

Central Valley Chapter - California Land Surveyors Association

www.californiacentralvalleysurveyors.org

Central Valley Chapter THE PRISM



All Chapter meetings are
"To be Determined at this time."
Below is a list of scheduled dates:

January 27, 2021

February 24, 2021

March 24, 2021

Please see the Chapter website at

<https://californiacentralvalleysurveyors.org/printing-press>

for more information.

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Announcements

CHAPTER HAS NEW WEBSITE

The Central Valley Chapter has new website and Mail List. To check out the new site and sign up for the new mail list, go to <https://californiacentralvalleysurveyors.org/printing-press/>

SURVEY EXAM SCHEDULE

FS (LSIT) - Computer based, offered year round

PS (NCEES LS) - Computer based, offered year round

CA LS - APRIL 14, 2021

OCTOBER 26, 2021

CLSA BOARD OF DIRECTOR'S 2021 MEETING SCHEDULE

FEBRUARY 6, 2021 (virtual)

JULY 31, 2021 (hopefully in person)

APRIL 24, 2021 (virtual)

NOVEMBER 6, 2021 (location TBD)

If you have news or an event that you would like to announce, send it
to: editor@californiacentralvalleysurveyors.org

2021 Chapter Officers

President: Will Paul

Vice President: Landon Blake

Secretary: Mike Quartaroli

Treasurer: Rich James

Chapter Director: Tristan Higgins

Chapter Director: Landon Blake

Alt. Chapter Dir: Will Paul

Alt. Chapter Dir: Rich James

2021 Chapter Committees

By-Laws Committee: Open (Chairman)

Education Committee: Open (Chairman)

Membership Committee: Rich Brown (Chairman)

Monument Pres Committee: Mike Quartaroli (Chairman)

Newsletter: Rich Brown (Editor)

Professional Practices Committee: Mike Quartaroli (Chairman)

Website: Landon Blake (Web Master)

2021 Chapter Programs

Public Outreach Committee: Zachary Wong (Coordinator)

Workshops: Open (Coordinator)

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Education

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Classes, Training, and Continuing Education

Mark Your Calendars

CAD Masters - AutoCAD Level I (3-Day Course) Jan 11-13, 2021 Walnut Creek

Jan 25-27, 2021 Sacramento
Feb 8-10, 2021 Walnut Creek
Feb 22-24, 2021 Sacramento
Mar 8-10, 2021 Walnut Creek
Mar 22-24, 2021 Sacramento

[Register here](#)

CAD Masters - AutoCAD Level II (2-Day Course)

Jan 11-12, 2021 Sacramento
Feb 1-2, 2021 Walnut Creek
Feb 25-26, 2021 Sacramento
Mar 15-16, 2021 Walnut Creek

[Register here](#)

CAD Masters - AutoCAD Level III (1-Day Course)

Jan 7, 2021 Walnut Creek
Feb 4, 2021 Sacramento
Feb 19, 2021 Sacramento
Mar 11, 2021 Walnut Creek

[Register here](#)

CAD Masters - Civil 3D for Surveyors (2-Day Course)

Feb 22-23, 2021 Walnut Creek
Apr 7-8, 2021 Sacramento

[Register here](#)

CAD Masters - Civil 3D Introduction (3-Day Course)

Feb 1-3, 2021, Walnut Creek
Feb 16-18, 2021, Sacramento
Mar 1-3, 2021, Walnut Creek
Mar 15-17, 2021, Sacramento
Mar 29-31, 2021, Walnut Creek

[Register here](#)

CAD Masters - Civil 3D Advanced (2-Day Course)

Jan 25, 2021 Walnut Creek
Feb 1, 2021 Sacramento
Mar 8, 2021 Sacramento

[Register here](#)

Lorman Training - Subdivision Map Act in California

On Demand, Webinar

[Register here](#)

Fresno State Geomatics Engineering Conference

Online January 29-30, 2021

[Register here](#)

CLSA Annual Conference

Online March 27-30, 2021

[Register here](#)

If you have information about a training or class, please submit to: editor@californiacentralvalleysurveyors.org

Message from Our CLSA President



Hello Central Valley Chapter. I hope this newsletter finds you well in these challenging times. 2020 was a difficult year for many of us, and 2021 has not started much better. The State of California relies on us, the land surveyors, to help keep our economy moving forward. Many of us are as busy as ever, while others have slowed down a bit. Whatever your situation, it is critical that we have you as a member of the California Land Surveyors Association (CLSA). Please reach out to others in our great profession and encourage them to join CLSA. Our great organization is more effective with increased membership. Do not limit your recruiting efforts only to other licensed professionals, but reach out to LSIT's, and even uncertificated technicians. Think how much better the work they do will be if they are understanding the critical decisions licensees make.

The [2021 Annual Conference](#) is coming up, and this one looks to be amazing. We are holding a virtual event again, building on the success of our 2020 conference. This year we are teaming up with six other states and offering a mix of Headliners with new material and speakers not yet or recently featured in a CLSA Conference. The dates are March 27th through 30th. If those dates don't work for you, register anyway and attend every session of the conference at your convenience for the rest of 2021.

Thank you for your participation in our great organization please help make 2021 huge success for CLSA.

Rob McMillan, CLSA State President

If you would like to comment on this topic or suggest another, please submit it to: editor@californiacentralvalleysurveyors.org

Monument Obituaries

By Mike Quartaroli, PLS



CLSA
CENTRAL VALLEY CHAPTER
Survey Monument Conservation Committee
Tretheway Road, San Joaquin County
N 2241892'
E 6366594' (SPC - 3)



This survey monument was found wounded and abandoned in September 2020. A diligent search of its origin ended in failure. A brief search of any surviving siblings also ended in failure. If anyone has any information of the origin of this survey monument you are encouraged to contact Mike Quartaroli. This orphan has the potential of being rehabilitated. There may be numerous nearby easements along the Mokelumne River based on this survey monument.

Ask about the "Adopt A Monument" program. Make a lasting contribution to the Land Surveying Profession.

Paid for by the Survey Monument Conservation Committee

State News

Congratulations to our new Licensed Land Surveyors for the State of California. The following passed the state specific exam and qualified for licensure in October, 2020.

ELIZABETH R ZUNIGA-BECERRA - 9579
POWAY, CA

ARTHUR JESSE SMITH - 9580
CITY: SONOMA, CA

KHAMPHOU, SAVAT - 9581
CITY: RIALTO, CA

STEVEN DONALD BORMACOFF - 9582
CITY: APPLE VALLEY, CA

EASTON CARD MCALLISTER - 9583
CITY: DANVILLE, CA

AARON PATRICK TILLMANNS - 9584
CITY: HUNTINGTON BEACH, CA

ADAM ROY BISHOP - 9585
CITY: PLACERVILLE, CA

D. STEVEN HECKMAN - 9586
CITY: YUCAIPA, CA

TONY CHRISTOPHER TAMAYO - 9587
CITY: SANTA ROSA, CA

MATTHEW RICHARD FORD - 9588
DEMING, WA

RICHARD DERRICK BROWN - 9589
MODESTO, CA

GREGORY ROBERT MROWKA - 9590
REDDING, CA

BRYAN JOSEPH MUNDIA - 9591
ORANGE, CA

RONALD DRIZ VER - 9592
WEST COVINA, CA

CALEB SCHWAB - 9593
MEAD, WA

CRAIG STEVEN TURNER - 9594
REDDING, CA

ANDREW RYAN BELL - 9595
BAKERSFIELD, CA

JOCELYN LINA E CORREA - 9596
VISALIA, CA

JONATHAN TODD ZUMWALT - 9597
FRESNO, CA

DANIEL JAMES BAUDER - 9598
CHATSWORTH, CA
ADAM KEITH KORTA - 9599
REDLANDS, CA

ALEXANDER VINCENT FRANTZ - 9600
VISALIA, CA

SEAN CHARLES SQUIRE - 9601
SAN DIEGO, CA

DAVID JOSEPH BRENT - 9602
WOODLAND, CA

ANDREW JACOB RIECKEN - 9603
MURRIETA, CA

MICHAEL LUKETIC - 9604
IRVINE, CA

JON MASAO YAMASHITA - 9605
VANCOUVER, WA

JEREMY A KLAPPER - 9606
HOBOKEN, NJ

TYLER GENE TRUJILLO - 9607
SANDY, UT

ROBERT JEROME WINNICKI - 9608
GREAT FALLS, MT



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National News

How geospatial technology boosts efforts to restore degraded land and create new forests

By John Stenmark, PS

Imagine planting enough new trees to cover a plot of land the size of Switzerland. Now do it again and again, nearly 500 times, until you've covered two billion hectares. It's a huge, seemingly overwhelming effort. Yet a Dutch company is using advanced geospatial technologies to make it happen.

From its base in Amsterdam, Land Life Company works to restore lands degraded by natural or human activities such as wildfire, desertification, agriculture and urbanization. It's one of a small handful of companies capable of large-scale tree planting services needed to reestablish forests and create productive landscapes.

With projects in 25 countries on five continents, Land Life clients include governments and corporations seeking to reinvigorate damaged land and soils or to offset carbon released by commercial activities. Since its founding in 2013, Land Life has planted nearly 1.3 million trees.

Successful tree planting comes in bunches. At each project location, new trees are planted in groups to provide protection against the wind. The young trees spread naturally to fill in and enlarge the new forest. Eventually the soil improves to support new plant life and further aid in carbon capture.

But it's difficult to plant trees successfully on a large scale and Land Life plants trees by the thousands. Logistics are complex and costs for sapling trees, supplies, labor and equipment add up quickly. To optimize the cost-to-benefit ratio, Land Life needs to achieve a high rate of success for the trees it plants; the young trees need to grow and remain healthy in order to produce the long-term benefits.



[*Continued on Page 8*](#)



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Puzzle Page

Sudoku:

The objective is to fill a 9×9 grid with digits so that each column, each row, and each of the nine 3×3 sub-grids that compose the grid (also called "boxes", "blocks", "regions", or "sub-squares") contains all of the digits from 1 to 9.

		7	6					2
2						6	3	5
1	8				3			
		1	9			8	4	
	2	9			6	3		
			7				1	4
4	1	2						8
7					4	9		

Classifieds

SURVEY POSITIONS AVAILABLE IN MODESTO

O'Dell Engineering has several Survey positions available in their Modesto office. For more information go to <https://odellengineering.com/profile/employment/>

TRANSPORTATION SURVEYOR - (CALTRANS) DEPARTMENT OF TRANSPORTATION

Department of Transportation (San Joaquin County), is currently recruiting for a Transportation Surveyor position (\$5,406.00-\$10,377.00 per month). Some of the duties include, but are not limited to: Analyzes field survey data, prepares Survey Requests and compiles supporting information for field surveys. Produces maps and documents, including legal descriptions, acquisition deeds, appraisal maps

San Joaquin County - Final filing Date: Until Filled

For further information, refer to the duty statement in the CalCareer link below.

<https://jobs.ca.gov/CalHrPublic/Jobs/JobPosting.aspx?JobControlId=220698>

PROFESSIONAL LAND SURVEYOR

Benchmark Engineering, Inc. has an opening for a Professional Land Surveyor. This position will supervise the preparation of boundaries, maps, legal descriptions, A.L.T.A.'s, construction staking, field set-up, and other survey related efforts. Performs project management; project quality control; and develops/promotes business relationships. Includes working with and overseeing survey technicians and field crews. Capable of strong organizational skills.

PLS is required. AutoCAD Civil 3D experience necessary.

Send Resume to: Michelle Cooper mcooper@bmeng.net

915 17th Street, Modesto, CA 95354 (209) 548-9300

Know of an available job. Please submit the position information to:

editor@californiacentralvalleysurveyors.org

How geospatial technology boosts efforts to restore degraded land... *continued from [page 6](#)*

Data-driven Forests

To reach and maintain success, Land Life monitors the new trees through periodic visits to measure parameters such as height and health. Combined with information on the tree species, location, soils and environmental conditions, the data supports informed decisions in planning the next round of planting and enables Land Life to adjust variables such as soil amendments and watering approaches.

“We are gathering as much data as we can,” says Tom Janmaat, a data scientist at Land Life. “We’re shaving costs in the operations and using our knowledge to optimize performance. The next steps will be ecological gains: making sure that you plant the right trees in the right spot at the right time. Scientific knowledge is available and we think we can get even better. We can help improve our knowledge base by gathering data on how our trees grow: Learning what works and what doesn’t.”

Janmaat explained that Land Life records as much data as possible on factors that could influence the trees’ growth and survival rates, then analyzes how the various parameters influence each other. Thanks to its rigorous statistical practices, Land Life needs to monitor only a fraction of its trees. On a planting of a hundred thousand trees, they typically monitor a few thousand to produce a good sample of every combination of tree species and treatments in a given field.

Monitoring tree performance is a labor-intensive process. To control costs, the company is working to improve productivity in its monitoring efforts. For example, it developed an in-house smartphone app to guide users through the capture of information on a tree’s species, height and health. In order for the information to be useful, field teams must be sure that they visit the same tree every time. When dealing with thousands of nearly-identical trees, it’s not a simple task. That’s where GNSS comes in.

For years, Land Life attached small paper tags with unique QR codes to the trees selected for monitoring. While the codes ensured accurate identification of specific trees, they required the monitoring personnel to carry a separate QR reader and crawl on the ground to reach and scan the tag. The method was further compromised by the fact that some QR tags were torn off and lost each year. So, Land Life turned to satellite positioning using the GPS receivers built into the team members’ smart phones. That decision led to a new challenge: accuracy.

In open fields and with access to a cellular network, a smartphone’s built-in GPS can provide positions accurate to roughly three meters. The accuracy is worse when working in treed areas or locations where cellular signals are not available—conditions where Land Life does much of its work. With trees spaced three to four meters apart, the smartphone GPS can’t provide the accuracy needed to confidently identify and return to the same tree repeatedly. Land Life needed the ability to measure to within one meter.

Accurate Positioning Produces Accurate Information

Professional-grade GPS or GNSS (Global Navigation Satellite System) receivers could easily meet the sub-meter requirements, but Land Life was concerned about the cost and complexity of those solutions. They had already invested in writing software for data collection and their field teams were familiar and efficient with those in-house apps. Land Life needed a way to blend higher accuracy positioning into their existing workflows and Bring-Your-Own-Device (BYOD) approach to locating and monitoring the trees.

Land Life selected the Trimble R1 GNSS receiver, a device roughly the size of a pack of playing cards that can provide real-time positioning with sub-meter accuracy. Using a Bluetooth connection, the R1 can stream position data to apps running on iOS or Android smartphones, making it easy for field workers to carry and use. Land Life software developers incorporated the high-accuracy positions into their in-house monitoring apps. With the position data in their familiar apps, workers could use existing workflows and smartphones; they needed very little training on the new device.

Land Life can also mount a R1 onto its tree planting machines, enabling field teams to capture the location of each new tree when it is planted. For monitoring, the app can then guide users to specific trees. “When you have that sub-meter accuracy flowing from the R1, it’s easy to find your way back to a tree,” Janmaat said. “You walk towards the tree, you look on your phone and say, ‘Oh, yeah. I see the dot of my location on my screen next to the tree that I’m looking for.’ It works quite well.”

Building on its experience with the R1, Land Life is also using Trimble Catalyst, which combines a small GNSS antenna with software running on an Android-based tablet or smartphone. By turning the smartphone into a GNSS system that can produce up to centimeter accuracy, the Catalyst technology further reduces the cost and complexity of accurate positioning. Like the R1, the Catalyst solution uses GNSS correction data from the Trimble RTX service to produce the needed sub-meter positions; Catalyst functions as an all-in-one GNSS positioning service that can be subscribed to on a monthly or even hourly basis.

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