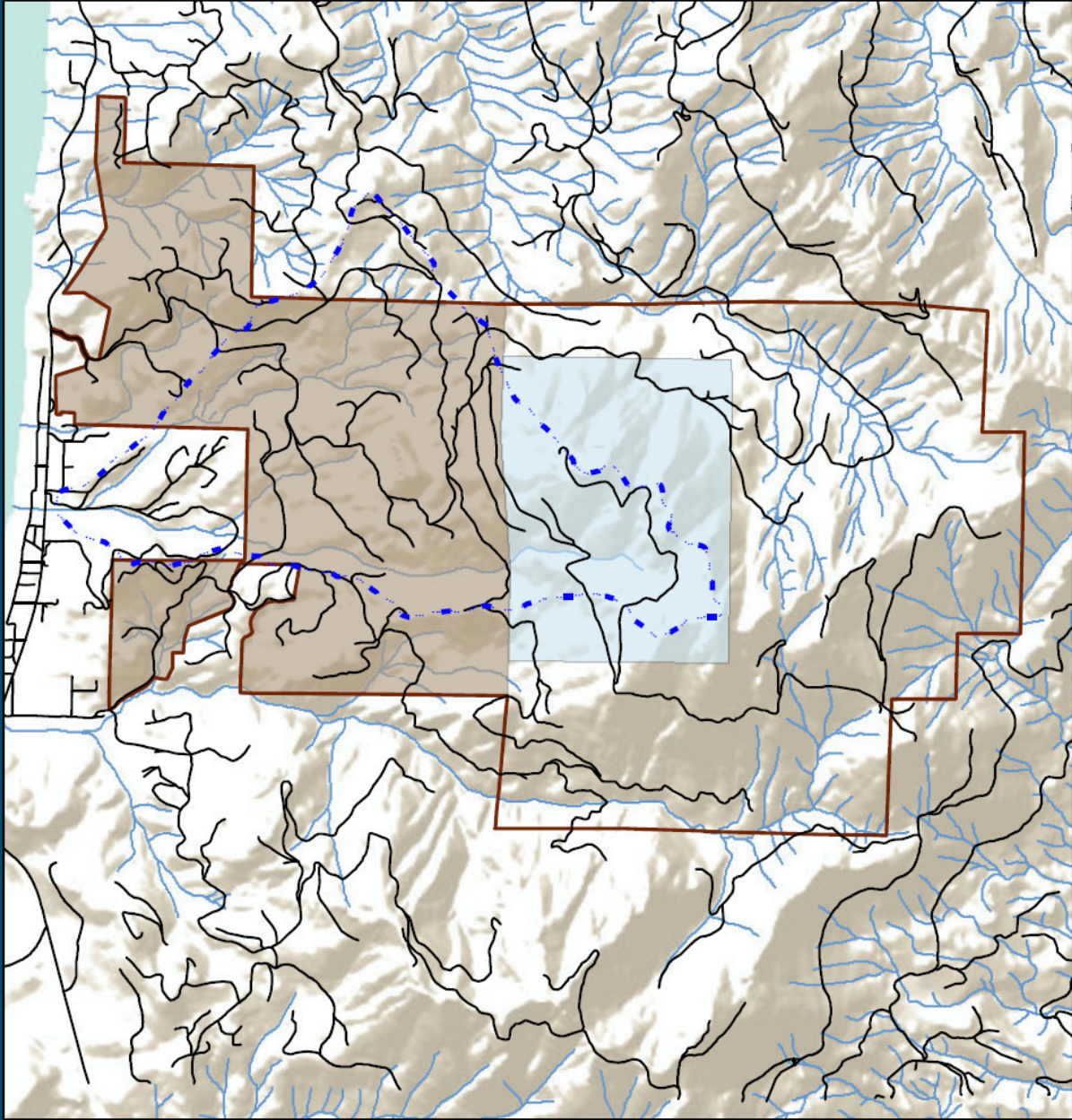
By: _____

Its: _____

Exhibit A

See Attached Map

Onion Peak Property Clatsop County, Oregon





SILVIATERRA

Agreement to Perform CruiseBoost Services

June 7, 2018



Prepared by:

SilviaTerra
2443 Fillmore St.#380-1418
San Francisco, CA 94115

Contact:

Zack Parisa
zack@silviaterra.com

Prepared for:

Arch Cape Domestic Water
Supply District
32065 East Shingle Mill Lane
Arch Cape , OR 97102
Att: Phil Chick

This Statement of Work ("SOW") is effective June 7, 2018 ("SOW Effective Date") between SilviaTerra LLC ("Contractor" or "ST") and Arch Cape Domestic Water Supply District ("Contractee" or "AC").

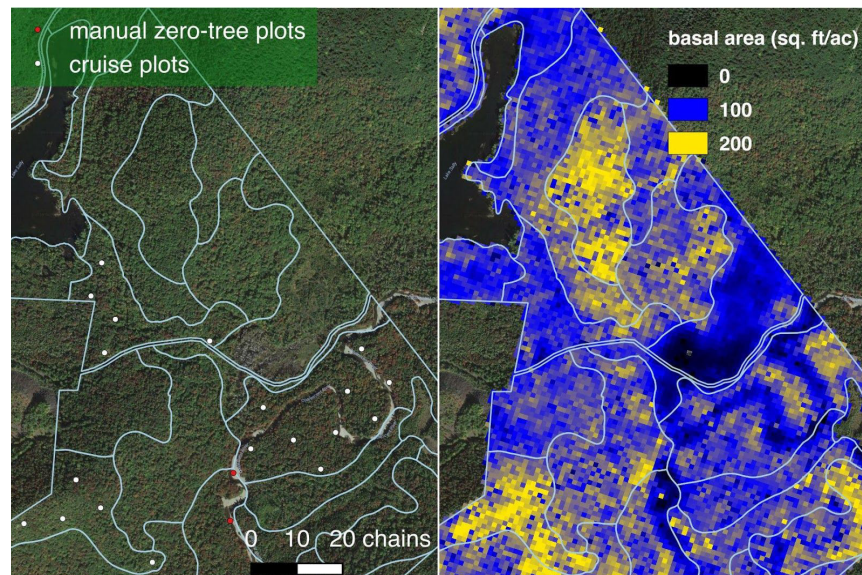
Phil,

As you requested, I have put together this Statement of Work describing how we can assist AC with the 2,009 acre property in coastal Oregon. The property is composed of 2 units, Phase-3: 1,426 acres and Easement: 583 acres. As we discussed, we propose to design an imagery assisted inventory that will provide stand-level volume estimates for all stands, as well as top level design-unbiased (plots only) and model-assisted (plots +imagery) estimates for each of the 2 units in the area of interest. This inventory will be designed with the express intent of providing information appropriate for an appraisal of the property in total or by unit. The resulting stand level estimates may be used to plan management activities.

We anticipate the design will call for ~255 plots, which is less than half of what would otherwise be needed using unassisted inventory methods.

I'm looking forward to working with you.

Zack Parisa, President
717.884.8733 | zack@silviaterra.com



Total basal area "heatmap"

The CruiseBoost inventory process is similar to a double sample. First, cruisers collect ground plot measurements - like a traditional cruise, but with far fewer plots. Those field measurements are paired up with individual pixels from multiple different types of remotely-sensed images (spectral imagery, radar, and digital elevation models). This allows ST to calculate relationships between the remotely-sensed data and the actual sizes and species of trees on the ground. ST uses these relationships to calculate plot-level information for all of the unmeasured areas and then aggregates the data into a stand-level inventory.

Imagery selected for each project is context-specific. In most projects we typically use Landsat-8, NAIP, and SRTM/ASTER based digital elevation models. We also often use Palsar-2, Radarsat-2, and Sentinel-1 radar and imagery from other high resolution spectral satellites such as SPOT, Planet Labs and Urthecast.

Using imagery to predict inventory for the areas between plots - areas which are not otherwise measured - enables us to identify and account for high and low volume areas. You can use fewer plots and get better results.

Estimates of characteristics like height and stem quality / defect are made using a multi-step process. For each species, we use the available plot data collected in nearby areas that are similar in structure and species composition. These are used as training data to fit a model and generate estimates for all trees in the final inventory.

Technical Expertise

Our biometric experts are at the forefront of solving some of the toughest challenges in forest inventory today and frequently speak at national and regional biometrics conferences. Our experience in large-scale geospatial computation enables us to develop tailored solutions to AC's unique forest inventory challenges.

We're excited to work with you to inventory AC's forest. Our collaboration will produce better data that informs better decisions and ultimately results in more efficient and sustainable operations for AC in coastal Oregon.



Zack Parisa, MFS is the founder and president of SilviaTerra. In his work with forestry companies in the US and abroad, Zack observed discrepancies in inventory practices across the industry and saw situations where millions of dollars were lost because of poor information. In response, Zack developed and patented a new process which uses remotely-sensed imagery to make cruising far more efficient.

A forester and biometrician by training, Zack has spent the past 10 years helping forest managers acquire, organize, and analyze information about their forests. Zack believes that combining the ideas of the great biometricians with modern technology can spur a dramatic improvement in forest management. He earned a BS in Forestry from Mississippi State University and a Masters of Forest Science from the Yale School of Forestry.



Nan Pond, PhD is the Lead Biometrician at SilviaTerra. She manages the biometrics team and coordinates the operations and development efforts needed to deliver inventory data to SilviaTerra's clients. She specializes technically in remote sensing applications to forest measurements, and modeling of forest structure and composition.

Nan studied forestry at SUNY ESF and earned a PhD in Forest Science from Michigan Technological University. She completed postdoctoral research on remote sensing and modeling of forest change before coming to SilviaTerra.



Brian Clough, PhD is a Forest Biometrician at SilviaTerra. He conducts statistical analyses on client projects, and contributes to the development of new systems to improve SilviaTerra's inventory workflow. Brian's expertise is in designing hierarchical statistical models that link multiple forestry datasets, and he has over a decade of experience in forest biometrics in both industry and academia. He has a PhD in Ecology, Evolution, and Natural Resources from Rutgers University and is originally from New Jersey.



Henry Rodman, MS is a Forest Biometrician at SilviaTerra. He conducts statistical analysis for a variety of forest inventory and resource assessment applications, and contributes to the development of new systems to improve SilviaTerra's inventory workflow. Henry specializes in analyzing geospatial forest inventory data for timber inventories and carbon accounting projects. He grew up in Davis, CA and earned a BS in Forest Resources at the University of Minnesota followed by a MS in Forest Biometrics at Oregon State University.



Max Nova is the co-founder and head of business development at SilviaTerra. He helps design, build, and implement solutions to our clients' most important forest inventory challenges. An expert in cloud, mobile, and geospatial technology, Max brings over 12 years of development experience to the SilviaTerra team. He speaks regularly at national and regional conferences on forest inventory technology and best practices. Born and raised in Louisville, KY, Max has a degree in computer science from Yale University.



Charlie Wade, MS is a Forest Technologist at SilviaTerra. Charlie leads Plot Hound and Canopy development and provides project support to the biometrics team. He is able to leverage his wide range of experience in operational forestry to help design products that meet foresters needs. Charlie is most excited about developing new tools that allow foresters to be more efficient in their work.

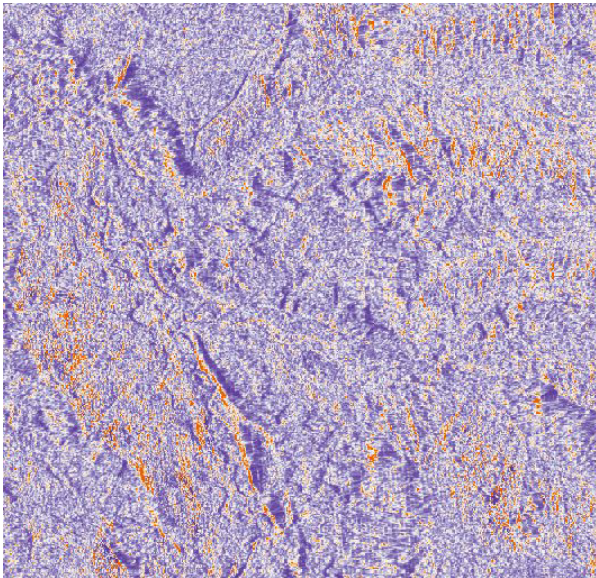
Charlie received both a BS and MS in forestry from Virginia Tech, with a concentration in forest operations. His career has included timber procurement and forest land management consulting.



Mike Holkesvik is the Chief Technology Officer at SilviaTerra. He helps the operations team scale their forestry solutions by building cloud and mobile software infrastructure. Prior to joining SilviaTerra, Mike worked as a software engineer at the real estate company Redfin where his team supported thousands of home transactions and millions of web visitors. He is originally from South Dakota and received a degree in Computer Science from Yale University.

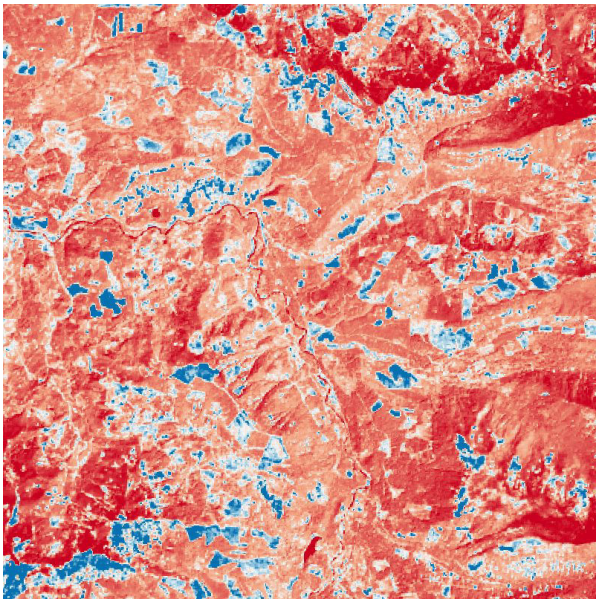
Remote Sensing Imagery

There is no "silver bullet" when it comes to remote-sensing and forest inventory. Different types of remotely sensed imagery have different strengths and weaknesses when it comes to characterizing forest structure and determining species composition. Besides sensor type, there are also issues of spatial and temporal resolution to consider. SilviaTerra specializes in selecting and analyzing an ensemble of images to develop the most cost-effective solution to the question at hand. For our work together in Oregon, we plan to use the following types of remotely-sensed imagery:



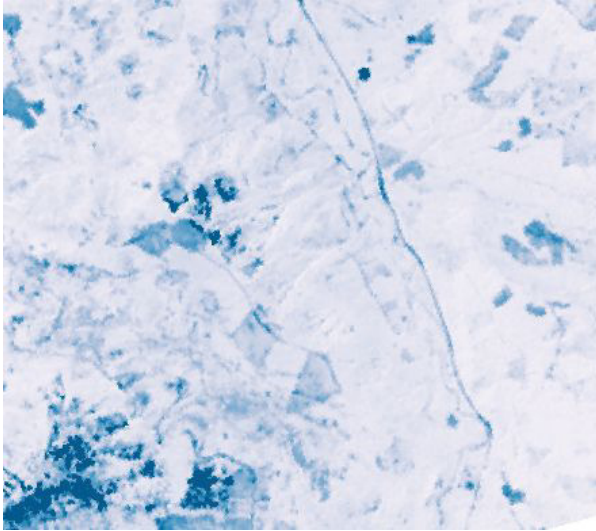
Radar is an active sensor that reflects differently based on the volume and structure of timber in an area. There are a number of satellite providers.

Detects: Diameter distribution
Resolution: ~10 meters
Frequency: monthly
Platform: satellite



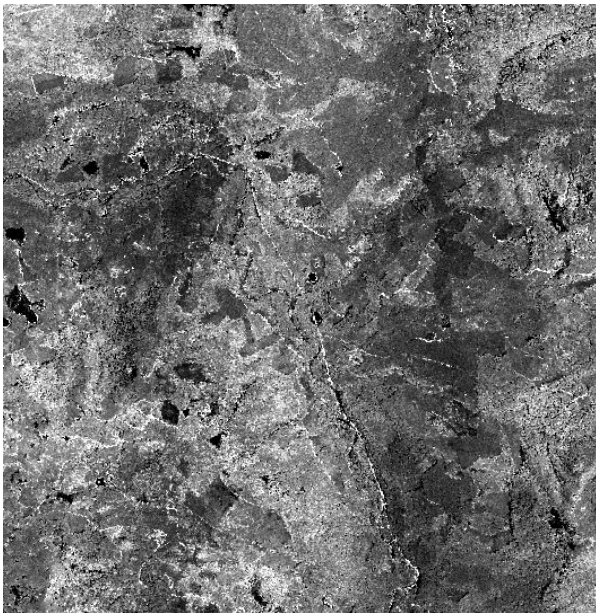
Landsat is a government satellite with an archive that stretches back decades. By using images from the spring and fall, SilviaTerra can capitalize on differences in rates of bud break and senescence to identify different species.

Detects: Species composition
Resolution: 15 meters (pan-sharpened)
Frequency: monthly
Platform: satellite



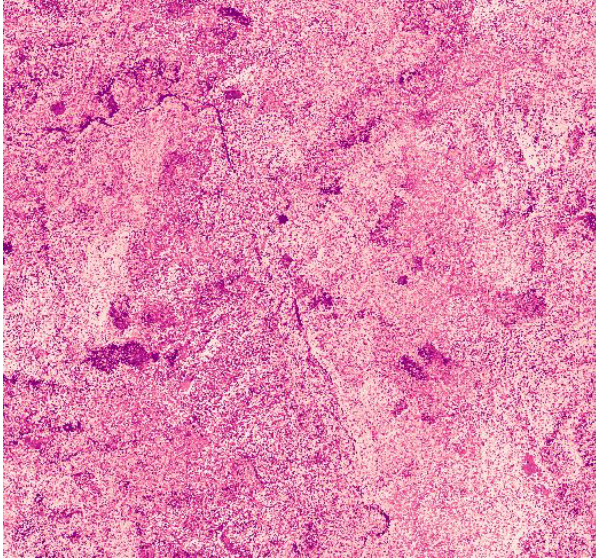
Sentinel-2 is a European satellite with a similar spectral and spatial resolution as Landsat. SilviaTerra uses Landsat and Sentinel-2 interchangeably.

Detects: Species composition
Resolution: 10 meters
Frequency: weekly
Platform: satellite



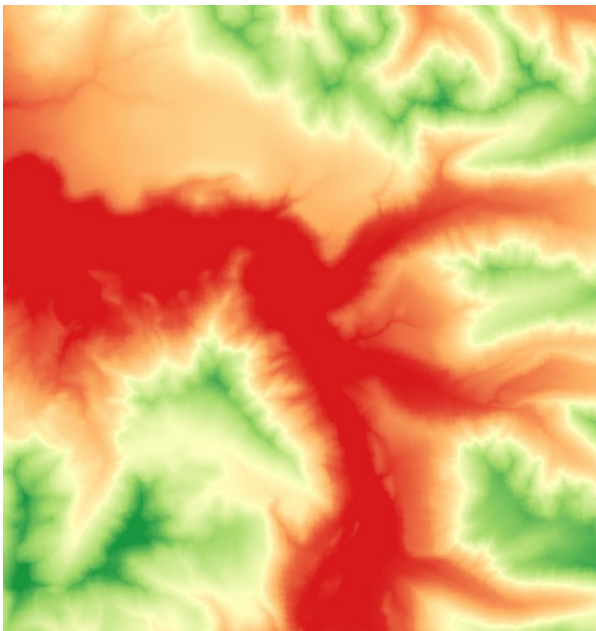
NAIP is short for the National Agricultural Imagery Program. Flown every few years, NAIP imagery is high-resolution spectral imagery that is great for determining the variation or uniformity of each forested area.

Detects: Forest structure
Resolution: 1 meter
Frequency: 2-3 years
Platform: aerial



Microsatellite platforms are a recent development that open up new possibilities in forest inventory. There are a number of companies that operate constellations of hundreds of microsatellites with spectral sensors - Planet Labs is the most well known. Some providers are nearing daily coverage of the entire US.

Detects: Forest structure
Resolution: 4 meters
Frequency: daily to weekly
Platform: satellite



DEM stands for Digital Elevation Model. There are a number of sources for this information and SilviaTerra generally uses the NED 10-meter product although we can also use LiDAR DEMs if available. From the DEM, we calculate site attributes like slope, aspect, and topographic index.

Detects: Characteristics of site
Resolution: 10 meters
Frequency: N/A
Platform: satellite / aerial

Sampling Design and Built-in Verification

One of the benefits of SilviaTerra's CruiseBoost sampling design is that it uses a probability based sample with a conventional grid of plots. This has several important benefits:

1. Property-level estimates of basal area, volume, etc. can be worked up just like a normal cruise with no satellite imagery. CruiseBoost reveals how that basal area is distributed across the property, "filling in the gaps" between the plots and tightening up the inventory precision.
2. CruiseBoost is easy to adopt because your cruisers don't have to change their sampling method - they just measure fewer plots in a less dense grid.

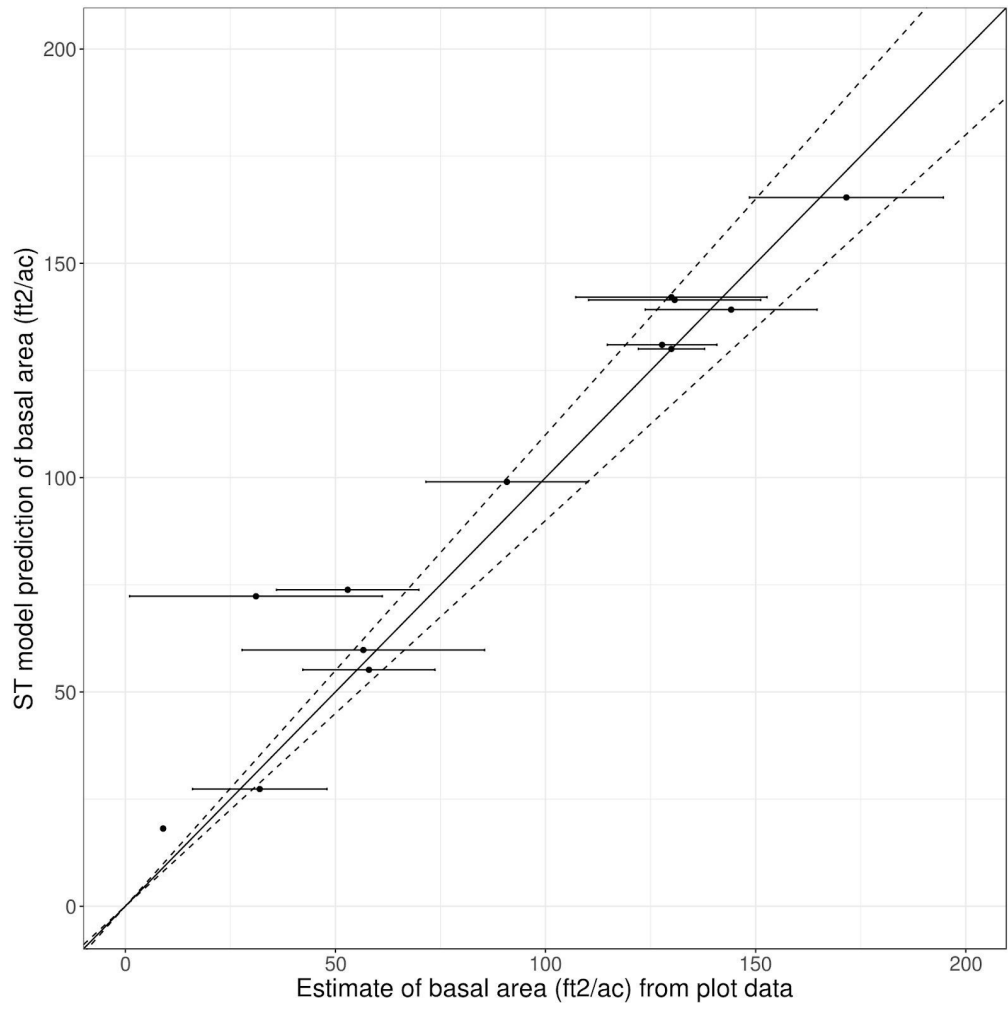
In consultation with AC, SilviaTerra's biometricians will design a sampling strategy that maximizes inventory ROI by focusing on areas where precise information is the most valuable. By selecting a subset of stands proportional to their value and appropriate precision, SilviaTerra can concentrate the fieldwork while maintaining completely conventional property-level numbers.

SilviaTerra has an extensive suite of validation tests and diagnostics that are run for each project. The most important of these is our "bootstrap" validation process. This helps answer the question, "How well does CruiseBoost predict inventory in unmeasured areas?"

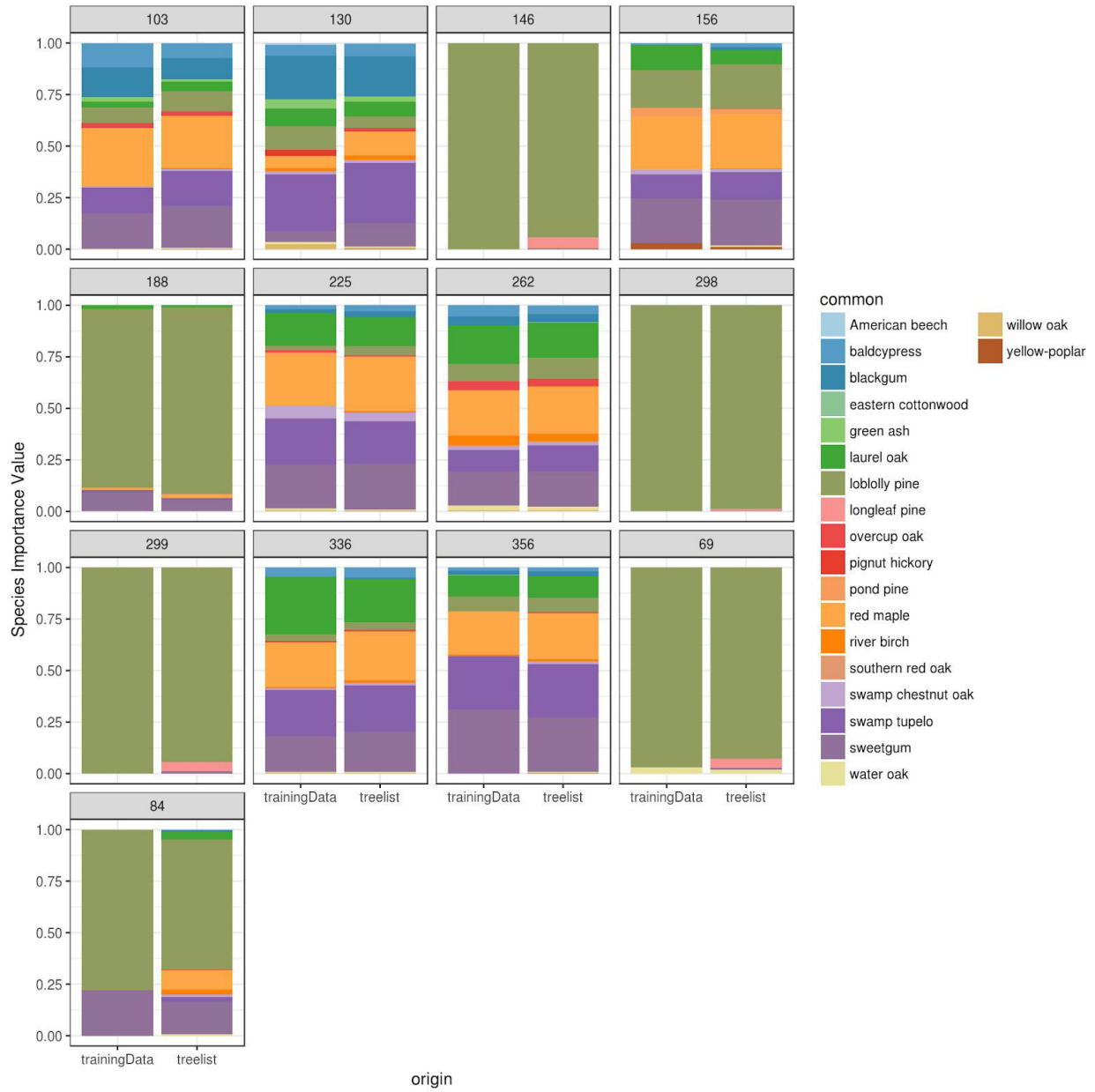
The bootstrap validation works on a simple principle. We set aside the plots from one of the cruised stands. We build the CruiseBoost predictive models using the remaining plots and then predict the inventory for the stand that was held out. We compare our predictions to what was actually cruised and see how CruiseBoost performed.

By holding out one stand at a time, we develop a metric for how CruiseBoost performs in different forest conditions. The figure below is a typical bootstrap diagnostic plot. It shows the cruise-based basal area confidence intervals for a number of stands and compares it to the SilviaTerra CruiseBoost confidence interval. Horizontal lines that touch the area between the two dotted lines represent stands where the CruiseBoost and traditional cruise estimates align.

In this particular figure, we see that the CruiseBoost estimates for the high basal area stands are spot on. We observe some issues in prediction for less valuable lower basal area stands. This was due to a well-known and manageable issue - the use of variable radius plots significantly increases the variability in small diameter stems. The use of bootstrap diagnostic plots like this can give forest managers confidence that the CruiseBoost process is delivering reliable results and can highlight problem areas.



Using the same "bootstrap" style approach is useful for assessing performance for species prediction. Below is a diagnostic chart that details the species observed in the cruise (left) vs. the species predicted by CruiseBoost (right).



Project Timeline & Deliverables

1. Upon project initiation, AC will send ST:
 - a. a clean shapefile of stand and unit boundaries to be used for analysis
 - b. a detailed description of merchantability specifications and volume estimation method
 - c. an example of the desired output format
2. Within 2 weeks of project initiation:
 - a. ST acquires satellite imagery for the area of interest
 - b. ST confers with AC inventory staff to finalize sampling strategy, including relative inclusion probabilities of stand types and lay out plot grids. The design will be a two-stage with unequal probability at the first stage (where stands are selected with probability proportional to the expected standing volume) and equal probability at the second stage (a grid of plots within each selected stand).
 - c. **Deliverable:** Plot locations and cruise specification for AC to cruise
3. AC coordinates the cruise the specified plots and sends cruise data to ST
4. Within 4 weeks of receiving all of the plot data:
 - a. ST pairs the plot data with the satellite imagery to develop predictive models
 - b. ST predicts tree lists for each stand within the area of interest. Each tree record will include:
 - i. Species
 - ii. Diameter
 - iii. Total Height
 - iv. Merchantable Volume
 - c. **Deliverable:** ST generates 1/20 acre resolution "heatmaps" for basal area, trees-per-acre, and product volumes
 - d. **Deliverable:** ST generates a summary stand table at the Property level, Strata level, Unit level, and Stand level in AC's desired format.

Note: Any changes to the input plot data or project area will require an additional 3 weeks to start the process over and conduct all necessary quality assurance checks.

Project Validation

SilviaTerra will employ a series of quality control steps throughout the modeling process to evaluate the efficacy of modeling approaches and detect errors and anomalous results. These include evaluations of:

1) Image processing - visual evaluation of processed images

2) Plot data

- Plot measurements are paired with plot location information.
- Plot values are checked to match the cruise protocol.
- Height and diameter ranges are reviewed by species to detect any incorrect species identifications based on ecologically reasonable expectations.

Questions about individual plots will be sent to AC as necessary.

3) Models and estimates

- All modeling approaches are reviewed by at least two SilviaTerra biometricians to ensure statistical rigor.
- Stand-level treelists are evaluated to ensure auxiliary variable predictions are reasonable in final form.
- Rasterized heatmaps are reviewed against aerial imagery.
- Stand-level summaries are generated and compared to aerial imagery.
- Full project (population-level) and stand-level estimates bootstrapped estimates are compared to cruise data.

AC is responsible for providing ST with quality & correct data on which to run our analysis.

Fee for Services

This engagement will be conducted on a fee for service basis. Contractee will pay to Contractor the fee net 30 days upon contract execution.

SilviaTerra stands behind its work. If Contractee is not fully satisfied with the completed deliverables, SilviaTerra will refund the project fee.

Item	Price/Acre	Acres	Price
CruiseBoost	\$2.00	1426	\$2,852
CruiseBoost - Half of Easement cost	\$1.00	583	\$583
Cruise Data Reformatting ¹	N/A	N/A	\$239.02
Total			\$3,674.02

Completion Criteria

Contractor shall have fulfilled its obligations when any one of the following first occurs: Contractor accomplishes the activities described within this Proposal, including delivery to Contractee of the materials listed in the Section entitled "Deliverables," and Contractee accepts such activities and materials without unreasonable objections. No response from Contractee within 10-business days of deliverables being delivered by Contractor is deemed acceptance.

Contact

Zack Parisa | zack@silviaterra.com | 717.884.8733

<hr/> <p>SilviaTerra Zack Parisa, President 2443 Fillmore St. #380-1418 San Francisco, CA 94115</p>	<hr/> <p>Arch Cape Domestic Water Supply District Att: Phil Chick 32065 East Shingle Mill Lane Arch Cape, OR 97102</p>
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¹ If Plot Hound is used for data collection or if NCLC inputs the data into Canopy, this fee will be waived

Arch Cape Resources and Funding Strategy

Outline

1. Project Description
 - a. Project goals
 - b. Area and extent
 - c. Ecological characteristics
 - d. Community demographics and economy
2. Section I. Acquisition
 - a. Acquisition Cost Estimates
 - i. Capital cost
 - ii. Project development
 - b. Overview of Funding and Financing Sources
 - i. Grants
 - ii. Fundraising
 - iii. Loans
 - iv. Table: all funding sources
3. Section II. Stewardship
 - a. Earned Income
 - i. Forestry
 - ii. Recreation
 - iii. Ecosystem Services
 - iv. Water rates
 - v. Indirect economic benefits
 - b. Operations and Maintenance
 - i. Roads and other infrastructure
 - ii. Streams and riparian areas
 - iii. Access (gates, protected areas, trails)
 - iv. Table: Risk management
4. Section III. Timeline and Implementation Strategy
 - a. Overview
 - b. Grants timeline
 - c. Fundraising timeline
 - d. Loans timeline
 - e. Figure: grants and fundraising Gantt chart
5. Key contacts
 - a. Roles and responsibilities
 - b. Table: name, organization, email



About

This workbook highlights strategies commonly pursued to establish a community forest. This outline was developed based on best practices in the field and should serve as inspiration only. For a detailed guide to acquiring land, see the Land Trust Alliance's accreditation curriculum at www.landtrustalliance.org/

Tabs

Est	Overview
T1	Table 1. Community Capacity Building and Facilitation Detailed Tasks, Activities, and Needs.
T2	Table 2. Funding Detailed Tasks, Activities, and Needs.
T3	Table 3. Conservation Planning Detailed Tasks, Activities, and Needs.
T4	Table 4. Economic Development Detailed Tasks, Activities, and Needs.
T5	Table 5. Acquisition and Financing Detailed Tasks, Activities, and Needs.
T6	Table 6. Stewardship Detailed Tasks, Activities, and Needs.
Sources	Acquisition funding and financing
Roles	Stakeholders in Arch Cape
FLPCriteria	Scoring criteria for the Forest Legacy Program
MOU	Elements of the memorandum of understanding between Arch Cape and Sustainable Northwest

Links to supporting documents

Arch Cape Resources and Funding Strategy

Arch Cape Outreach Strategy Tables October 2017

https://docs.google.com/document/d/1IGZDUgYzgfHjt9m4uD2j4g2rQdAQBIJq_qHEubTW57k/edit?usp=sharing

<https://docs.google.com/spreadsheets/d/1JqKccx-VylnkLWApPdxqeVtwQ6OLsiEHtlwSm2mUQNo/edit?usp=sharing>

Updated 3/16/2018

By BDR

Community Forest Establishment Roadmap

A typical community forest acquisition can take 3 to 10 years. The following timeline uses light green to indicate work in progress, diamonds for milestones, and stars for decision points. Dotted lines indicate that conversations continue and coordination is required.

1.0 Community Capacity Building and Facilitation

Before a Community Forest can be established, the project champion should define the bounds of "community" (i.e. location, interest, or use) and meet with local stakeholders to chart a path forward. In the following years, oversight/board meetings would then take place annually.

2.0 Funding

Funding is required for pre-feasibility studies, ecological assessments, and organizational capacity. After a project champion has defined the scope and community, partners organize to raise funds from philanthropic and grant sources.

3.0 Conservation Planning

A minimum of conservation planning is often required to demonstrate the value of stewardship to potential funders, such as the Federal Forest Legacy Program.

4.0 Economic Development

The economic value of the project to the community can be considered throughout the planning and development process, culminating in earned income and workforce development.

5.0 Acquisition and Financing

Acquisition can occur after public outreach and extensive due diligence.

6.0 Stewardship

Property management and ecological restoration become ongoing concerns after acquisition

Year 1				Year 2				Year 3 *				Year 4				Year 5			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
★								★								★			
								★											
								★											
								★											
								★											
								★											
								★											

*Assume that the acquisition occurs at the end of Year 3

Top-level needs (i.e. "Convening, facilitation, and coordination") based on the report Community Forest Collaborative. 2011. Community Forests: Needs & Resources for Creating & Managing Community Forests. Available at https://northernforest.org/images/resources/community-forests/Needs_and_Resources_for_Creating_and_Managing_Community_Forests_updated_Aug2011.pdf. Detailed activities(third sub-heading, i.e. "Meet with local...") based on practitioner experience and subject to change.

Table 3. Conservation Planning Detailed Tasks, Activities, and Needs.

Notes:

What	Who / How	When	Year																			
			Year 1				Year 2				Year 3 *				Year 4				Year 5			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Conservation Planning																						
	Forest management plan										★											
	Standing timber mapping and measurement	2018																				
	<i>Timber cruise</i>																					
	<i>Timber inventory</i>																					
	Harvest planning																					
	Shallow landslide susceptibility, disturbance history, and possibly field work to look at roads, riparian, and stand conditions, especially on steep slopes.																					
	Easements																					
	Wildlife management planning																					
	Wildlife survey and assessment																					
	Coordinating a community process to create the plan and easement																					
	Planning committee																					
	Technical assistance of a forester for the management plan																					
	OSU cooperative extension																					
	Hire external consultants																					
	<i>Springboard Forestry (Ben Hayes) providing assistance</i>																					
	<i>Also, Trout Mountain Forestry</i>																					
	Legal and technical assistance in drafting the easement																					
	Partner with local land trust																					
	<i>North Coast Land Conservancy</i>																					
	Conducting natural resource inventories																					
	GIS tech																					
	<i>Coordinate with EFM Forester Darin Stringer to collect data</i>																					
	Integrating the Community Forest into other master planning and land use planning work in the town																					
	Recreation access plan																					
	<i>Reach out to NPS Rivers and Trails Technical Assistance</i>																					

Table 4. Economic Development Detailed Tasks, Activities, and Needs.

Notes:

What	Who / How	When	Year 1				Year 2				Year 3 *				Year 4				Year 5			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Economic Development																						
Rationale for investing in natural capital and the associated concerns about loss of tax revenue																						
Estimates of carbon credit revenue																						
Estimates of watershed avoided cost (avoided infrastructure cost upgrades)																						
Identify taxing authority																						
Role of the land in local economic development planning																						
Zoning and land development planning																						
Identify zoning and planing authority																						
The capacity to manage a valuable asset																						
Balance sheet, bonding authority, overall levels of debt																						
Hiring a professional property manager																						
Business plans which address how to create value from the forest as well as the traditional concerns of job development and training																						
FSC or other certification																						
Connection with premium timber markets and/or wood artisans																						
Hunting, mountain biking, and other potential recreation activities with insurance liability																						

Table 5. Acquisition and Financing Detailed Tasks, Activities, and Needs.

Notes: need to draft out an acquisition flowchart and describe pitfalls and opportunities

What	Who / How	When	Year 1				Year 2				Year 3 *				Year 4				Year 5			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Acquisition and Financing																						
	Advice and expertise on identifying different financing options																					
	Finance and Funding Roadmap																					
	Market analysis																					
	Preliminary appraisal																					
	Access to capital																					
	Banking partner																					
	Federal Forest Legacy Program grant application <i>in process Fall 2017</i>																					
	Access to legal, accounting and technical expertise for complicated real estate transactions																					
	Lawyer																					
	Accountant																					
	Title search																					
	Minerals determination																					
	Phase I Environmental Assessment																					
	Signed option or purchase and sale agreement																					
	Land trust partnership																					
	Assistance working through the financing process																					
	Advocate or representative to negotiate with the financing partner or bank																					
	Flexible, "patient" capital for acquisition																					
	Ecotrust Forest Management (EFM)																					
	Conservation Financing																					
	Option payment to landowner																					

Table 6. Stewardship Detailed Tasks, Activities, and Needs.

Notes:

What	Who / How	When	Year 1				Year 2				Year 3 *				Year 4				Year 5			
			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Stewardship																						
Implementation of conservation and forest management plans																						
Advice related to governance and oversight of the asset																						
Community forestry governance matrix - other legal templates																						
Development of community programs																						
Long-term ecological monitoring																						
Development of new revenue from the forest that might include managing for ecological services																						
Access to information and technical assistance to steward land for ecological services																						

Sources and Uses of Funds

Project development costs

Planning	\$9,000
Outreach and marketing	\$22,800
Legal	\$0
Option payment	
Inventory and sample design	\$3,674
Cruise	\$41,250
Appraisal	
Subtotal project development activities	\$76,724

Acquisition costs

Area (acres)	2,212
Market price (\$/acre)	\$3,000
Market Value (\$)	\$6,636,000
Closing Costs (%)	4.00%
Closing Costs (\$)	\$265,440
Subtotal acquisition costs	\$6,901,440
Total	\$6,978,164

North Coast Land Conservancy Campaign	(for reference)
Capital campaign	\$10,000,000
USFS Community Forest Grant Application	\$600,000

Project development sources

DEQ 319 Professional Services with Sustainable N	\$9,000
OWEB stakeholder engagement coordinator	\$22,800
ACDWSO 2018 budget allocation	\$55,000
Subtotal project development sources	\$86,800

Acquisition funding sources

Federal Forest Legacy Fee Simple	\$3,500,000
Federal Forest Legacy Easement	\$1,000,000
Loan, CWSRF or other	\$1,500,000
State grant or easement	300,000
Foundation grant	100,000
Donations and gifts	500,000
Total	\$7,073,600

Table 1. SilviaTerra Inventory Sampling Design (source: Springboard Forestry)

Owner	Phase	Percent	Acreage	Cost	\$ cruiseboost	%	\$ data	\$ total	
NCLC		1	1330	\$2,660.00	NCLC Total		66%	\$460.98	\$7,085.98
NCLC		2	1691	\$3,382.00	Arch Cape Tota		34%	\$239.02	\$3,674.02
Arch Cape		3	1426	\$2,852.00	TOTAL			\$700.00	\$10,760.00
NCLC	easement	50%	583	\$583.00					
Arch Cape	easement	50%	583	\$583.00					
TOTAL			5030						
	Arch Cape total acreage		2009						

Table 2. Cost estimates for inventory, cruise, and appraisal

Sample design	(\$/acre)	\$2
Total area	(acres)	5030
Plots	(low)	750
	(high)	1500
Inventory cost per plot	(low)	\$35
	(high)	\$55
Inventory total cost	(low)	\$26,250
	(high)	\$41,250
Appraisal	(low)	\$10,000
	(high)	\$15,000

Note: update the numbers in blue after the cruise goes out to bid

Inventory and sample design	\$3,674
Cruise	\$41,250
Appraisal	\$15,000

Cost for Management Plan and other Forest Inventory

(Estimate from K. Hanson, Northwest Natural Resource Group, emailed 6/13/2017)

	Low	High
Management plan	\$15,000	\$20,000
Growth and yield modeling	\$4,000	\$6,000
Appraisal	\$10,000	\$15,000

Forest Inventory cost estimates

For 3,500 acres	\$40,000
For 1,500 acres	\$35,000

Note: 1,000 less acres only costs \$5,000 less dollars

Stakeholders

Arch Cape Domestic Water Supply District
North Coast Land Conservancy
Sustainable Northwest
Arch Cape Sanitary District
Arch Cape / Falcon Cove Community Club
Ecotrust
Ecotrust Forest Management (EFM)
GreenWood Resources
LynScot Ventures
David Price
Gus Harb
Ecola Creek Watershed Council
Necanicum Watershed Council
The Climate Trust
The Pinchot Institute
City of Astoria

Role

Client and project director
Neighbor / Regional Land Trust
Project coordinator
Stakeholder / Member of the Board
Stakeholder
Regional nonprofit / mapping expert
TIMO and manager of Onion Peak Holdings
Regional TIMO / landowner (not a direct neighbor)
Owner within the watershed
Owner within the watershed
Owner within the watershed
Watershed council to the north
Watershed council to the south
Regional carbon credit aggregator
Direct support to small family forestland owners
Public works owns and manages a forest primarily for water quality benefits

Goals	Strategies	Roles and Responsibilities
<p>1. Clearly identify the parties involved (i.e. Ecotrust Forest Management, Arch Cape Domestic Water Supply District, Arch Cape Sanitary District, Sustainable Northwest, North Coast Land Conservancy, etc.) and their interests in the establishment of a community-owned forested watershed.</p> <p>2. Identify current land use practices in order to establish a baseline to quantify the ecosystem services (i.e. carbon sequestration, timber harvest, water provision, sedimentation, etc.) associated with changes in land management practices under community-ownership.</p> <p>3. Establish that Ecotrust Forest Management (EFM) is a willing seller and negotiate a purchase and sale agreement with EFM.</p> <p>4. Develop a capital campaign strategy that identifies sources of public funding, private capital, and potential debt financing. Explore rate-based funding for acquisition and watershed management.</p> <p>5. Pursue joint funding opportunities and secure \$30,000 in grant funding to support preliminary planning.</p> <p>6. Develop educational material(s) for members of the community and the public that will inform and engage interested stakeholders in the process. Ensure a transparent and open process that provides ample opportunity for community engagement. Maintain a standing agenda item on the District Board of Directors monthly agenda to discuss watershed acquisition.</p> <p>7. Sustainable Northwest will present community forest governance models to the District Board, and work together to establish a locally-supported community forest governance model.</p> <p>8. Identify potential new sources of landowner revenue, including but not limited to, local wood products, renewable energy, hunting and fishing amenities, and ecosystem services.</p>	<p>Community Capacity Building and Facilitation</p> <p>Conservation Planning</p> <p>Acquisition and Financing</p> <p>Acquisition and Financing</p> <p>Funding</p> <p>Community Capacity Building and Facilitation</p> <p>Community Capacity Building and Facilitation</p> <p>Economic Development</p>	

Strategies

Community Capacity Building and Facilitation

Funding

Conservation Planning

Economic Development

Acquisition and Financing

Stewardship

FFLP Scoring Criteria

Importance

- Economic Benefits from Timber and Potential Forest Productivity
- Economic Benefits from Non-timber Products
- Threatened or Endangered Species Habitat
- Fish, Wildlife, Plants, and Unique Forest Communities
- Water Supply, Aquatic Habitat, and Watershed Protection
- Public Access
- Scenic
- Historical/Cultural/Tribal

Threatened

- e.g. development plans, permits, or lot line adjustments, threat of parcelization,*
- Lack of protection
- Land and landowner circumstances
- Adjacent land use and Ability to develop

Strategic

- e.g. Oregon Conservation Strategy*
- Proximate forestlands of conservation significance

Readiness

- Cost Estimate Based on Completed Market Analysis or Preliminary Appraisal Conceptual Agreement with Landowner on Acquisition or Easement Terms
- The Amount of Secured Non-Federal Cost Share Funding
- Signed Option or Purchase and Sale Agreement
- Title Search is Completed
- Minerals Determination Completed
- Forest Stewardship Plan (or Equivalent) Completed

Oregon's Forest Management Plan Template

- Maps and aerial photographs
- Location and access
- Boundary markings
- Topography as it relates to logging operability
- Timber stands and other cover types
- Site quality for growing trees, usually expressed as a site index
- Legal and physical limitations on timber harvest
- Local timber markets
- Timber market trends
- Delivered log prices
- Logging costs
- Hauling costs
- Road construction and maintenance costs
- Site cleanup costs
- Administrative expenses
- Harvest taxes
- Site preparation and reforestation costs
- Allowance for profit and risk
- Potential harvest delays due to legal or other considerations
- Other potential revenues or costs



Accuity, LLC
CERTIFIED PUBLIC ACCOUNTANTS

June 14, 2018

Arch Cape Domestic Water Supply District
32065 East Shingle Mill Lane
Arch Cape, Oregon 97102

This letter is to confirm our understanding of the terms and objectives of our engagement and the nature and limitations of the services we will provide to Arch Cape Domestic Water Supply District for the year ending June 30, 2018.

We will prepare the modified cash basis financial statements of the governmental activities, each major fund, and the aggregate remaining fund information, including the related notes to the modified cash basis financial statements, and perform a review engagement with respect to those financial statements.

Our Responsibilities

The objective of our engagement is to –

- 1) Prepare financial statements in accordance with the modified cash basis of accounting based on information provided by you, and
- 2) Obtain limited assurance as a basis for reporting whether we are aware of any material modifications that should be made to the financial statements in order for them to be in accordance with the modified cash basis of accounting.

We will conduct our review engagement in accordance with Statements on Standards for Accounting and Review Services promulgated by the Accounting and Review Services Committee of the AICPA and comply with applicable professional standards, including the AICPA's *Code of Professional Conduct*, and its ethical principles of integrity, objectivity, professional competence, and due care, when preparing the financial statements and performing the review engagement.

A review engagement includes primarily applying analytical procedures to your financial data and making inquiries of management. A review engagement is substantially less in scope than an audit engagement, the objective of which is the expression of an opinion regarding the financial statements as a whole.

A review engagement does not contemplate obtaining an understanding of the District's internal control; assessing fraud risk; testing accounting records by obtaining sufficient appropriate audit evidence through inspection, observation, confirmation, or other examination of source documents; or other procedures ordinarily performed in an audit engagement. Accordingly, we will not express an opinion regarding the financial statements.

Our engagement cannot be relied upon to identify or disclose any financial statement misstatements, including those caused by fraud or error, or to identify or disclose any wrongdoing within the District or noncompliance with laws and regulations. However, we will inform the appropriate level of management of any material errors and any evidence or information that comes to our attention during the performance of our review procedures that fraud may have occurred. In addition, we will inform you of any evidence or information that comes to our attention during the performance of our review procedures regarding any wrongdoing within the District or noncompliance with laws and regulations that may have occurred, unless they are clearly inconsequential. We have no responsibility to identify and communicate deficiencies or material weaknesses in your internal control as part of this engagement.

We, in our sole professional judgment, reserve the right to refuse to perform any procedure or take any action that could be construed as assuming management responsibilities.

Your Responsibilities

The engagement to be performed is conducted on the basis that you acknowledge and understand that our role is to prepare financial statements in accordance with the modified cash basis of accounting and to obtain limited assurance as a basis for reporting whether we are aware of any material modifications that should be made to the financial statements in order for the statements to be in accordance with the modified cash basis of accounting. You have the following overall responsibilities that are fundamental to our undertaking the engagement in accordance with SSARS:

- 1) The selection of the modified cash basis of accounting as the financial reporting framework to be applied in the preparation of the financial statements.
- 2) The preparation and fair presentation of financial statements in accordance with the modified cash basis of accounting and the inclusion of all informative disclosures that are appropriate for the modified cash basis of accounting.
- 3) The design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the financial statements.
- 4) The prevention and detection of fraud.

- 5) To ensure that the District complies with the laws and regulations applicable to its activities.
- 6) The accuracy and completeness of the records, documents, explanations, and other information, including significant judgments, you provide to us for the engagement.
- 7) To provide us with—
 - Access to all information of which you are aware is relevant to the preparation and fair presentation of the financial statements, such as records, documentation, and other matters.
 - Additional information that we may request from you for the purpose of the review engagement.
 - Unrestricted access to persons within the District of whom we determine it necessary to make inquiries.
- 8) To provide us, at the conclusion of the engagement, with a letter that confirms certain representations made during the review.
- 9) Including our review report in any document containing financial statements that indicates that we have performed a review engagement on such financial statements and, prior to inclusion of the report, to ask our permission to do so.

You are also responsible for all management decisions and responsibilities and for designating an individual with suitable skills, knowledge, and experience to oversee our preparation of your financial statements. You are responsible for evaluating the adequacy and results of the services performed and accepting responsibility for such services.

Our Report

We will issue a written report upon completion of our review of Arch Cape Domestic Water Supply District's financial statements. Our report will be addressed to the board of directors of Arch Cape Domestic Water Supply District. We cannot provide assurance that an unmodified accountant's review report will be issued. Circumstances may arise in which it is necessary for us to report known departures from accounting principles generally accepted in the United States of America, add an emphasis-of-matter or other-matter paragraph(s), or withdraw from the engagement. If, for any reason, we are unable to complete the review of your financial statements, we will not issue a report on such statements as a result of this engagement.

Other Relevant Information

You are responsible for assuming all management responsibilities, and for overseeing any bookkeeping services or other services we provide by designing an individual, preferably within senior management, who possesses suitable skill, knowledge, or experience. In addition, you are responsible for evaluating the adequacy and results of the services performed and accepting responsibility for the results of such services.

We may from time to time, and depending on the circumstances, use third-party service providers in serving your account. We may share confidential information about you with these service providers, but remain committed to maintaining the confidentiality and security of your information. Accordingly, we maintain internal policies, procedures, and safeguards to protect the confidentiality of your personal information. In addition, we will secure confidentiality agreements with all service providers to maintain the confidentiality of your information and we will take reasonable precautions to determine that they have appropriate procedures in place to prevent the unauthorized release of your confidential information to others. In the event that we are unable to secure an appropriate confidentiality agreement, you will be asked to provide your consent prior to the sharing of your confidential information with the third-party service provider. Furthermore, we will remain responsible for the work provided by any such third-party service providers.

You are required to disclose in the financial statements the date through which subsequent events have been evaluated and whether that date is the date the financial statements were issued or were available to be issued. You agree that you will not date the subsequent event note earlier than the date of the management representation letter.

With regard to the electronic dissemination of the financial statements, including financial statements published electronically on your website, you understand that electronic sites are a means to distribute information and, therefore, we are not required to read the information contained in these sites or to consider the consistency of other information in the electronic site with the original document.

We expect to begin our review on August 27, 2018, and issue our report no later than December 31, 2018. Glen O. Kearns is the engagement partner and is responsible for supervising the engagement and signing the reports or authorizing another individual to sign them.

To ensure that Accuity, LLC's independence is not impaired under the AICPA Code of Professional Conduct, you agree to inform the engagement partner before entering into any substantive employment discussions with any of our personnel.

Our fees for these services will be based on the value of the services rendered, plus out-of-pocket expenses. We estimate that our fees for these services, including out-of-pocket costs (such as report reproduction, typing, postage, copies, or travel), will be \$3,500 for the

review. The fee estimate is based on anticipated cooperation from your personnel and the assumption that unexpected circumstances will not be encountered during the engagement. If significant additional time is necessary, we will discuss it with you and arrive at a new fee estimate. Our invoices for these fees will be rendered each month as work progresses and are payable upon presentation. In accordance with our firm policies, work may be suspended if your account becomes 30 days or more overdue, and will not be resumed until your account is paid in full. If we elect to terminate our services for nonpayment, our engagement will be deemed to have been completed upon written notification of termination, even if we have not completed our report. You will be obligated to compensate us for all time expended and to reimburse us for all out-of-pocket expenditures through the date of termination.

If you intend to publish or otherwise reproduce the financial statements and make reference to our firm, you agree to provide us with printers' proofs or masters for our review and approval before printing. You also agree to provide us with a copy of the final reproduced material for our approval before it is distributed.

If this engagement letter is written in support of any existing bid or contract, in case of any conflict between such agreement and this letter, this letter will control.

If any of the above sections or clauses are held to be invalid for any reason, or are declared to be null and void, all other sections and clauses of this agreement shall remain valid, will not be nullified, and are hereby further affirmed.

Venue of all matters arising from this agreement, this engagement, and subsequent engagements shall reside in Albany, Linn County, Oregon.

Any dispute, controversy, or claim rising out of this agreement shall be settled by binding arbitration under the arbitration rules of the Linn County Circuit Court. There shall be one arbitrator selected from the Circuit Court Panel of Arbitrators and the proceeding shall follow the Oregon Rules of Civil Procedure. The arbitrator shall have the authority to award any remedy or relief that an Oregon court could order or grant, including, without limitation, specific performance of any obligation created under this agreement, the issuance of an injunction, or the imposition of sanctions for abuse or frustration of the arbitration process, except that the arbitrator shall not have authority to award punitive damages or any other amount for the purpose of imposing a penalty as opposed to compensating for actual damages suffered or loss incurred. With respect to any action relating to this agreement, the prevailing party shall be entitled to recover from the losing party its reasonable attorney's fees, paralegal fees, expert fees, and all other fees, costs, and expenses actually incurred and reasonably necessary in connection with such action as determined by the arbitrator.

Our engagement ends upon delivery of our review report. Any follow-up services that might be required will be a separate, new engagement. The terms and conditions of that new engagement will be governed by a new specific engagement letter for that service.


We appreciate the opportunity to be of service to you and believe this letter accurately summarizes the significant terms of our engagement. If you have any questions, please let us know. If you agree with the terms of our engagement as described in this letter, please sign the enclosed copy and return it to us.

Very truly yours,


Accuity, LLC

RESPONSE:

This letter correctly sets forth the understanding of Arch Cape Domestic Water Supply District.

By: 
VP ACD WSD

Title: RON SCHIEFMAN

Date: 6/15/2018

REVIEW CONTRACT

THIS CONTRACT, made this 14th day of June 2018, in accordance with the requirements of Oregon Revised Statutes 297.435 and Oregon Administrative Rules 162-040-020 through 162-40-160 of the Minimum Standards for Reviews of Oregon Municipal Corporations between ACCUITY, LLC, Certified Public Accountants of Albany, Oregon and ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT, Arch Cape, Oregon, provides as follows:

It hereby is agreed that ACCUITY, LLC shall conduct a review of the financial statement of ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT, Arch Cape, Oregon for the fiscal years ending June 30, 2018, 2019, and 2020, in accordance with Statements on Standards for Accounting and Review Services issued by the American Institute of Certified Public Accountants and in accordance with the Minimum Standards for Review of Oregon Municipal Corporations. The review shall be undertaken in order to express limited assurance upon the financial statements of ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT and to determine if the District has complied substantially with appropriate legal provisions.

ACCUITY, LLC agrees that the services they have contracted to perform under this contract shall be rendered by them or under their personal supervision and that the work will be faithfully performed with care and diligence.

It is understood and agreed that, should unusual conditions arise or be encountered during the course of the audit whereby the services of ACCUITY, LLC are necessary beyond the extent of the work contemplated, notification of such unusual conditions shall be delivered to ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT, Arch Cape, Oregon who shall instruct ACCUITY, LLC concerning such additional services.

The review shall be started as soon after this contract is executed as is agreeable to the parties hereto and shall be completed and a written report thereon delivered within a reasonable time, but not later than December 31 after the close of each annual period covered by this contract. Adequate copies of such report shall be delivered to ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT, Arch Cape, Oregon, and its form and content shall be in accordance with and not less than that required by the Minimum Standards for Reviews of Oregon Municipal Corporations.

It is understood and agreed that ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT, Arch Cape, Oregon is responsible for such financial statements as may be necessary to fully disclose and fairly present the results of operations for the period under audit and the financial condition at the end of that period. Should such financial statements not be prepared and presented within a reasonable period of time, it is understood that ACCUITY, LLC shall draft them for ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT, Arch Cape, Oregon. The cost of preparing such financial statements shall be included in the fee for conducting the audit as set forth below.

It is understood that this contract is renewable annually for years ending June 30, 2021 and thereafter at the option of the City Council with fees to be established by mutual agreement.

It is understood and agreed that either party may cancel this contract by giving notice in writing to the other party at least ninety (90) days prior to July 1 of any year or by mutual agreement at any other time. ACCUITY, LLC will be entitled to receive compensation under this contract for all time expended and reimbursement for all out-of-pocket expenses incurred through the date of termination.

In consideration of the faithful performance of the conditions, covenants, and undertakings herein set forth, ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT, Arch Cape, Oregon, hereby agrees to pay ACCUITY, LLC the sum of \$3,500 per year for the years ending June 30, 2018, 2019, and 2020. ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT hereby affirms that proper provision for the payment of such fee has been or will be duly made and that funds for the payment thereof are or will be made legally available.

If any of the above sections or clauses are held to be invalid for any reason, or are declared to be null and void, all other sections and clauses of this contract shall remain valid, will not be nullified, and are hereby further affirmed.

Venue of all matters arising from this agreement, this engagement, and subsequent engagements shall reside in Albany, Linn County, Oregon. Any dispute, controversy, or claim arising out of this agreement shall be settled by binding arbitration under the arbitration rules of the Linn County Circuit Court. There shall be one arbitrator selected from the Circuit Court Panel of Arbitrators and the proceeding shall follow the Oregon Rules of Civil Procedure. The arbitrator shall have the authority to award any remedy or relief that an Oregon court could order or grant, including, without limitation, specific performance of any obligation created under this agreement, the issuance of an injunction, or the imposition of sanctions for abuse or frustration of the arbitration process, except that the arbitrator shall not have authority to award punitive damages or any other amount for the purpose of imposing a penalty as opposed to compensating for actual damages suffered or loss incurred. With respect to any action relating to this agreement, the prevailing party shall be entitled to recover from the losing party its reasonable attorney's fees, paralegal fees, expert fees, and all other fees, costs, and expenses actually incurred and reasonably necessary in connection with such action as determined by the arbitrator.

ACCUITY, LLC



GLEN O. KEARNS, CPA

June 14, 2018

DATE

ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT



RON SCHIFFMAN, VICE-PRESIDENT

6/15/2018

DATE

May 14, 2018

CURRAN-McLEOD, INC.
CONSULTING ENGINEERS

6655 S.W. HAMPTON STREET, SUITE 210
PORTLAND, OREGON 97223

Mr. Phil Chick, Manager
Arch Cape Water District
32065 East Shingle Mill Lane
Arch Cape, OR 97102

**RE: ARCH CAPE WATER DISTRICT
SUSTAINABLE INFRASTRUCTURE PLANNING PROJECT (SIPP) STATUS**

Dear Phil:

It has been nearly a year since we sent our last status letter to the Board on the efforts to secure a redundant water source for the District. With this letter report, we intend to summarize all of the efforts to secure an additional source, and close out the Sustainable Infrastructure Planning Project (SIPP) grant from IFA. After more than a year of exploring surface and groundwater sources, we have not been able to identify a feasible source that we would recommend developing.

As detailed in the Water Management & Conservation Plan prepared in 2015, the District is currently supplied by the gravity Shark Creek source for the majority of the year. The District's rights include withdrawing 0.12 CFS or 77,500 gallons per day, assuming minimum stream flow is maintained.

When Shark Creek stream flows drop below 0.6 CFS measured downstream of the intake, the District has only a limited senior right to 0.05 CFS, or 32,000 gallons per day. When Shark Creek flows drop off, the District switches to the Asbury Creek source. It has not been the District's practice to use the limited Shark Creek flow during the summer season, although in the event of an Asbury Creek source interruption, the limited Shark Creek supply could be immediately on-line with the existing piping and treatment improvements in-place.

The source used during low stream flow summer periods is Asbury Creek. The District has a right to withdraw by pump as much as 0.3 CFS, or 194,000 gallons per day, if minimum stream flow of 0.10 CFS (45 gpm) is maintained. Currently this source is approved to provide 0.145 cfs, or 94,000 gallons per day, although the pumping equipment can deliver the entire permitted right.

The Water Management & Conservation Plan (WMCP) acknowledges concerns about system redundancy. Two issues of concern raised in the WMCP included the fish persistence needs and the potential for contamination of the water source both have the potential to interrupt the summer source. The fish persistence issue was resolved without impacting the available rights. Potential contamination remains a concern as well as mechanical reliability.

This SIPP project was initiated to explore options to provide system redundancy during the summer periods. This work included evaluating surface water and ground water sources that could potentially provide backup to the Asbury Creek system.

SYSTEM DEMAND PROJECTIONS

Water demands were summarized in the WMCP, based on the maximum values recorded. The following estimate projects demands at 1% per year through the year 2100.

Arch Cape Water District
Estimated Water System Demands
May 2018

	<i>Average Demand (GPD)</i>	<i>Peak Month GPD)</i>	<i>Peak Day (GPD)</i>
2020	34,000	67,700	83,600
2025	35,800	71,100	87,864
2030	37,600	74,700	103,400
2035	39,600	78,600	108,700
2050	45,900	91,200	126,000
2075	58,900	117,000	162,000
2100	75,500	150,000	207,500

Asbury Creek can supply up to 194,000 gpd if remaining stream flows are 0.1 CFS or greater, which corresponds to the Level 1 Curtailment flows from the WMCP. This flow is able to meet the peak day demands nearly to the end of the century, although this source will always be dependent on mechanical and electrical improvements at the pumping station. An extended failure of the Asbury Creek mechanical, electrical or a potential water contamination event could result in an interruption of water to the District customers, with very limited redundant supply.

Shark Creek discharges into Asbury Creek above the Asbury intake, so normally the Shark Creek flow helps maintain the minimum stream flow measured for Asbury Creek. If the Asbury Creek source facility were to fail during the dry season, Shark Creek can be placed on-line and supply approximately 32,000 gallons per day.

ALTERNATIVE SOURCE DEVELOPMENT

Surface Water:

The WMCP text includes a very thorough summary of surface water rights available within the general District boundaries. The first conclusion in the WMCP is that no additional development of water supplies could be expected from Shark and Asbury Creeks. Arch Cape Creek is the alternative surface water source to evaluate.

Arch Cape Creek has three existing rights that could potentially be transferred to the District. Theo Dichter Company (Permit No. 23142) has a 0.3 CFS, or 135 gpm, of perfected rights on a tributary to Arch Cape Creek. Similarly, Angelo Costanzo (Permit No. 24778) has a certificated right of 0.10 CFS or 65,000 gallons per day on Arch Cape Creek. Both of these rights have priority dates in the 1950's and each certificate lists domestic use in Arch Cape as an approved use.

The Arch Cape Shingle Company (Permit No. 17721) also has a certificated right on Arch Cape Creek for 0.23 CFS, or 150,000 gallons per day, specifically for log pond and fire protection uses that were discontinued many years ago.

The capacity of Arch Cape Creek has not been quantified; however, this creek is known to have low flows in the summer season. An extended monitoring program should be undertaken if this source is anticipated to be developed. Additionally, the WMCP acknowledges some concern about the proximity of the wastewater treatment facility and the existing outfall into Arch Cape Creek.

The shortcoming of developing any of the rights on Arch Cape Creek is that it would require treatment as a surface water source. The District would either need to construct a second water treatment facility near the south end of the District, and could then inject water directly into the distribution system. Or alternatively, the District could pump the collected water approximately 8,000 feet to the existing supply line to the plant on Shark Creek Lane.

The most feasible surface water intake would be to develop the Dichter right at a location south of Arch Cape Creek. This would likely be located within the Oswald West State Park and ideally be located at an elevation of 200 feet or higher. This would require many approvals but could provide the best water quality and could then be fed into the system by gravity.

If a satellite treatment facility were to be located at the south end of the District it could be sized to provide full redundancy through the next 20-year planning period. Attached in the appendix of this text are cost estimates for an 80 gallon per minute, or 110,000 gpd, Bag Filter or Membrane Filter, depending upon the water quality of the selected point source. An 80 gpm bag filter treatment system is estimated to cost \$325,000. A similarly sized membrane facility is estimated at \$710,000.

It may be feasible to develop a horizontal directional well at the Dichter Creek intake site. If a pristine location could be identified, treatment may be limited to chlorination only. This would be difficult to secure approvals and locate the intake but would reduce costs substantially.

Alternatively, a new source could be piped to the existing water treatment plant for treatment. A 4" pipeline from the intake south of Arch Cape Creek to the existing discharge line from the Asbury Creek Pump Station would need to be approximately 8,000 feet long. Using horizontal directional boring technology, a 4" PVC pipeline is estimated to cost approximately \$55 per foot, including engineering and construction, for a total of approximately \$450,000.

This configuration would utilize the existing treatment plant equipment and not require substantial changes at the plant. Although, for the cost differences, it would be prudent to consider the redundancy and the increased system capacity that would be available from second treatment facility. If development of Arch Cape Creek or its tributaries is the selected option, a second treatment facility would be recommended.

Groundwater Source:

Well development has been the prime objective of the SIPP project due to its relatively low cost and high water quality, which would require minimal, if any, treatment. However, the capacity of groundwater wells is known to be very low.

The District retained a geologist Mr. Paul See in 1993 to investigate potential locations for well development. His report, which is attached in the appendix of this letter report, indicated locating water in this reach is a very challenging task. His report recommended three test sites, the first being on Shark Creek Lane approximately 1,000 feet east of Highway 101.

As a part of this SIPP project, the District retained a hydrogeologist, Mr. John Jenkins, to complete a new review of existing wells and geology in order to recommend a location for a test well. His report is attached in the appendix of this text. Mr. Jenkins inventoried all wells in the District with a summary of soil conditions, depths, capacity and ownership.

The existing wells demonstrate the variability of the soils. One well may be productive and the well in the adjoining lot may not. We see that occurring on Hemlock Street with one well producing 45 gpm at 65 feet deep and the adjacent well producing only 10 gpm and drilled to 100 feet depth. Many wells were noted to have "no measurable water".

Mr. Jenkins' conclusion is that the best areas to drill a new well would be near Hemlock Street or Buena Vista Drive, primarily due to the capacity of the wells in these two areas. The Horowitz well (45 gpm) and MacQueen well (60 gpm) are located in these areas. The next choice would be on Shark Creek Lane.

Based on the recommendations of both Mr. See and Mr. Jenkins, the District attempted to locate an acceptable site for a well development. The Oregon Health Authority, Drinking Water section has very specific regulations on the location of municipal wells. These requirements are defined in OAR Chapter 333-61-050 Construction Standards. The most challenging requirement for an acceptable location is to have control or restrictive easements for 100 feet surrounding the well.

Multiple sites were identified which had marginal clearances and the District contacted each land owner. In summary, we were unable to negotiate the required restriction with ANY property owners in the lower terrain near the specific locations recommended for test wells.

The District's Water Treatment Plant site is located approximately 800 feet east of the recommended test well locations, and the site provides the required clearances for the test well site. This location was pre-approved by OHA for a municipal well site, and a 6" test well was installed on April 26, 2018.

The test well was placed on the east side of the treatment facility and required minimal site improvements to provide access for the drilling equipment. The test well extended 159 feet below grade. The final outcome unfortunately indicated no measureable water was found at this location.

There are two privately-owned wells within the service district that have surplus capacity, beyond the needs of the owners. These include the Horowitz well at 45 gpm, and the MacQueen well at 60 gpm. The District currently has no intent to pursue either of these wells due to their private ownership, but also as a result of the difficulty in improving the wells to meet the standards for a municipal supply well.

In summary, we are recommending the District abandon the efforts to secure a well site for a redundant source.

Regional Interconnections:

The WMCP discusses the existing capability of the Cannon View Park water system to supply Arch Cape during a source emergency. A reciprocal agreement and the piping are generally in place to accommodate this supply, although this would be at 5 psi lower system pressure than normal for Arch Cape Water District. Additionally, the total source for Cannon View Park is approximately 10,000 gallons per day.

The reciprocal agreement is beneficial for Cannon View Park and service to Cannon View can easily be accommodated by the ACWD. Service to ACWD from Cannon View Park is essentially not beneficial due to their small capacity.

We understand Cannon View Park may have the potential to develop additional spring sources and secure additional water rights. If an additional 30 gallons per minute spring source(s) can be found and developed, Cannon View Park could be a viable redundant source in an emergency. It would be cost effective for ACWD to work with Cannon View Park to explore this option to the benefit of both agencies.

The Arch Cape water service district is approximately 3,000 feet north of the Falcon Cove Beach Domestic Water Supply District. The Arch Cape service district is also located approximately 3 miles south of the City of Cannon Beach service boundaries. Due to the requirements for construction in the state highway, limited right-of-way and the existing highway tunnel restrictions, construction of a pipeline to either of these neighboring systems would be prohibitively expensive relative to the short-term benefit during an emergency.

SUMMARY & RECOMMENDATIONS

This project and the District have thoroughly explored development of additional surface water sources, ground water and interconnections with adjacent service boundaries to support the Arch Cape Water District. No assured source development was identified in this study scope to provide additional redundancy, although a potential for surface water from Dichter Creek and the development of additional springs in the Cannon View Park system have some potential.

It became apparent that in the event of a mechanical failure of the Asbury Creek source, Shark Creek could immediately begin supplying 0.05 cfs, or 32,000 gallons per day, any time of the year, regardless of stream flows. This is truly a redundancy, although of limited capacity. In conjunction with the District's 500,000 gallon storage reservoir, this source redundancy would be adequate for many days or weeks upon the loss of the Asbury Creek facility.

Protection from mechanical and electrical failures could be improved by additional protection built into the Asbury Creek source. A review of the electrical and mechanical systems would be beneficial to determine the system vulnerabilities and build additional reinforcement. This might include portable auxiliary power supplies, dual control systems or stocking redundant electrical components, and redundant mechanical piping.

Recommended actions to follow upon this report include:

1. Complete a vulnerability review of the Asbury Creek Pump Station facility to determine the level of redundancy available in the mechanical/electrical system and the improvements required to resolve any weakness.
2. Explore the potential of developing the Dichter Creek source, including identifying a potential point of intake and coordination with OWRD, OHA and Oregon State Parks to determine the feasibility of securing the required permits and approvals.
3. Explore the potential of working jointly with Cannon View Park and OWRD to identify additional springs that could provide additional source capacity, and the mechanical piping connection to utilize the water in the ACWD system.

Development of source redundancy is still an important issue for the Water District to provide uninterrupted service to all users. The source development budget estimated in the current Water System Development Charge should remain in the District's Capital Improvement Plans to fund the actions identified by this report, and to account for future redundancy efforts.

Very truly yours,

CURRAN-McLEOD, INC.


Curt J. McLeod, P.E.

Attachments: Paul See & Associates Geologic Considerations Letter, March 1993
John Jenkins Hydrologic Information Summary, March 2018
Water Treatment Plant Development Cost Estimates, May 2018
ACWD Well #L 129951 Log, April 30, 2018



Phil Chick <philchickacutil@gmail.com>

Cannon View Park water to back up ACWD

1 message

Richard Gibson <richard.gibson@comcast.net>
To: Chick Phil <philchickacutil@gmail.com>

Sat, Jun 9, 2018 at 3:26 PM

Hi Phil,

As you know, Cannon View Park (CVP) is currently collecting water from two springs, which together produce 20,000 gal a day or so in the nine wet months and about 8,000 gal a day at the end of the summer. We have rights to three other springs, which would double our supply for a total of more than 40,000 gal a day in the nine wet months and no less than 16,000 gal a day at the driest part of the summer.

I see from reading your notes that ACWD is looking for auxiliary water supply. I think that developing our other three springs could be a cost-effective backup for ACWD. Would you be interested in having your engineer evaluate our three undeveloped springs?

Thanks, Richard

ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT

RESOLUTION 18-04 WD

A RESOLUTION ESTABLISHING THE BUDGET FOR FISCAL YEAR 2018-2019 FOR THE ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT.

IT IS HEREBY RESOLVED AND ORDERED that the Arch Cape Domestic Water Supply District Budget approved and recommended by the Budget Committee on 18 May 2018 for the fiscal year beginning July 1, 2018 in the total amount of **\$486,548** and for the purposes shown below are hereby appropriated as follows:

General Fund

Personal Services	\$189,945
Materials & Services	\$159,918
Capital Outlay	\$ 0
Debt Service	\$20,772
Contingencies	<u>\$38,000</u>
Total General Fund	\$408,635

Capital Fund

Capital Outlay	\$ 0
Contingencies	<u>\$77,913</u>
Total Capital Fund	\$77,913

Total Appropriations **\$486,548**

The above resolution statements were approved and declared adopted on this 15th day of June 2018.

Attest


Steve Hill, Secretary


Ron Schiffman, Vice-President

ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT


RESOLUTION 18-05 WD

A RESOLUTION TO AMEND the 2017-2018 Fiscal Year Budget

BE IT RESOLVED that the Arch Cape Domestic Water Supply District hereby amends the 2017-18 Budget as follows:

Transfer appropriations from Contingency \$3,000.00 to Personal Services.

Dated this 15th day of June 2018.



Ron Schiffman, Vice-President

Attest 

Steve Hill, Secretary

ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT
RESOLUTION NO. 18-06 WD
AMENDING
ARCH CAPE DOMESTIC WATER SUPPLY DISTRICT
COMPENSATION POLICY
RESOLUTION NO.16-06

Compensation

Wage Policy:

DELETE the language: "which shall be adjusted annually each March as measured by the most recently available Annual COLA Percentage Change, United States Department of Labor, Bureau of Labor Statistics, Portland CPI-U."

ADD the language: "which shall be adjusted annually each March by the Board of Commissioners of the Arch Cape Domestic Water Supply District (ACDWSO), in consideration of relevant data regarding annual cost of living increases regionally and locally, as a guiding factor."


Annual Maximum Increases

DELETE the paragraph in whole and in part:

"Annual Maximum Increases: Total compensation adjustments of any kind whatsoever, including but not limited to salary increases based upon performance review and/or COLA, shall not exceed four percent (4%) in any fiscal year."


Vice-President, **RON SCHIFFMAN**

Adopted: 15 June 2018

Attest: 

Manager Report June 15, 2018

WATER:

Water usage for the month of May was 829,000 gallons. We received 1.38” of rainfall last month. Total rainfall is down 20 inches, comparing January through May totals to last year at this time. The Asbury Creek intake is online and in use for the season.

Staff and Bob McEwan Construction repaired a prolonged service line leak on Montbrechia Lane June 7th, as well as identified a homeowner hose bib on Cannon Rd. left running for 24 hours.

The District’s annual Consumer Confidence Water Quality Report has been completed. A hard copy is available at the office. A notice was placed within the June water invoices directing customers with a link directing to the report online on the archcape.com website.

Special Districts Insurance Services (SDIS) conducted a risk management consultation of the District on May 8th (see attached document). Our facility was found to be in good condition, with the recommendation to complete the Loss Control Program Toolkit Evaluation provided by SDIS in the coming year. This is a hazard control/identification exercise designed to improve the overall health and safety of Districts and their employees. We will comply with SDIS’ recommendation by the end of summer.

MONTHLY LOG : ARCH CAPE WATER & SANITARY DISTRICTS

May 2018

Total Hours	368.00	174.50	193.50
Percentage Split		47%	53%
Total Accounts	631	290	341
Percentage Split		46%	54%