CALIFORNIA COASTAL COMMISSION
CENTRAL COAST DISTRICT
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060
PHONE: (831) 427-4863
FAX: (831) 427-4877
WEB: WWW.COASTAL.CA.GOV

Th13a,b,c

Prepared July 6, 2020 for July 9, 2020 Hearing

To: Commissioners and Interested Persons

From: Susan Craig, Central Coast District Manager
Michael Watson, Coastal Planner

Subject: Additional hearing materials for Th13a,b,c CDP Application Numbers A-3-MCO-19-0039 and A-3-MCO-19-0041 (Pietro Family Investments) and A-3-MCO-19-0042 (Valley Point LLC)

This package includes additional materials related to the above-referenced hearing item as follows:

Correspondence received since the staff report was distributed.

COMMITTEES
BANKING AND FINANCE
BUDGET
BUDGET SUBCOMMITTEE NO. 5 ON PUBLIC SAFETY
HUMAN SERVICES
NATURAL RESOURCES

SELECT COMMITTEES
CHAIR: COASTAL PROTECTION AND ACCESS TO NATURAL RESOURCES
CO-CHAIR: ENVIRONMENTAL CAUCUS

Assembly
California Legislature

MARK STONE
CHAIR, JUDICIARY
ASSEMBLYMEMBER, TWENTY-NINTH DISTRICT

STATE CAPITOL
P.O. BOX 942849
SACRAMENTO, CA 94249-0029
(916) 319-2029
FAX (916) 319-2129

DISTRICT OFFICES
701 OCEAN STREET, SUITE 318B
SANTA CRUZ, CA 95060
(831) 425-1503 OR
(408) 782-0647
FAX (831) 425-2570

99 PACIFIC STREET, SUITE 575G
MONTEREY, CA 93940
(831) 649-2832
FAX (831) 649-2935

July 2, 2020

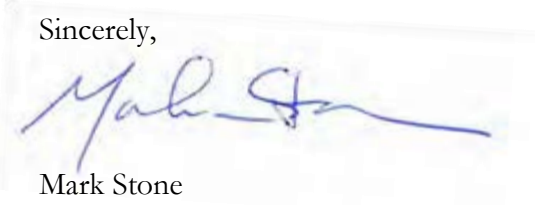
Chair Padilla and Commissioners:

I am writing in support of the California Coastal Commission (CCC) staff recommendation that the CCC conditionally approve permits for the construction of three single-family homes in the Carmel Point neighborhood.

It is critical that the plans for these proposed residences be amended to limit ground disturbance and subsurface development. As highlighted in the CCC staff recommendation summary, the Carmel Point neighborhood is "an area of high archaeological sensitivity," and the proposed developments are situated within the boundaries of a cultural resource area known to contain prehistoric materials and human remains. The elimination of the basement components of the proposed residences would bring the projects into compliance with Monterey County's Local Coastal Program by avoiding potential impacts to the sites' archeological resources and would maintain the values of cultural resource preservation expressed in the CCC's Environmental Justice Policy.

Approving permits for the proposed houses without basement construction will allow for the development of housing without severely risking damage to tribal and archaeological resources known to reside near the proposed construction. As such, I strongly support the adoption of the Coastal Commission staff recommendation to conditionally approve permits for these three projects. Thank you for your consideration of this proposal.

Sincerely,



Mark Stone
Assemblymember
District 29

From:	CentralCoast@Coastal
To:	Watson, Michael@Coastal
Subject:	Fwd: SENATOR MONNING, 17th SD, Comment on JULY 20 AGENDA ITEM THURSDAY 13A, 13B, 13C-Application Nos. A-3-MCO-19-0039, 0041, and 0042
Date:	Monday, July 06, 2020 8:46:45 AM

Sent from my Verizon, Samsung Galaxy smartphone
Get Outlook for Android

From: Bill Monning <billmonning@gmail.com>
Sent: Friday, July 3, 2020 10:09:15 AM
To: CentralCoast@Coastal <CentralCoast@coastal.ca.gov>
Subject: SENATOR MONNING, 17th SD, Comment on JULY 20 AGENDA ITEM THURSDAY 13A, 13B, 13C-Application Nos. A-3-MCO-19-0039, 0041, and 0042

July 3, 2020

Dear Chair Padilla and Commissioners:

I write in support of the California Coastal Commission (CCC) staff recommendation for the conditional permit approval for construction of the three designated properties referenced by the application numbers above.

I strongly encourage that the permits be conditioned to limit ground disturbance and subsurface development.

It is my understanding that Native American human remains have been found for years at Carmel Point by thoughtless excavation, including four sets of remains in the summer of 2019 found less than a block away from the three projects at issue. The Carmel Area LCP protects Carmel Point due to its high sensitivity and richness of buried resources.

As cited in earlier appeals, the preservation and protection of Native American remains should be prioritized consistent with the Environmental Justice principles adoped by the Commission on March 8, 2019.

At a time when our state and our nation are finally confronting the historic genocide of Native Americans and the brutal enslavement and subjugation of slaves, I believe there is a moral imperative for the policies of the CCC to acknowledge the documented subjugation of the Native American tribes in California and the historic and cultural importance of respecting the remains of Native Americans known to be located in the Carmel Point area.

For these reasons and those filed by the tribal leader of the OCEN Tribe, I encourage the Commission to vote in favor of the staff recommendation to grant permits conditioned on the preservation and protection of the subsurface areas of the lots in question. I would also encourage the Commission to embrace these principles with respect to any and all future permit applications for building construction, renovation, and development in the Carmel Point area of Carmel, California and in other coastal areas known to have been inhabited by Native American ancestors. These are sacred sites.

Thank you for your consideration.

Sincerely,
/s/
Senator William W. Monning

P.S. I apologize that time constraints did not allow me to submit this comment on official state letterhead, but verify that I am the author and available for confirmation at 916 651 4017.

Senator William W. "Bill" Monning
he/him/his
California State Senate
Senate District 17
P.O. Box 1385
Monterey, Ca 93942-1385
www.billmonning.org
This is not an official state email. This is my personal email account and is not intended for publication or circulation. Thank you.
Sacramento office: 916.651.4017

MONTEREY COUNTY

BOARD OF SUPERVISORS

MARY L. ADAMS, SUPERVISOR – FIFTH DISTRICT
1200 Aguajito Road, Suite #1, Monterey, CA 93940
E-mail: District5@co.monterey.ca.us
Phone: (831) 647-7755

November 8, 2019

Hon. Dayna Bochco, Chair and Commissioners
California Coastal Commission
45 Fremont, Suite 2000
San Francisco, CA 94105-2219
Attn: Tom Luster

Re: SUPPORT STAFF RECOMMENDATION Appeals A-3-MCO-19-0039, A-3-MCO-19-0041, and A-3-MCO-19-0042

Dear Chair Bochco and Commissioners:

As one of the two dissenting votes on Monterey County's prior approval of these projects, I want to express my continued concern about these and other projects in the Carmel Point area that may impact the remaining archaeological and cultural resources in this area of my supervisorial district. Carmel Point is one of the oldest recorded sites going back 9,000 years, and it is in close proximity to the first Mission in California. It contains sigficant and unique cultural and historic resource values.

I concur with your staff's recommendation that there are feasible mitigation measures to reduce the amount of excavation and grading by elimination of the proposed basements. I continue to be concerned about impacts from subsurface excavations on Carmel Point, and appreciate the staff recommendation for a standard perimeter foundation that would minimize the amount of ground disturbance and maximizes avoidance, in accordance with the Carmel Area Land Use Plan and Monterey County LCP. As noted in the staff report, LUP Policy 2.8.3.4. requires project to be designed to avoid or substantially minimize impacts to archaeological resources and that has not been adequately done with these projects as proposed.

Thank you for your consideration of these comments and for the incredible amount of time, thought, and diligence you give all projects that come before you.

Sincerely,

Mary L. Adams
Board of Supervisors
Fifth District

From:	CentralCoast@Coastal
To:	Watson, Michael@Coastal
Subject:	Fw: Public Comment on July 2020 Agenda Item Thursday 13a, 13b, 13c - Applications No. A-3-MCO-19-0039, -0041, -0042 (Pietro Family Investments and Valley Point LLC, Carmel, Monterey Co.)
Date:	Thursday, July 02, 2020 11:18:44 AM
Attachments:	Carmel Point Final - CA Coastal Commission 7-9-2020.pdf 2446 17th Ave., Carmel, CA - NAHC.jpeg.pdf

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From: Louise Ramirez <ramirez.louise@yahoo.com>
Sent: Thursday, July 2, 2020 6:04 PM
To: CentralCoast@Coastal <CentralCoast@coastal.ca.gov>
Subject: Public Comment on July 2020 Agenda Item Thursday 13a, 13b, 13c - Applications No. A-3-MCO-19-0039, -0041, -0042 (Pietro Family Investments and Valley Point LLC, Carmel, Monterey Co.)

Public Comment on July 2020 Agenda Item Thursday 13a, 13b, 13c - Applications No. A-3-MCO-19-0039, -0041, -0042 (Pietro Family Investments and Valley Point LLC, Carmel, Monterey Co.)

Saleki Atsa,

Please include the attached documents supporting the staff recommendation that the three new houses be constructed without basements.
I can be contacted at 408 629-5189.

Nimasianexelpasaleki

Louise J. Miranda Ramirez
Tribal Chairwoman
Ohlone/Costanoan-Esselen Nation

www.ohlonecostanoanesselennation.org

Ohlone/Costanoan-Esselen Nation

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And known as
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P.O. Box 1301
Monterey, CA 93942

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July 1, 2020

California Coastal Commission
725 Front Street, Suite 300
Santa Cruz, CA 95060

RE: A-3-MCO-19-0039 Pietro Family Investments, A-3-MCO-19-0041 Pietro Family Investments, A-3-MCO-19-0042 Valley Point LLC

Saleki Atsa,

Ohlone/Costanoan-Esselen Nation (OCEN)is an historically documented previously recognized tribe. OCEN is the legal tribal government representative for over 600 enrolled members of Esselen, Carmeleno, Monterey Band, Rumsen, Chalon, Soledad Mission, San Carlos Mission and/or Costanoan Mission Indian descent of Monterey County. OCEN families lived in what is now known as Monterey County for thousand of years. OCEN Tribal Members genealogy is proven to the original mission records, with birth dates as far back as 1713, original village names and original family names before they were changed to Spanish soldiers' names. Every enrolled tribal member' genealogy is proven to 13 core families.

As the Tribal Chair of OCEN, my greatest responsibility is to protect the disturbed remains of our Ancestors. Our Ancestors are buried in the most beautiful and sacred areas of Monterey County. Years ago, when homes were built in Carmel Point the remains of our Ancestors were removed without ceremony, without peace. The builders did not care and dumped the burials with soil removal. We know there was disturbance, and no one cared. Today, individuals wanting larger homes are requesting basements be built. I believe that these individuals know that our Ancestors are buried on their property. Once again, with desire for larger homes, these individuals have no respect for our Ancestors burials.

We know that many of the property owners have disturbed/destroyed our Ancestor's burials without permits. I am familiar with Carmel Point and driving through it often, and it appears to me that approximately 1 of every 3 homes is working on renovations. To put one shovel into the soil is considered soil disturbance which requires a Monterey County permit. Many homeowners do not know that. Also, many County permits are ministerially given and they are not conditioned to require an archaeological monitor and tribal monitor, such as the illegal trenching that was done by these applicants at the two parcels on Valley View.

OCEN supports the staff recommendation that the three new houses be constructed without basements.

I bring to your attention the attached letter and disturbance at 2446 17th Ave. Carmel. I was advised that Native American remains were disturbed as I was assigned as the Most Likely Descendant by the Native American Heritage Commission on July 26, 2019. Following the law, I contacted the owner of the property who forwarded the attached photo. As you notice the bones of the Ancestors are quite visible. I was advised that the landscaper removed all the remains, placed them on the patio, then was told to return them to the soil. As you can see in the second photo when the Coroner was photographing the disturbance the remains had been replaced and mostly covered as to hide the fact that the landscaper had disturbed the remains. You can also notice all the disturbance to the property on the other side of the patio. This disturbance occurred because the owner wanted to drill a gas pipe into a large boulder that sat at the site. The boulder was too large therefore, the landscaper made the patio hole larger and, in the process, disturbing four (4) Ancestors. The owner of this property had permits to remodel the home and NO PERMIT FOR LANDSCAPING. Again, because of all the "Unpermitted Landscaping" there was no land to rebury the Ancestors and insure no future disturbance at the site. To this day I protect the Ancestor's remains hoping that I will be provided space within Carmel Point to rebury. This homeowner, as well as others in this area have no respect for OCEN's Ancestors

It is with respect and honor that we accept the Staff Report of the California Coastal Commission. We are aware that there will be renovations to homes in Carmel Point and concur that basements should not be built on OCEN's Ancestral burial ground. The LCP requires avoidance of our Ancestors where they are buried.

Please feel free to contact me with any questions.

Sincerely and Respectfully Yours,

Louise J. Miranda Ramirez
Tribal Chairwoman
Ohlone/Costanoan-Esselen Nation
(408) 629-5189

Cc: OCEN Tribal Council

Ohlone/Costanoan-Esselen Nation

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The Monterey Band
And also known as
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P.O. Box 1301
Monterey, CA 93942

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July 29, 2019

Ms. Debbie Pilas-Treadway
Ms. Katy Sanchez
Ms. Gayle Totton
Native American Heritage Commission
State of California
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691

Re: 2443 17th Ave., Carmel, CA 93923 – CA-MNT-17

Saleki Atsa,

Thank you for the honor and opportunity to protect OCEN's Ancestor's buried and disturbed in CA-MNT-17. The area known as Carmel Point has been dated to 9,400+ years as well as an area identified with villages surrounding San Carlos de Borromeo Mission.

On July 26, 2019 I was contact by Gayle Totton of the Native American Heritage Commission advising that human remains identified as Native American had been disturbed in Carmel at 2443 17th Ave., Carmel, CA. Ms. Totton asked if I was willing to accept the assignment of Most Likely Descendant (MLD). I agreed to accept the responsibility.

I contacted the owner Mr. Jeffery Cappo at 734 646-5599, Mr. Cappo stated to me that the remains had been under the patio for the last 25 years that I should just leave them there. I also contacted Ms. Maryann Schicketanz, I agree to meet with Ms. Schicketanz on site Friday to review the work on this site.

On Friday, my grandson Jordon Casares, a trained OCEN Tribal Monitor, and I reviewed the work site. We were shown the back yard where the Ancestor's remains were disturbed. The remains had since been covered with soil. Ms. Schicketanz arrived with her daughter/granddaughter. She stated that she thought it important that she see this site. Ms. Schicketanz stated that it was the landscapers that removed the remains then threw them back in the ground and covered them with soil. It is my understanding that the photos I provided you were taken by the landscaper. Yet, I was just told that the remains were immediately returned. I requested that all photos taken be destroyed. I was told that they were and would make sure that the landscaper destroys his. My question is why were they covered after pictures were taken? Again, the blame was on the landscaper.

We discussed possible plans for the Ancestor's remains. I requested that the remains be removed and reburied where they could be protected. The back yard has about 8 feet of property to the road. There is no fence to protect the remains and I was advised they are not able to build a fence. I believe that since there is so much midden on the property that the possibility exist that we could disturb additional remains.

I was advised that the remains were disturbed in the area where the owner will have a fireplace. That a boulder chosen to have a gas fire coming from the top was too large for the area and additional digging was necessary. It is OCEN's Tribal Councils belief to protect the remains from being crushed under this boulder. The OCEN Tribal Council believes that we must protect the remains with a natural burial site. OCEN prefers not to have our Ancestors under concrete, in roadways, surrounded with pipes, especially

sewer pipes therefore we ask for our Ancestors remains to be protected in an area that will not be disturbed again.

Attached are two (2) letters discussed and presented to Ms. Schicketanz, requests as the MLD. The second advising of OCEN information on OCEN's Tribal Monitors. Ms. Schicketanz agreed on both of those letters.

On Friday evening I was advised by Ms. Schicketanz that the owner did not want to pay an OCEN Monitor. On an additional call I was notified by Albion that Mr. Cappo did not want to pay for any work on site, which would cancel the meeting planned for Monday at 10:00 a.m. Albion contacted the County of Monterey for clarification on requirements.

Today, Monday, I was contacted by Ms. Schicketanz that the owner decided he did not want my Grandson, Jordon Casares as the Native American monitor. Ms. Schicketanz stated she contacted the County and was provided with Tommy Nason as a monitor for hire. She stated it was the owner's choice to work with him and not OCEN. It is then that I advised her that I would not continue the conversation and hung up. Based on her statements she would not work with OCEN and myself as the MLD. I then contacted Gayle Totton to advise her of that conversation and requested mediation. She said that Debbie Pilas-Tredway handles mediation request and would refer me to her.

Sincerely,

Louise J. Miranda Ramirez
OCEN Tribal Chairwoman
2653 McLaughlin Ave.
San Jose, CA 95121

Cc: OCEN Tribal Council

Ohlone/Costanoan-Esselen Nation

Previously acknowledged as
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The Monterey Band
And known as
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P.O. Box 1301
Monterey, CA 93942

www.ohlonecostanoanesselennation.org.

July 25, 2019

Maryann Schicketanz
(831) 915-5963
Mr. Cappo
(734) 646-5599

Re: 2443 17th Ave., Carmel, CA 93923 – CA-MNT-17

Saleki Atsa,

Ohlone/Costanoan-Esselen Nation is an historically documented previously recognized tribe. OCEN is the legal tribal government representative for over 600 enrolled members of Esselen, Carmeleno, Monterey Band, Rumsen, Chalon, Soledad Mission, San Carlos Mission and/or Costanoan Mission Indian descent of Monterey County.

I was assigned as the Most Likely Descendant (MLD) on behalf Ohlone/Costanoan-Esselen Nation, by the Native American Heritage Commission for the Native American remains found on site. I was notified by Dr. Gayle Totton and confirmed with Ms. Schicketanz a meeting on site for July 26, 2019 at 11:00 a.m. I am in receipt of the photographs forwarded by the owner of the property Mr. Cappo and was advised that the remains were disturbed and placed back into the soil.

As the (MLD) I request that all work remain halted within 50 meters of the burial. OCEN request:

Archaeological reports/surveys, including subsurface testing and presence/absence testing
To be included in mitigation and recovery programs,
That Cultural and Tribal mitigation measures reflect request for an OCEN Tribal Monitor on site for all soil disturbance,
That an Archaeologist from Albion, Inc. be contacted to record and remove the Ancestors remains, as I was advised by Ms. Schicketanz there was not a contract with an archaeologist.
OCEN request reburial of our Ancestor and burial artifacts'
Placement/return of all cultural items to OCEN
That a reburial area be designated to rebury the Ancestor that will never be disturbed again.
That Monterey County place an easement to protect the Ancestors remains.
As the MLD, I request mileage for visits to the site.

I can be contacted at (408) 629-5189 (home) or at (408) 661-2486 (cell).

Sincerely,

Louise J. Miranda Ramirez
OCEN Tribal Chairwoman
2653 McLaughlin Ave.
San Jose, CA 95121

Cc: OCEN Tribal Council
Gayle Totton, Native American Heritage Commission

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July 25, 2019

Maryann Schicketanz
(831) 915-5963
Mr. Cappo
(734) 646-5599

Re: Monitor Request for 2443 17th Ave., Carmel, CA 93923 – CA-MNT-17

Saleki Atsa,

Ohlone/Costanoan-Esselen Nation is not in the business of hiring American Indian Monitors for construction companies or for projects, therefore we do not carry a bond for monitors. OCEN as a legally constituted previously federally recognized tribe is the aboriginal tribe of the greater Monterey Bay area. Many of our tribal and family members have been trained as cultural monitors for our ancestral heritage sites and we provide their name and information to interested parties. Therefore, OCEN does not receive any payment from either a company or the monitor.

Ohlone/Costanoan-Esselen Nation monitors are paid directly by the owner/company as either employees or as independent contractors. The monitor's rate of pay is $55.00 per hour with a minimum of 4 hours per day, time and half after 8 hours and weekends. Mileage is also requested at the current IRS rate per mile.

We assist by providing you their name, W-9 and other required information. We also make sure that all monitors have a chance at working based on the company's work schedule. The same monitor is not always referred for the same project, they may be rotated.

We have created a tribal form titled the OCEN Monitor Daily Record and require the monitor to fill out and submit for our records as well as the company's (see attached). If the monitor does not submit the Daily Record they will not be allowed to continue to work on projects. The company's representative can contact me with any questions or request to amend information to the report.

I will assist the monitor in completing their first request for payment, and then the monitor will request any additional payments. Upon your request for a monitor, please advise us of length of job and location, I will identify a monitor that will be available for the complete job, if possible. Any change in our monitor will come through me.

Thank you for providing OCEN the opportunity to protect our cultural and ceremonial sites. Please feel free to contact me with any questions at (408) 629-5189. I look forward to building a relationship with your firm.

Nimasianexelpasaleki,

Louise J. Miranda Ramirez
OCEN Tribal Chairwoman

Cc: OCEN Tribal Council

Carmel Point

From: Guthrie, Jaime S. x6414 (GuthrieJS@co.monterey.ca.us)

To: SwansonB@co.monterey.ca.us

Cc: DuganJ@co.monterey.ca.us; SpencerC@co.monterey.ca.us; montanor@co.monterey.ca.us; sdoro@albionenvironmental.com; ramirez.louise@yahoo.com; maryann@studioschicketanz.com

Date: Friday, July 26, 2019, 07:14 PM PDT

Hello Brandon,
Please find attached a memo for providing direction to Albion Environmental for executing recovery at the archaeological site on Monday.

Feel free to contact me if you have any questions.
Kind regards,

Jaime Scott Guthrie, AICP
Associate Planner

County of Monterey
Resource Management Agency - Planning
1441 Schilling Place South, 2nd Floor
Salinas, CA 93901
831.796.6414
GuthrieJS@co.monterey.ca.us

It does not do to leave a live dragon out of your calculations, if you live near him. ~ J. R. R. Tolkien, The Hobbit

Sometimes there's just no way to hold back the river. ~ Paul Coelho, The Alchemist

A certain type of perfection can only be realized through a limitless accumulation of the imperfect. ~ Haruki Murakami, Kafka on the Shore

MEMO_Carmel Point_2019JUL26.pdf
40.6kB

MONTEREY COUNTY
RESOURCE MANAGEMENT AGENCY
Carl P. Holm, AICP, Director

1441 Schilling Place South
2nd Floor
Salinas, CA 93901
www.co.monterey.ca.us/rma

LAND USE & COMMUNITY DEVELOPMENT | PUBLIC WORKS & FACILITIES | PARKS

MEMORANDUM

Date: 26 July 2019

To: Brandon Swanson, Acting RMA Chief of Planning

From: Jaime Scott Guthrie, AICP, Associate Planner, RMA-Planning

Subject: Native American remains found on Carmel Point

cc: John Dugan, RMA Deputy Director; Craig Spencer, Acting RMA Planning Services Manager; Ramon Montano, RMA Compliance Inspector; Stella D'Oro, Albion Environmental, Inc.; Louise Ramirez, Ohlone Costanoan Esselen Nation; Maryann Schicketanz, Studio Schicketanz

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RMA Code Enforcement placed a Stop Work order at a residential site in Carmel Point on Wednesday, 24 July 2018 for development outside the permitted scope of work for a design approval. Human remains have been identified by the County Coroner as Native American. The Native American Heritage Commission has identified Louise Ramirez as the Most Likely Descendant. Ms. Ramirez, her nephew, Jordan, and the applicant's agent, Maryann Schicketanz, surveyed the site today, where trenches were dug for the sprinkler system and exterior lighting, as well as the deeper trench in the street dug up by PG&E for the new meter connection. All excavated soil is identified as midden by Ms. Ramirez. The owner has agreed to release the remains to the Ohlone Costanoan Esselen Nation for reburial. Recovery of the remains, grave goods, and non-burial artifacts may be performed solely by a licensed archaeologist. Ms. Ramirez has recommended Albion Environmental, Inc. for executing the recovery. Stella D'Oro from Albion Environmental Inc. has requested direction from the County as to data recovery. Ms. Ramirez asked Albion for radiocarbon dating.

Ms. Ramirez does not want reburial to take place at the subject site because of risking future disturbance. During their visit at the site this morning, a person with a press pass accosted them and was asked to leave. Remains are partially visible and Ms. Schicketanz requested the contractor fully surround the entire site with chain link fence and locks. Ms. D'Oro will begin work on Monday, upon contract agreement with the owner this weekend.

Following is an outline of direction to Albion from regarding archaeological data recovery:

Data and interpretation should be presented separately when possible.

1. Describe the physical context of the archaeological deposit, including:
    a. Site topography and geomorphology.
    b. Soil type (midden/non-midden), structure, stratigraphy and relationship to surrounding soils. Summarize results of special studies such as particle size analysis and soil chemistry, and include a copy of special studies reports in an appendix.
        i. Non-cultural soil constituents (floral, faunal). Include a summary of special studies and insert reports in an appendix;
        ii. Anthropic soils and stratigraphic relationships.
    c. Profiles of excavation units, trenches, or auger borings, as appropriate.

2. Describe archaeological features.
    a. Describe physical evidence including location dimensions, attributes, and associations.
    b. Provide or reference illustrations and photographs of features.
    c. Either present in full or summarize the results of special studies related to features (e.g., radiocarbon, flotation, micro-constituent analysis, chemical analysis).

3. Enumerate and describe artifacts by material type and artifact class (e.g., flaked- stone). Avoid typological ascriptions that impose or imply function or chronological association in the initial description. For example, biface, uniface, or modified flake is preferable to knife, scraper, or used flake. Such interpretations can follow in separate subsections, as described below.
    a. Discuss typological consideration of artifacts such as stone tools, beads, bone and groundstone tools, and historic materials.
    b. Include illustrations/photographs of formal artifacts. These can be included in an appendix.
    c. Present the results of analyses of artifact manufacture and use (e.g., flaked-stone manufacturing technology, use-wear studies, pottery analysis, basketry identification). Extensive and detailed analyses may be included in appendices. A summary of the results of these studies should be presented in the body of the report. Such studies should define analytic methods and distinguishing traits of analytic categories. For example, if a flaked-stone analysis involved the identification of different types of flakes, then the attributes that define such flake types should be reported. References to previous analyses should not supplant basic descriptions of methods and analytic categories.
    d. Present the results of analyses such as radiocarbon dating, obsidian source and hydration studies, thermoluminescence dating, geomagnetic studies, pollen analysis, blood protein analysis, and others.

4. Describe non-artifactual archaeological material that reflects past human activities (e.g., burned seeds, charred animal bone), and materials that provide information on past environments or exploited resources (e.g., pollen).
    a. Include identification studies for floral and faunal remains, with interpretations regarding the kinds and amounts of resources used, consumed, etc.

b. Present the results of physical analyses such as pollen, microconstituent analysis (flotation, coprolite studies).

5. Describe the context of the discovery of human remains. For example, describe if a human burial discovered during excavation was expected, based on consultant information or archaeological indicators.
    a. Describe the location, physical position, orientation, and nature of the remains (e.g., primary inhumation, cremation). Include a description of grave associations and the physical/contextual relationships between human remains and associated artifacts. For example, describe if artifacts were overlying or underlying the human remains in a patterned arrangement, or were found within burial pit fill.
    b. Report the results of analyses, including specialists' reports in a confidential appendix. Cataloging human remains should not be mixed with the balance of artifacts recovered from a site. Descriptive information should be placed in a confidential catalog.
    c. Include photographs and illustrations in a confidential appendix. Photos of burials should be included only if the MLD is in agreement.
    d. Record/report the reburial location on a New Deposit/Redeposit Record (DPR 422I). Such information should be included in a confidential appendix and treated in a manner sensitive to the desires of the MLD of the human remains.

6. Describe the spatial distribution and patterning of cultural material by class (e.g., flaked-stone, bone). Present data on the intrasite distribution of cultural materials (i.e., vertical and horizontal stratigraphy, assisted by data tables).

Please contact me at either (831) 796-6414 or guthriejs@co.monterey.ca.us if you have any questions or concerns.

Michael W. Stamp
Molly Erickson

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Steve Padilla, Chair
California Coastal Commission
Via email to CentralCoast@coastal.ca.gov

Re: Public Comment on July 2020 agenda item Thursday 13a, 13b, 13c - Applications A-3-MCO-19-0039, -0041, -0042 (Pietro Family Investments LP and Valley Point LLC, Carmel, Monterey County). Support staff recommendation.

Dear Chair Padilla and members of the Coastal Commission:

The public interest group Save Carmel Point Cultural Resources respectfully urges you to adopt the staff recommendation. Save Carmel Point joins with the OCEN tribe, Senator Bill Monning, Assemblymember Mark Stone, and former Carmel-by-the-Sea city administrator Doug Schmitz, all of whom are familiar with Carmel Point.

Carmel Point is an area of high archaeological sensitivity. It is located on small promontory between two protected beaches with rich food sources: Carmel Beach and the Carmel River Lagoon. Carmel Point was inhabited by Native Americans for millennia. Development started around 1920 when the poet Robinson Jeffers built his Tor House. The homes were simple and modest, of one and two stories, some on flat land, some on the gentle slopes. Basements have not been part of the traditional development pattern at Carmel Point. That changed very recently.

The three lots at issue are located in a recorded archaeological site, CA-MNT-17, and in very close proximity to two other sites including CA-MNT-1286. Numerous Native American remains are known to have been found on Carmel Point including four sets of remains in summer 2019 that were unearthed by unpermitted excavation and without any oversight by a tribal monitor and an archaeological monitor.

The Commission should uphold the Carmel Area Land Use Plan (LUP) and approve the three projects as conditioned by Commission staff.

The Carmel Area LUP Archaeological Resources key policy 2.8.2 states:

> Carmel's archaeological resources, including those areas considered to be archaeologically sensitive but not yet surveyed and mapped, shall be maintained and protected for their scientific and cultural heritage values. New land uses, both public and private, should be considered compatible with this objective only where they incorporate all

site planning and design features necessary to minimize or avoid impacts to archaeological resources.

The proposed three houses would be new land uses at the site. Key policy 2.8.2 applies to the three projects. The key policy is implemented by general policies described in section 2.8.3 General Policies. The proposed approvals do not comply with general policy 2.8.3.1. "Monterey County shall encourage the timely identification and evaluation of archaeological, historical and paleontological resources in order that these resources be given consideration during the conceptual design phase of land-use planning or project development" because the County has not required adequate surveys that examine the depth and breadth of the proposed excavation to ensure that the resources can be identified and considered. The subject sites are vacant lots which make such exploration much more straightforward than already-developed lots.

The lack of timely identification and evaluation means the projects do not comply with Land Use Plan general policies 2.8.3.3. "All available measures, including purchase of archaeological easements, dedication to the County, tax relief, purchase of development rights, etc., shall be explored to avoid development on sensitive prehistoric or archaeological sites."

The Commission staff recommendation would allow the houses and avoid impacts to cultural resources. Avoidance is required by the LUP policy and it is the best mitigation measure. This is consistent with the County's original CEQA documents that required the basements to be eliminated. The County position later flip-flopped after pressure from the applicant's attorney. Disturbing, removing, hauling offsite, and cataloguing archeological resources and tribal cultural resources does not meet the intent of the Carmel Area Land Use Plan policies.

The proposed basement projects do not incorporate site planning and design features to avoid protected resources, contrary to LCP mandates.

The projects do not comply with LCP general policy 2.8.3.4 "When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids or substantially minimizes impacts to such cultural sites. To this end, emphasis should be placed on preserving the entire site rather than on excavation of the resource, particularly where the site has potential religious significance." The staff report correctly recognizes that these three projects have not incorporated all feasible site planning features and all feasible design features to minimize or avoid the archaeological resources, all of which is required by the LUP. The applicant did not take steps to minimize or shift the footprint and the amount of excavation.

At most, underground excavation on Carmel Point should only be allowed where it is the only way to accomplish something that is required. Excavation should not be allowed for purely discretionary features. The basement uses here – e.g., movie theater, wine cellar and fifth bedroom – are entirely discretionary. The projects can be developed as a single story or two stories, each with three or four bedrooms and three or four bathrooms. Basements are neither needed nor appropriate under the LCP.

Any potential purchaser of property at Carmel Point should have been aware of the high archaeological sensitivity and potential resources on the property through their due diligence. The applicant here was aware of these site constraints when the property was purchased, and the purchase price can be presumed to have reflected those constraints especially where, as here, the four-parcel property was on the market for many months before Pietro LP purchased it.

The three projects have not factored in the sensitive underground resources as the LCP requires. Instead, the proposed projects approach these sites as if they are ordinary sites with no resource constraints. This is not consistent with the Carmel Area Land Use Plan key policy 2.8.2 and its implementing policies. The proposed basements are not consistent with the Land Use Plan policies, and the Commission cannot make the findings needed to approve the basements.

Numerous County planners opposed the project.

The County originally recommended prohibiting the basements, then reversed course under pressure from the applicant. The two coastal County supervisors voted against the projects due to the basement impacts and the lack of consistency with LCP policies. The two longest-serving Monterey County planning commissioners also voted against the projects. Both commissioners have more than 20 years experience on the planning commission and are highly respected for their careful study and understanding of planning issues. In discussing the projects, Commissioner Martha Diehl said “We can only approve a mitigated negative declaration where there is no possibility of significant impacts. Three people have been dug up. That is significant. Until we have something that prevents that from happening, I cannot agree that there is not a chance of a significant impact as the project is proposed,” meaning with the basement included. (At approx. 1:13 on the Dec. 5, 2018 video available on the County website.) Chair Keith Vandevere stated that Carmel Point is “One of the oldest if not the oldest site on the Central Coast.” He stated that “archeological importance and cultural importance are not the same things. Both are important. There is no way to overstate the cultural importance of one of oldest human settlement in central California” and that there is a “high probability of likelihood” of recovering important resources. (*Id*. at approx. 1:15.) In discussing the proposed discretionary basements in light of the Carmel Area Land Use Plan policies, Commission Diehl stated “A basement is not a necessity” and that the County would be “saying it is more important

for people to have a basement than to follow the land use plan." Chair Vandevere agreed with her comments. (*Id*. at approx 3:38.)

The discussion at the two County planning commission hearings on these projects showed that the County is not taking adequate steps to avoid and minimize impacts on the archeological and tribal cultural resources that the County is required to protect. RMA chief of planning Jacqueline Onciano on December 5, 2018 gave an example that when a backhoe was trenching, the backhoe hit a femur, and stopped work. She explained, "But at that point, the resources are already impacted. Once we give permission, we don't get report on resources until AFTER the project is over." In other words, by the time the backhoe hits Native American bones, the impact is too late to prevent or mitigate. The only way to prevent the harm is to avoid unnecessary excavation.

The proposed basement excavation is not consistent with the LCP policies.

According to the County and applicant, basement excavation depths would be "up to 15.5 feet "for the basements." Excavation would extend almost from property line to property line. The excavation would include retaining walls, drainage trenches and french drains the deep excavation for utility and access to the garage on the north side of one of the Valley View projects; the deep excavation for a patio and stairs off a lower level bedroom of the Isabella project, and the excavation required for the egress wells, light wells and utility excavations, and the 2-foot wide retaining walls.

There are numerous known archaeological sites nearby, including a site that is approximately 150 feet from the proposed Isabella Avenue site and approximately 175 feet from the Valley View sites.

- Known prehistoric site CA-MNT-1286 is adjacent to Valley View and 16th Avenue. This site is on the sides closest to the three Pietro parcels, because the site is described as "adjacent to the corner residence" and the residence is located in the northeasterly part of the parcel. The CA MNT-1286 site is approximately 150 feet away from the Isabella lot and 175 feet away from the Valley View lota.

- A human cranium found nearby on Carmel Point, the existence which the County has openly discussed.

- Four sets of Native American human remains were dug up in summer 2019 when a landscaper was doing unpermitted work.

- There is extensive unpermitted work at Carmel Point, which is geographically distant from the County seat that is the headquarters of

> County inspectors. In addition, Carmel Point is remote, at the end of a small peninsula. It is not on the way to or from anywhere else, so the inspectors do not drive by on a regular basis. Carmel Point is largely second homes, which means that there are few local residents who can or are willing to keep an eye on the extensive construction and development at the Point, and that is not a reliable or efficient enforcement method in any event.

The Ohlone Coastanoan Esselen Nation (OCEN) and other local Native American leaders oppose the basements.

The Ohlone Coastanoan Esselen Nation (OCEN) has long opposed basements at Carmel Point due to the excavation impacts on tribal cultural resources and human remains. Tribal chairwoman Louise Miranda Ramirez has eloquently pleaded for the protection of the ancestors. She has been ignored and marginalized by the majority of Monterey County decision makers.

Local Rumsen (Ohlone) descendant and cultural historian Linda Yamane has observed first hand the impacts of excavation on human remains and tribal cultural resources. Ms. Yamane has written:

> I was called as MLD for three projects on Carmelo Street, just one and two streets away from the [Pietro] projects being considered by you now. ....
>
> From one lot, I witnessed massive truckloads of culturally-rich/archaeologically-rich midden soil being hauled away in order to excavate for an underground garage. Artifacts, human remains, and ancient cooking-related materials were excavated, including samples that dated as old as 9,000-plus years — the oldest date so far to be identified in Monterey County! And this on a parcel that an earlier archaeologist had tested and concluded that no archaeological materials or features were likely to be found as there was "a low sensitivity for cultural resources."
>
> Once destroyed, these valuable records of Monterey County history can never be replaced....

Rudy Rosales, a local former tribal leader, wrote a letter opposing basements for the three Pietro projects. As Mr. Rosales testified to the Planning Commission, "I am glad they will not be doing the basement ...because that scares me." (October 31,

2018 Planning Commission meeting at approx 3:28-2:29 on video) Mr. Rosales described how he knew of a driveway project where six inches of soil was removed and they found human remains.

Ground penetrating radar (GPR) should not be relied upon because GPR does not detect bone.

GPR does not detect bone so it cannot predict whether human remains are present at the three sites. "GPR normally doesn't pick up bones or other human remains" according to Debbie Surabian, state soil scientist for Connecticut and Rhode Island, who has been using GPR since 2000. ("Unearthing Buried Mysteries ground-penetrating radar" in Science, January 2014, by Madeline Fisher. Attached and available at https://acsess.onlinelibrary.wiley.com/doi/full/10.2134/csa2014-59-1-1.)

Rather, ground penetrating radar merely picks up on anomalies below ground such as disturbed soils, wooden coffins, metal nails, and air cavities in the coffin and in more recently buried bodies. That is very different from the situation at Carmel Point. The Native American bones at Carmel Point have no air cavities, they have been embedded in the soils long ago and the soil has settled on top of and around the bones for untold centuries and millennia. They were not buried in coffins or with metal. Even the applicant's expert Byram admits that GPR falls short of excavation. (Staff Exh. 6, p. 2). He admits that excavation may uncover remains that GPR has not identified.

For this reason GPR is not reliable here. It is not a matter of any amount of certainty because GPR simply cannot identify ancient bones that are situated in the soils as the Native American remains at Carmel Point have been found.

As stated by GPR expert and archaeologist Peter Leach

> GPR works by sending a tiny pulse of energy into a material via an antenna. An integrated computer records the strength and time required for the return of any reflected signals. Subsurface variations create reflections that are picked up by the system and stored on digital media. GPR is considered the most accurate, highest resolution geophysical technology. It works best in dry sandy soils with little salt content; the technique is not useful on the coasts where there is a high salt content, for example salt marsh. Dense clay-based soils are difficult to penetrate with GPR, it cannot see through metal and is also incapable of identifying bone.

> Context is everything, so the right surveying parameters will always be based on the type of site and the findings of the initial archaeological investigation. Collection parameters will vary by the type of site and the density of features. Ideally, one should carefully consider line spacing parameters and direction of lines based on the specific site features.
>
> GPR can be used to image internment, but, Hollywood portrayals to the contrary, it is incapable of identifying bones.

(https://www.geophysical.com/using-ground-penetrating-radar-archaeological-sites)

Environmental justice for Native Americans.

"When acting on a coastal development permit, ... the commission on appeal, may consider environmental justice." (Pub. Resources Code, § 30604(h))

The Coastal Act gives the Commission authority to specifically consider environmental justice when making permit decisions. Environmental justice is defined as "the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies." (Gov. Code, § 65040.12.) The Commission has acknowledged its role in making California's coast accessible for all Californians, regardless of their ethnicity, gender, socio-economic status or place of residence. The Commission adopted an environmental justice policy in March 2019 to guide and provide a framework for identifying and analyzing project impacts on underserved and disadvantaged communities. Here, the LCP policies protect the resources, heritage and ancestors of Native Americans who are, as a whole, lower income and less powerful.

Environmental justice groups have a long history of marginalization and frustration with government agencies in their struggle for basic rights like clean water, clean air, and respect for buried ancestors. All too often, government inaction or worse, adverse action on these issues has led to a mistrust of public agencies and officials, contributing to a vicious cycle of exclusion. For years the governments and society have taken the land of Native Americans, destroyed and removed their relics and human remains where they have rested for thousands of centuries. The LCP policies here prohibit that, and the Commission should enforce the LCP policies. The Commission's direction is needed to correct the course set by recent actions by Monterey County, because the County decisions have avoided the LCP protections and

instead have prioritized the desires of wealthy white developers with expensive attorneys and consultants.

The Commission has a new focus on emerging issues such as the need to address historic social inequities. It cannot be disputes that there for centuries there has been institutional racism and unconscious bias toward Native Americans. Many LCPs do not adequately address or protect archaeological and tribal cultural resources. Carmel Area LUP contains these remarkable protections – however, the County largely has ignored it up to this point. It is time to stop excavation of cultural and archeological resources so that vacation home owners can have movie theaters and wine storage.

The staff recommendation to approve the projects without the basements meets these Environmental Justice policies:

- The Commission's environmental justice policy is intended to serve populations and people that are "disadvantaged", "marginalized" and "underserved" and it intends to encompass and include other low-income and minority populations that are disproportionately burdened by or less able to prevent, respond, and recover from adverse environmental impacts. (Commission's Environmental Justice policy, p. 19.)

- The Environmental Justice policy is intended to be "a framework for identifying and analyzing project impacts on underserved and disadvantaged communities so the Commission can make more just and fully informed decisions." (CCC Environmental Justice FAQs.)

- "The environmental justice policy is meant to achieve more meaningful engagement, an equitable process and effective communication between the Commission and underserved and disadvantaged communities, to ensure stronger coastal protection benefits for all Californians." (CCC Environmental Justice FAQs.)

<u>Monterey County has failed to meaningfully enforce its CDP requirements for archaeological monitors</u>.

In Summer 2019, the owner of a vacant lot on Carmel Point excavated 760 cubic yards from a vacant lot, all without benefit of the mandatory archaeological monitor as required by the County's CDP approval. The owner admitted it and gave no reason for

not having the monitor present. The County had inspected the site but had ignored the violation or had failed to enforce it. After neighbors finally complained, the County red-tagged the property, then fined the owners a mere $4,300 for the violation. $4,300 is less than the cost of the archeological monitor. The small fine serves as an incentive to other owners to violate the condition to have monitors present, because it is cheaper to violate the condition than to comply with it. A fine of $4,300 for illegally excavating 760 cubic yards is approximately $6.00 per cubic yard of illegal excavation. A single cubic yard could contain many human remains and cultural resources. This tiny slap on the wrist shows that the County cannot be relied on to enforce its archeological conditions in a meaningful way that would penalize the violator and deter other violators.

Similarly, the Pietro applicant here made deep and wide illegal trenches at the two Valley View project sites at issue.

Multiple code violations at two of the three parcels:
The applicants have repeatedly violated the County Code and the LCP.

The applicant has demonstrated their lack of compliance with County regulations and codes. In approximately 2017, the County red-tagged the two Valley View sites for illegal unpermitted development – vegetation removal, grading and use as a construction site. The illegal construction uses continued despite the red tag, as shown by photographic evidence. Then, on October 31, 2018 and December 5, 2018, the applicant and his attorneys sat through lengthy PC hearings questioning possible impacts to archeological and tribal cultural resources, and participated in the hours of discussion about the need for an archeological monitor and a tribal monitor at the site whenever excavation was done. On January 14, 2019, Save Carmel Point filed the appeal of the commission approvals.

A week or two later, the applicant illegally excavated massive amount of soil at the two Valley View sites, all without the benefit of a tribal monitor or an archeological monitor. (See attached photographs.) After Save Carmel Point reported the illegal grading to the County, the County eventually red-tagged the two sites, applicant covered up most of the trench. This raises question as to what was exposed by the illegal grading. No archeologist or tribal monitor inspected the trenches that the applicant re-filed. The County issued a second set of red tags to the property owner, on top of the already existing red tags for illegal grading and construction work a year or two earlier. But the damage had been done. This is an ongoing pattern that shows the inability of the County to effectively enforce mitigations on Carmel Point projects. It also shows the behavior by the applicants to flaunt County requirements.

The electrical permits the applicant obtained for the vacant Valley View properties were issued based on the applicant's misrepresentations and were improperly issued for other reasons.

- The applications did not disclose and describe the proposed excavation and the amounts of cut and fill.

- The permits did not consider the excavation and impacts to the sites which are within 750 feet of known archeological sites.

- The County had not given planning approval for the vacant sites.

- The permits were issued to the applicant's lawyer's non-attorney employee, based on her statements under penalty of perjury that she was owner of the two Valley View properties.

The County did not follow its own procedures with regard to the requirement to confirm the agent's authority, that all development on Carmel Point requires a CDP, and to issue a permit for a vacant coastal zone lot that had not yet received planning approval to develop. To make matters worse, the single page that was attached to the over-the-counter permit made tiny cryptic notations, but not even the supervising planner knew what the notations meant when I asked him. The County had issued the permit without understanding what is was doing and without respecting the County red tag on the properties, which prevent the issuance of any new permits.

Allowing the three large houses would not be a taking, and Pietro has already more than recovered his investment.

The following information comes from public records and is provided simply to show that the property owner has received a significant return on his investment, and that the cost of further archeological investigation and alternative construction methods would be a small fraction of the overall financial picture of these developments. The property owner, Pietro Family Investments LP ("Pietro LP"), is a real estate investor/speculator from the Bay Area. In June 2015 for Pietro LP purchased a combined total of four adjacent parcels for $4.45 million, according to public records. Three of the parcels fronted Valley View, and one fronted on Isabella Ave. The property had been on the market for many months. At the time that Pietro LP purchased the four parcels, one parcel on Valley View was developed with an older house. The four parcels had been owned for more than 60 years by the previous owner, Ms. Virginia Arms Tompkins, who lived in the house. The other three parcels were vacant and had never had a house on them. Owner/applicants Pietro LP and Emerson Development Group, Inc. (owner: Adamski) redeveloped the one developed

parcel and sold it in 2017 for $6.75 million. Pietro LP sold the redeveloped single lot for $2.3 million more than the purchase price that Pietro LP paid for all four lots. In 2018 Adamski under the name Valley Point LLC purchased one of the three vacant lots for well below market value, with knowledge of the LCP policies.

The applicant's claims about basements at Carmel Point are inaccurate and misleading, and past County decisions are not controlling on the Commission in any event.

There are 512 parcels at CP, according to Monterey County senior planning staff. (10-31-2018 Planning Commission meeting, at 2:25 on video). County planning staff has explained that projects on smaller parcels have been approved because the staff was not looking at larger context of resources at Carmel Point. (10-31-2018 Planning Commission meeting, at 2:55)

Monterey County senior planning staff has stated that past approvals at Carmel Point required relatively minor excavation, that recently there has been "a dramatic trend for more basements" and that "What is coming before us now is a different level of development - much more excavation beyond the level previously evaluated." (December 5, 2018 Planning Commission hearing at approx. minute 40.)

Now is the time to change this pattern of behavior that has been destroying the archeological resources and tribal cultural heritage.

Your decision will guide future development at Carmel Point.

The Commission's decision on these three projects will set a precedent for all lots at Carmel Point. If you approve basements, which you should not, it is foreseeable and likely that many future development proposals will involve more and more basements and excavation with a greater intensity, and even more impacts to the buried resources. In October 2018, County staff reported that there was a recent spike in requests for big basements at Carmel point, with six basement applications in 2018 alone. Basements are not necessary for safety, unlike in other states. At Carmel Point, basements are merely a way to get more saleable and habitable square footage in expensive luxury homes – for wine storage, movie theaters, and fourth and fifth bedrooms.

The Commission should adopt the staff recommendation and approve the CDPs as conditioned.

The basements do not comply with the Carmel Area Land Use Plan policies and the basements cannot be approved under the LCP and CEQA. Save Carmel Point

urges you to adopt the staff recommendation as presented. Under no circumstances should the basements be approved. Thank you.

Very truly yours,

STAMP | ERICKSON

/s/ Molly Erickson

Molly Erickson

Attachments:

Information on

- Ground penetrating radar (GPR) does not detect bones in circumstances such as these
- Photographs of the project sites before and after the violations
- Information on archeological sites at Carmel Point

Looking for Graves: Geophysical Prospection of Cemeteries

Apostolos SARRIS | Nikos PAPADOPOULOS

Laboratory of Geophysical-Satellite Remote Sensing & Arhaeo-environment, Institute for Mediterranean Studies, Foundation for Research and Technology, Hellas (F.O.R.T.H.), Rethymnon, Crete, Greece.

Abstract: Geophysical prospection of cemeteries has been always challenging in terms of locating and recognizing untouched graves and tombs. Every cemetery has its own specific characteristics, with different types of graves of diverse conservation status. Various geophysical methods have been applied in the past for locating tombs and graves and delimitating the boundaries of the burial grounds and the mortuary landscapes. For the case of built tombs, results could be more straightforward than other cases where disturbed, isolated, prehistoric tombs are targeted.

A range of case studies consisting of various environmental settings and diverse types of tombs and graves are presented together with the specific geophysical approaches involving the application of Ground Penetrating Radar (GPR), magnetics, Electromagnetic (EM), soil resistance techniques and other. Examples are drawn from Eastern Mediterranean (Greece, Cyprus, Egypt) and they demonstrate the degree of efficiency of these methods to detect untouched graves and tombs. The above will signify the importance of geophysical prospection in mapping the mortuary landscape and provide guidance for future excavation.

Keywords: Geophysical prospection, cemetery, grave, tomb, mortuary space, archaeological survey.

Introduction: Searching for Tombs. Hunting the Dead!

Graves and tombs comprise the most common subterranean man-made cavities. The small size of the buried features in combination to slight physical contrast between the grave's filling material and the surrounding soil renders the location of such structures a real challenge to archaeological geophysics. One of the first systematic works on the applicability of geophysical methods in outlining marked and unmarked graves was presented by Bevan in 1991. The specific work described mainly GPR and electrical conductivity results from nine different sites in the USA with graves dated later than the 17th century, with variable success in each different site. Since then, the non-invasive nature of the geophysical methods made them appropriate for the mapping of graves, burial sites and historic cemeteries through the employment of diverse techniques like ground penetrating radar, electrical resistance, electromagnetic and magnetic methods (e.g. NOBES, 1999; LINFORD, 2004; KISA and SUSZTA, 2006; JONES, 2008; DOOLITTLE and BELLANTONI, 2010).

In addition, more sophisticated methods like two-dimensional (2-D) and three-dimensional (3-D) resistivity imaging techniques have been employed in the detection of graves buried at small depths, in relation to their dimensions mainly in areas of relatively gentle topographic slopes (CANDANSAYAR and BASOKUR, 2001; NYARI and KANLI, 2007). Lately, the use of the geophysical methods has been initiated with satisfactory

results in the detection of buried human remains in forensic investigations (e.g. POWEl, 2004; SCHULTZ, *et al.,* 2006; PRINGLE, *et al.,* 2008).

The detection of tombs or burials inside tumuli like structures (artificially erected small hills) is an especially challenging geophysical problem pushing the applicability of the geophysical methods to their limits. Various approaches based on seismic refraction (TSOKAS et al. 1995) and seismic tomography (POLYMENAKOS, et al., 2004; FORTE and PIPAN, 2008) methods have been used successfully in the past for the investigation of these structures and the location of monumental tombs in inside tumuli. Ground-penetrating radar and electromagnetic methods have also been employed in the location of tombs buried inside tumuli (PIPAN, et al., 2001; PERSSON and OLOFSSON, 2004). Integrated approaches based on the application of magnetic gradiometry and electrical resistance mapping methods provided very good results mainly in tumuli with relatively low levels of topographical variation (Sarris, et al., 2000; Barton and Fenwick, 2005). The electrical resistivity method through the application of multiple vertical electrical sounding (VES) measurements has also been applied to define the structural stratification of a tumulus (PINAR and AKCIG, 1997). 2-D and 3-D electrical resistivity tomography provided a powerful tool in reconstructing the complex geophysical properties of tumuli subsurface areas and the location of tombs (ASTIN, et al., 2007; PAPADOPOULOS et al., 2010).

On the other hand, the prospects of the survey of smaller isolated graves remain weak. Historical burials, usually associated with a presence of coffins, have been identified successfully through the use of magnetic, soil conductivity and GPR techniques (ELLWOOD 1990, JONES 2008). Recently, Schultz and Martin (2012) proved the ability of the GPR to locate pig carcass under controlled experiments they made. Similar conclusions have been drawn by Powel (2004) for the employment of electrical resistance techniques under controlled investigations of shallow buried kangaroos, pigs and human cadavers. Juerges *et al*. (2010) went even further, as their controlled experiments indicated that the exposed pig cadavers accelerates decay and thus produces higher levels of electrical conductivity compared to the more resistive signal produced by wrapped cadavers, stimulating secondary burials. Following a diverse approach, Dalan *et al.* (2010) suggested the use of down-hole magnetic susceptibility measurements to document the magnetic signals of grave shafts (relating the low magnetic susceptibility with the variations of soil compaction in the area of the grave shafts). Still, the above conclusions cannot be easily projected to older graves where only the skeleton remains are left.

Soil Resistance Prospection of Cemeteries

Various electrode configurations have been used in the soil resistivity prospection of cemeteries. These followed the accomplishment achieved in the early experiments that were conducted within a tank to model the response to the tombs. The experimental results lead to the prospection of actual tombs in Tarquinia, Cerveteri (Italy) employing the Dipole- Dipole array with 1, 2 and 3m electrode separation (a) (LERICI 1961; CARABELLI 1967). Years later, the Wenner array (a=2 and 3m), together with seismic techniques, were employed in the cemetery of Sabine in Rome for the detection of tombs and cavities (BERNABINI *et al.* 1986; CRUCIANI *et al.* 1991). In general, the application of soil resistance techniques has been successful in surveying large monumental tombs, as it was the case of the tumuli at Kasanlak in the valley of the Thracian

Kings in Bulgaria, where Schlumberger array of various electrode spacing among a radial-circular grid was used to provide a plan of the tumulus interior which proved to be in a good agreement with the subsequent excavation results (TONKOV 1996). On the other hand, as we move to smaller sized tombs, the prospection becomes more problematic – see for example the application of Twin probe mapping at the Roman cemetery of Limori at Epanomi, Greece (TSOKAS et al. 1996) and the Minoan cemetery at Vronda, E. Crete (PAPAMARINOPOULOS and TSOKAS 1988). In the latter case, the high resistivity background was mainly responsible for the disappointing results of the resistivity survey.

But what happens when we are dealing with an extensive area and large depths of investigation? This was the case of the investigations that were conducted at the old Jewish cemetery of Alexandria in Egypt looking for voids and monumental structures that could be related to the tomb of Alexander the Great (Fig. 1). In antiquity, the area in which the Old Jewish Cemetery of Mazarita is placed, belonged to the Royal Quarter. Strabo (793-4 s 8) describes the region as the “Palaces” (*τα Βασίλεια*), which formed a third or a quarter of the city. With a need to prospect the whole cemetery (~25,000 square meters) at a depth of about 10m below the surface and avoiding the noise produced by the historical tombs, soil resistivity methods were engaged making use of electrical profiling and mapping (~10m below the surface), electrical soundings and electrical tomography/imaging. Resistivity mapping was carried out by taking measurements with sampling interval of 2m along 17 profiles extending in the South to North direction. The distance among the profiles varied substantially (less than 10m in most cases), due to the problems encountered in spreading the transects through the corridors and among the tombs. A Wenner array with a=10m spacing interval among the electrodes was employed to map the subsurface layers of the site within a depth of less than 10m below the current soil surface. Electrical soundings were applied along 4 profiles at the west, east, south and central sections of the cemetery. Finally, resistivity imaging/tomography Dipole-Dipole array techniques were applied along 5 profiles. The measurements in the cemetery showed an abnormal level of ambient noise, which affected the quality of the images. This type of noise is related to the highly heterogeneous subsoil layer that is disturbed by the shallow buried tombs in the cemetery. In the central region of the cemetery, a characteristic inverted W anomaly (reaching the value of 160 Ohm-m) was observed along a number of transects. This was confirmed by the tomographic profiles to be located within a depth of about 3-10m below the current surface. The dimensions of the anomaly are estimated to be about 20m (in the E-W direction) by 50m (in the S-N direction) and it constitutes a prominent target for future investigation (SARRIS*, et. al.* 2001) (Fig. 1).

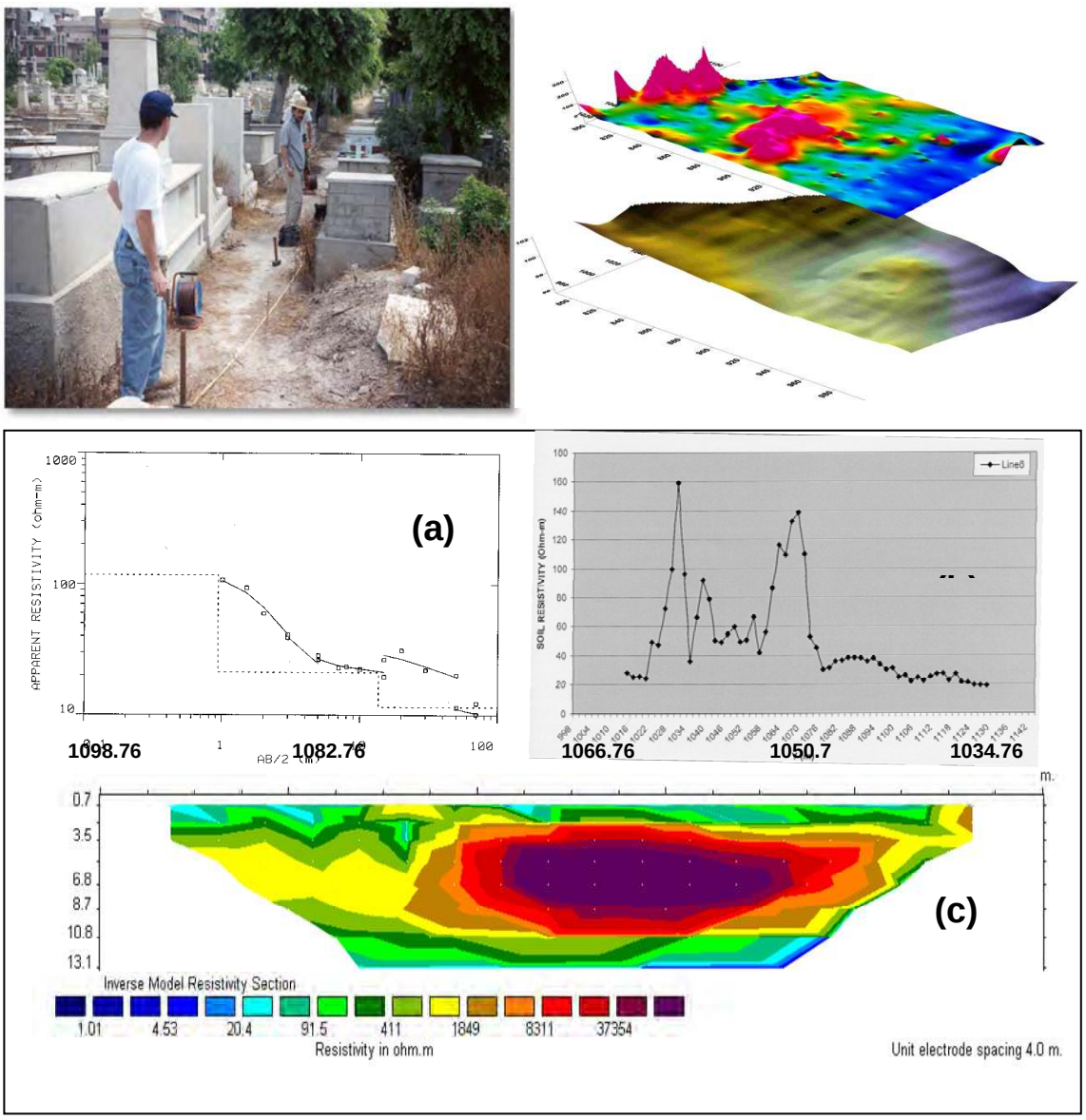

Fig. 1 – Details of the Old Jewish Cemetery and of the resistivity survey that was carried out in the area of interest (top left). Soil resistivity map indicates areas of high electrical resistance. Comparing the stacked 3-D maps of the soil resistance and the elevation, it can be observed that the central high resistance anomaly correlates well with a local depression of the ground (top right). Below: (a) Typical resistivity sounding curve, where the dotted line corresponds to the resistivity as a function of depth and the squares represent the apparent resistivity measurements at various current electrode spacings (AB), (b) resistivity profiling and (c) the inverse model section from electrical tomography along one of the profiles crossing the suspected target.

Graves in an Urban Context

The survey of graves within an urbanized context is of similar interest. Having to deal with a number of modern facilities and networks, the only alternative left is to apply either the GPR (still dealing with side reflections on the structures' walls) or the electrical resistivity tomography (ERT). Hašek and Unger (2010) have recently reported a number of examples and approaches of prospecting religious architecture in the Czech Republic in search of crypts (e.g. through the use of a micro camera for the search of the royal crypt of the Cathedral of St. Vitus in Prague Castle), masonry foundations, tombs and graves (e.g. using mainly GPR techniques in the Chapel of Assumption of the Virgin near Veveří Castle, the Church of St. George and

the Church St. Peter and Paul in Tasov). A 500 MHz GPR survey has been also carried out inside the Cathedral of Valencia in Spain being able to locate crypts, ossuaries, sepulchers, graves and wall foundations from the previous construction faces of the church (GRACIA et. al. 2000). High amplitude and intensity GPR reflections resulted due to the changes of the construction materials and were able to identify the location of the graves.

2-D Dipole-Dipole and 3-D gradient electrode arrays employed during a micro-resistivity survey inside Varzea Church in Portugal, identified successfully a 2.7x0.8x1.7m tomb probably associated with the 16th century Portuguese humanist Damião de Goes (MATIAS *et. al.* 2006). Similar approaches have been used prior to the renovation works of the new quarters of the Institute for Mediterranean Studies (IMS) in the center of the old town of Rethymno. Two elongated tholos rooms in the basement of this new building have been used as a church in the past. Since during the Venetian period it was a custom for priests to be buried after their death in the church, it was found necessary to carry out a geophysical survey prior to the test excavations in the foundations of the building. The rooms were investigated through the 3-D ERT method using 2-D parallel sections with 0.5m spacing of electrodes employing a Dipole-Dipole array. Having a penetration depth of 1.25m below the surface, the ERT results identified relics of the cooking area belonging to a house of historical times and a few more linear anomalies propably associated to the priests' graves (Fig. 2).

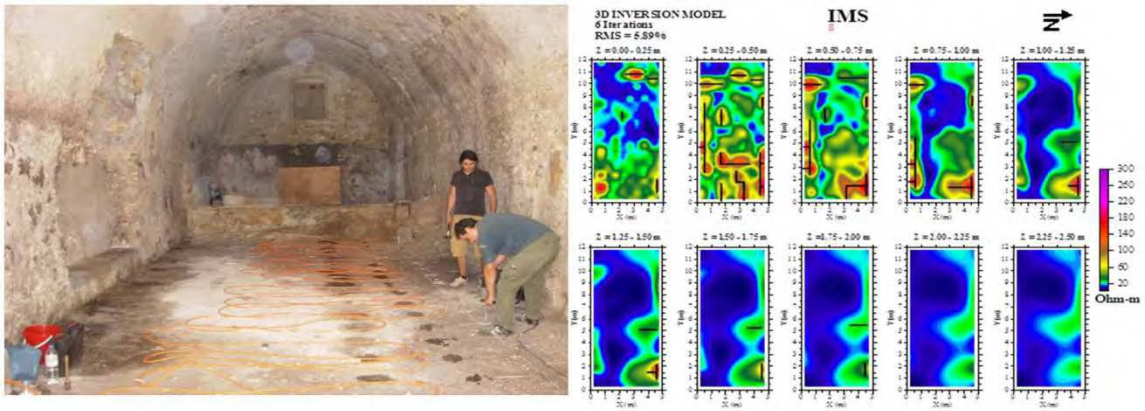

Fig. 2 – Details of the ERT survey of one of the basement rooms of the new quarters of the Institute for Mediterranean Studies at Rethymno (left). Inverted resistivity slices with increasing depth resulting from the 3-D inversion of 11 2-D transects.

Moving to a More Integrated Approach:

Electromagnetic, Magnetic Techniques and GPR Survey of Tombs

Electromagnetic, magnetic and GPR techniques have been used in the past for investigating the mortuary landscape in various contexts: graves within an indigenous burial site (NOBES 1999, ANON 2003), prehistoric cemeteries (McKINNON 2009, BIGMAN 2012), historic graveyards (BUCK 2003, JONES 2008, CONYERS 2006) and forensic archaeology (NOBES 2000, DAVENPORt 2001). In many cases, geophysical approaches utilize more than one method for the prospection of cemeteries and tombs (see for example the prospection of graves and grave markers in a North Queensland cemetery, Australia, employing GPR, magnetometry and soil resistance techniques (STANGER and ROE 2007)). In the above studies, the

difficulties of the detection of graves due to the increased levels of noise by the surrounding environmental conditions (e.g. existence of roots in a forested landscape, the absence of a good signal due to the small dimensions of the graves, variations of the signal intensity due to climatic conditions, etc.) has been pinpointed.

Geonics EM-38 conductivity meter has been used in 1990s in the survey of the boat grave burials in Vendel, Uppland, Sweden (PERSSON & OLOFSSON 1995). Being able to adjust the frequency of the EM survey to 12150Hz through the employment of a multifrequency conductivity meter (GSSI, Inc. GEM-300 with coil spacing of 1.67m), Bigman (2012) successfully identified over 60 potential Native American burials around the funeral mount at Ocmulgee National Monument in the USA. This kind of frequency adjustment may be critical in the investigations of graves, as other examples have shown that the detection of tombs via conventional EM techniques may not always guarantee a successful result. This was the case of the experiments conducted with a Geonics EM-31 at a section of the Bronze Age and Iron Age cemetery of Dhenia in Cyprus, consisting of a dense distribution of large rock cut chamber tombs. It seems that the empty volume of the chamber tombs did not create sufficient contrast with the calcareous bedrock to identify positively the tombs, but at least the EM signals were registered better than the magnetic signals with the location of the chambers (SARRIS, 2002) (Fig. 3).

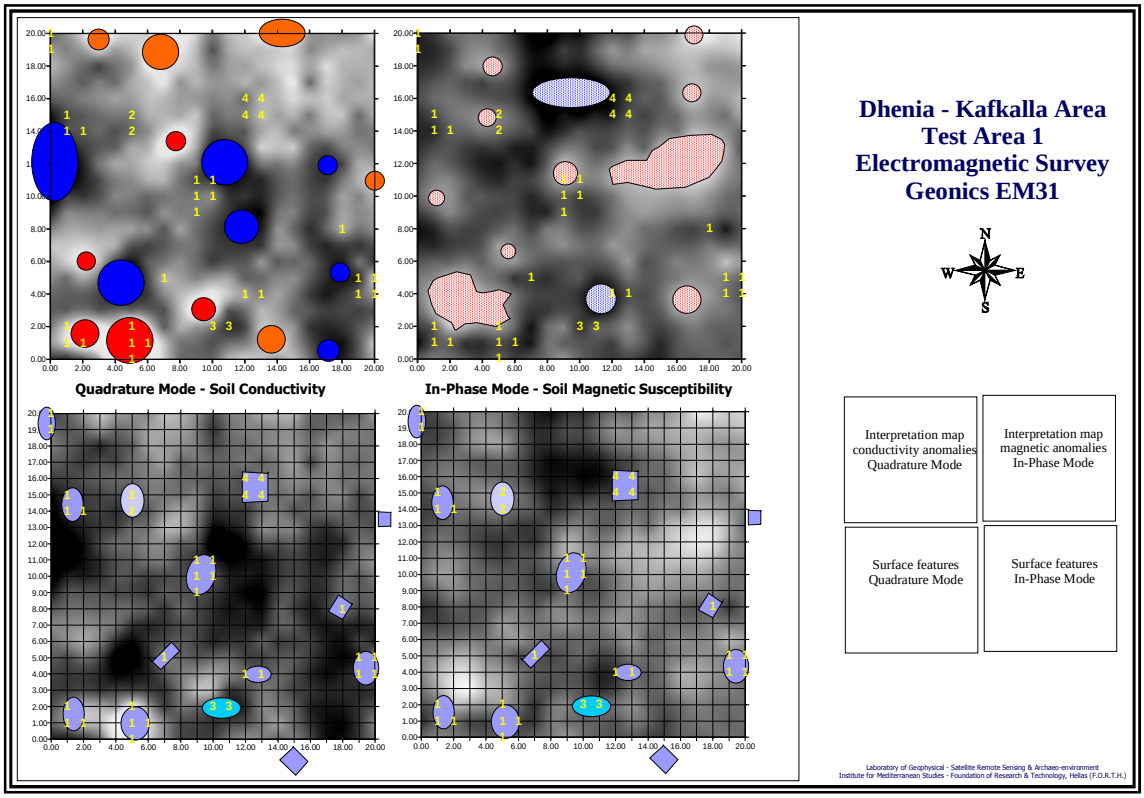

Fig. 3 – Details of the EM survey at the Bronze Age and Iron Age cemetery of Dhenia in Cyprus. Correlation of the results of the EM survey with the surface indications, mainly originating from the marking of the *dromoi* (entrances) of the tombs.

A detailed experimental survey to test the strength of the signals in relation to the ability of the detection of small sized urn tombs has been carried out at Békés Koldus-Zug site, where scattered burned human bones and Bronze Age ceramics (with sporadic Árpád and Late Medieval ceramics) suggested the existence of a cremation urn cemetery, which may be dated in two different periods, Bronze Age and Árpád period. In Bronze Age Hungary, beginning around 4500 BC, both inhumation and cremation were common mortuary practices. Oakfield cores (by Dr. Rod Salisbury) indicated a grayish brown loam layer extending about 16-60cm below the plow zone (top 40-45cm). Taking into account this information, together with the suspected dimensions of the burials, the magnetic survey was materialized with a sampling of 25cm in both directions. In order to accomplish the correlation task among the geophysical anomalies and the actual buried targets, 27 small excavation trenches (most of them 1x1m in dimension) were dug, both during the course of the geophysical survey and immediately after the completion of it, upon targets that were pinpointed especially from the magnetometry signals (magnetic anomaly approach) or following a checkers planning. Furthermore, the correlation with the distribution of bones, lithics and ceramics was also taken into account. Even though most of the intensive magnetic anomalies that were dug were correlated with metal fragments and modern intrusions, 6 human burials were excavated (of which 5 were found in urns or with pottery grave goods) (Fig. 4). It was concluded that most of the magnetic anomalies that are related to archaeological features in the area of the cemetery were very weak and close to the noise level of the region (graves were indicated with anomalies within the range of +/-2.5nT/m, while pits were indicated within the range of +/-5 nT/m). Even the enhancement of the shallower depth anomalies (lying within a depth of about 45-65cm below the surface) via the application of FFT techniques and Euler deconvolution was not very effective in identifying archaeological targets (graves and pits) with a high degree of confidence.

The limited results regarding the application of magnetometry in the detection of tombs has been also demonstrated in the past. Even if the goal was often to have an indirect suggestion of the existence of the tombs, mainly originating by a relative high anomaly of the earth-filled *dromoi* or by a relative low signal of the void (due to missing soil) of the chambers, most of the examples of the magnetic survey of cemeteries resulted in relative poor results (see for example the magnetic survey of the rock-cut chamber tombs in the Etruscan necropolises at Tarquinia and Cerveteri, Italy (LERICI 1961), the magnetic surveys at Tell El Ful and Ben-Shemen, Israel (HESSE 1973; 1980) and at Mt. Bibele necropolis, Italy (BOZZO *et al.* 1990)).

In contrast, a relative positive association among rock-cut tombs and magnetic signals was demonstrated in the survey of the Hellenistic-Roman cemetery of Athienou *Malloura* (Cyprus), results that were verified by GPR on specific targets (SARRIS *et al.* 1996). Indeed, rock cut chamber tombs produce strong reflection signals and even smaller tombs and voids can be detected through the stratigraphy anomalies identified in the radargrams. GPR antennas of 225 and 450 MHz were capable of detecting small size (~0.5m diameter) Minoan tombs at Chalasmenos (E. Crete, Greece) (SARRIS 1998). At Ellinospita Mouri, close to the ancient city of Axos (Oaxos) in Rethymno, Crete, a number of terraces were surveyed, below which underground Roman tombs were excavated in the past. GPR transects expanded in other regions of the site and registered strong reflectors, similar to those produced by the corresponding experiments above the

controlled targets (excavated tombs) (Fig. 5), suggesting the presence of more underground rock cut tombs or voids (Sarris 2011:20).

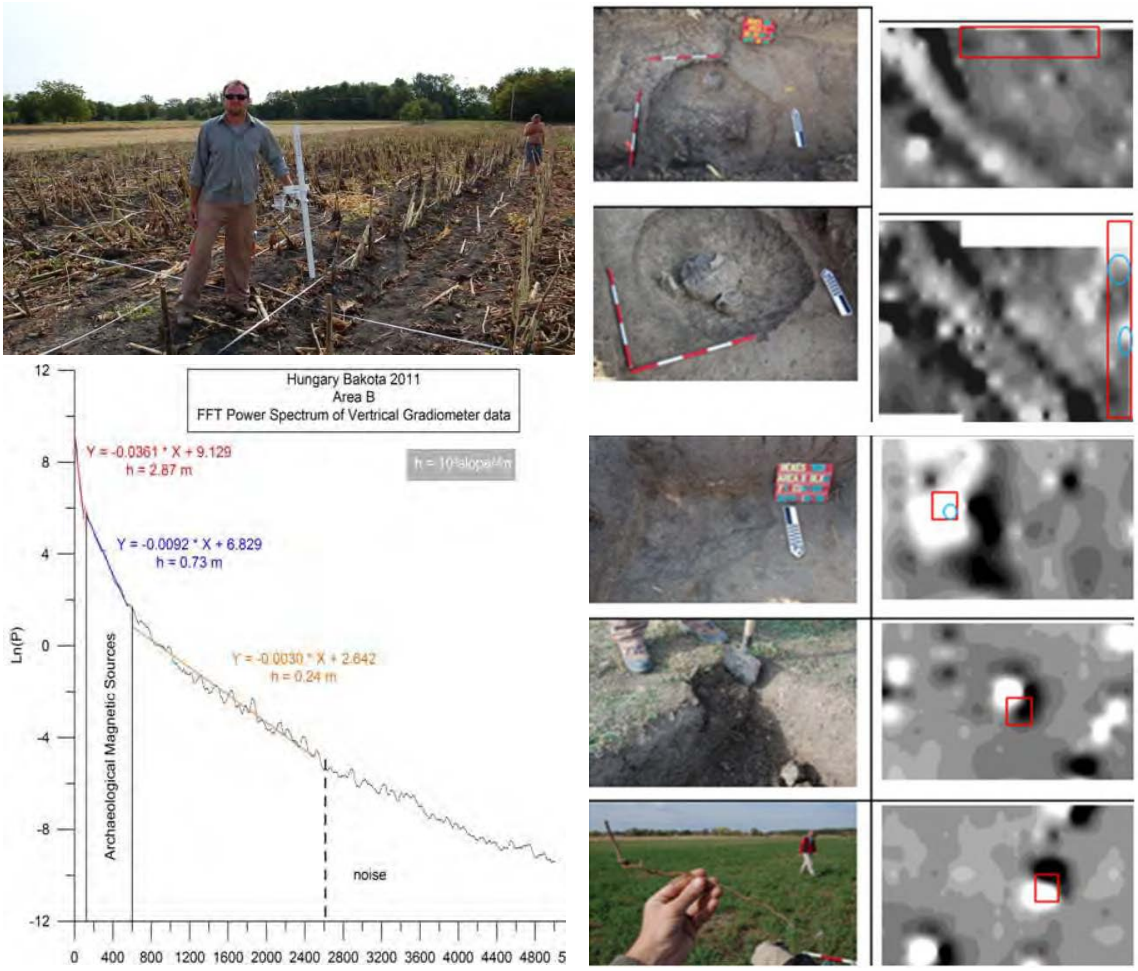

Fig. 4 – (Upper Left) Details of the magnetic survey at Békés Koldus-Zug site. (Lower Left) Power spectrum of the magnetic data aiming towards the isolation of the shallower buried targets. (Right image moving from top to bottom - the red rectangles correspond to the outline of the excavation trenches): Cremation grave; Urn grave & pit; Iron tractor screw (93gr) and Bronze Age Round Pit; Iron wire (33 g, folded but over c. 30 cm long total) at 35cm; Iron wire (21 g, 25 cm long) at 15cm.

The importance of the complementary application of various methodologies in the investigation of cemeteries has been manifested in the exploration of the Roman cemetery at Kenchreai (Korinthia), consisting among others of subterranean chamber tombs (on average 3.73m long x 3.27m wide x 2.53m high), cist graves and related architecture (SARRIS *et al.* 2007). The first subsurface targets of the cemetery were suggested by the application of a detailed EM31 and magnetic survey. The GPR followed as a verification method covering only portions of the site, since the coverage of the terrain did not allow an extensive GPR survey. Again, the importance of the controlled experiments above known targets was of crucial importance. Both 225MHz and 450MHz antennas produced multiple reflection signals above the known chamber tombs providing a good estimate of the depth extent and the dimensions of the features. Based on the signals of the experimental

surveys it was possible to have a better interpretation of the concave shaped signals produced by the vaulted ceiling of other candidate unopened chamber tombs, graves and pits, existing in the deep sloping stratigraphy of the Koutsongila Ridge. Having an even larger margin for experimental work, the residual curves produced by microgravity measurements above the known tombs generated (after the application of the corresponding corrections) clearly estimates not only for the location of the tombs, but also their depth and dimensions in very good agreement to the GPR data.

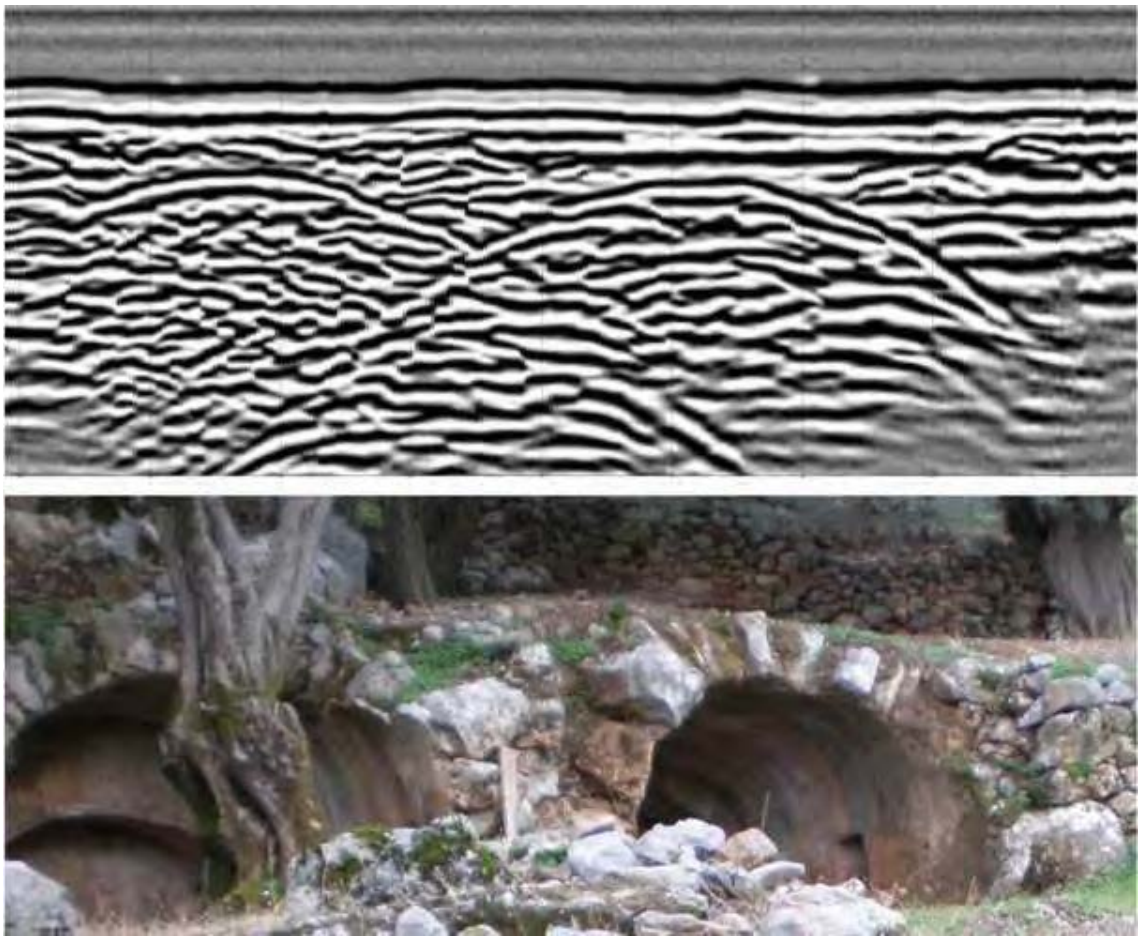

Fig. 5 – Typical GPR reflection signals produced by underground rock cut or build tombs. The particular example is from the region of Axos, where a Roman cemetery has been identified through test excavations. The reflection signals (top image) were produced along a transect above the two tombs shown at the bottom image, using the Noggin Plus (Sensors&Software) GPR with 250 MHz antennas.

Mapping the Mortuary Space. Final Remarks

The investigation of cemeteries is always a difficult and challenging task in archaeological prospection. The identification of individual graves through geophysical techniques is relative problematic and thus in the prospection of cemeteries and graves there are no rules or specific guidelines. The success of such a survey depends on the conservation of the graves, the various artifacts that may accompany a burial, the depth and dimensions of the burial, the environmental noise, the geology, etc.

Keeping this in mind and having an understanding of the limitations imposed by both the conditions of the graves, their surrounding soil matrix and the confinement of the prospection methods, there is always a need for experimentation and neither a case of extreme expectations nor a complete rejection of the involved methods needs to exist. Rushing to extremities and drawing rush conclusions such as those mentioned by a recent U.S. Army's Memorandum for Record (MFR)[1] based on the ambiguous and hazy results of a single test GPR survey at Arlington National Cemetery, is not convincing and does not lead us to a further progress and enhancement of the prospection techniques.

Whatever the case, the taphonomic processes and the general disturbances of the soil stratigraphy influence the identification of graves. The best approach is the combination of various techniques (namely the manifold approach - Sarris 2012) which still may produce limited results if the targets are of very small dimensions and soil strata are heavily disturbed.

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[1] Among others, the moratorium which was signed by the Executive Director of Arlington's National Cemeteries (ANC) on September 9, 2012, included the following: "Extensive pilot tests completed at Arlington National Cemetery in 2010 demonstrated that ground penetrating radar (GPR) and other technology currently being used to determine irregularities below the ground with regards to interred individuals, caskets and urns are statistically unreliable and subject to a wide range of interpretation. Subject matter experts have provided analysis stating that the results of GPR introduce more uncertainty than conclusive evidence for individual gravesite. …

a. Based on the results described above from tests completed at Arlington National Cemetery, effectively immediately, GPR and other technology currently being used to determine irregularities below the ground will not be used for cemetery purposes on Army property until further notice.

b. The moratorium includes GPR and other technology currently being used to determine irregularities below the ground conducted at U.S. Government or private expense."

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Using Ground-Penetrating Radar on Archaeological Sites

November 21, 2017, 1:52 pm

Tips for using this great tool to create a more complete picture of a site

Geophysical surveying methods are great tools for archaeologists who need to identify the best places to excavate at a

site. Ground-penetrating radar (GPR) stands out from all the available geophysical methods as the only one that provides true depth information. Recently, Product Marketer Ken Corcoran sat down to interview archaeologist Peter Leach, a technical trainer at GSSI, on the best way to use GPR for archaeology.

Peter – what makes GPR such a good tool to investigate archaeological sites?

Before geophysical methods arrived on the scene, archeologists had enjoyed centuries of success using excavation and shovel test grids to narrow down the most likely areas in which to dig. This time-tested site surveying method involves laying out a grid and excavating a unit, typically 50 centimeters by 50 centimeters. Archaeologists sift through the material to determine whether artifacts are present, and if so, from which layers. They then move on to the next unit, which may be 10 to 20 meters away.

However, this method has one major problem – if 20 percent of shovel tests contain artifacts using 10-meter spacing, there is a great likelihood that researchers can jump right over a discrete feature. It takes time and effort to excavate shovel tests on the scale necessary to accurately narrow down artifact locations. This process is labor and time intensive – and it results in a high potential to miss something.

Take the example of early sites from the 1600s, which may not contain a lot of cultural material – just a few bits of pottery, pipe stems, or nails. It is very likely that you may not recover cultural material from a shovel test even if you are right in the middle of the site.

In recent decades it has become clear that GPR and other geophysical technologies could really help with surveying sensitive archeological sites remotely and non-destructively. Targeting what to excavate saves time, money and protects fragile artifacts. GPR can also aid investigations comparing the site's natural soils with archeological components.

GPR and other geophysical technologies are not generally used as "first phase" methods; rather, they are used when other information is needed to help refine the site, usually after an initial shovel test finds artifacts that point toward something interesting. They may also be used after plowing an agricultural field turns up artifacts, or if researchers have a detailed historical map that suggests a house or farm used to be at a site.

Such methods can pinpoint the best places to excavate and indicate which areas should be avoided. This is especially useful for large multi-acre areas, where GPR can be used to build a high-resolution map of what the site might have looked at when it was occupied. Surveying a few acres in high resolution could help locate all the roads in a farm complex, as well as all the paths, activity areas (blacksmith shop, yards), and even individual buildings.

On a smaller scale – say a researcher finds a house and a well – the GPR can be used to produce a more localized survey across discrete features to get a better idea of their size and depth, and to determine if the walls are intact and if the cellar hole is filled with rubble or clean material.

You mentioned other geophysical methods. Can you give a brief overview of them and explain how archaeologists select the best one for a site?

Archaeologists use several geophysical methods, including GPR, electrical resistivity imaging (ERI), magnetometry, and electromagnetic induction (EM or EMI).

GPR works by sending a tiny pulse of energy into a material via an antenna. An integrated computer records the strength and time required for the return of any reflected signals. Subsurface variations create reflections that are picked up by the system and stored on digital media. GPR is considered the most accurate, highest resolution geophysical technology. It works best in dry sandy soils with little salt content; the technique is not useful on the coasts where there is a high salt content, for example salt marsh. Dense clay-based soils are difficult to penetrate with GPR, it cannot see through metal and is also incapable of identifying bone.

ERI is used for mapping the depth of soils and rock. It involves placing stakes in the ground and measuring electrical resistance. Technicians must set up a row of about 24-48 sensors (metal stakes) along the ground typically in a straight line; information is only collected along that one line. This tool works well in clay soil, but takes longer and costs more to get the required data coverage than GPR. One can collect 80 or more profiles of similar length with GPR in the same time it takes to collect 2-4 profiles using ERI.

Magnetometers are passive sensors that measure the strength and sometimes the direction of a magnetic field. By detecting irregularities in the earth's magnetic field, a magnetometer can indicate the location of items made of ferrous material. Archaeologists use them to measure human activity that increases magnetism. For example, old fire pits have higher magnetic readings, as do bricks, storage pits, and even old trenches. Magnetometers do a good job of finding ferrous objects, but do not provided accurate depth information like GPR.

Electromagnetic induction (EM or EMI) devices measure the change in mutual impedance between a pair of coils on or above the earth's surface. Most EM instruments are comprised of two or more sets of coils, electrically connected and separated by a fixed distance. EM devices can simultaneously examine soil conditions and locate objects found beneath the surface of the earth spatially, but do not provide good depth information.

It is important to emphasize that these methods are often complementary, because each is better at measuring different things. For example, magnetometers are often paired with ER surveys. But here's the vital point: *Only GPR can provide true depth information that can be calibrated.* Unlike other available geophysical methods, a GPR survey can indicate where an anomaly or archaeological feature is in high resolution spatially, enabling archaeologists to say how deep it is below the surface. That's a huge advantage.

Do you have any tips on using GPR for surveying?

Before even starting to scan, it is absolutely critical to obtain as much information as possible about the site. GPR surveyors should seek out any historical maps and make sure they have access to the results of walkover surveys showing concentrations of archaeological features and artifact density. GPR surveyors should also have an idea of what researchers expect the GPR to show them so they can get a sense of what they should be looking for.

As part of this information gathering, researchers should pay close attention to what the landscape looks like. Is it at the side of a mountain where it may be difficult to access? Is it clear of vegetation or densely vegetated? GPR equipment needs to be pushed in a straight line and the antenna sits on the ground, so if a site is overly vegetated it must be cleared before conducting a GPR survey. Essentially, anything one would not want to go over with a lawn mower would also be difficult for GPR equipment.

Other factors surveyors should know is the time period being investigated, results from the initial archaeological investigation, and the density of archaeological features to be mapped. A pre-contact Native American site may contain mainly debris from making stone tools or food remains, so there may not be much to image. A historical 17th century farm complex might contain at least one building or a cellar hole, or perhaps a large underground feature that can help orient the site, like a barn, well, privy or farm lane.

To be most useful, researchers need the highest resolution data at the highest percent coverage. What type of planning can GPR surveyors do to guarantee an efficient survey?

My number one recommendation is for surveyors to arm themselves with an open mind and data collection parameters that are at a high enough resolution to capture things one is looking for – but also allow for unexpected items to be found. GPR surveys are a great tool to fill in gaps between shovel tests to ensure a complete picture of a site. Surveying budgets are always tight, so the key is to collect as much data as possible within the time and budget allocated.

Context is everything, so the right surveying parameters will always be based on the type of site and the findings of the initial archaeological investigation. Collection parameters will vary by the type of site and the density of features. Ideally, one should carefully consider line spacing parameters and direction of lines based on the specific site features.

GPR surveys should always be collected on grids. Surveyors should place a larger grid over a feature so they can determine what is happening near the feature or is associated with it. A recommended practice is to bracket the area with space buffers to collect more information. This can be difficult, since projects are often restricted spatially by property boundaries. Development projects affected by the National Preservation Act's Cultural Resource Management (CRM) requirements are generally restricted to the area of potential effect; surveyors do not usually have permission to survey beyond the project boundaries. For academic projects, one should keep surveying to collect as much data as possible in the allotted time. A GPR survey provides a digital archive of the recording process; even if the site is damaged or destroyed, the digital archive will remain.

The GPR surveyor conducts the survey and tells researchers where there are anomalies. In an ideal world, the GPR

surveyor would later get feedback about the anomalies, with information on what was eventually found. This would enable surveyors to go back in and re-examine the data, providing a better sense of what particular data findings mean.

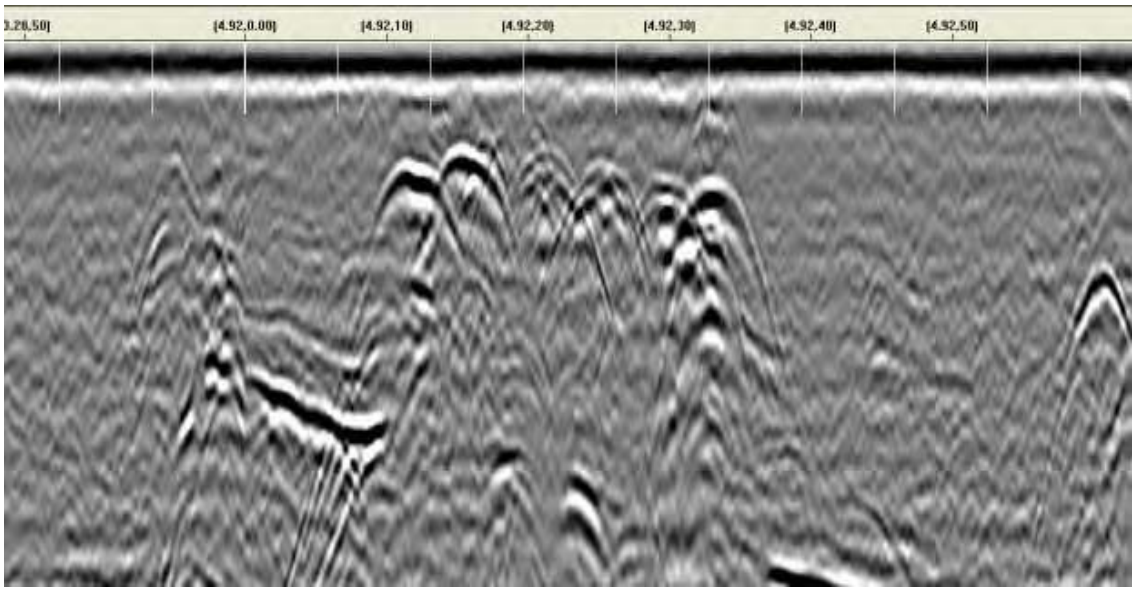
House sites and cemeteries are common geophysical survey locations. What are special considerations about using GPR at these site types?

Early American house sites are very feature rich, with numerous underground targets. Researchers are typically looking for former extensions of a house that have since been demolished, as well as kitchen wings, foundation walls, and even gardens and pathways. As noted earlier, it is important to conduct background research before surveying, including deed research and use of the Historic American Buildings Survey (HABS) and Historic American Engineering Record (HAER) collections.

Geophysical surveys can help with investigation of cemeteries – both formal ones with standing stones and informal cemeteries, with unmarked graves or single burials. GPR can be used to image internment, but, Hollywood portrayals to the contrary, it is incapable of identifying bones. Use of GPR is also hampered by the fact that there may be variable states of preservation across a particular landscape, depending on soil types and topographical features. One part of a cemetery from 1750 could be remarkably preserved, whereas a grave from a different part of the cemetery might be completely decayed.

Another factor is that older coffins were wood or brick, which are difficult to image with GPR. The technique targets hyperbolic reflectors (an upside down U); in the absence of those reflectors GPR surveyors rely on vertical disturbances in the soil profile that come from digging, which shows up fairly well in GPR data.

The accompanying graphic shows two-dimensional GPR data taken from a cemetery site. The data represents six burials, approximately 10 nanoseconds in depth.



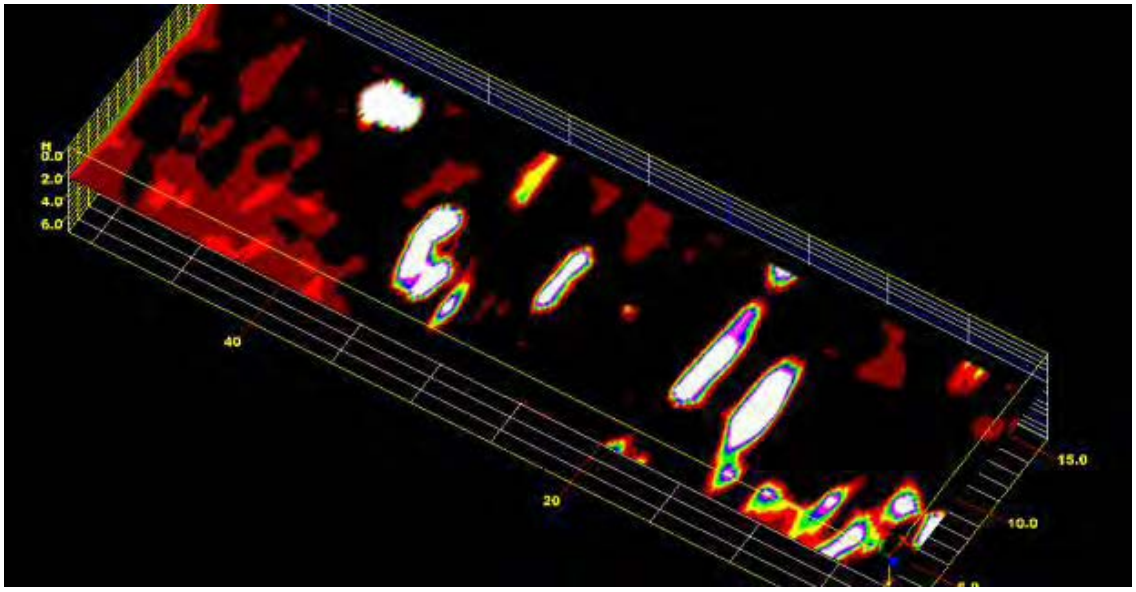
Data collected with a GSSI SIR 3000 single-channel GPR data acquisition system and a 400 MHz antenna.

In addition to the standard archaeological data collection requirements, can you discuss software-based post processing methods and what they bring to the table?

Regular GPR profiles are interesting, useful, and powerful for people who can read them – but they are also limited. It is difficult to see the shape of a feature by just seeing a cross section. GPR data does not show up on the screen labeled – surveyors must *interpret* what the features are. This is where post-processing software can play a role.

Similar to software used to process camera images, post-processing allows researchers to downplay some features and highlight others. Noise is inherent in digital GPR data, and the post-processing software enables users to reduce or remove noise to accentuate what they are looking for. The accompanying figure shows a three-dimensional GPR data image that identifies nine anomalies that could represent burials. The data was processed with RADAN post-processing

software.



3D data image of GPR data collected with a GSSI SIR 3000 single-channel GPR data acquisition system and a 400 MHz antenna.

One excellent software-based technique is called time-slicing, in which all the individual lines of data collected are stitched together using the assigned coordinates into a three-dimensional cube of the survey area. Horizontal slices (also called time slices) can isolate specific depths to show the soil layers and review lateral relationships and actual feature shapes. Time slices help researchers really see the shape of a feature, like a circular well or building foundation, or a long linear pipeline. The slices add an immense amount of interpretative data and are often the best way to illustrate findings to the general public.

I think you have demonstrated that GPR is an excellent tool for planning where to dig at a site. Do you have any final words of wisdom to sum it up?

Investigators and researches should incorporate a GPR survey early on in the process, ideally after the course-grained survey, and before major excavation efforts are undertaken.

To use the tool to its best advantage, GPR surveyors should collect the right information before beginning a GPR survey, carefully plan data collection parameters to get the highest resolution data at the highest percent coverage for each specific site, and use software based post-processing tools, especially time-slicing.

Ken Corcoran started his career 20 years ago as a geologist at a Boston based geophysical company. Here he used GPR, EMI, seismic, and resistivity methods. In 2002, he joined GSSI as a geophysical application specialist. He has been working in product marketing since 2010, using his experience as a customer to influence and direct product development.

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The search for graves with ground-penetrating radar in Connecticut

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ABSTRACT

The search for unmarked and clandestine graves is a labor-intensive, time-consuming, and often frustrating task. Several geo-physical methods are available, which can be expediently used with little or no disturbances to sites, among which ground-penetrating radar (GPR) is often considered the most useful tool to delineate possible graves. This paper is the result of many years of GPR testing for unmarked graves in Connecticut. Natural and cultural conditions are considered in the failure and/or success of detection, and the use of GPR in archaeological studies.

1. Introduction

The search for unmarked or clandestine graves is a labor-intensive, time-consuming, and often frustrating task. Search methodologies use to locate these burials can include the collection and review of historical records, aerial photographs and witness accounts, the completion of visual foot searches, and the use of invasive tools such as steel probes, soil cores, shovels, and backhoes. Recently, several non-invasive geophysical methods have been added to the stock of archaeological search methodologies (Jones, 2008). These methods have been used to identify areas of interest within sites, locate burials and forensic evidence, and clear suspected sites so that resources could be directed elsewhere (Dupras et al., 2006; Nobes, 2000). Several geophysical methods are available, which can be expediently used with little or no disturbances to sites. These geophysical methods include electromagnetic induction, ground-penetrating radar, magnetometers, metal detectors, and electrical resistivity. Among these methods, ground-penetrating radar (GPR) is considered unrivaled in the search for burials and forensic evidence (Dupras et al., 2006).

Ground-penetrating radar provides for the rapid, non-invasive detection of subsurface anomalies or disturbance signatures which, based on additional data, can be interpreted as potential burials (Bevan, 1991; Gracia et al., 2000; King et al., 1993; Vaughan, 1986; Watters and Hunter, 2004). Ground-penetrating radar has been widely used to locate unmarked graves (Bevan, 1991; Buck, 2003; Conyers, 2006; Davis et al., 2000; Hoving, 1986; King et al., 1993; Mellett, 1992; Miller, 1996; Nobes, 1999, 2000; Unterberger, 1992) and clandestine burials (Buck, 2003; Davenport, 2001; Davenport et al., 1988, 1990; Powell, 2004; Roark et al., 1998; Ruffell, 2005;Strongman, 1992; Watters and Hunter, 2004). In a comparative study with other geophysical methods and cadaver dogs, France et al. (1992) noted that GPR offers "the most useful tool to delineate possible graves."

The effectiveness of GPR is highly site-specific and success is dependent on favorable soil and site conditions. In general, GPR has not been as reliable a tool as reported for the detection of clandestine burials or unmarked graves (Davenport, 2001). Because GPR works well only under certain soil and site conditions, some have questioned the suitability of GPR for the detection of graves (Freeland et al., 2003; Jones, 2008; King et al., 1993). King et al. (1993) reported a low success rate for the detections of unmarked graves with GPR. In their study, GPR identified graves where they did not occur, while failing to identify graves where they did occur. Performance shortcomings and unproductive field time have produced some cynicism towards the use of GPR in forensic investigations (Freeland et al., 2003). Buck (2003) concluded that GPR should be used in the search for burials only after a critical evaluation of site conditions. Knowledge of the factors that affect GPR can help to improve its effective use and reduce some of this cynicism. This paper discusses factors that affect the effectiveness of GPR and provides examples from several GPR investigations that have been conducted in Connecticut for the purpose of identifying unmarked graves. These examples highlight how soil properties as

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well as burial methods, age, and taphonomy have favored or mired GPR interpretations of graves.

2. Materials and methods

A TerraSIRch Subsurface Interface Radar (SIR) System 3000® with a 400 MHz antenna (manufactured by Geophysical Survey Systems Inc. (GSSI), Salem, NH) was used in the investigations reported in this paper.[1] Radar records were processed with RADAN for Windows version 6.5 (GSSI). For some sites, radar records were processed into time-slice images and three-dimensional (3D) pseudo-images using the 3D QuickDraw for RADAN Windows NT program (GSSI).

Random GPR traverse were initially conducted across each site to assess the variability of soil conditions, calibrate the GPR, and locate areas of interest. For most GPR archaeological investigations, a small grid is established across a relatively small portion of the site. Generally, more information is obtained by using a network of closely-spaced, parallel GPR traverse lines that capture the full extent and variability of subsurface reflections. The radar data collected from a grid survey are processed into 3D images of the subsurface. Three-dimensional imaging not only provides multiple perspectives from which to view and analyze the subsurface, but often a more accurate means of interpreting complex subsurface GPR reflection patterns.

The effective processing and visualization of radar data is the key to modern GPR interpretations. The availability of signal-processing software has enabled the successful location and mapping of some graves (Conyers, 2004a, 2006; Watters and Hunter, 2004). Different signal processing procedures that can be used in archaeological investigations are discussed by Sciotti et al. (2003) and Conyers (2004a). Processing procedures are used to improve interpretations by compensating for signal attenuation with increasing soil depth, increasing signal-to-noise ratios, and extending the continuity of radar reflection patterns. Standard processing procedures, which were applied to all radar records shown in this paper, included correction of initial pulse to time zero, color transformation, distance normalization, and range gain adjustments.

Some of the radar records shown in this report have been migrated. As radar antennas receive reflected energy from a complex 3D conical area, migration attempts to remove diffraction tails, adjust for the distortion and dip displacement of inclined layers, and reduce out-of-line reflections (Neal, 2004). Because the presence of diffraction tails helps to focus attention on anomalous features suspected to be burials, migration is not always used in the search for unmarked graves and clandestine burials (Nobes, 1999). Fig. 1 provides an example of an unmigrated (upper) and migrated (lower) image of the same radar record that was collected in a cemetery located in Norwalk, Connecticut. The depth (vertical) and distance (horizontal) scales on this radar record are expressed in meters. The upper, unmigrated radar record contains hyperbolas with elongated diffraction tails (some indicated by arrows in upper radar record). Some of these hyperbolas are produced by burials; others are caused by scattering bodies (e.g., larger tree roots and rock fragments) in the soil. In the lower radar record, migration has been used to focus radar energy and reduce hyperbola tails, which mask other subsurface features. With migration, the number and locations of suspected burials appear better defined (see arrows in lower radar record), and several subsurface strata are no longer masked by diffraction tails and can be more confidently traced across the radar record.

[1] Manufacturer's names are provided for specific information; use does not constitute endorsement.

3. Factors that influence the effectiveness of GPR for the detection of graves

The detection of burials is never guaranteed with GPR. Detection is affected by properties of the grave site, which include: the electromagnetic gradient that exists between the buried feature and the soil; the state of preservation, size, shape, and depth of burial.

The amount of energy reflected back to a radar antenna is a function of the dielectric gradient that exists between the buried feature or the disturbed soil materials in the grave shaft, and the undisturbed soil. The greater and more abrupt the contrast in electromagnetic properties between the buried feature and the soil materials, the greater the amount of energy that will be reflected back to the GPR antenna, and the more intense and conspicuous will be the amplitude of the reflected signal on the radar record. Buried features that have dielectric properties similar to the surrounding soil matrix are poor reflectors of electromagnetic energy and are difficult to detect on radar records (Bevan, 1991; Doolittle, 1988; Vaughan, 1986). The reflection coefficient, R, is a measure of the differences in dielectric properties that exist between two adjoining materials. The reflection coefficient is proportional to reflection strength and is expressed as (after Neal, 2004):

$$R = \frac{\sqrt{E_r 2} - \sqrt{E_r 1}}{\sqrt{E_r 2} + \sqrt{E_r 1}} \quad (1)$$

where E_r1 and E_r2 are the relative dielectric permittivity of adjoining materials 1 and 2. As evident in equation (1), R is dependent upon the difference in the relative dielectric permittivity (E_r) that exists between two adjoining materials.

The E_r of soil materials is strongly dependent upon moisture content. As a consequence, the amount of energy reflected back from a buried feature is contingent upon the abruptness and difference in moisture contents within the soil and between the soil matrix and the buried feature. Conyers (2004b) observed changes in the relative amplitudes of reflected radar signals from the same site and features under different soil moisture conditions (i.e., dry versus wet). He concluded that, depending on soil type, many buried features are visible only under certain moisture conditions, which vary both spatially and temporally. Differences in soil moisture contents can improve the visibility of some burials on radar records. Waterlogged conditions, however, not only restrict penetration depths, but dilute electromagnetic gradients, thereby impairing burial detection with GPR.

The detection of burials with GPR often depends upon the materials used to contain the corpse. Within a cemetery, burials will produce different GPR responses not only because of differences in states of preservation and spatial variations in soil properties, but changes in burial practices over time (Nobes, 1999). Within a given cemetery, materials used to enclose corpses can consist of shrouds, body bags, wooden caskets, stone or concrete vaults, and/or fiberglass, composite or metal coffins. Native Americans often buried their dead in bark shrouds in a flex, fetal position. Early settlers often buried their dead wrapped in shrouds and placed in coffins made of wood (Owsley and Compton, 1997). Wood coffins were the most commonly used burial receptacle until the mid-to-late 19th century (Haberstein and Lamers, 1981). Preservation of these early burials and their identification with GPR depends on soil conditions, but is generally poor (Owsley and Compton, 1997). Metallic coffins were first patented in the 1848, but were not common until the 1860s after mass production had begun (circa 1858) (Owsley and Compton, 1997). In Connecticut, there have been incidences of the preservation of soft tissue within

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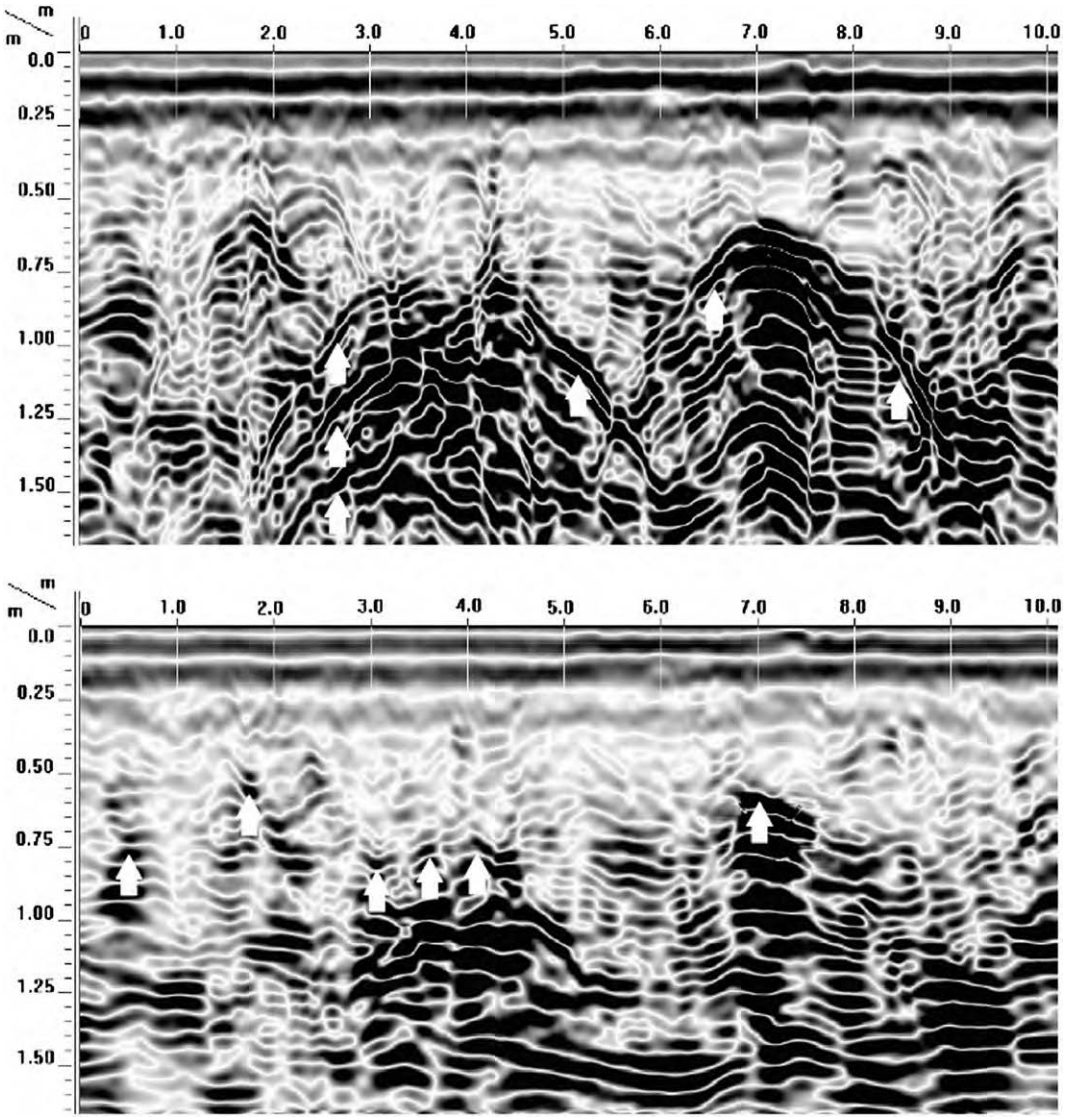

Fig. 1. These unmigrated (upper) and migrated (lower) images are from the same radar record, which was collected in a cemetery located in Norwalk, Connecticut. Migration is used to remove diffraction tails. Arrows have been used to indicate diffraction tails in the upper, unmigrated record; and the locations of possible burials in the lower, migrated record.

metal coffins dating back to the 1870s. Metallic or lead coffins, burial vaults and liners provide relatively large, longer-lasting, and more contrasting features, which generally produce high amplitude, recognizable radar reflections. However, metal coffins of Korean War soldiers buried in fine-textured soils at the National Cemetery of the Pacific (the "Punchbowl") in Hawaii were not detected with GPR (Buck, 2003).

With the passage of time, corpse and burial materials decompose and become less electrically contrasting to GPR. Koppenjan et al. (2003) noted that, because of decomposition and the settling of disturbed soil materials, burials become less noticeable on radar records with the passage of time. Clothing and articles (e.g., rugs, plastic sheathing, tarpaulins) used to wrap some corpses can initially accentuate the contrast in dielectric properties and aid the identification of some clandestine burials (Schultz, 2008). Untreated, wooden coffins (pine) decompose fairly rapidly in the acid soils of Connecticut and, because of soil pressures, will collapse within a decade. Bevan (1991) was successful using GPR to detect burials that consisted of intact coffins, but not burials that consisted of collapsed, soil-filled coffins, or bones alone. In Connecticut soils, wooden coffins not only rapidly deteriorate, but leave behind only faint evidence of their presence in the form of some small hardware and/or possibly thin discoloration shadows in soils. Discoloration shadows can only be traced through careful archaeological excavation and are not detectable with GPR. Coffin hardware, such as nails and hinges, though rusted, will be preserved in Connecticut soils. However, these items are generally too small to be detected with GPR.

If a buried coffin is intact, an air-filled void will exist, which can be detectable with GPR. Presently, coffins are usually covered by a burial liner or placed in a burial vault. Burial liners and vaults prevent the coffin from collapsing under the weight of the soil. As liners and vaults are made of concrete, plastic or metal, they are good radar reflectors.

Fig. 2 is an unmigrated radar record from a family cemetery plot in Westport, Connecticut. Both the depth and distance scales on this radar record are expressed in meters. The exact locations and number of interments in this plot were of concern to officials responsible for the care and maintenance of the cemetery. Though headstones appear to mark four, relatively recent graves (circa 1941–1963), the number of actual burials within the plot was unclear.

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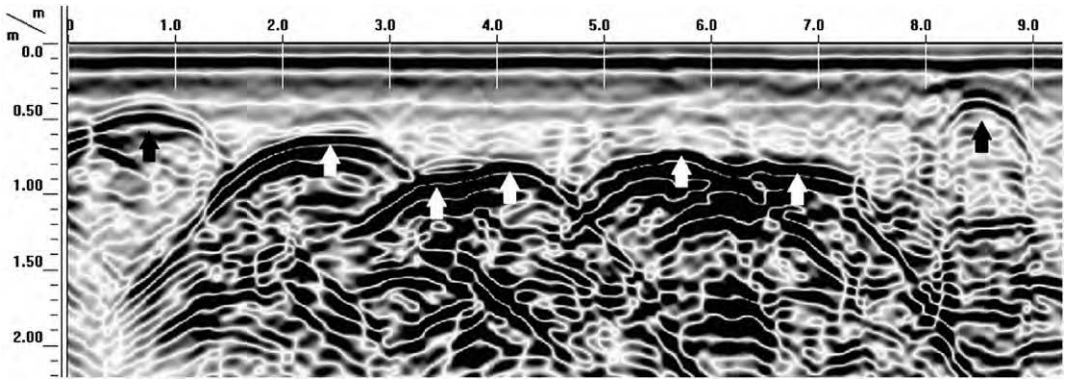

Fig. 2. This unmigrated radar record spans the length of a family plot located in Westport, Connecticut. The locations of suspected graves and larger tree roots are identified by white- and black-colored arrows, respectively.

In the upper part of this radar record (Fig. 2), five closely-spaced and overlapping, high-amplitude, hyperbolic reflections are evident. These reflectors, which are indicated by white-colored arrows in Fig. 2, occur at depths of about 60–80 cm between the 2 and 7 m distance marks. These reflectors are interpreted to represent the liners used to encase caskets. However, other features, such as stones and boulders, animal burrows, or larger tree roots, could produce similar reflections. The two shallower hyperbolas (indicated by black-colored arrows located between the 0 and 1, and the 8 and 9 m distance marks) are near large trees and were therefore assumed to represent reflections from larger tree roots.

As noted by Henderson (1987) "burials exist in an environment in which a complex interaction occurs between a wide range of variables." This partially explains differences that have been observed in the state of burial preservations and detection with GPR within the same site or cemetery. Rates of decomposition depend upon the depth and duration of burial, soil type, moisture content, temperature, flora and fauna (Henderson, 1987; Killam, 1990; Rodriquez and Bass, 1985). Floral and faunal activities will disarticulate and disperse decomposing corpses and skeletal remains (Dupras et al., 2006). Corpses decompose, and skeletal remains decay more rapidly under acid than under neutral or slightly alkaline soil conditions (Gordon and Buikstra, 1981; Henderson, 1987; Mellett, 1992). The lower the soil pH, the more acidic the soil, the more quickly organic remains are reduced and the less likely that there will be any recoverable materials or features detectable with GPR. In Connecticut soils with pH of 4.7–4.9, burials from the early 1900s have been observed to be completely decomposed, while in soils with pH above 5.5, burials from the 1700s were in a higher state of preservation. However, contradictions do exist, which can only be explained through a consideration of other soil factors (Henderson, 1987). In general, bodies and skeletal remains are more quickly decomposed in soils that have high clay and moisture contents (Dupras et al., 2006). Variations in moisture contents are caused by differences in relative humidity, precipitation, and drainage (Henderson, 1987). Preservation of skeletal remains is favored in dry, alkaline, sandy soils (Dupras et al., 2006). However, exceptions to these rules have been observed by Rentoul and Smith (1973).

The shape, orientation, depth, and size of burials affect GPR detection. The shape and orientation of a burial can aid its identification with GPR. On radar records, a subsurface anomaly that is narrow (about twice the width of a body) and linear (about 100–200 cm long) can suggest a possible burial. Burials can be uniformly spaced or aligned in a particular direction. Multiple, similarly aligned, elongated subsurface anomalies occurring at a common depth on radar records suggest probable burials.

Most graves, because of their relatively small size and the lack of physical contrast between the infilled materials and the surrounding soils, are challenging targets, which are difficult to detect with any geophysical method (Jones, 2008). Even under optimal soil conditions (e.g., dry, electrically resistive, sandy soils), small, deeply buried features are more difficult to detect on radar records because of unfavorable size to depth ratios. Large, electrically contrasting features (e.g., buried concrete vault) reflect more energy and are easier to detect than small, less contrasting features (e.g., deteriorated wooden casket). Bevan and Kenyon (1975) noted that the reflective power of a subsurface feature decreases at a rate that is proportional to the fourth power of its depth. In Connecticut, most historic burials range from about 60 to 180 cm in depth. Because of differences in temperature and biota, shallow burials suffer increased oxygenation and decay at relatively faster rates (Henderson, 1987). Because of lower decomposition rates, in similar soils, deeper burials are more likely to be preserved for longer periods of time than shallow burials (Schultz, 2008).

In general, most clandestine burials are relatively shallow (less than 50–100 cm deep). The composition and form of a decomposing corpse will change over time. Body fluids, salts, and gases in decomposing tissue are electrically conductive and will absorb the radiated radar energy (Hammon et al., 2000). Typically, this results in a zone of no or low-amplitude reflections directly beneath a recently buried corpse (Mellett, 1992; Miller et al., 2004). Initially, decomposing, fleshy body tissues and disturbance signatures in the soil are fairly easy to recognize on most radar records (Freeland et al., 2003; Hammon et al., 2000; Ruffell, 2005). Schultz (2008), over a period of 13–21 months, was able to detect pig cadavers buried in sandy soils. Successful detection was attributed to the contrast in dielectric properties afforded by the bones, soft tissues, and decomposition products with the surrounding undisturbed soil materials. However, bones themselves are generally too small to be detected with GPR (Bevan, 1991; Killam, 1990). In addition, bones are electrically similar to dry soil materials and are indistinguishable from rock fragments (Davis et al., 2000).

4. Suitability of Connecticut soils for GPR investigations

The effectiveness of GPR is highly-site specific and soil-dependent. Results vary with soil types and properties (Schultz et al., 2006). Soils having high electrical conductivity rapidly attenuate radar energy, restrict penetration depths, and severely limit the effectiveness of GPR. The electrical conductivity of soils increases with increases in water, clay, and/or soluble salt contents. In many soils, high rates of signal attenuation severely restrict penetration

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depths, reduce resolution of subsurface features, and limit the suitability of GPR for forensic and archaeological investigations.

Most GPR users are unaware of the differences in soil properties that affect GPR. As a consequence, they are unable to foretell the general suitability of soils to GPR and the likelihood of achieving acceptable penetration depths. The Ground-Penetrating Radar Soil Suitability Map of Connecticut (GPRSSM-CT) (see Fig. 3) shows the relative suitability of soils for the use of GPR within the state. This map was prepared by the United States Department of Agriculture—Natural Resources Conservation Service (USDA-NRCS), and is based on soil attribute data contained in the Soil Survey Geographic (SSURGO) data base. The GPRSSM-CT and other GPR soil suitability maps are available at: http://soils.usda.gov/survey/geography/maps/GPR/index.html.

As evident on the GPRSSM-CT, most soils in Connecticut are considered well suited to GPR. Soils that are well suited to GPR have low rates of signal attenuation, afford a minimum penetration depth of at least 2 m, and allow the use of higher frequency (>400 MHz) antennas, which provide greater resolution of soil, stratigraphic and lithologic layers than lower frequency antennas. Typically, soils in Connecticut have low clay (0–18%) and soluble salt contents, and pHs that range from about 3.5 to 6.5 (extremely acid to slightly acid). These soil properties contribute to the favorable GPR response in most Connecticut soils.

A most significant performance limitation to GPR is high-conductivity materials such as clayey soils and soils that are salt contaminated. On the GPRSSM-CT, the Hartford Basin (Skehan, 2008) forms a prominent soil and topographic feature that cuts across the central portion of Connecticut from south to north. On the whole, soils within the Hartford Basin are considered slightly less suited to GPR than the soils of the eastern and western glaciated highlands of Connecticut. The Hartford Basin contains some soils that have formed in finer-textured glacial lacustrine deposits and recent alluvium. Because of their higher clay contents, these soils have higher rates of signal attenuation and therefore lower potential for most GPR applications. In coastal, tidally influenced areas of Connecticut, soils are considered unsuited to GPR because of their higher soluble salt contents.

Burials are difficult to identify with certainty in many Connecticut soils because of the presence of other scattering bodies (e.g., rock fragments, tree roots, animal burrows, and modern cultural features or debris), which confound interpretations. Scattering bodies produce undesired subsurface reflections, which clutter and complicate radar records, mimic reflections from some burials, and mask or obscure the presence of other burials (see Fig. 1). In soils that contain a large number of scattering bodies, GPR often provides little meaningful information (Bruzewicz et al., 1986). The negative effects of scattering bodies on the identification of burials have been reported in several GPR investigations (Bevan, 1991; King et al., 1993; Nobes, 2000; Vaughan, 1986; Watters and Hunter, 2004). In these studies, scattering bodies greatly reduced confidence in radar interpretations.

Soils in Connecticut are comparatively youthful and lack well-expressed soil horizons. Bevan (1991) and Conyers (2006) noted that grave shafts are often the most noticeable and distinctive features observed on radar records of older graves. Grave shafts cause the truncation of soil horizons and stratigraphic layers, and are backfilled with mixed, soil materials, which can contrast with the adjoining undisturbed soil materials. At some sites, the most distinctive feature of a burial on a radar record is the disturbed soil materials that fill the grave shaft (Bevan, 1991). Bevan (1991) noted that it is more likely that GPR will detect the disturbed soil within a grave shaft or a partially or totally intact coffin, rather than the bones themselves.

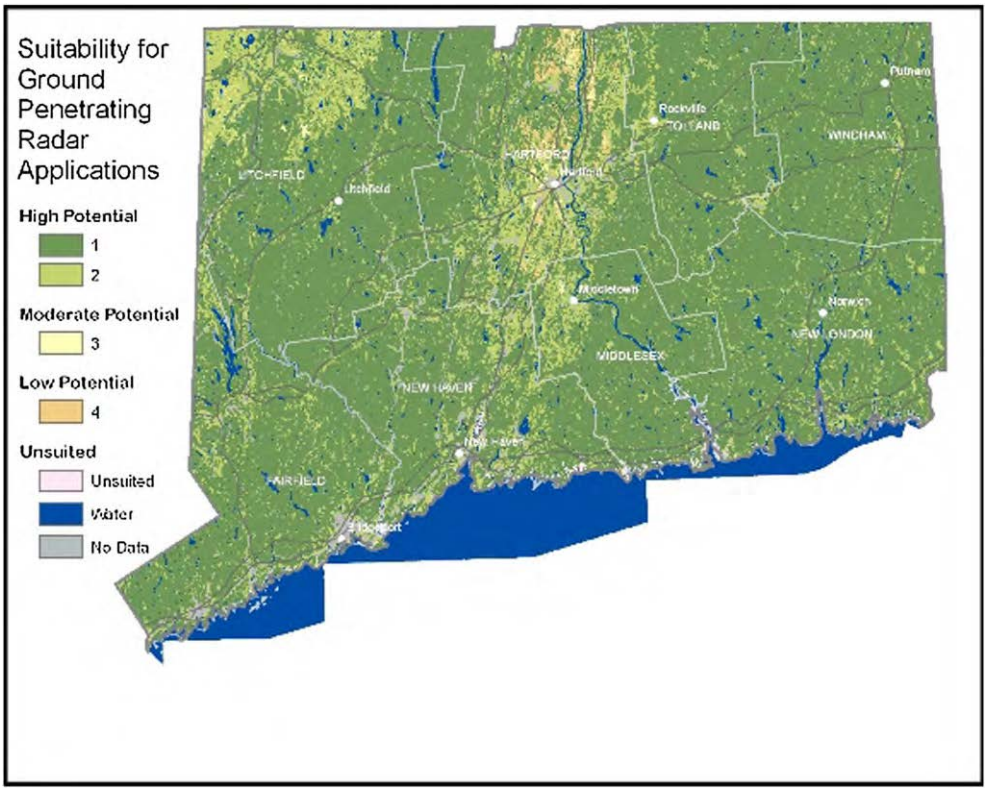

Fig. 3. The State Ground-Penetrating Radar Soil Suitability Map of Connecticut is based on soil attribute data contained in the USDA-NRCS Soil Survey Geographic (SSURGO) data base.

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Refilled grave shafts contain mixed soil materials. The disturbed soil materials are initially less dense, and have dielectric properties that often contrast with the surrounding, undisturbed soil (Bevan, 1991; Miller, 1996). These characteristics of grave shafts favor detection with GPR. However, in soils that lack well-expressed soil horizon and those formed in thick deposits of fairly homogenous materials (e.g., some lacustrine and aeolian soil materials), the detection of disturbance signatures on radar records is unlikely. Many soils in Connecticut form in glacial till. Glacial till consists of unsorted, unstratified, heterogeneous sediments that are characterized on radar records by chaotic reflection patterns caused largely by rock fragments. The lack of well-expressed soil horizons and the mixed, heterogeneous fabric of till make the recognition of grave shafts on radar records difficult in many Connecticut soils.

In Connecticut, disturbance signatures have been identified on some radar records (see Fig. 4). However, these features are temporal. With the passage of time, natural soil-forming processes will erase the signs of disturbance and reduce any contrast in dielectric properties. Fig. 4 is a radar record from an area of Windsor (mixed, mesic, Typic Udipsamments) soil (Soil Survey Staff, 2009). On this radar record, the depth and distance scales are expressed in meters. The Windsor soil profile is loamy fine sand in the upper part (the solum) and stratified sands and gravels in the lower part. In Fig. 4, the solum ranges from about 60 to 100 cm thick and is relatively free of high-amplitude reflectors (appear black in Fig. 4), which signify contrasting materials. The substratum consists of stratified layers of sands and gravels. High-amplitude, linear reflectors in the lower part of this radar record indicate contrasting layers of sands and gravels.

In Fig. 4, the outline of a recently refilled soil pit has been enclosed in a box. The backfill contains mixed soil materials, which contrasts with the undisturbed soil materials in grain size distributions and moisture contents. The mixed, backfilled materials produce anomalous disturbance signatures, which contrast in amplitude and reflective patterns with the bordering, undisturbed Windsor soil profiles.

The radar record shown in Fig. 5 was collected in cemetery located in an area of Windsor soil in Southington, Connecticut. In Fig. 5, the depth and distance scales on this radar record are expressed in meters. Many high-amplitude point anomalies are evident on this radar record. In Fig. 5, burials are known to be located beneath the 2, 6, and 10 m distance marks. Areas that contain disturbance signatures, which can be associated with these burials, have been enclosed in rectangular boxes. These features occur adjacent to headstones and were therefore believed to represent grave shafts that have been infilled with slumping and dissimilar soil materials. Though rock fragments and tree roots cannot be ruled out, point anomalies occurring within the enclosed rectangles are inferred to represent remnants of burials. Other point anomalies on this radar record are assumed to represent larger rock fragments, tree roots, or possibly additional, unmarked burials.

In Fig. 5, three weakly expressed, slightly concave-upward or "bowl-like" signatures in the shallow (upper 20–70 cm) subsurface have been identified with broken lines. In this example, it is suspected that soil materials used to fill the grave shafts have settled over time and additional soil materials have accumulated on the surface producing these distinctive "settling structures" on radar record (Conyers, 2006). Settling structures or bowl-like signatures have aided the identification of some burials (Conyers, 2006; Ruffell, 2005). However, bowl-like signatures in the upper parts of soil profiles are not unique to graves. In many older Connecticut cemeteries, in areas that lack headstones, it is often unclear whether the bowl-like signatures represent settling structures within grave shafts or were cause by tree-fall or other forms of soil disturbances. As a result, some settling structures on radar records have not been confidently associated with unmarked graves.

5. Three-dimensional GPR

An emerging approach in GPR interpretations is the analysis of the subsurface from a three-dimensional (3D) perspective. Three-dimensional GPR allows the visualization of subsurface data

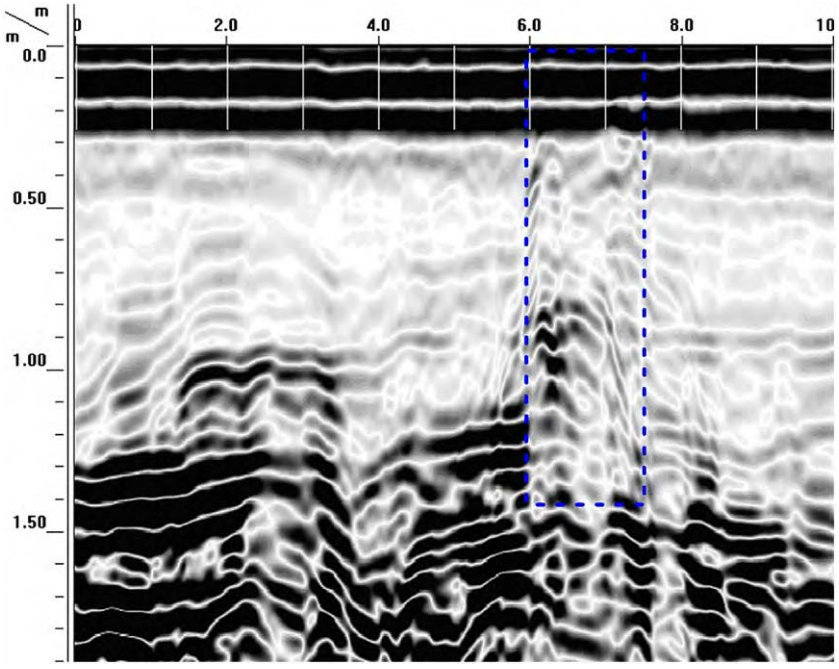

Fig. 4. The mixed soil materials used to refill the shaft (outlined by rectangular box) of a recently excavated soil pit contrast with the adjoining soil materials and provide a conspicuous GPR pattern on this radar record.

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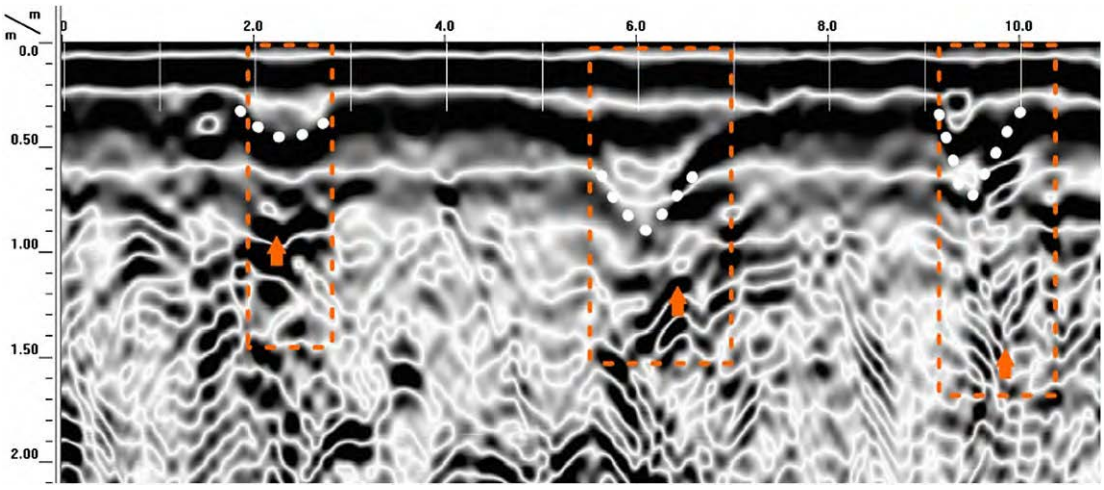

Fig. 5. On this radar record from a cemetery located in Norwalk, slightly concave-upward or "bowl-like" radar reflection signatures (highlighted with segmented, white-colored lines) are believed to represent the settling of soil materials in grave shafts (outlined by rectangular boxes).

volumes from different perspectives and cross sections (Beres et al., 1999). In areas of electrically resistive materials, Grasmueck and Green (1996) noted that, compared with conventional two-dimensional (2D) GPR (individual radar record), 3D-GPR can provide unrivaled resolution and details of subsurface features.

The acquisition of 3D-GPR data requires greater expenditures of time and labor than 2D-GPR data. The additional expenditures of resources to collect, process, and visualize 3D-GPR data, however, can provide more comprehensive spatial coverage of sites and higher resolution of subsurface features (Grasmueck and Green, 1996). To construct a 3D pseudo-image of the subsurface, a relatively small area (typically, 1–25,000 m^2) is intensively surveyed with multiple, closely-spaced (typically, 0.1–1.0 m), parallel 2D radar records. This relatively dense set of radar records is necessary to resolve the geometries and sizes of different subsurface features and prevent spatially aliasing the data (Grasmueck and Green, 1996). Once the radar data are processed into a 3D pseudo-image, arbitrary cross sections, insets, and time slices can be extracted from the data set. Interactive software packages enable the 3D pseudo-image to be viewed from nearly any perspective, and animated imaging allows users to travel through the entire data volume.

The use of 3D-GPR is widely used in archaeology. Three-dimensional GPR has been frequently used to identify and map buried structural features (Conyers and Cameron, 1998; Gracia et al., 2007; Leckebusch, 2000; Leucci and Negri, 2006; Pipan et al., 1999; Weaver, 2006). It has been used to improved the visualization of burial mounds (Forte and Pipan, 2008), tombs (Gracia et al., 2007), and some burials (Whiting and Hackenberger, 2004). Three-dimensional GPR has been used at sites in Connecticut to improve the visualization and identification of targets. This use of 3D-GPR, however, does not always improve interpretations or improved results.

Fig. 6 is a 3D pseudo-image of a small, 4 by 10 m grid of the family plot in Westport, Connecticut that was previously discussed (see Fig. 2). In this 3D pseudo-image, a 3 by 8 m section has been graphically removed from this cube to a depth of about 100 cm. Four, high-amplitude, linear, closely-spaced features are evident on the base and a side wall of the cutout cube. Compared with 2D radar records from this site (Fig. 2), the common depth and geometry of these reflectors on the 3D pseudo-image helped to confirm the identification and location of grave sites within the family cemetery plot.

Three-dimensional GPR images can also be analyzed in time-slices, which examine changes in reflected signal amplitudes within specific time intervals in the ground (Conyers, 2004a). In this process, reflected radar energy is averaged horizontally between adjacent, parallel radar records and in specified time (or depth) windows to create a time-slice (or depth-slice) image. Each amplitude time-slice shows the distribution of reflected signal amplitudes, which can indicate changes in soil properties or the presence of burials.

In a cemetery located in Middletown, Connecticut, it was unclear to officials whether or not unmarked graves were present. If graves are not present, this open area can be used for additional burials. The site is located in an area of Ludlow soils (coarse-loamy, mixed, semiactive, mesic Aquic Dystrudepts) (Soil Survey Staff, 2009). The very deep, moderately well drained Ludlow soils formed in loamy lodgment till.

A 10 by 6 m grid was established across this relatively small, open portion of the cemetery. Thirteen parallel radar traverses were conducted across the grid area in essentially a north–south direction and used to construct a 3D pseudo-image of the site. Fig. 7 contains a 3D pseudo-image (left) and two time-sliced images (right) of the grid site. In the 3D pseudo-image, a 9 by 4 m inset cube has been graphically removed to a depth of 100 cm. The time-slices are at depths of 60 (upper image) and 100 cm (lower image).

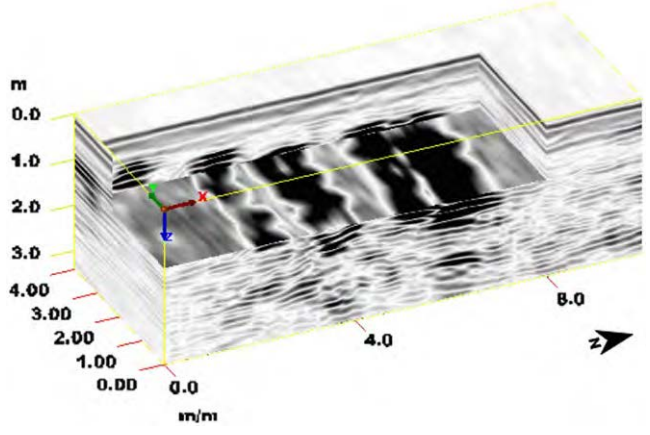

Fig. 6. This three-dimensional pseudo-image of a family plot in a Westport cemetery has a 3 by 8 m inset cube graphically removed to a depth of 100 cm. The base and a side wall of the inset cube shows four conspicuous, linear subsurface reflectors, which were identified as burials.

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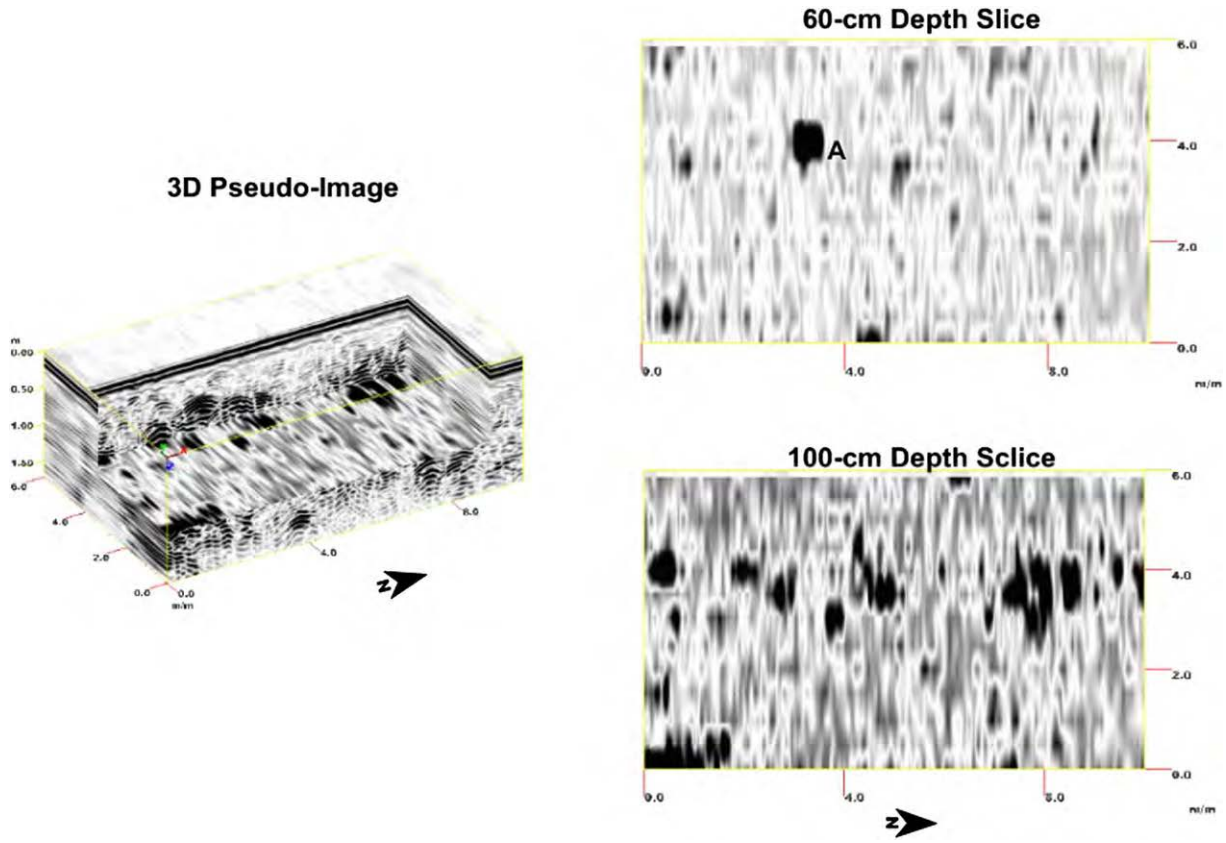

Fig. 7. A three-dimensional pseudo-image (left) of an open cemetery site in Middletown, Connecticut, with a 9 by 4 m inset cube graphically removed to a depth of 100 cm. Two time-sliced images (right) of the grid site at depths of 60 and 100 cm. The north–south trending spatial patterns in the central portion of this grid area at a depth of 100 cm suggest possible unmarked graves.

In the 3D pseudo- and 100-cm time sliced-images, a distinct pattern of high-amplitude reflections stretches across the entire length ($X = 10$ m) of the 4-m line on the Y axis (orientated along the shorter grid dimension). Multiple, short, linear reflection patterns are arranged orthogonal to this line with their long axes orientated in an east–west direction. Although the identities of these features are unknown, their presence and geometry suggest unmarked graves. In addition, the feature identified by "A" in the 60-cm time slice image, though presently unconfirmed, is believed to represent and overturned and shallowly buried headstone.

6. Summary

In the search for unmarked graves, success is never guaranteed with GPR. Most soils in Connecticut are considered quite favorable for deep penetration with GPR. The successful use of GPR to identify burials will depend upon the distinctiveness of the burial as a reflector of electromagnetic energy, the amount of clutter and background noise present in the soil, the availability of suitable radar antennas and signal processing techniques, and the amount of uncertainty or omission that is acceptable. Even under ideal site and soil conditions, some burials will be overlooked with GPR, while other features within the soil will be misidentified as burials. The use of 3D-GPR has improved the identification of some unmarked graves in Connecticut. With the passage of time, burials become increasingly more difficult to detect with GPR. Because of the inviolability of cemeteries, confirmation of GPR interpretations in the context of unmarked graves is difficult. In the search for clandestine burials or unmarked graves, GPR is often used to substantiate existing knowledge, confirm hypotheses, reduce search areas, and/or conserve expenditures of resources (Dedicated to David G. Cooke).

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Unearthing Buried Mysteries with ground-penetrating radar

by Madeline Fisher

In late September 2013, Nick Bellantoni, the Connecticut state archeologist, was asked to assist police in Manchester, CT on a cold case

from the early 1950s. An alleged child molester living in Manchester at the time was suspected of murdering a girl and burying her body somewhere on his property. After a witness came forward, police dug the floor of the suspect's former garage but found nothing. However, the witness also remembered seeing a suspicious burn pit in the backyard, where she'd played sometimes as a child. This is where Bellantoni came in. Authorities wanted him to search for the decades-old pit with ground-penetrating radar (GPR).

Unlike police radar that sends radar waves through the air, GPR works by sending this energy into the ground. Some of it then bounces back to a receiving antenna when it hits what are termed "anomalies"—or unusual features—in the soil. In the Manchester case, Bellantoni's survey detected four such spots in the backyard. One of them also corresponded to a location where the suspect was seen digging. But when the investigators dug down, they unearthed only aspirin bottles and other debris from the 1940s and 1950s. "It turns out what he was digging were garbage pits," Bellantoni says.

No television producer would ever choose to end a TV crime drama with such a mundane finding, nor would it necessarily make the news. But in the real world, not only is this kind of outcome entirely typical of GPR work, it also illustrates the instrument's power. Radar surveys have definitely helped locate hidden graves and bodies, says Jim Doolittle, a USDA-NRCS soil scientist and GPR expert who collaborates frequently with Bellantoni. "But in a lot of other cases, we go out and we just don't find anything. Well, that's information in itself." The first time Doolittle helped in a forensic investigation, he was disappointed not to detect any additional remains after a human bone was discovered at an Idaho highway rest stop. The authorities, on the other hand, were extremely pleased.

"Other than tearing up the whole site, which was financially out of the question, the sheriff could report that we had done everything to assess if the body was at the site," says Doolittle, an SSSA member. "He was satisfied that he had gone the extra mile to do a survey with GPR, and he had peace of mind."

Besides ruling certain locations out, GPR also helps investigators pinpoint the most promising ones, as it did in Manchester. "To have a glimpse of what's underneath the ground *before* you start is a tremendous benefit," Bellantoni says. Still, like any technology, the instrument has limitations, he adds. And only by working carefully through them have archeologists, forensic investigators, and soil scientists made GPR the valued search tool it is today.

"The positive stories seem to be pushed to the forefront. But we learn—and I've learned mostly—from times when the radar didn't work," Doolittle says. "You ask: What am I up against? And it's usually something in the soil."

Pioneering GPR Use in Soils and Discovering its Limitations

Doolittle knows this better than nearly anyone. After reading about GPR's potential to map soils in a 1980 newsletter published by NRCS (then, the Soil Conservation Service), he applied for a Soil Conservation Service job in a Florida and became USDA's first-ever GPR operator. Not long afterward, he connected with Mary Collins, herself a new soil science professor at

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Photo on opposite page courtesy of Flickr/Soil Science @ NC State

the University of Florida. Together, they pioneered the use of GPR in soils.

They worked hard, of course, but they were also lucky, admits Collins, who is now retired and lives in Iowa. "One of the reasons we were pioneers down there," says the ASA and SSSA Fellow, "is that the soil conditions were ideal for using the radar." Doolittle learned just how ideal they were in 1983, the first time he took his radar unit on a demonstration trip outside of Florida. At his first stop near the town of Hondo, TX, he tried to chart the depth to bedrock with GPR as a large crowd of spectators looked on—and failed utterly. "I'll never forget that day," he says. "The radar had no penetration."

What soil scientists now know is that radar energy quickly attenuates when the electrical conductivity of the soil is high, such as when soils are saline or contain a lot of clay, as in Hondo. "The signal energy gets absorbed by the chemical properties of the soil so that we don't get a reflection back," Collins explains. But in Florida, she adds, where many soils are composed of electrically resistive sand, "Oh, it would work beautifully." Doolittle would spend much of the next two decades refining this understanding of the conditions under which GPR worked well and those where it didn't. Eventually, he linked this information to the U.S. soil classification system to create a GPR "soil suitability map" of the entire continental United States.

Another limitation is that GPR can detect things, but it doesn't identify them. That is, rather than producing a full-blown image of, say, a skull, GPR usually only indicates the presence of *something* unusual—or a "generalized anomaly," says John Schultz, a University of Central Florida forensic anthropologist, who earned his doctorate with Collins. This means the larger context is critical when hunting for a clandestine grave.

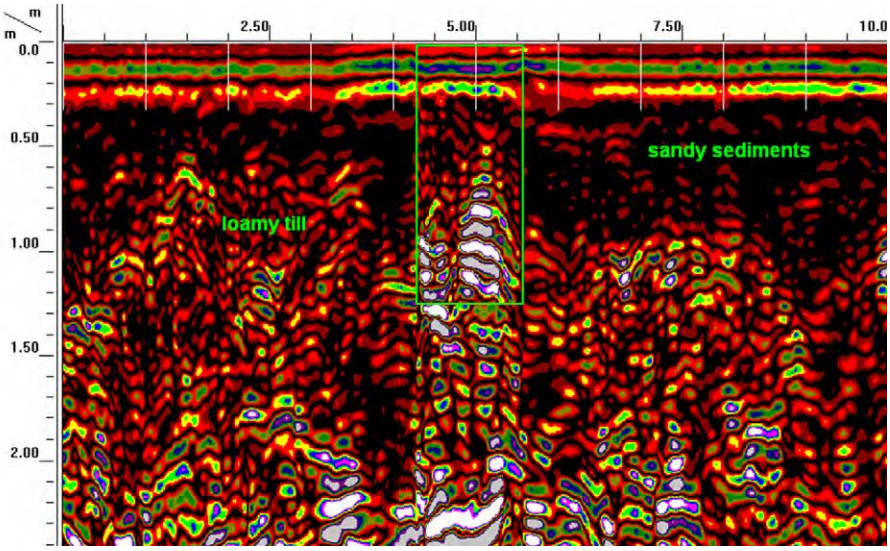
"We need to think about where the anomaly is, how deep it is, its size," Schultz says. "For example, if we're getting anomalies near a tree, well, there's a pretty good chance we're hitting tree roots." Or if a septic tank or electrical line is present underground, investigators need to know, so they can rule those areas out.

This also means that GPR work is never complete without some ground-truthing of the results; in other words, a dig to discover what the anomaly truly is. "We've been fooled before, thinking [we've spotted] what we were looking for," says Debbie Surabian, who as state soil scientist for Connecticut and Rhode Island works frequently with Bellantoni and Doolittle. "Then we dig and we say, 'Oh, *that's* what it is,'" she adds with a laugh.

On the positive side, fewer holes are usually required to complete an inquiry because "you can home in on something the radar sees," Doolittle says. "So there's a greater likelihood you'll have a productive pit or excavation."

Using GPR in Criminal Investigations

Increased efficiency is of course vital in criminal investigations, so



Left: Mary E. Collins (*right*) and John Schultz (*middle*) using GPR to detect old, unmarked graves to determine the cemetery boundary before land development. *Courtesy of Mary Collins.* **Middle:** GPR work is never complete without some ground-truthing. *Courtesy of Jim Doolittle.* **Right:** Re-filled soil materials in an unmarked grave. *Courtesy of Jim Doolittle.*

it wasn't long before forensic specialists began homing in on GPR. In 1983, Gregg Schellentrager became the first USDA soil scientist to work on a forensic case. Near Vero Beach, FL, he searched unsuccessfully with GPR for the buried body of a missing six-year-old boy. The boy's father, John Walsh, would later host the television program *America's Most Wanted*.

Collins, too, began helping Florida police locate buried remains. On a day in 1998 that she'll never forget, she surveyed the ground for the body of a 12-year-old boy murdered years earlier, as an Orlando TV news crew filmed and the boy's parents watched. Her radar search uncovered nothing, however, but buried rocks and roots. "It was a real shame," she says, "because I really did want to find something."

Disappointed as she was, Collins also wasn't surprised. She knew decomposition happened quickly, making a body buried for years very tough to find with radar. But the police needed specifics. "They always wanted to know, 'Well, does [decomposition] take six months, six weeks, a year?' " she recalls. " 'Or, if someone is 150 pounds, how long does it take?' " When she met Schultz, then a graduate student working at University of Florida's C.A. Pound Human Identification Laboratory, the two decided to collaborate on those questions.

After concluding from reading the literature that GPR was the best tool for hunting for bodies and graves, the scientists carried out their experiment. They dug 24 graves of varying depths and in two soil types common to Florida: ultisols and entisols. Into each hole, they placed individual pig carcasses of different sizes, filled the graves in, and then followed both the decomposition process and GPR's ability to detect the buried remains over the next two years. Additionally, they monitored at least eight control graves that had nothing inside them but earth. That way, Schultz says, the researchers could see what kind of response they'd get with GPR from simply disturbing the soil.

It turned out to be a pivotal question. What he, Collins, and others have since learned is that while a decomposing body becomes mostly invisible to radar after just one or two years, the disturbed soil of a grave site can remain detectable for decades. "What the radar will pick up are changes in the soil," Bellantoni explains. "You dig a hole, you put the body in it, and you refill the hole. So, you've mixed the soil, you've cut through the stratified soil that's been there for thousands of years. You've homogenized the various soil layers."

Soil that has been removed and then shoveled back into a hole also has more pore spaces—and thus holds more moisture—than the more compacted, undisturbed soil around it. It's these types of long-lasting "burial features" that allowed Bellantoni to locate the 60-year-old evidence of digging in the Manchester investigation, and help him and his colleagues find Colonial era graves dug as far back as the 1700s.

But there are nuances, as well. In Florida entisols, for instance, which are poorly developed soils often composed mainly of sand, signs of digging can be much harder to spot, Schultz explains. That's because sand taken from a hole and then put back in tends to blend seamlessly with the surrounding sand, leaving behind little disturbance to detect. He and Collins also found that when a pig carcass was placed directly atop a clay layer it also became difficult to see. "It just looked with GPR like a natural undulation of the clay horizon," Schultz says.

Something else he's observed—and that archeologists already knew, he says—is that graves can be easier to locate during the rainy season. The idea again is that disturbed sand has larger pore spaces between the grains. These in turn hold more water, creating more contrast between disturbed and undisturbed soil. But when soils lose this added moisture during the dry season, the effect is lost. "So this told us that seasonality might make a difference," Schultz says," even in the forensic realm."

Separating Tall Tales from Historical Events using GPR

Since she began working with ground-penetrating radar (GPR) in 2000, Debbie Surabian has used the instrument to search for all manner of things in the soil, including unmarked graves, buried time capsules, pipes, foundations, water raceways, and even the crash site of a fighter jet.

But finding the objects themselves isn't what interests the Natural Resources Conservation Service (NRCS) soil scientist the most. It's learning the truth behind the tales people tell about them. "When I go to these sites, I'm always hearing stories, and they're part of our history," Surabian says. "So, is it just a story or is it real?"

One of her favorite examples comes from work she did for a historic cemetery in the Stonington borough of Connecticut. According to the Stonington Historical Society, an English mariner named Captain Thomas Robinson bought 11 acres of land on Long Point in the borough in 1771. He then built a house, sold house lots to others, and began using one lot as a burial place for his family and a few friends. This cemetery was eventually expanded and became known as the Robinson Burying Ground.

The cemetery was thought to contain several unmarked graves, but when Surabian was called in to search for them, she was told about something else that might be under the ground. According to local legend, a British bombshell landed in the cemetery during the Battle of Stonington in 1814 (part of the War of 1812), creating a large crater. When a local woman named Elisabeth Hall died shortly afterward from an illness, Surabian was told, her daughter hastily buried her and her bed in the cavity.

Searching for Unmarked Graves

Over this career, Schultz has aided law enforcement in dozens of criminal investigations, but what he much prefers these days is searching for unmarked graves in graveyards. The chance of locating a hidden grave is infinitely higher than in forensic work, for one, especially since anomalies in graveyards often occur in rows, Schultz explains. This allows him and his grad students to survey a known grave first to learn the depth, size, and orientation of the grave shafts. They then simply use this "key" to look for unmarked burials.

Besides being easier, graveyard work helps local towns and governments improve their documentation and better manage their cultural resources. In Florida, Schultz is often called in to do a GPR survey when counties are looking to expand roads near cemeteries. In Connecticut, meanwhile, Bellantoni and Surabian are sometimes asked to find unmarked graves in 200-year-old burying grounds. In some cases, old cemeteries are still active. In others, people have made special requests to be buried next to their great-grandfather or great-great-grandfather.

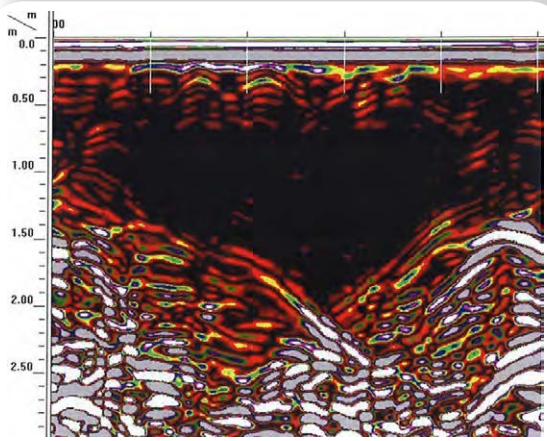
"One of the issues is they don't want to put somebody in the ground and hit somebody else," Bellantoni says. "So to know [where the older burials are] is a great management tool." Plus with GPR, graves can be located without actually having to dig for and disturb them.

John Schultz collecting data over an unmarked grave.

"So, I'm thinking, "that's a great story!'" Surabian says with a laugh, and she decided to make a pass with the radar to look for the crater. During her first run with instrument, she called excitedly to her close collaborator and fellow NRCS soil scientist, Jim Doolittle: "Jim, I think I see it. Wow!"

Upon setting up a search grid to look more systematically for the crater, the pair was even more convinced they'd located it. GPR indicated that the soil used to fill the hole was different from what was there originally. Plus, the soil's typical structure of horizontal layers, or "horizons," had been disrupted in what the radar data indicated was a perfect V-shape.

Not surprisingly, the radar failed to detect Elisabeth Hall or her bed; GPR normally doesn't pick up bones or other human remains, Surabian explains. Still, she's thrilled to have helped confirm at least part of the story of the unusual burial and the "legend of the crater." Sometimes tall tales are true.



A filled bomb crater can be visualized on this 2D radar record from the Robinson Burial Grounds.

But are there really that many unmarked graves to discover? Absolutely, Bellantoni says. "When people go into cemeteries and see tombstones, they have no idea there are probably double that number" of people buried there. In earlier centuries, he explains, only the wealthy could afford crypts, tombstones, or other permanent burial markers. Farmers, slaves, and other poor and disenfranchised people were given wooden markers or no marker at all. Many old cemeteries, in fact, had potter's fields or pauper's areas expressly for these types of burials. And the unbaptized? In some instances, they were placed outside the cemetery perimeter because of Church rules against laying them to rest in sacred ground.

A Growing Field

What this all means is that the need for radar surveys won't be going away anytime soon. True, other types of geophysical technologies are beginning to see wider use; for example resistivity, electromagnetic induction, and magnetometry measurements are becoming important tools in soils where GPR doesn't work as well. Still, Schultz says, "Nothing really gives you the real-time information you get with GPR. That's what makes it such a great tool. You can run around and get results immediately because of the monitor and what it provides."

Doolittle agrees, adding that the demand for GPR surveys and operators seems to be rising. Case in point: In 1981, he was USDA's only radar operator; today, NRCS alone has 17.

What he doesn't see growing quite as fast is people's appreciation of how critically GPR depends on the soil. Even a seemingly straightforward task, such as locating a solid object, can be hampered by soil conditions. As he and Bellantoni described in a 2010 paper, for example, metal coffins weren't common before the 1860s, and untreated wooden coffins break down relatively quickly in Connecticut's acid soils. Once this decay occurs, a coffin will collapse and fill with soil from above, making it nearly as impossible to detect with GPR as the bones themselves.

Besides high acidity, Connecticut soils present another difficulty for would-be grave-hunters: They are mostly glacial till, a mixture of unsorted sediments and rocks that vary widely in texture, size, and density. "So, if you're looking for anomalies and you're not used to viewing this type of material, it can be really confusing," Surabian says. "It takes a lot of passes to get comfortable with identifying something out of the ordinary."

But if people aren't as aware of these complexities as they should be, this also suggests something else: So long as there are jobs for GPR to do, there will also be work for soil scientists. And that suits Surabian just fine.

"It's not only the variety of work I've done as a radar operator—from soil survey to archeological work to police investigations," she says. "When you're searching around, you see so much more than you would digging one hole. And it just becomes addicting."

M. Fisher, Science Communications Manager

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Ground-penetrating radar and burial practices in western Arnhem Land, Australia

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ABSTRACT

A GPR survey was carried out in advance of archaeological excavations at Madjedbebe (formerly known as Malakunanja II), a sandstone rock shelter in western Arnhem Land (Australia) containing numerous Aboriginal burials. GPR revealed subsurface patterning of rocks in the shelter deposits and archaeological excavation demonstrated that these were related to burials. Post-excavation, GIS and statistical analysis further elucidated the relationship between the rocks and human burials. This integration of detailed mapping, GPR and excavation afforded the opportunity to test a way to identify unmarked burials using GPR in sandstone rock shelters and to document a marker for burial identification in this region. Application of the methodology developed through this case study provides a useful management tool for Indigenous communities and other heritage practitioners.

Keywords: ground-penetrating radar, GIS, burial practices, Indigenous communities, Arnhem Land.

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INTRODUCTION

In Australia, where the density of burials tends to correlate strongly with population densities, and where burials may be found within residential spaces, developing methods for the detection of burials is an area of keen research and management interest. Geophysical techniques provide a non-invasive way to investigate subsurface features (Gaffney & Gater 2003; Johnson 2006; Witten 2006), and for these reasons these techniques, particularly ground-penetrating radar (GPR), have become very popular in projects where burials are anticipated.

GPR works by transmitting electromagnetic energy in the form of radar waves into the ground (Bevan 1998; Conyers 2012). When the wave encounters a contrasting material in the soil (such as air voids, stone or moisture content), a reflection occurs, sending part of the wave back to the surface, where it is received and recorded. The remainder of the wave continues downward until it too is reflected back to the surface by deeper objects, or dissipated through absorption by subsurface materials. The depth of radar wave penetration and velocity is highly dependent on soil type and moisture conditions, or the dielectric properties (the ability of a radar wave to hold and transmit an electric charge).

Conyers (2006: 66) suggests that the physical features frequently associated with burials that can be identified by GPR include: (1) "undisturbed" sediment below and surrounding the grave shaft; (2) a buried coffin or human body and associated artefacts; (3) "disturbed" sediment used to fill the grave shaft; and (4) any surface sediments that have accumulated above the shaft and surroundings after internment (Conyers 2006: 66). The identification of areas of soil compaction and void spaces is also of particular relevance, especially in Indigenous burials. As Lowe (2012) has discussed, it is for these reasons, coupled with the ease of access to GPR equipment, that this has become the most routinely used geophysical instrument for identifying burials in Australia (cf. Bladon *et al*. 2011; Brown *et al*. 2002; L'Oste-Brown *et al*. 1995; Moffat *et al*. 2010; Powell 2004, 2010; Randolph *et al*. 1994; von Strokirch 1999; Yelf & Burnett 1995).

Yet GPR does not offer foolproof detection of all graves, sometimes producing false positives due to other sources of disturbance or, in cases where graves are indistinguishable from the surrounding strata, false negatives or no results (Bevan 1991; Dalan *et al*. 2010; Davenport 2001; Nobes 1999). Unmarked burials, which are common in Australian historical archaeology and almost exclusively the case in Australian Indigenous archaeology, present specific challenges. The particular form of these burials (e.g. bundle, cremation, limited grave goods, shallow depth, no coffin etc.; see Meehan 1971) and the nature of the geologically ancient sediments into

which interment occurs, often impedes their identification with GPR. Further, in areas where the sedimentary matrix consists of gravelly, shelly or cobble-rich sediments, there can be significant "distortions" in the data for both the disturbed area of the grave shaft and undisturbed areas adjacent to the grave, adding to the complexity of interpretation (Conyers 2006). The limited case studies with which to compare and contrast results in Australia also mean that interpretation is often speculative, with excavation rarely carried out to confirm the specific nature of GPR-identified anomalies.

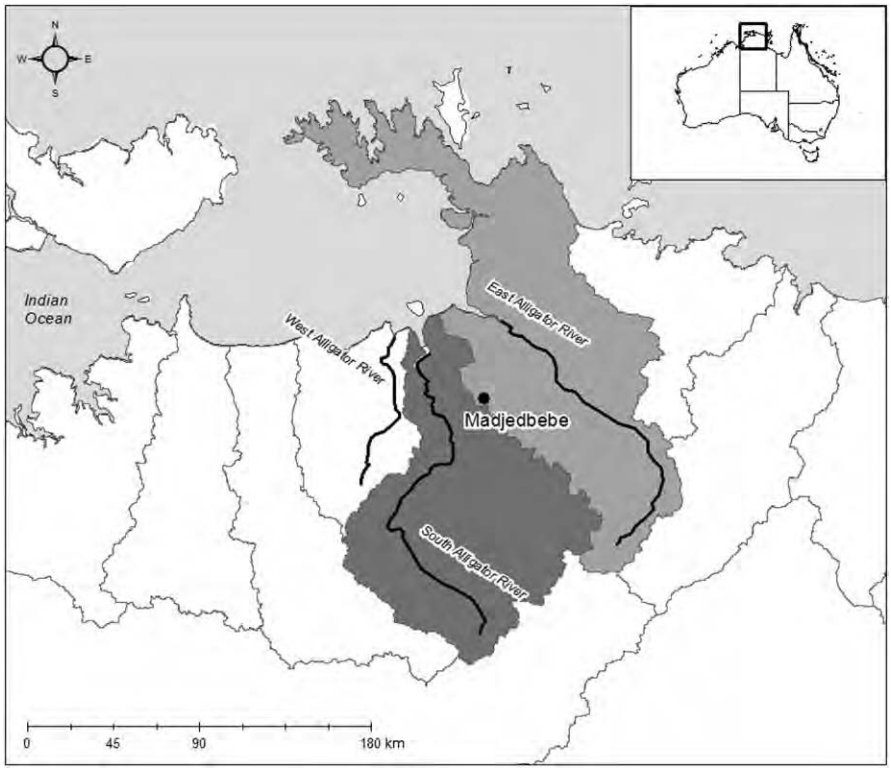
In this paper, we detail how GPR was combined with archaeological excavation data using a geographic information systems (GIS) approach to test and identify numerous unmarked burials in a rock shelter context. The results were also tested with statistical analysis to confirm that the documented association was deliberate rather than random. Burial methods across Arnhem Land are known ethnographically to include secondary rock shelter burials, excarnation, tree burial and hollow-log coffins (Meehan 1971), though there is little evidence of why certain individuals might receive particular treatment, or whether this changed through time. While several accounts have been documented in our study region, none have been reported for our study site.

In addition, changing legal codes over the past 30 years defining Indigenous peoples as the primary holder of rights regarding decision-making in respect to their heritage have done much to improve the relationship between archaeologists and Traditional Owners, though they have also resulted in fewer burial site investigations being carried out in Australia. When our research partners, the Gundjeihmi Aboriginal Corporation (GAC) – representing the Traditional Owners of the study area, the Mirarr – granted permission to study the Madjedbebe rock shelter in northern Australia as part of broader heritage initiatives, it afforded a rare opportunity to perform a detailed geophysical survey prior to archaeological ground disturbance.

THE MADJEDBEBE SITE

Madjedbebe (formerly known as Malakunanja II) is a Pleistocene-aged rock shelter located in Arnhem Land, Australia (Figure 1). The shelter is a narrow, north-west-facing sandstone overhang at the base of the Arnhem Land Plateau escarpment, located approximately 40 km west of the East Alligator River. The shelter wall contains a gallery of pigment art, and the shelter floor is generally flat, sandy and mostly vegetation free. The archaeological deposits at Madjedbebe comprise a ~70 cm thick Holocene-aged shell midden unit, underlain by a further ~3 m of late Pleistocene-aged cultural deposits (Kamminga & Allen 1973). This subsoil parent material is a mix of sand and silt weathered from the adjoining quartzose sandstone escarpment of the Middle Proterozoic Kombolgie Formation (East 1996: 40). For this study, it is only the shell midden unit with which we are concerned.

Figure 1. The study area location in western Arnhem Land. Areas shaded in grey indicate the East and South Alligator River catchments (Geoscience Australia 2004).



Madjedbebe has been the focus of several archaeological investigations, being first excavated in 1972 (Kamminga & Allen 1973) and again in 1989 (Roberts *et al*. 1990); the latter investigation yielded luminescence dates of 50000–60000 years BP. While these investigations involved only small test-pits, they did reveal that burials were present within the midden unit, though they were assumed to be few in number and primarily secondary bundle burials (Smith 1989). This prior identification of burials caused concern when the site was to be reinvestigated, and thus a geophysical survey was conducted prior to re-excavation to allow researchers to be better informed about what they might encounter.

METHODS

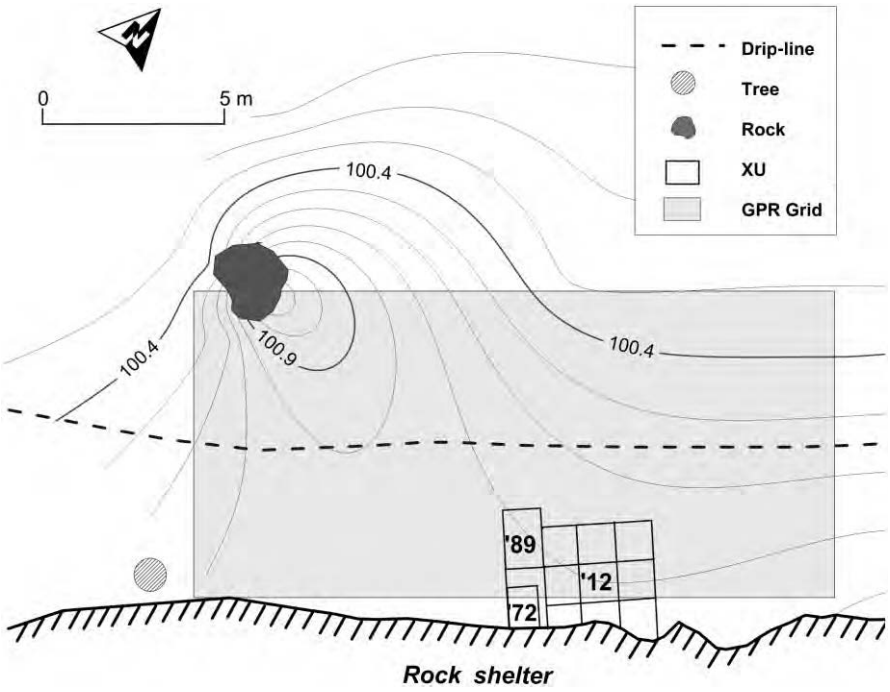
In late 2011, a geophysical survey grid measuring 8×18 m was established adjacent to the Madjedbebe shelter wall (Figure 2). This grid was used to conduct two surveys: one with transects spaced by 0.25 m, running parallel to the shelter wall, and the other with transects spaced by 0.50 m, running perpendicular to the shelter wall. This methodology provided the necessary high spatial resolution for discerning small, discrete features. GPR data were collected with a Geophysical Survey Systems, Inc. (GSSI) SIR-3000, 400 MHz antenna and a model 620 survey wheel. Sixteen-bit data were collected with an 80 ns time window, 512 samples per scan and with 25 scans per metre. Data were processed and converted into slice-maps using GPR-SLICE v7.0. Time slices were made using the hyperbola fitting function to estimate the relative dielectric permittivity, which is calculated from the two-way travel time to depth (Goodman & Piro 2013). These depth estimates generated in the software were then verified in the excavations.

Archaeological excavations and detailed mapping using a Nikon Total Station with Trimble Survey Pro software were carried out in mid-2012. Nine adjoining 1×1 m (Squares C2, C3, C4, D2, D3, D4, E2, E3 and E4), and two smaller (B2 and B3) test-pits were established within the overhang and geophysical survey grid, adjacent to the previous investigations. These test-pits were excavated in 5 cm spits in the upper midden deposit and in 2 cm spits in the lower sands. Excavation was discontinued in Squares E3, E4 and D4 at a depth of 1.2 m to create a step down into Squares C2, C3, C4, D2, D3 and E2, which were excavated to a depth of ~3 m. Squares B2 and B3 were excavated to a total depth of ~3.5 m.

All excavated material, with the exception of the human remains, was dry-sieved through 3 and 7 mm sieves and sorted in the field. A complete 1×1 m bulk sample for flotation analysis was retained from every spit of C2, as well as from all hearth features. Analysis of collected material from the investigations, including radiocarbon and optically stimulated luminescence dating, are ongoing and therefore are not included as part of this study.

A comprehensive mapping regime was designed and implemented to allow the creation of a high-precision map of the site as a means by which to digitally archive the spatial excavation data. This form of total station archaeology is highly effective at enabling rapid data

Figure 2. A topographic map showing the location of the 1972, 1989 and 2012 excavation areas and that of the 2011 geophysical survey at Madjedbebe.



integration and for understanding site formation processes (cf. Marean *et al*. 2007; McPherron 2005), as well as for managing and analysing field data (McCoy & Ladefoged 2009; Tripcevich & Wernke 2010). A dictionary of all collected data was established and used to build a database/attribute file and vector data for analysis in ESRI ArcGIS 10.2. These data were used to examine the spatial relationships between rock deposits and human burials within the sedimentary sequence.

The output of the collected GIS data was also used to look at the statistical relationships between particular archaeological features. While one could visually observe and develop a "sense of" some of these patterns during excavation, they were rigorously verified post-excavation statistically. In this case, resampling methods and geometric morphometry were used to investigate the relationship between human burials and rocks by determining if the rocks were randomly or deliberately (anthropogenically) positioned as part of the burial practice. Statistical measurements were computed in R3.0.1 and RStudio 0.97.336, using the GIS vector data of both rock and burial features.

RESULTS

The GPR data revealed the complex nature of the shelter deposits. The local sandstone geology was a critical factor, with large rocks in the deposit causing very strong reflections and slight contrasts in the data (Figure 3a). These were interpreted as dense roof-fall, since the reflections occurred directly below and beyond the shelter's drip-line. A subset of the GPR data/dataset adjacent to the shelter wall and within the drip-line was selected for additional post-processing to investigate the area within the drip-line that appeared to have no roof-fall and where human activity would probably have been more regular.

The original GPR reflections became much clearer after the selected subset of the original dataset was processed. The subset revealed a number of strong reflections within

Figure 3. (a) Amplitude slice-maps of Madjedbebe (49–61 cm). Areas with higher reflections are denoted by yellow and red. (b) A resampled amplitude subset. Squares E2, D2, C2 and B2 were located under the shelter wall and were not surveyed.

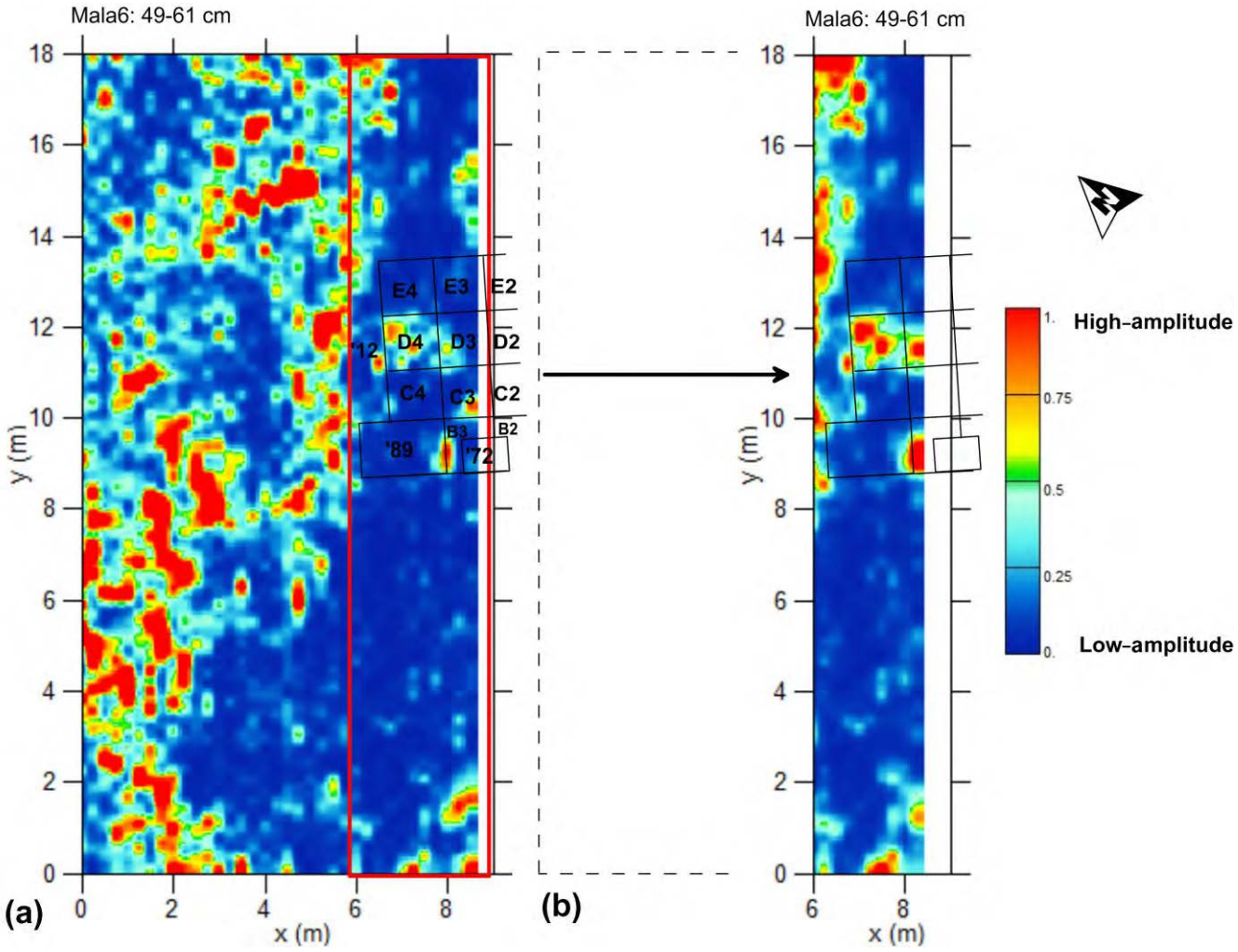
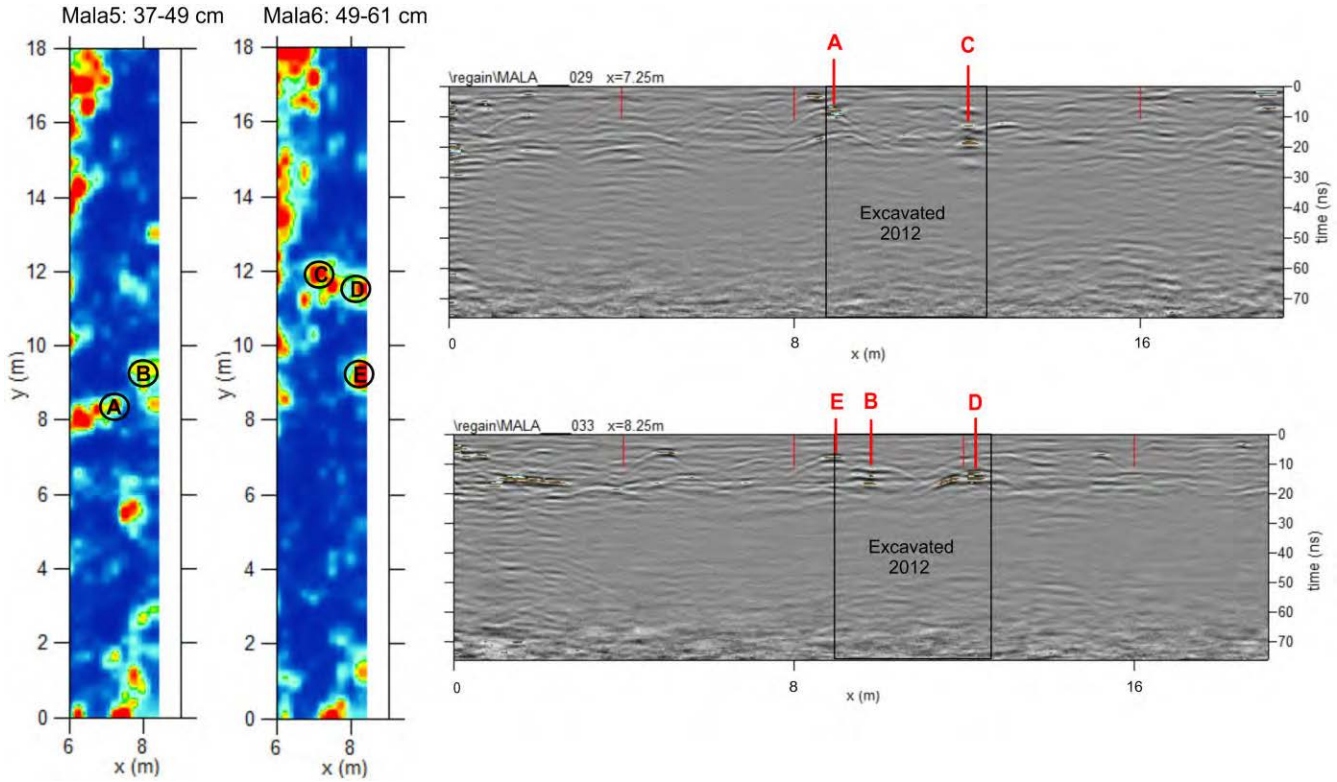


Figure 4. A resampled selected amplitude slice-map of subsets (left) showing selected (A–E) high-amplitude features/ concentrations in two selected reflection profiles (right). Areas outside the black rectangle are unexcavated.



the drip-line and adjacent to the shelter wall (Figure 3b). These were apparent in both the amplitude slices and reflection profiles, and defined easily even amongst the shell midden (Figure 4). Excavation revealed that these reflections were from medium (15–50 cm diameter) sized rocks. While other hyperbolic reflections were apparent in the reflection profiles resembling those defined as rocks (see Figure 4), these were not excavated and therefore their cause is unknown.

The 2012 Madjedbebe excavations unearthed 17 individuals (coded as skeletal remains, hereafter SR) in various states of completeness (Figure 5). These comprised predominantly primary interments ($n = 13$) dug into, or just through, the shell midden unit into the uppermost level of the underlying sand unit. All of the burials contained minimal amounts of grave goods and occurred in both flexed and extended positions.

Although narrow GPR survey transects (i.e. 0.25 m) were used at Madjedbebe, the identification of human bones, burial shafts or void spaces within the shell midden unit in the collected GPR data was not possible. However, at least nine of the burials were associated with rocks, a tradition similar to that documented by Schrire (1982) at the nearby site of Nawamoyn. At Madjedbebe, most rocks were placed on the individual's head and, in two instances, rocks were placed on both the head and feet (SR1 and SR5), while one burial had a rock placed only on the feet (SR4). With the exception of two burials in a single grave (SR3 and SR14), the rocks associated with each burial were similar in size, averaging 20 cm in diameter – a size small enough to be moved by an individual, but unlikely to be displaced by animal activity or bioturbation as indicated by the relatively intact and articulated nature of the burials. Plotting of the rocks during excavation revealed that they coincided with the burials (Figure 6) and when compared with the GPR data, it became clear that the high-amplitude reflections in the GPR data corresponded with these rocks and, in turn, with the primary interments (Figure 7).

Considering that naturally deposited sandstone rocks were also present on the surface and in the deposits at the site, statistical analysis was used to determine if the association of the rocks with the burials was random or deliberate (anthropogenic). To test this, the GIS vector data of all rocks and skeletal remains in the excavated deposits were used to compute the probability that the observed amount of overlap was due to random process. One thousand random arrangements of the rock polygons were simulated in the excavation area and the area of overlap with the skeleton polygons (whose locations were kept constant) was computed for each random arrangement. The mean area of overlap in the random permutations was 0.34 ± 0.09 m^2, compared to the observed area of overlap of 0.53 m^2. Only 2.5% of the random permutations have an overlap area equal to or greater than the observed area, indicating that the observed area of overlap of rocks and skeletons is significantly

Figure 5. The locations of burials identified in the nine 1×1 m test-pits (Squares C2, C3, C4, D2, D3, D4, E2, E3 and E4) and two smaller test-pits (B2 and B3). Note that there is no SR12.

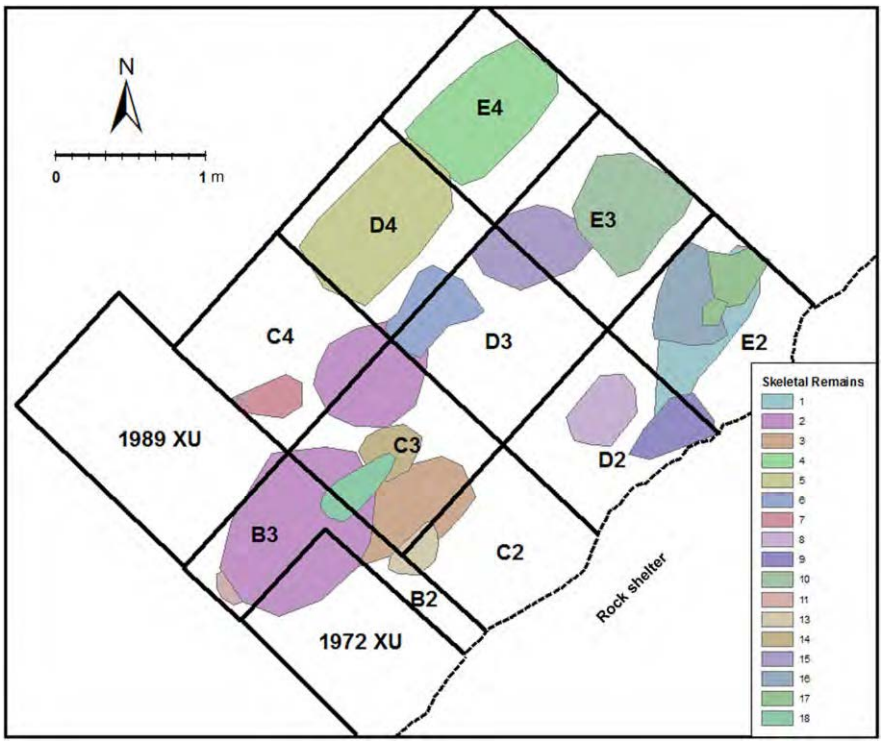


Figure 6. A plan view map showing the location of rocks on the skeletal remains.

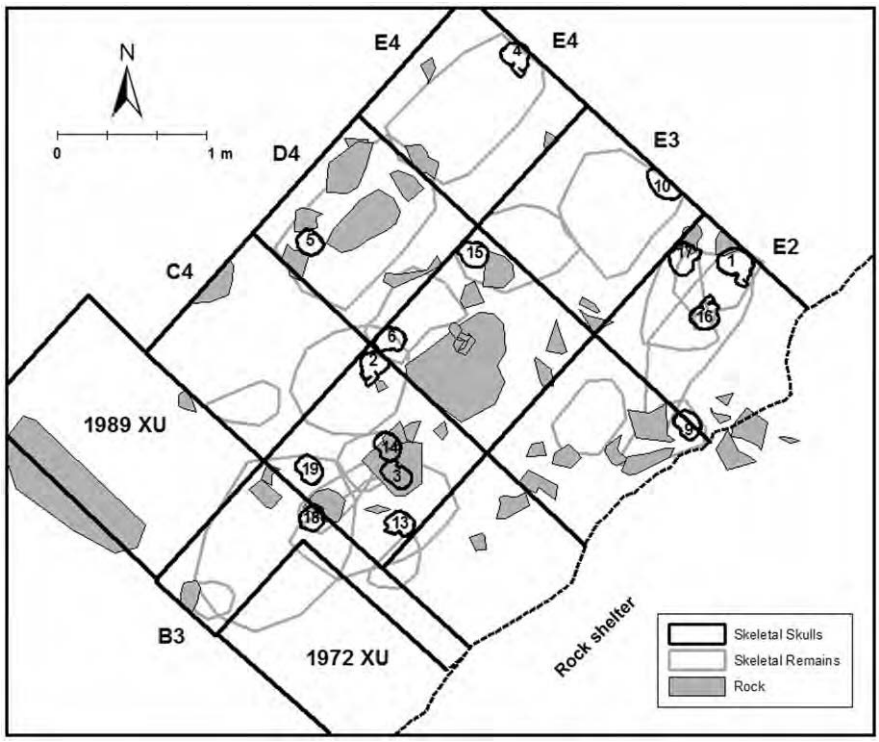
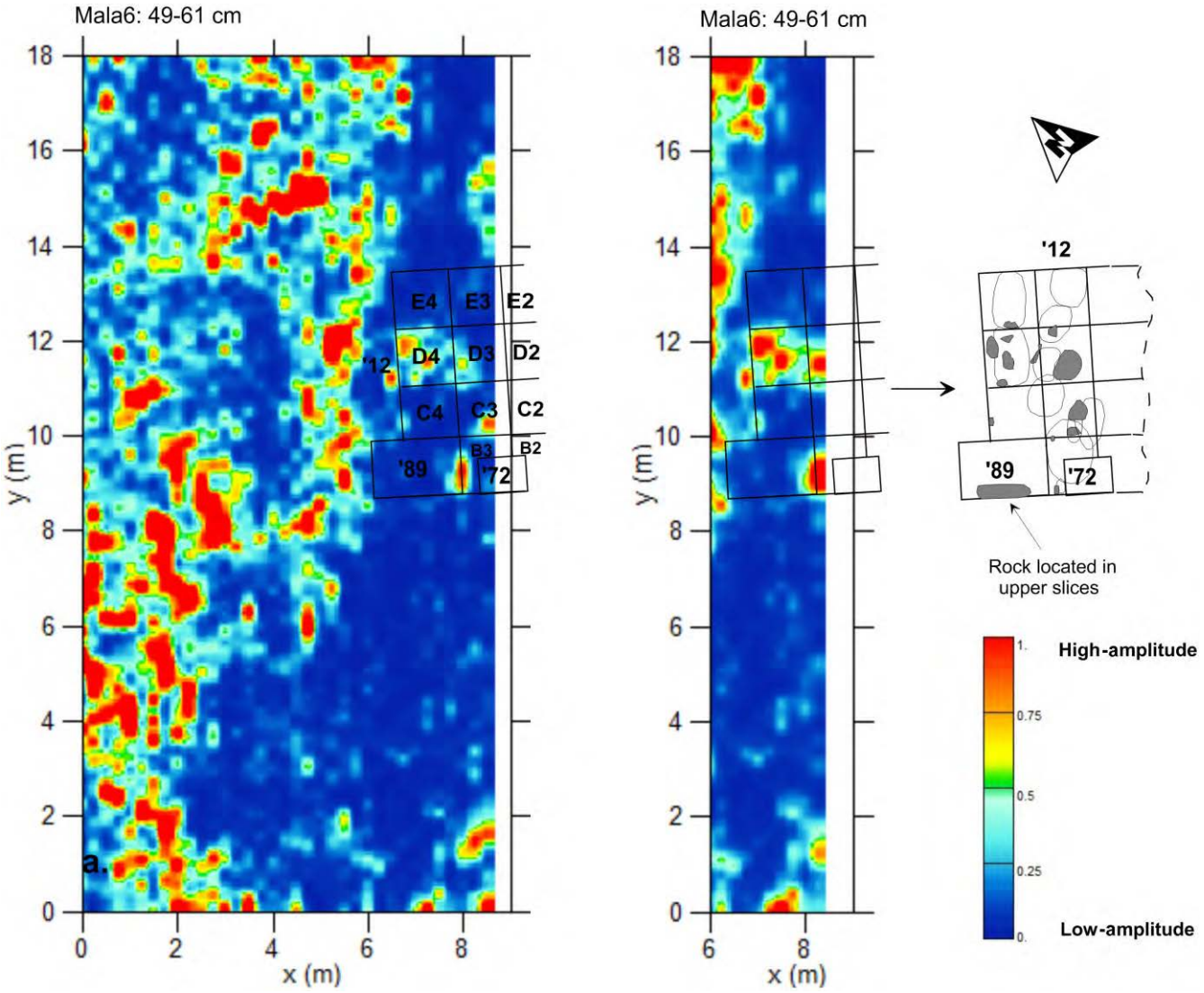


Figure 7. Both an amplitude slice-map and a subset showing the cause of the high reflections; the cluster of rocks identified in the 2012 excavation (grey circles). Burials are noted as circles.



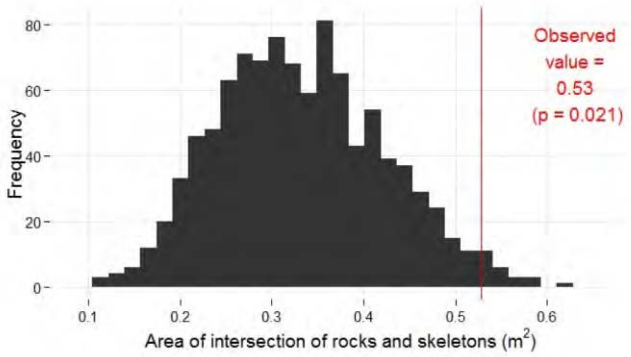
non-random (Figure 8) (for supplementary information, see http://dx.doi.org/10.5281/zenodo.10616).

DISCUSSION

It was expected that burials would be present at Madjedbebe, which were thought to have caused alterations in the subsurface material. However, as the burials were initially anticipated to be small secondary bundle burials, the initial geophysical survey was designed with the primary goal of mapping more distinctive and larger features such as bedrock and roof-fall. Even when a subset of the GPR data was selected for detailed post-data processing, Conyers' (2006: 66) list of four physical features used for geophysical burial identification was largely inapplicable, since no changes in natural soil or surrounding material were apparent, coffins were not used and vertical shafts were impossible to distinguish in the shell-rich deposits. The GPR survey thus did not identify grave cuts or fill; it was the combination of ethnographic and archaeological evidence with detailed GIS plots that demonstrated the mortuary practice involving placement of rocks over the burials.

Much research in Australian archaeology has explored regional variations in material culture (e.g. tula adzes and cylcons), burials, rock art and biology, and attempts have been made to utilise the results to extrapolate past territorial organisation (e.g. David 1991; David & Chant 1995; David & Cole 1990; Franklin 2004; McDonald 2008; Pardoe 1988, 1994, 1995; Wade *et al*. 2011). With respect to mortuary practices, any regional patterning present may be strongly dependent on external – rather than cultural – factors, such as the presence of trees suitable for burial or excarnation (flesh removal), a soft substrate into which to dig a grave or rock shelters for placement of bundles.

Figure 8. The distribution of areas of overlap of rocks on burials resulting from 1000 random permutations of rock locations (for data and code for this figure, see http://dx.doi.org/10.5281/zenodo.10616).



The ethnographic and archaeological documentation of burial practices amongst groups in the Arnhem Land region has demonstrated that variations exist. The Gagadju (Kakadu) were reported to have taken the body into the bush, covered it with grass and leaves, then earth and finally stones to discourage dogs from digging the bodies up (Berndt & Berndt 1992: 463; Spencer 1914: 240–9). At the Nawamoyn rock shelter site, not far from Madjedbebe, archaeological evidence for both an intact flexed and an extended burial has been observed (Schrire 1982). It was noted that the body was placed on the surface of the midden and large rocks put on top, one of 36 kg on the ribs and two, of 23 kg and 12 kg, on the pelvis. Smaller rocks were placed on the legs just above the knees, potentially to protect the body from predators or as markers of its position (Schrire 1982: 126). Among the Murngin of north-east Arnhem Land, a similar style of burial was practiced, but with the body placed face downward and not flexed (Warner 1969 [1937]: 422).

Secondary burial is also common in Arnhem Land, with the body first being either excarnated on a platform built in a tree, or buried for a season, before disinterring and wrapping in paperbark to be placed elsewhere, perhaps on a rock ledge and into rock shelters (White 1967: 431). At the rock shelter sites of Paribari and Malangangerr, also close to Madjedbebe, Schrire (1982: 56) found abundant evidence of secondary burials in the form of bones that had been "burnt, broken and stuffed into the [rock shelter] niche packed around with grass, bark and other debris". While this anthropogenic process does not require subsurface burial, when placed into rock shelters the remains can become buried by the natural accumulation of sediment through time; prior to the 2012 excavations, it was thought that these would be the primary form of burial at Madjedbebe.

Our engagement with the Mirarr custodians who were involved in overseeing the excavations also provided insight into local burial practices. Although it was unknown explicitly why rocks were used as part of their mortuary practice, one possible reason may have been to protect the remains of the deceased from disturbance by scavenging animals such as dingoes (or Tasmanian tigers), as noted by Baldwin Spencer during his 1912 visit to this region (Batty *et al*. 2005: 161). However, protecting the living from the spirits of the deceased may also have been another consideration (Mark Djandjomerr, July 2012).

Graves were dug into the shell midden deposit and rocks were placed on the individuals before they were covered. These rocks were the source of the strong reflections in the GPR data, and detailed archaeological mapping and excavation verified their location. Statistical analysis of the rock subsurface distributions using resampling and geometric morphometry over the burials confirmed that the rock placement was unlikely to have resulted from random processes, and indicates deliberate placement of rocks and not natural roof-fall deposition. While these are not considered as grave goods in the usual sense, the inclusion of the rocks placed on an individual's head and/or feet was a cultural aspect of the burials, and introduced a substantially different physical element to the subsurface deposit that was detectable using geophysical techniques.

By integrating GPR with archaeological excavations, GIS and statistics, we have provided a powerful way to identify human burials in this part of Arnhem Land. Despite rock shelters being common, and one of the most regularly excavated site types in Australia, there has been minimal work on geophysical investigations of Australian rock shelters (Conyers 2012), though internationally this is not the case (Conyers 2011: 19; Horle *et al*. 2007; Porsani *et al*. 2010). In combination with GIS mapping and archaeological excavation, we have demonstrated the successful application of GPR in an Australian sandstone rock shelter environment. The GPR results provided, first, information on subsurface material associated with geological features such as bedrock and roof-fall and, second, cultural material, in the form of deliberately positioned rocks associated with human burials.

The success of this study has important implications for future investigations and/or management of other sites in Mirarr country and elsewhere. While in this instance the presence of a thick shell midden unit in the Madjedbebe

site provided conditions conducive to bone preservation, sandstone environments are typically acidic and rarely preserve bone. In addition, water table fluctuation, soil fauna (e.g. ants and termites), soil acidity and mineralogy are also all known to strongly influence bone preservation. For deposits lacking suitable conditions for bone preservation, such as the Pleistocene levels of the Madjedbebe site, GPR identification of subsurface rocks could provide a tentative indication of burials, which might be further supported by subsequent excavations, GIS and statistical study. GPR identification of rock patterns in midden deposits at other sites in Arnhem Land might also alert researchers and managers to the possibility of burials being present, thereby allowing communities to be more informed prior to considering permission to excavate or in other cases, choose avoidance. Further, GPR can be used to investigate the spatial layout of these rock shelter sites, by defining subsurface geological features such as buried bedrock or areas affected by natural processes such as roof-fall concentrations.

CONCLUDING REMARKS

This research has highlighted the importance of detailed data recording and integration when attempting to investigate and map complex archaeological sites. Although GPR surveys are extremely rare in Australian rock shelter studies, the study described herein demonstrates their potential value. The integration of GPR and excavation results through GIS proved to be very beneficial in understanding burial practices at Madjedbebe because of the specific way in which individuals were interred at this particular site. The initial GPR study identified the presence of numerous subsurface rocks of unknown origin; subsequent excavation identified they were associated with 17 burials, and statistical analysis indicated that the association was deliberate, rather than random. Studies such as this indicate the potential of GPR to shed light on intra- (individual burial and cemetery practices) and inter-site (regional variation and territorial organisation) variability, particularly where information about cultural history is lacking.

The partnership with the Mirarr community and the formal approval process adopted to facilitate its development and continuance were critical aspects of this project. While research at Madjedbebe is ongoing, this partnership could potentially lead to future research collaborations, offering additional opportunities to explore further applications of archaeological geophysics in Mirarr Country.

ACKNOWLEDGEMENTS

The authors are grateful to the custodians of Madjedbebe, the Mirarr Senior Traditional Owners, Yvonne Margarula and May Nango, and to our research partners, the Gundjeihmi Aboriginal Corporation, for granting permission to carry out this research and publish this paper – thank you for trusting us with your Old People. To David Vadiveloo and Justin O'Brien, your support, advice and guidance, especially during the field season, is graciously acknowledged. We also acknowledge the work of Jo Kamminga, Bert Roberts and the late Rhys Jones during earlier excavations at Madjedbebe. To the other members of the field crew and research team, thank you for all your efforts during the long field season, especially Billy Griffith for all the fabulous meals you prepared that kept us on our feet, and Jessica Thompson for providing the information and protocols for the GIS mapping. This research was carried out as part of ARC Discovery Project DP110102864.

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26338 Valley View Ave. - BEFORE applicant purchased it

26338 Valley View Ave. - AFTER applicant graded, cleared and used it as commercial construction yard, all without permits from by County

Figure 12a – Site Visit Photos: Staking and Flagging at 26338 Valley View Avenue

26338 Valley View Ave. -Jan 30/Feb. 2019, AFTER applicant dug deep trenches, graded, dug up and moved 14" coast live oak, without permits from by County and without archeological monitors and tribal monitors

26346 Valley View Ave. - BEFORE applicant purchased it

26346 Valley View Ave. - AFTER applicant graded, cleared and used it as commercial construction yard, all without permits from by County

Figure 12b – Site Visit Photos: Staking and Flagging at 26346 Valley View Avenue

26307 Isabella Ave. - while applicant was using as construction yard (Dec. 2016)

26307 Isabella Ave. - AFTER applicant graded, cleared and used it as commercial construction yard, all without permits from by County (2017-2018)

Figure 22– Biological Assessment: The consultant found the subject parcel to be previously disturbed

Linda Yamane
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8 March 2019

TO: Monterey County Board of Supervisors
ATTN: John Phillips, Chair

SUBJECT: Please Grant Appeal of Carmel Point PLN170611, PLN170612, PLN170613
Pietro Family Projects on Carmel Point

Dear Board of Supervisors,

I am a resident of Monterey County and trace my heritage to the Rumsen (Ohlone) indigenous people who were living along the Monterey region coastline and in lower Carmel Valley long before the coming of the Spanish in 1769.

For about 25 years, I served as a Most Likely Descendant (MLD) for the State of California's Native American Heritage Commission. As MLD, I was called upon to make recommendations for the respectful treatment and disposition of Native American remains and associated grave goods encountered during construction or other ground disturbance activities in Monterey, San Benito, Santa Cruz, Santa Clara and other Bay Area counties.

I was called as MLD for three projects on Carmelo Street, just one and two streets away from the projects being considered by you now. Working alongside archaeologists, I learned a lot about the cultural resources present on Carmel Point. I also witnessed first-hand the misleading and hopefully unintentional disservice that can be rendered by a "mitigated negative declaration."

From one lot, I witnessed massive truckloads of culturally-rich/archaeologically-rich midden soil being hauled away from Carmelo Street in order to excavate for an underground garage. Artifacts, human remains, and ancient cooking-related materials were excavated, including samples that dated as old as 9,000-plus years – the oldest date so far to be identified in Monterey County! And this on a parcel that an earlier archaeologist had tested and concluded that no archaeological materials or features were likely to be found as there was "a low sensitivity for cultural resources."

Once destroyed, these valuable records of Monterey County history can never be replaced … and I ask that you weigh this carefully as you make your decisions whether to allow spacious basements and subsurface garages on Carmel Point.

Thank you for your consideration.

4.4 CULTURAL RESOURCES

This section evaluates the potential effects of the proposed project on cultural resources, including historical, archaeological, paleontological, unique geologic features, and human remains. The information contained in this section is based on the results of *the Archaeological Survey Report for the Carmel Lagoon Project, Carmel-by-the-Sea, Monterey County, California* (Archaeological Survey Report) prepared by Anthropological Studies Center (ASC) in February 2016. This report is on file with the County and serves as the basis of the analysis contained herein. Due to the sensitivity of the proposed project area, the Archaeological Survey Report will not be available for public distribution. Information contained in this section was also obtained from available documentation contained in the 1982 Monterey County General Plan, as well as other applicable background documents. The following subsections include a brief discussion of the regional historic context, as well as the findings of the technical resource evaluations prepared in support of the proposed project.

Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, or scientific importance. Significant cultural resources may be historical resources (i.e., cultural resources eligible for inclusion on the California Register of Historical Resources [CRHR]) or unique archaeological resource as defined in CEQA. Cultural resources encompass paleontological, archaeological, and historic resources as briefly summarized below:

- Paleontological Resources: Paleontology is the study of plant and animal fossils. Generally, paleontological resources are more than 10,000 years old.
- Archaeological Resources: Archaeology is the study of prehistoric human activities and cultures. Archaeological resources are associated with indigenous cultures and historic-era settlement and are less than 10,000 years old.
- Historic Resources: Historic resources (extant buildings and structures) are associated with the more recent past. In California, historic resources are typically associated with the Spanish, Mexican, and American periods in the state's history and are usually less than 200 years old.
- Tribal Cultural Resources: Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either eligible or listed in the California Register of Historical Resources or local register of historical resources (PRC Section 21074).

Public and agency comments related to cultural resources were received during the public scoping period, and are summarized below:

- Analyze all potentially significant effects on historic resources and identify mitigation measures.

To the extent that issues identified in public comments involve potentially significant effects on the environment according to the CEQA and/or are raised by responsible agencies, they are identified and addressed within this EIR. For a complete list of public comments received during the public scoping period, please refer to **Appendix A**, **NOP and Public Comment Letters.**

4.4.1 Environmental Setting

4.4.1.1 Regional Overview

The proposed project is located in a culturally diverse landscape that includes a variety of cultural resources that are illustrative of regions rich and diverse history. As described below, early human settlement of the California Coast began at least 10,000 years ago. Settlement of the coastal areas of Monterey County; however, did not begin until around 5,000 B.C. The proposed project is located within the ethnographic territory of the Costanoan (or Ohlone) language family. The Costanoan followed a hunting and gathering subsistence pattern and relied heavily only the natural acorn crop. This group also lived a semi-sedentary lifestyle, generally occupying sites near the confluence of streams or near springs. This section includes generalized information related to the region's prehistoric, historic, and ethnographic setting. A detailed description of the proposed project's Archaeological Area of Potential Effects (APE)[1] is also described below.

4.4.1.2 Prehistoric Setting

The Central Coast is defined as the region south of San Francisco Bay stretching to the Southern California Bight, including the South or Central Coast Ranges west of the Central Valley and including the counties of Santa Clara, San Benito, Santa Cruz, Monterey, and San Luis Obispo, and portions of Kings, Merced, and Fresno counties.

Carmel lies within the northern half of this region and has a rich history of human settlement. The region was characterized by Moratto's California Archaeology (1984) and updated in California Prehistory (2007) edited by Terry Jones and Katherine Klar. Moratto's work relied heavily on a taxonomic framework developed by Fredrickson (1973, 1974) that outlines three basic periods: the Paleo-Indian, Archaic, and Emergent. Jones et al. (2007) have compiled new data from the last 20 years and a regional culture history documents variability and continuity in Central Coast populations over the past 10,000 years. This occupation has been broken down into six broad periods: the Paleoindian period (pre-8,000 B.C.), Early Archaic or Millingstone (8,000 to 3,500 B.C.), and a Hunting Culture, which spans Early (3,500 to 600 B.C.), Middle (600 B.C. to A.D. 1,000), and Middle/Late Transition (A.D. 1,000 to 1,250) periods, followed by a Late period (A.D. 1,250 to 1769). Each of these periods is briefly summarized below.

PALEOINDIAN PERIOD (PRE-8,000 B.C.)

The Paleoindian period was a time of great climatic and environmental change. Very little is known about the environment of the region, due to a short and little studied pollen record. Evidence such as geomorphic soil studies, vertebrate fossils, and archaeology suggest a mosaic of oak woodland, chaparral, and coastal sage scrub communities replaced pine and juniper-cypress during this period. Archaeological evidence for this period is scarce and usually only dated by the presence of diagnostic artifacts such as fluted Clovis projectile points. These have been found in Nipomo, at the southern end of the Central Coast. No other substantive components dating to this period have been identified.

[1] The APE is the geographic area or areas within which an undertaking may directly or indirectly cause alterations in the character or use of historic properties, if any such properties exist. The APE was developed to identify all areas where construction-related ground-disturbance could occur and is further explained in **Section 4.4.1.5** below.

MILLINGSTONE CULTURE OR EARLY ARCHAIC (8,000 TO 3,500 YEARS B.C.)

The Millingstone phase is marked by large numbers of well-made handstones and milling slabs, crude core and cobble-core tools, and less flake tools and large side-notched projectile points. Pitted stones are also present along with a small number of contracting stemmed points. Occasional lanceolate points and crescents have been noted within this period as well, at sites within Monterey County. Millingstone sites have been identified in a range of settings, including open coastline, within estuaries, and near shore interior valleys. Few sites are found further inland (more than 15 miles from the coastline). Most of these interior sites exhibit marine shells indicating that inhabitants were still exploiting coastal resources and maintained a connection to the coast.

The so-called Millingstone people practiced a broad-spectrum hunting and gathering subsistence. While they exploited birds and mammals, diet consisted predominantly of shellfish and fish. Remains from deer and rabbit are commonly associated within this period, but stable isotope analysis from a site in Santa Cruz County indicated that 70-84 percent of the diet consisted of marine food.

HUNTING CULTURE (3,500 YEARS B.C. TO A.D. 1,250)

At the end of the Millingstone period, the Central Coast saw an increase in large projectile points most often associated with the establishment of new settlements. The so-called Hunting Culture typology has been refined over recent years and while small variances occur between Early and Middle periods, "splitting" approaches have proven less useful than "lumping" systems. During this period people retained a preference for coastal habitation, though an increasing number of sites have been located within interior valleys.

The Early Period is marked by the co-occurrence of contracting stemmed and Rossi square-stemmed points and large side-notched variants. Earlier handstones and milling slabs are retained within this period, but portable mortars and pestles appear for the first time in small numbers. Cobble-core tools are less frequent and fishing equipment is limited to bone gorges. On the Monterey Peninsula, this phase includes the Saunders. Burials during this period are flexed and are often accompanied by Rossi square-stemmed points, fish gorges, and square beads.

During the Middle Period, the Hunting Culture is represented by a number of sites throughout the Central Coast. During this time, contracting-stemmed points are retained and square-stemmed and large side-notched points disappear. Groundstone assemblages remain much the same with continued use of handstones, milling slabs, and portable mortars and pestles. Beads transition to saucers and circular shell fishhooks appear for the first time. Pitted stone artifacts and grooved stone net sinkers are also common at Middle Periods sites. Graves dating to this time show continued preference for a flexed position and often include bone tubes and large quantities of beads. Near the end of the period smaller leaf-shaped projectile points become more common, indicating the introduction of the bow and arrow.

Faunal assemblages from the Hunting Culture show variability of species, with Early Period sites mostly composed of deer, rabbits, and sea otters. Fish remains increased during the Early Period, but rises were most dramatic during the Middle Period. Shellfish remained an important dietary component, but their presence decreased as reliance on vertebrates increased.

LATE PERIOD (A.D. 1,250 TO 1,769)

Dramatic changes occurred across the Central Coast after A.D. 1,000. The Hunting Culture transitioned gradually in some places and more rapidly in others, but is consistently marked by a clear shift in artifact assemblages.

An increase in Desert side-notched and Cottonwood arrow points, small bifacial bead drills, bedrock mortars, hopper mortars, lipped and cupped shell beads, and steatite disk beads set the Late Period apart from the preceding periods. Bead manufacture became increasingly important across the Central Coast and most sites from this period produce bead drills and *Olivella* bead manufacturing debris.

The Late Period is characterized by single-component sites. Many of these are located away from the shoreline and are within a variety of environmental settings. Typical sites are marked by small middens with associated or nearby bedrock mortars. While larger sites have been documented, Late Period middens tend to be small with several discrete deposits in one area. There is a remarkably strong consistency between Late Period assemblages, site types, and settlement patterns throughout the region.

4.4.1.3 Ethnographic Setting

The proposed project area is situated within the ancestral territory of the Ohlone, or Costanoan. The term Costanoan denotes a language family consisting of eight distinct languages: Karkin, Chochenyon, Ramaytush, Awaswas, Tamyen, Mutsun, Rumsen, and Chalon. The proposed project area falls within the center of the Rumsen language area. Costanoan territory spans the East and South Bay peninsula as far south as Big Sur. The eastern boundary is less well established, but was likely the interior Coast Range.

Due to varying accounts from a range of time periods, descriptions of Costanoan culture may not reflect all linguistic groups at all times. Great variance occurs between groups, terrain, and after-effects of contact. In 1770, the Costanoan-speaking people resided in approximately 50 separate, politically autonomous tribelets. Each of these had 50 to 500 members and one or more permanent village sites. The Costanoan recognized distinct ethnic groups by language and contiguous area. Often these differences were slight variances within dialects. Each branch of the Costanoan family was denoted by a different language. Linguistic evidence suggests that the ancestors of Costanoan speakers entered the San Francisco and Monterey Bay areas around A.D. 500, moving south and west from the Sacramento River delta system.

This roughly corresponds to the Late Period association, possibly explaining the dramatic shift in artifact assemblages at this time. Costanoan speakers were organized into small groups commonly referred to as tribelets; these autonomous groups consisted of a main village, several satellite villages, and temporary camps as throughout most of native California. Tribelet territories were well established and based on physiographic features. Leaders could be of either sex, but the office was inherited patrilineally. Elected by the community, leaders were responsible for feeding guests, providing for the poor, directing ceremonial gatherings, caring for captive grizzly bears and coyotes, and directing hunting, fishing, gathering, and warfare expeditions. Households were large, averaging 10 to 15 people, and consisted of several generations. Houses were often domed structures thatched with tule, grass, wild alfalfa, ferns, or carrizo. Other structures included sweat houses, dance enclosures, and assembly houses.

Ohlone used tule balsa watercraft propelled with double-bladed paddles to navigate the large network of waterways within their territory. Boats were used for transportation, hunting, and fishing. Bows were commonly used and made of sinew or vegetable fiber. Nets were used to hunt small birds and rabbits. Cordage was made from milkweed fibers, Indian hemp, or nettle. Sea otter, rabbit, and duck skins were used to make blankets and bedding. Baskets were used in the collection, preparation, and storage of food and as such were made in a variety of shapes and sizes.

Ohlone people used a wide variety of resources in their diet, often improving yields through sustainable management of the land. Controlled burning was undertaken over extensive areas each fall to promote growth and prevent chaparral. Acorns were likely the most important food resource; and four species of oak are present within Costanoan territory. Buckeye, bay laurel, hazelnuts, and pine nuts were also commonly eaten along with a variety of berries and roots. Mammals consumed included black tailed deer, Roosevelt elk, antelope, grizzly bear, mountain lion, sea lion, whale, dog, wildcat, skunk, raccoon, rabbit, squirrel, rat, and mole. Waterfowl were also significant sources of food for Costanoan peoples. Several species of fish and shellfish were consumed as well, with mussels, clams, and abalone being among the most common.

Conflict was part of Costanoan life. Wars were waged between linguistic groups and tribelets, as well as with neighboring Esselen, Salinan, and Northern Valley Yokuts. Fighting usually arose over infringement of territorial rights and was conducted by surprise attack or by prearranged meeting. Trading between groups was common, with the main trading partners being the Plains Miwok, Sierra Miwok, and Yokuts. Costanoan people brought a variety of shellfish, salt, and *Olivella* shells to their inland neighbors and received piñon nuts in return.

The arrival of European missionaries and explorers greatly impacted Native people throughout California. Contact with Europeans came early within Costanoan history. The first contact was likely between the Vizcaíno expedition and Rumsen speakers in 1602. Costanoan populations were subject to the destructive forces of missionization, disease, displacement, and development that took place during California's early history. Seven missions were established within Costanoan territory between 1770 and 1797. Population estimates for the mission period suggest that less than 20 percent of their population remained by 1834. Cataclysmic changes took place within the native subsistence economy, ritual, and social activities as a result.

After mission secularization, the Costanoan experienced a second displacement as Mission lands and property were supposed to be redistributed to native populations but few were designated and most of the land went to administrators and Rancherias. Most Costanoan gradually left the missions to work as manual laborers and some returned to native practices for a time. Multiethnic communities of displaced Indians were formed throughout the region, consisting of a diverse mix of Coast, Bay, and Plains Miwok, Patwin, Yokuts, and Esselen people. Several of these groups continue to petition the Federal government for reaffirmation as a federally recognized tribe.

4.4.1.4 Historical Setting

The Spanish were the first Europeans to explore the Monterey Peninsula, in the late 1760s and 1770s. After their initial exploration, the Spanish focused on the founding of presidios, missions, and secular towns. After the independence of Mexico and the secularization of the missions in the 1830s, the missions' property was divided into ranchos and distributed to private citizens. The following is a brief description of the various historic periods, as well as a discussion of the local historical context within the APE.

EARLY EXPLORATION

The first documented exploration of the area took place as early as 1542 when Juan Rodríguez Cabrillo sailed up the coast of California. While Cabrillo reportedly just sailed past, Sebastían Rodríguez Cermeño entered the bay in 1595. It was not until 1602 that Sebastían Vizcaíno landed and took possession of the area for Spain. Vizcaino discovered the Carmel River in 1603 and called it Río del Carmelo. Gaspar de Portola's land expedition passed through the region in 1769 and returned in 1770

accompanied by a colonizing party and Franciscan fathers Crespí and Serra. Mission San Carlos Borroméo de Carmelo was established in 1770 by Father Junipero Serra, but within a year it was moved to Carmel, adjacent to the APE. At the same time, the Presidio of Monterey was established and became a military and social capital of Alta California. Father Junipero Serra also established the Mission San Antonio de Padua near present day Fort Hunter Ligget, and Father Lasuen founded Mission Nuestra Señora Dolorsísima de la Soledad nearby.

The Carmel Mission was built of wood and surrounded by a stockade. It included a chapel, a four-room dwelling, a granary, a boy's dormitory, and a kitchen, as well as a room for the guards. Within sight of the compound were corrals for mules and cattle and a garden. Additional buildings were added in the years following its founding. Between 1806 and 1816, the Carmel Mission reported that it had built 52 dwellings for mission Indians, male and female hospital buildings, a new chapel, and completely enclosed the mission quadrangle.

The mission population of native Californians peaked in 1795 at 878 and dwindled to 397 by 1819, likely due to disease and desertion rates. Reports ceased during the fight for Mexican independence. When reports resumed in 1823, the population had slipped further to only 317 and the mission reported that portions of the complex were falling into ruin due to labor shortages. This trend continued until 1832 when the missions were secularized. After secularization, the Carmel Mission lost lands and herds as well as neophyte converts and the property fell into disrepair.

MEXICAN PERIOD

The Spanish, and later Mexican government, encouraged settlement of territory within California through the establishment of large land grants called ranchos. Most grantees raised livestock. Laborers were pressured into service on ranchos, including Native Californians, after secularization in 1832, many of them former Mission residents. Land grants were often given to prominent figures as reward for services rendered to the government or as favors to connected relatives. Ranchos were frequently based on geography, with their boundaries following prominent watercourses, mountains, or valleys.

In 1843, Governor Micheltorena granted José Antonio Romero a part of the town of San Carlos (Carmel) on the flat between the highway, the river, and the mission orchard. His land may constitute a portion of the current APE. The mission lands were separated in 1845 and sold at auction the following year.

The United States declared war against Mexico in 1846 beginning with the Bear Flag Revolt in Sonoma on June 15th. The Treaty of Guadalupe Hidalgo, signed on February 2, 1848, ended the war and incorporated California as a territory of the United States. The treaty provided that Mexican land grants would be honored if they could be confirmed through proof of title.

Numerous land grants were made by the Mexican government between 1842 and 1846 within Monterey County. Nearby San José y Sur Chiquito and Cañada de la Segunda land grants used the Carmel River as their boundary.

4.4.1.5 Local Setting

ARCHAEOLOGICAL AREA OF POTENTIAL EFFECTS

The proposed Archaeological APE is located within and adjacent to the Carmel River State Beach and Lagoon between Highway 1 and the Pacific Ocean in the unincorporated Carmel area of Monterey County, California. The proposed APE lies within an unsectioned portion of T16S, R1W, as depicted on the Monterey, California 7.5' topographic map (**Figure 4.4-1**).

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March 24, 2006
Revised April 17, 2006)

Mr. Frank Creede
c/o Bolton Design Group, Inc.
P.O. Box 5488
Carmel, CA 93921

RE: Archaeological Resources Assessment
2594 Santa Lucia Avenue, Carmel-By-the Sea, Monterey County

Dear Mr. Creede,

Please let this letter report stand as our *Archaeological Resources Assessment* for the above project. This report seeks to fulfill the various mandates of the California Environmental Quality Act (CEQA)[1] and other cultural resources and planning directives of Monterey County. The report provides the results of an archival records search, reviews pertinent literature, discusses the results of a field inventory of the project area as well as a limited auger test program, and presents management recommendations.

PROJECT LOCATION AND DESCRIPTION

The project consists of two lots located at 2594 Santa Lucia Avenue, Carmel-By-the Sea in Monterey County on the north side of the block between Carmelo Avenue/Scenic Road on the east and San Antonio South Avenue on the west (APN 009-461-011-000, Lots 5 & 7). Fourteenth (14th) Avenue is located one lot south of the project lots. The proposed project plans to demolish and rebuild one of two single family residences on the project parcels (USGS Monterey, Calif. 1983, Township 16S R1W, unsectioned; Bolton Design Group 2006) [Figs. 1-4].

RESEARCH SOURCES CONSULTED

A prehistoric and historic site records and literature search was completed by the California Historical Resources Information System, Northwest Information Center, California State

1. CEQA requires a Lead Agency to determine if a project will have a significant effect on the environment and to assess possible impacts. In terms of cultural resources, a project is considered to have a significant effect if it would disrupt or adversely affect one or more properties of historic or cultural significance to the community (CEQA Section 21084.1 and CEQA *Guidelines*).

University Sonoma, Rohnert Park (CHRIS/NWIC File No. 05-692 dated March 20, 2006 by Black). Reference material from the Bancroft Library, University of California at Berkeley and Basin Research Associates, San Leandro was also consulted.[2]

The Native American Heritage Commission (NAHC) was contacted in regard to resources listed on the *Sacred Lands Inventory* (Busby 2006). The NAHC responded that their record search failed to indicate the presence of Native American cultural resources in the immediate project area (Pilas-Treadway 2006).

BACKGROUND

NATIVE AMERICAN RESOURCES

Prehistoric

The study area would have provided a favorable environment during the prehistoric period with coastal, riverine, riparian, and inland resources available to the aboriginal population. The Carmel River and lagoon is about one mile to the south of the project and intermittent drainages are also located about one mile inland.

Native American occupation and use of the Monterey Bay area appears to extend over 5000-7000 years and may be longer (e.g., Jones 1993:18-21, 66, Fig. 7). The Early Period appears to date 7,000-2,500 B.P.; the Middle Period, 2,500-900-1300 B.P.; and, the Late Period, 900-1300-A.D. 1800 (Breschini and Haversat 1992:121). The Monterey Pattern in the "Monterey District" became widely established after ca. 500 B.C. and appears to correlate with the ethnographic group known as the Costanoans (Moratto 1984:247 after Breschini and Haversat 1980:14-15). In general, archaeological information suggests an increase in the prehistoric population over time with an increasing focus on permanent settlements with large populations in later periods. This change from hunter-collectors to an increased sedentary lifestyle is due to more efficient resource procurement but with a focus on staple food exploitation, the increased ability to store food at village locations, and, the development of increasing complex social and political systems including long-distance trade networks. Village sites are often located slightly inland from the coastal gathering/processing sites. During the Late Period, the Middle Period sites appear to have been abandoned even though the population was larger and more dispersed (Breschini and Haversat 1994:191-192).

General overviews and perspectives on the California and regional prehistory can be found in Elsasser (1978), King (1978), Monterey County Planning Department (MCoPD 1980), Moratto (1984), Dietz et al. (1988), Breschini and Haversat (1992, 1994) and Jones (1993).

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2. Specialized listings consulted include the *Historic Properties Directory* for Monterey County (CAL/OHP 2005a) with the most recent updates of the National Register of Historic Places, California Historical Landmarks, and California Points of Historical Interest as well as other evaluations of properties reviewed by the State of California Office of Historic Preservation. Other sources consulted include: the *California History Plan* (CAL/OHP 1973); *California Inventory of Historic Resources* (CAL/OHP 1976); *California Points of Historical Interest* (CAL/OHP 1992); *Five Views: An Ethnic Sites Survey for California* (CAL/OHP 1988); *Archaeological Determinations of Eligibility* (CAL/OHP 2005b) and, *Historic Civil Engineering Landmarks of San Francisco and Northern California* (American Society of Civil Engineers 1977) and other local and regional surveys/inventories and lists (see REFERENCES CITED AND CONSULTED).

Ethnographic

Ethnographic boundaries and village locations are inexact due to incomplete historical records. Each Native American tribelet occupied a specific territory with several more or less permanent settlements and a larger number of seasonal campsites for an annual round of subsistence activities.

The project is located within the *Costanoan*[3] group known as the *Rumsen* who occupied the area in and around the Monterey Peninsula and lower Carmel Valley. There appear to have been five principal Rumsen villages: *Achasta* (*?acista, San Carlos*), *Ichxenta* (*?icxenta, San José*), *Tucutnut, Socorronda*, and *Echilat*[4] (Kroeber 1925:465, Fig. 42; Levy 1978:485, Fig. 1; Milliken 1987:53; Breschini and Haversat 1994:184-185, Fig. 6.1 after Milliken 1992).

Researchers differ as to the placement of these settlements. Kroeber (1925:465, Fig. 42) shows the settlement of *Tamo-tk* [*Tucutnut*] southeast of Monterey and *Rumse-n* inland on the south side of the Carmel River. Levy (1978:485, Fig. 1, #37-38) maps the *?acista* (*San Carlos*) on the Monterey Peninsula proper and *?icxenta* (*San José*) on the south side of the mouth of the Carmel River. Milliken (1987:53, Map 1) places the *Achasta* (*San Carlos*) on the north side of the Carmel River, east of Mission San Carlos and on the south side of San Jose Creek. He places the *Ichxenta* (*San Jose*) up/inland of the Carmel River with the community of *Tucutnut* between *Achasta* and *Ichxenta*. Breschini and Haversat (1994:184-185, Fig. 6.1 after Milliken 1992:101, Fig. 2) place the *Achasta* in the vicinity of the *Presidio* of Monterey and Carmel Mission on both sides of the Carmel River and *Ichxenta* in the vicinity of San Jose Creek and further south on the coast just south of Point Lobos (e.g., Gibson and Wildcat Creeks).[5]

Milliken (1987:54-55) notes that the *Achasta* was the first Native American group to provide large numbers of converts to the Mission. Culleton (1950:550) states, "It seems certain that *Rancheria Achasta*, located near if not at Carmel church, was set up only after the mission had been moved to its new site. The inhabitants came from *Tucutnut*, *Ichxenta*, and *Socorronda*. This new place furnished many of Carmel's converts; its name was the first used to designate the Carmelenos and eventually its Christian title, San Carlos, passed to the rancheria at the mission" [see also Hispanic Period below].[6,7]

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3. Also known as the *Ohlone* (Galvan 1967/1968; Margolin 1978).

4. *Tucutnut* (on the Carmel River; one subsidiary settlement) and *Echilat* (Santa Lucia Mountains) as Esselen following Levy (1973 after Hester 1978).

5. The Monterey County Register of Historic Resources includes the *Ichxenta* at San Jose Creek; the *Tucutnut* at the mouth of Potrero Canyon; the *Socorronda*, mid-Carmel Valley; and, the *Echilat* at San Francisquito Flat.

6. The Hudson Mound (CA-Mnt-12) located at the mouth of San Jose Creek, 2.5 miles south of the Mission, may have also been associated with the *Achasta* (Milliken 1987:54-55 after Howard and Cook 1971:1).

7. Breschini and Haversat (1994:191) comment that *". . . the identification of these villages archaeologically has been a problem."* and that *"No single large Late Period villages are known. The closest is a cluster of five or ten sites which together probably constituted the Late Period village of Echilat."*

No major Native American trails appear to have been located near the project. The closest, located north of the project, ran southeasterly from the vicinity of the Salinas River to present-day Paso Robles (Davis 1961:Map 1). Further north, a major trail proceeded north of the general study area from Elkhorn Slough at Monterey Bay up the Pajaro River and onward (Elsasser 1986:48-49, Fig. 10). It is likely that roads to Mission Carmel followed earlier Native American trails.

Historic accounts of the distribution of the Costanoan/Ohlone tribelets and villages in the 1770s-1790s and the results of archaeological efforts in the area suggest that the Native Americans may have had temporary camps in the general vicinity of the project area throughout the prehistoric period and into the Hispanic Period (Kroeber 1925). Unfortunately, extensive ethnographic data on the Costanoans are lacking and the aboriginal lifeway apparently disappeared by approximately 1810 due to introduced diseases, a declining birthrate, the cataclysmic impact of the mission system and the later 1834-1835 secularization of the mission by the Mexican government. Even after secularization of the missions, ". . . an Indian pueblo continued to exist there for a time" (Levy 1978; Clark 1991:74, 78).

Reviews of the Costanoan are provided by Kroeber (1925:462-473), Harrington (1942), Galvan (1967/1968), King and Hickman (1973), Levy (1978) and Milliken (1995). For more specific information regarding the *Rumsen* see Broadbent (1972), Milliken (1987, 1992), and Breschini and Haversat (1994).

HISTORIC ERA RESOURCES

Hispanic Period

The Spanish philosophy of government in northwestern New Spain was directed at the founding of *presidios*,[8] missions, and secular towns with the land held by the Crown (1769-1821), while the later Mexican Period policy (1822-1848) stressed individual ownership of the land (Hart 1987:314-315, 489-490).

Monterey Bay was probably viewed by Juan Rodriquez Cabrillo in 1542, and again by Sebastian Rodriquez Cermeño in 1595. It was entered and named in 1602 by Sebastian Vizcaíno. Vizcaíno discovered the Carmel River on January 3, 1603 and named it *Rió del Carmelo*, probably after the three friars of the Carmelite order who were members of his expedition. He also named the small bay to the north of Carmel Point as *Puerto del Carmelo*. He was the first European to visit and comment on numerous Native American occupying coastal and inland villages in the Monterey area (Hester 1978:496-497; Clark 1991:73, 84; Gudde 1998:66-67).

The 1769 expedition of Gaspar de Portola and Father Juan Crespi traveled up the coast in search of Monterey Bay, but apparently failed to recognize it due to fog. Nonetheless they saw the river and bay at Carmel in early October (Hoover et al. 1966:216-217) and later the expedition camped along the ocean in the vicinity of San Jose Beach on November 30, 1769 (Breschini and Haversat 1994:190; Broadbent 1972:50).

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8. Official military establishment at a permanent location staffed by regular army personnel for the defense of a certain area (Barnes et al. 1981:137).

The first Spanish outpost in the general study area was the *Presidio* of Monterey founded in 1770, the second of four established in California, and named after Monterey Bay. The town, the civilian settlement of Monterey established in 1777, was made a city by royal decree in 1813. This focal point for both the region and the province under Spanish and Mexican rule was located about 2.25 miles north/northeast of the northern end of the project (Beck and Haase 1974:#19; Hart 1987:314, 316, 328; Clark 1991:320, 421).

Seven missions were established within Costanoan territory. The closest, *Mission San Carlos Borromeo del Rio Carmelo* (*San Carlos Borromeo de Carmelo, El Carmelo* or "Mission Carmel")[9] was founded in June 1770 within the first *Presidio* grounds at Monterey. Shortly thereafter in December 1771 it was moved by Father Junipero Serra to "Eslenes" near the Carmel River about 5.0 miles south of the *Presidio* and slightly under 0.5 mile southeasterly of the project. Early baptisms at the Mission included three young boys from *Achasta* in 1770 and another 20 children from *Achasta, Tucutnut* and *Ichxenta*[10] in 1771. By 1787 Palóu noted "In the neighborhood of the mission there are various rancherias of gentiles, that after the founding of the mission began to frequent it, and their reduction soon began ..." (Broadbent 1972:51). The mission itself was well situated and prosperous due to both the *Rumsen* and *Esselen* and until 1803 was the headquarters for the Padre Presidente of the California missions (Hoover et al. 1966:217-218; Broadbent 1972:51; Hester 1978:497-498; Hart 1987:324, 433; de La Perouse 1989 [Lapérouse 1797]; Milliken 1992:153; Breschini and Haversat 1994:184).

In 1776, Colonel Juan Bautista de Anza and Father Pedro Font traveled from Monterey to San Francisco. The Juan Bautista de Anza National Historic Trail [1776] places their route east of the project. The expedition also visited Mission San Carlos and camped nearby. The group reached the *Presidio* of Monterey on March 9, 1776 and were escorted to Mission San Carlos where the very ill Anza recuperated (Hoover et al. 1966:219; Beck and Haase 1974:#17; USNPS 1995:Monterey County Map 5; USNPS 1996:opposite page 20).

During the Hispanic Period (ca. 1804-1848), the project was southwest of the *Lomas de Carmelo* (Hills of [Mission] Carmelo) and west of the *Rancho Canada de la Segunda* which terminated at the *Camino de Presidio*. This road was part of the *El Camino Real*, or Royal Road, which ran between forts, towns, and missions from Guatemala to Mexico City and as far north as Sonoma. The *Camino de Presidio* linked Mission Carmelo with the *Presidio* de Monterey (Cloud 1858:N.D. #283; Hoover et al. 1966; Howard 1978:16; Hornbeck 1983:61; Clark 1991:439)).[11]

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9. Mission San Carlos Borromeo de Carmelo, CA-Mnt-18 (P-27-000154), located at the southwest corner of Lasuen Drive and Rio Road is on the *California History Plan and California Inventory of Historic Resources,* and is California State Landmark #135 (CAL/OHP 1973:108; CAL/OHP 1976:128, 244; CAL/OHP 1990:126). The church remains a point of local and regional interest.

10. Likely districts and not specific village sites (e.g., Breschini and Haversat 1994:192).

11. *El Camino Real* is listed in *The California History Plan, California Inventory of Historic Resources,* and is also a State of California landmark. "El Camino Real (As Father Serra Knew It and Helped Blaze It)" (CAL/OHP 1973:150; CAL/OHP 1976:257; CAL/OHP 1990:204-205, #784). As a landmark designated after #770, it is automatically on the California Register of Historical Resources (CRHR) (CAL/OHP ca. 1999).

The present-day *Camino Real* in Carmel-By-the-Sea is located a block and a half west of the project.

American Period

In the mid-19th century, the majority of the rancho and pueblo lands and some of the ungranted land in California were subdivided as the result of population growth, the American takeover, and the confirmation of property titles. Growth can be attributed to the Gold Rush (1848), followed by the completion of the transcontinental railroad (1869) and local railroads. Still later, the development of the refrigerator railroad car (ca. 1880s) used for the transport of agricultural produce to distant markets had a major impact on California agriculture. The agricultural land-use pattern throughout the project area has been rapidly replaced by urban and suburban development since post-World War II (Hart 1987).

Monterey County is one of the original 27 counties created and described by An Act of the California State Legislature and approved by Governor Peter H. Burnett, February 18, 1850. The southern boundary has been modified several times with San Benito County formed in 1874 from part of Monterey County. The county seat was changed from Monterey to Salinas in 1873 (Hoover et al. 1966:216; Coy 1973:184-185).

Carmel-by-the Sea[12] is on the *California History Plan* and *California Inventory of Historic Resources* under the theme of Exploration/Settlement (CAL/OHP 1973:106; CAL/OHP 1976:128, 244). In 1888, Santiago J. and Belisario E. Duckworth of Monterey agreed to buy 324.36 acres from Honore Escolle to develop a Catholic summer colony. S.J. Duckworth then filed a map of "Carmel City" which ran from Monte Verde Street to Monterey Street. By the mid-1890s, he had sold an estimated 200 lots before the real estate boom imploded. He erected a hotel at Ocean and Junipero streets (formerly Broadway) and later in 1892, constructed a bath house at the foot of Ocean Avenue. The city did not prosper until Frank H. Powers, a San Francisco attorney and a promoter James Franklin Devendorf acquired Carmel City along with the remainder of the Escolle holdings. In 1903 they formed the Carmel Development Company and purchased additional land and offered to sell and lease land to artists and writers. "Carmel-by-the-Sea" was developed as a separate subdivision east of "Carmel City" and extended from Monte Verde Street west to the ocean. By 1911, Carmel had over 375 residences. In October 1916, Carmel-by-the-Sea voted for incorporation as City of "Carmel-by-the-Sea" (Hart 1987:82; Clark 1991:74; Carmel Preservation Foundation and Archives & Architecture [CPF/A&A] 1996:57/S-25092; Gudde 1998:67; Coventry 2002:87, 92, 103).

The project is located just east and north of the geographic point known as Carmel Point, also known variously as *Punta del Carmelo*, Carmel City Point, Point Lobos, Mission Point, and/or Abalone Point. The point was known to be an excellent place to gather mussels and have a "mussel bake picnic" as well as for abundant abalone. "Carmel Point" a residential area, is famous for the Tor House at 26304 Ocean View Avenue near Stewart Way built by Robinson Jeffers in 1919 (first section), a favorite picnic spot (Clark 1991:80-81, 575; Gudde 1998:66-67). This house is listed on the National Register of Historic Places as the "Robinson, Jeffers House"

12. Generally referred to as "Carmel".

(Clark 1991:575) and is also listed on the *California Plan* (CAL/OHP 1973:109, under the theme of Social/Educational. Part of his five acre property was sold in 1956 and after his death in 1962 (CPF/A&A 1996:58/S-25092; Coventry 2005:98).

Project Historic Map Review

The project and vicinity were within ungranted lands[13] south of *Rancho El Pescadero*, west of *Rancho Cañada de la Segunda* and Mission Carmelo (buildings and a field), and north of *Rancho San Jose y Sur Chiquito* (south of the Carmel River).

The 1854/1855-1872 and 1873 General Land Office (GLOs) survey plat of Township No. 16 South, Range No. 1 West (T16S R1W) shows the project as owned by Robert Martin and south of an "Old Road" to Mission Carmel. Portions of a number of "Old Roads" and "Wagon Road"[14] are shown on the map although none appear to conform to the alignment of present-day Santa Lucia Road. Two "Mission" buildings[15] and part of a field were southeast of the project in adjacent Section 13 owned by John Martin (US/BLM 1873; USGS 1983). William and Agnes Martin, their five sons and daughter emigrated from Scotland to St. Thomas, Ontario, Canada and then to the project area. They purchased property at the mouths of the Carmel, Pajaro, and Salinas rivers. None of the various geographical points in Monterey County named after the Martins is located in or adjacent to the project (Clark 1991:297).

An 1886 map in a *Guide to Monterey and Vicinity* shows only "Carmelo Mission" and the Carmelo River in the vicinity of the project (Anonymous/Source Unknown 1886).

An 1888 *Map of Carmel City, Monterey County, Cal.* shows the city extended as far south as the block north of 12th Avenue (Little 1888).

The project is in Addition No. 7, surveyed in 1908 by H.B. Fisher. The addition includes part of the Martin Ranch bounded by Carmelo, Santa Lucia, and Scenic Drive south of Santa Lucia (Fisher 1908; CPF/A&A 1996:26).

The 1913 USGS Monterey topographic map, surveyed 1911-1912, shows no development in or adjacent to the project. At the time, present-day Santa Lucia Avenue was the southernmost paved street in Carmel by the Sea, but no structures were situated along its south side. Present-day Carmelo Avenue connected to unpaved Scenic Avenue which ran southeasterly to just past present-day Ocean View Avenue. "Carmel Mission" is the only feature labeled in the study area.

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13. The project and vicinity were situated south of *Rancho El Pescadero*, west of *Rancho Cañada de la Segunda* and Mission Carmelo (buildings and a field), and north of *Rancho San Jose y Sur Chiquito* (south of the Carmel River).

14. This road conforms to the Camino de Presidio between the Presidio of Monterey and Mission Carmelo (e.g., Hornbeck 1983:61).

15. presumably Mission Ranch (west of Mission Carmel; e.g., USGS 1983).

An impressionistic ca. 1929 map of the Monterey Peninsula shows about eight residences along curvilinear streets within the Carmel Point area. Santa Lucia Avenue appears to have been the route from San Antonio Avenue southeastern to the isolated "Carmel Mission" (Del Monte Properties ca. 1929).

Listed Cultural Resources

The project is with the boundary of Carmel-by-the Sea[16] which is listed on the *California History Plan* and *California Inventory of Historic Resources* under the theme of Exploration/Settlement (CAL/OHP 1973:106; CAL/OHP 1976:128, 244).

ARCHAEOLOGICAL FIELDWORK

PREVIOUS FIELD SURVEYS

Archaeologist Sylvia Broadbent conducted *A Resurvey of Carmel Point* in the early 1950s, likely a resurvey of the area previously surveyed by Arnold Pilling and Edna Fisher. She reviewed and typed a manuscript written by Fisher in 1953, relocated recorded sites CA-Mnt-16 and CA-Mnt-17, and filed updated archaeological site survey records in 1953 (Broadbent 1951-1953/S-3452; 1953a-b/forms).

The project area/vicinity also appears to have been subject to an archaeological survey by amateur archaeologist, Donald M. Howard. Howard maps no sites in or adjacent to the project. However, CA-Mnt-16 and Mnt-17 on Carmel Point (Point Loeb) are among the many sites mapped in the Monterey Area by Howard (e.g., Howard 1975, 1979a/S-3517). He maps and refers to CA-Mnt-16 at the "South end of Carmel Beach, north of Tor House'... Stewart Way and Inspiration Ave." and Mnt-17 on "North bank of the Carmel River at its mouth. Probable area around 17th and Carmelo" and notes that both have been "destroyed" (Howard 1975:51).[17]

Howard's *Prehistoric Sites Handbook* (Howard 1979b) does not map CA-Mnt-16 or CA-Mnt-17, the "Archaeological Sites Carmel Point [Point Loeb]" consist of: #4 Van Lobensels House, #5 Doane House, #6 Midden Remnant, #7 Remnant on promontory, #8 Remnant at foot of Ocean View, #9, Tor House midden, #10 Extension of No. 9, #12 Stewart House area, #13 Stewart Way & Ocean View, #14 Bay View & Inspiration, #15 Carmelo & 17th. None are located in or adjacent to the project (Howard 1979b:40).

PROJECT SURVEY AND LIMITED AUGER TESTING

Mr. Christopher Canzonieri, Basin Research Associates (M.A.) conducted an archaeological field inventory and limited hand auger testing program at 2594 Santa Lucia Avenue on February 23, 2006. An unoccupied residence is present and set back approximately 30-feet from Santa Lucia Avenue. An unattached garage at the rear is accessed from Santa Lucia Avenue.

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16. Generally referred to as "Carmel".

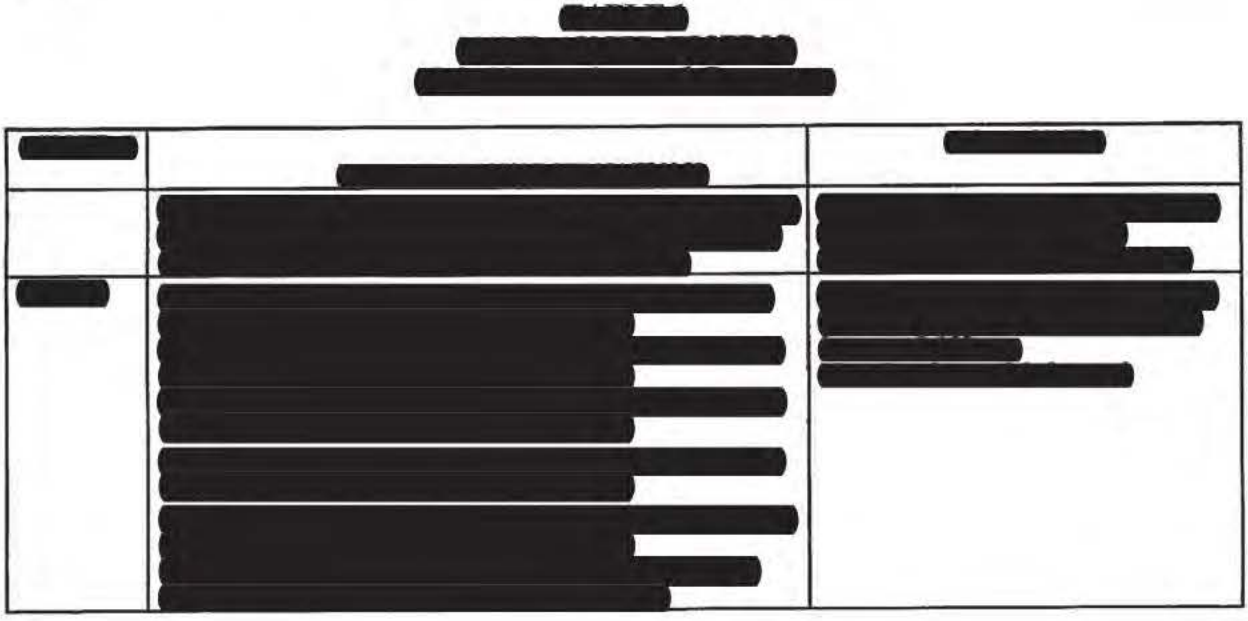
17. He also provides field numbers used by others: CA-Mnt-16 as Broadbent 284 and/or Fisher 85 and CA-Mnt-17 as Fisher 86 and/or Wood V-10 (Howard 1975:51).

Introduced landscaping caps the surface of the parcel. As a result, a systematic surface survey could not be conducted due to the lack of exposed native soil. There is a shale wall present along the north side (facing Santa Lucia Avenue) and a wooden fence along the east, west, and south sides (rear) of the property (collapsed with sections missing). A cobblestone walkway leads to the house and along the east side of the property. Surface visibility was limited to approximately 25% due to dense vegetation (native and non-native plants and trees including pines, cypress, and oaks). Several gopher burrows were examined for cultural material. No evidence of prehistoric or historically significant archaeological or architectural resources was observed during the field inventory.

A hand auger testing program was undertaken to expose the subsurface sediments to determine the presence/absence of subsurface archaeological resources. The testing utilized a 4-foot long hand auger with a 4-inch diameter opening/bore in five locations: one in the front yard facing Santa Lucia Avenue; two west of the residence; one at the rear of the house (south end of property); and one immediately south of the garage. These dispersed auger unit locations were selected to avoid major landscaping, root systems and likely buried, unmarked utilities (gas, water, electrical, and irrigation lines).

Standard archaeological recordation, including a written description, verbal sediment profile, and photographs, were completed for each auger bore. The sediment samples were screened through a 1/8th and 1/4th inch mesh to determine the presence/absence of cultural constituents. All auger units were backfilled.

Units 1-4 were augered to 120 cm below surface. Unit 5 was terminated at 40 cm below surface due to large roots. [redacted]



FINDINGS

The intent of this report is to identify historic properties which may be listed, determined or potentially eligible for inclusion on the California Register of Historical Resources (CRHR).

ARCHAEOLOGICAL SENSITIVITY

The project and vicinity along the coast has been assigned a "High" Archaeological Sensitivity on the 1980 Monterey County Planning Department map and the more recent 2004 update (Monterey County Planning Department (MCoPD) 1980:Fig. 2; MCoPD 2004:Exhibit 5.10-1 and Map #15 Archeological Sensitivity Map [dated 2001]). This designation appears to be the result of the presence of recorded prehistoric sites and known ethnographic settlements (including at and around Mission Carmel).

RECORDS SEARCH (CHRIS/NWIC File No. 05-692)

No prehistoric or historic era archaeological sites have been recorded, reported, or identified in or adjacent of the project. Three sites have been recorded on Point Carmel and three prehistoric sites are present within 0.25-0.5 miles of the project: CA-Mnt-16 (P-27-000152), CA-Mnt-17 (P-27-000153 within 0.5 mile), and CA-Mnt-1286 (P-27-001323). Part of one historic era site, CA-Mnt-2087 (P-27-002482) is also present with 0.25 miles.[18]

Three compliance reports on file at the CHRIS/NWIC include the project: *A Resurvey of Carmel Point* (Broadbent 1951-1953/S-3452); *Archeological Resources of Coastal Monterey County* (Howard 1979a/S-3517); and, *Final Report Historic Resources Survey* for The City of Carmel-by-the-Sea which includes an extensive historic context, information about architecture (movements, architects, builders, etc.; CPF/A&A 1996/S-25092). In addition, three compliance reports on file at the CHRIS/NWIC cover areas adjacent to the project (Breschini and Haversat 1986/S-8789; Doane and Haversat 1997/S-19970; Doane and Haversat 1999/S-22399). All of these reports were negative for the project/project vicinity.

CA-Mnt-16

CA-Mnt-16, a shell midden, was initially recorded by Pilling in 1949 on the north end of Carmel Point west of the project straddling Scenic Avenue (west of Ocean View Avenue) to north of the "Tor House" [at 26304 Ocean View Avenue near Stewart Way] (Pilling 1949a-b/forms).

Broadbent places CA-Mnt-16 on north end of Carmel Point west of the project in a built-up area on a low promontory straddling Scenic Avenue (west of Ocean View Avenue) (Broadbent 1951, 1953a/forms).

Podzorski and Edwards (1979) place CA-Mnt-16 within the northwest corner/area of Ocean View Avenue and Steward Way southwest of the project (Podzorski and Edwards 1979/site form for CA-Mnt-17]).

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18. Trinomial (Primary Number) assigned by the CHRIS/NWIC.

Howard places CA-Mnt-16 at the north end of Point Carmel, at the south end of Carmel Beach and north of the Tor House in the vicinity of Stewart Way and Inspiration Avenue. Native American burials, mortars and pestles were observed at the site. He further notes that the site had been "destroyed" (Howard 1975:42, 51 [*Primitives in Paradise*]).

CA-Mnt-17[19]

Although researchers vary as to the extent of CA-Mnt-17, all locate the site along the coast along the southern part of Point Carmel. CA-MNT-17 was initially recorded by Pilling in 1949, southwest of the project ". . . where Scenic Road cuts across the end of Pt" on the south end of Point Carmel and maps the site from the coast across Scenic Drive to west of the "Reamer's House." The site was described as "A large gathering site on the coast above good shell fish gathering rock" which had been impacted by Scenic Drive and houses (Pilling 1949b).

Broadbent relocated CA-MNT-17 in 1951 and 1953 on the "South end of Carmel Point" and noted, "Shell midden on the southern corner of low promontory" "with 2 mortars and namo [mano?]" (Broadbent 1951-1953/S-3452; 1953b/site form).

In 1979, Podzorski and Edwards mapped CA-MNT-17 as straddling Scenic Road, about 55 meters north of the southern point of Carmel Point and about 0.4 km south of the intersection of Scenic Road and Stewart Way. The shell midden consisted of an area at least 20 x 20 meters with a "Thick lens of shell (abalone & mussel) in dark "greasy" midden deposits from 40-120 cm below present ground surface.

Howard (1975b:42, 51 [*Primitives in Paradise*]) also places CA-Mnt-17 at the south end of Point Carmel, on the north bank of the Carmel River at its mouth around 17th Avenue and Carmelo Street. He notes metates and mortars at this site and notes the site had been "destroyed." A later schematic map places a discontiguous portion of CA-MNT-17 across the street on the north side of 17th Avenue between Carmelo Street and Rio Avenue (Howard 1979a:74-75).

Woodward and Wheeler described CA-Mnt-17 in 1986 as a ". . . fairly apparent shell midden" and ". . . adjacent to a prominently rocky shoreline" situated partly under Scenic Drive and mostly on adjacent privately owned parcels extending "150 meters north-south along Scenic Drive" and about 40 meters into the Carmel River State Beach.

Archaeological Consulting (Gary S. Breschini, Trudy Haversat, et al.) has conducted a number of projects which involve CA-Mnt-17 and other abalone processing sites on the Monterey Peninsula (Breschini and Haversat 1991; see Busby 2003 for additional information regarding CA-Mnt-17).

CA-Mnt-1286

Prehistoric site CA-Mnt-1286 was observed adjacent to the corner residence at Valley View and 16th avenues (APN 009-403-21) south of the project. This lithic scatter included a broken

19. Information about CA-Mnt-17 relies on previous Basin Research Associates reports.

sandstone charmstone, projectile points of jasper, chert, and obsidian, bifaces (including a scraper), waste flakes, minor traces of *Haliotis* (abalone) and mussel shell. The presence of the charmstone, reportedly the first found in the Monterey Bay region, has been attributed to a "Hotchkiss/Late Horizon", ca. 500-1500 A.D. date of occupation (Bourdeau 1984-1985/site form).

CA-Mnt-2087

Mission Ranch, CA-Mnt-2087, is located immediately southwest of Mission San Carlos de Carmelo [*sic*] south of the intersection of Dolores Street and 15th Avenue within the Mission Ranch resort complex. This approximately 20-acre Historic era site is mapped and labeled on the 1983 USGS Monterey topographic map. The site consists of several historic houses (including the 1864 Martin House) and outbuildings, and trash pits (Doane 2002/form).

Other Sites

Howard (1979b:40 [*Prehistoric Sites Handbook*]) also shows other prehistoric archaeological sites on Carmel Point - at "Steward Way & Ocean View [Avenue]" (#13) and another at "Bay View [Avenue] & Inspiration [Drive]" (#14). These "sites" may represent redeposited material from nearby prehistoric sites or American Period mussel and/or abalone picnic feasts.

No local, state or federal historically or architecturally significant structures, landmarks, or points of interest have been identified within or adjacent to the project.

OTHER RELEVANT REPORTS

In addition, several reports not on file at the CHRIS/NWIC are relevant to the project area. These are documents compiled and produced by Mr. Donald M. Howard, a prolific amateur archaeologist/collector, and include: *Primitives in Paradise: An Archaeological History of the Monterey Peninsula* (Howard 1975) and *Prehistoric Sites Handbook: Monterey & San Louis Obispo Counties. The Coast. Vol. 1* (Howard 1979b). None of the sites mapped by Howard are located in or adjacent to the project. See PREVIOUS FIELD SURVEYS above and RESOURCES IDENTIFIED below for additional information.

FIELD INVENTORY AND LIMITED AUGER TESTING RESULTS

No prehistoric or historic archaeological materials were observed during the surface field survey and limited auger testing conducted for the project.

RESOURCES IDENTIFIED

No known Native American prehistoric sites, ethnographic settlements, or traditional Native American sites/use areas have been identified in or adjacent to the proposed project.

A review of available documents including historic maps indicates that no Hispanic or early American Period buildings or other features (e.g., corrals, roads, etc.) were located in or adjacent to the project.

Three prehistoric archaeological sites have been recorded on Point Carmel. CA-Mnt-16 (P-27-000152) is situated west of the project along Point Carmel within 0.25 miles of the project, CA-Mnt-17 (P-27-000153) at the south end of and along Point Carmel within 0.5 miles, and CA-Mnt-1286 (P-27-001323) within 0.25 mile, is inland south of the project. Reportedly all have been disturbed/destroyed (e.g., Howard 1975:51; Bourdeau 1984-1985). In addition, part of one historic era site, CA-Mnt-2087 (P-27-002482), has been recorded within 0.25 miles of the project.

LISTED HISTORICAL PROPERTIES

The project is within the boundaries of Carmel-by-the Sea[20] which is listed on the *California History Plan* and *California Inventory of Historic Resources* under the theme of Exploration/Settlement (CAL/OHP 1973:106; CAL/OHP 1976:128, 244).

No other local, state or federal historically or architecturally significant structures, landmarks, or points of interest have been recorded or identified in or adjacent to the project (CHRIS/NWIC File No. 05-692).[21]

[redacted]

20. Generally referred to as "Carmel".

21. The Hopper Chanslor House is adjacent to the proposed project at SW CR Carmelo Street at Fourteenth Avenue (APN 09-401-002). The house, a simple wood frame Monterey Colonial residence, was built in 1915. Roberts (1999) has evaluated the house as historically significant due to its association with historical figures and for its architecture (see Roberts 1999 form). The evaluation has not been formally reviewed by the State Historic Preservation Officer and the form is only on file with Monterey County. However, the proposed project will have no impact on the values for which the house has been determined significant.

22. Significant prehistoric cultural resources can include:

a. Human bone - either isolated or intact burials.

[redacted]

CLOSING REMARKS

If I can provide any additional information or be of further service please don't hesitate to contact me. Thank you for retaining our firm for the project.

Sincerely,
BASIN RESEARCH ASSOCIATES, INC.

Colin I. Busby Ph.D., R.P.A.
Principal

CIB/dmg

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b. Habitation (occupation or ceremonial structures as interpreted from rock rings/features, distinct ground depressions, differences in compaction (e.g., house floors).
c. Artifacts including chipped stone objects such as projectile points and bifaces; groundstone artifacts such as manos, metates, mortars, pestles, grinding stones, pitted hammerstones; and, shell and bone artifacts including ornaments and beads.
d. Various features and samples including hearths (fire-cracked rock; baked and vitrified clay), artifact caches, faunal and shellfish remains (which permit dietary reconstruction), distinctive changes in soil stratigraphy indicative of prehistoric activities.
e. Isolated artifacts

Historic cultural materials may include finds from the late 19th through early 20th centuries. Objects and features associated with the Historic Period can include.

a. Structural remains or portions of foundations (bricks, cobbles/boulders, stacked field stone, postholes, etc.).
b. Trash pits, privies, wells and associated artifacts.
c. Isolated artifacts or isolated clusters of manufactured artifacts (e.g., glass bottles, metal cans, manufactured wood items, etc.).
d. Human remains.

In addition, cultural materials including both artifacts and structures that can be attributed to Hispanic, Asian and other ethnic or racial groups are potentially significant. Such features or clusters of artifacts and samples include remains of structures, trash pits, and privies.

MONTEREY COUNTY
RESOURCE MANAGEMENT AGENCY
Carl P. Holm, AICP, Director

Building Services / Environmental Services / Planning Services / Public Works & Facilities
1441 Schilling Place, South 2nd Floor (831)755-4800
Salinas, California 93901 www.co.monterey.ca.us/rma

May 3, 2018

Francine Purcell
Purcell Francine C. TR

Laura Lawrence
The Law Office of Aengus L. Jeffers
215 W. Franklin Street 5th Floor
Monterey, CA 93940

Subject: **PLN170982 PURCELL – Complete Submittal**

Dear applicant,

Your application for an Amendment to a previously approved Combined Development Permit has been deemed **complete** on May 3, 2018.

Attached to this letter you will find proposed conditions of approval for your review. The project has been tentatively scheduled for the Zoning Administrator hearing on August 9, 2018. You will receive additional correspondence regarding the hearing noticing requirements as this date approaches.

Should you have any other questions, please feel free to contact me at (831) 755-5052 or blancom@co.monterey.ca.us.

Sincerely,

Maira Blanco, Assistant Planner
Resource Management Agency – Planning

cc: PLN170982

PURCELL RESIDENCE

INDEX OF PLANNING DRAWINGS:

REGULATORY NOTES:

BUILDING CODE: Title 24, California Code of Regulations, Part 2.5 "California Residential Code" 2016

(Note: Part 2.5 CRC is based on the IRC and is available online at: https://codes.iccsafe.org/public/chapter/content/2412/

ZONING JURISDICTION: County of Monterey

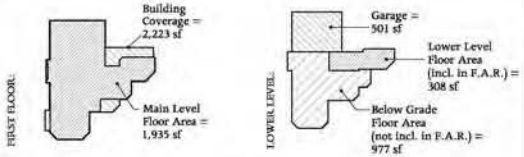
General Plan Land Use Designation : Residential - Medium Density

Residential Zone: MDR/2-D(18)(CZ)

Lot Area: 6,354. sf (from Plat Plan)

VICINITY MAP :

PROJECT AREAS:



TOTAL FLOOR AREA ABOVE GRADE = 2,243 SF
(not incl. 501 sf Garage & 977 sf Below Grade)

REGULATORY TABLE:

CRITERIA:	MDR/2-D(18)(CZ) Monterey County Zoning, Coastal Implementation Plan - Title 20	Resolution 970132 approved by Zoning Admin. on August 27, 1998	PROPOSED CONDITIONS:	
Min. Lot Size	6,000. sf	6,535 sf	6,354 sf	OK ✓
Average Natural Grade	Average of exist. high and low points of grade within building area	33.75	33.75	OK ✓
Max. Building Height	18'	16'	16'	OK ✓
Max. Building Coverage	35% = 2,223.9 sf	2,214 sf	2,223 sf	OK ✓
Max. Floor Area	45% = 2,859 sf	2,790 sf (44%) 2nd Fl = 1,769 sf 1st Fl = 1,021 sf	2,243 sf (35%) Main Level = 1,935 sf Lower Level = 308 sf	OK ✓
Square Footage not counted in Floor Area	N/A	1,344 sf Garage = 504 sf Basement = 840 sf	1,478 sf Garage = 501 sf Lower Level = 977 sf	OK ✓
Total Building Square Footage	N/A	4,134 sf	3,721 sf	OK ✓
Max. Garage Area	no defined limit	504 sf	501 sf	OK ✓
Setback at Scenic Road and Isabella	20'	20'	20'	OK ✓
Side Setback	5'	5'	5'	OK ✓
Rear Setback	10'	10'	10'	OK ✓
Max. Driveway Slope	25%	21%	25%	OK ✓
Grading	N/A	Unknown	Cut = 330 cy Found. Cut = 1,070 cy Total Cut = 1,420 cy	OK ✓
Tree Removal	N/A	None	Remove Tree # 3 - 20" Cypress Tree	OK ✓
Impervious Coverage	N/A	Unknown	By Structure = 2,223 sf By Hardscape = 2,404 sf Total Coverage = 4,627	OK ✓
Parking Counts	One Covered One Uncovered	Two Covered	Two Covered	OK ✓

JOB NAME

PURCELL RESIDENCE

CARMEL
CALIFORNIA

JOB NUMBER 1720

Project Directory:

SHOPE RENO WHARTON
Architecture
18 Marshall Street
South Norwalk, Connecticut 06854

203.852.7250 Tel.
203.852.4250 Fax

STRANDBERG ENGINEERING
Structural Engineering
1511 15th Street
San Francisco, California 94103

415.778.8726 Tel.

ARTERRA LANDSCAPE ARCHITECTS
Landscape Architect
88 Missouri Street
San Francisco, California 94107

415.861.3100 Tel.

STOCKER & ALLAIRE
Building Contractor
23 Mandeville Court
Monterey, California 93940

831.375.1890 Tel.
831.375.1480 Fax

BENJAMINI ASSOCIATES, INC
Civil Engineers
720 York Street Suite 314
San Francisco, California 94110

415.550.2600 Tel.

CONCEPTUAL LIGHTING, LLC
Lighting Designer
479 Clark Street
South Windsor, Connecticut 06074

860.644.4358 Tel.

Vertical Datum: Elevations shown are based on NGVD29

SHOPE RENO WHARTON

ORIENTATION

SEAL

ISSUE DATES

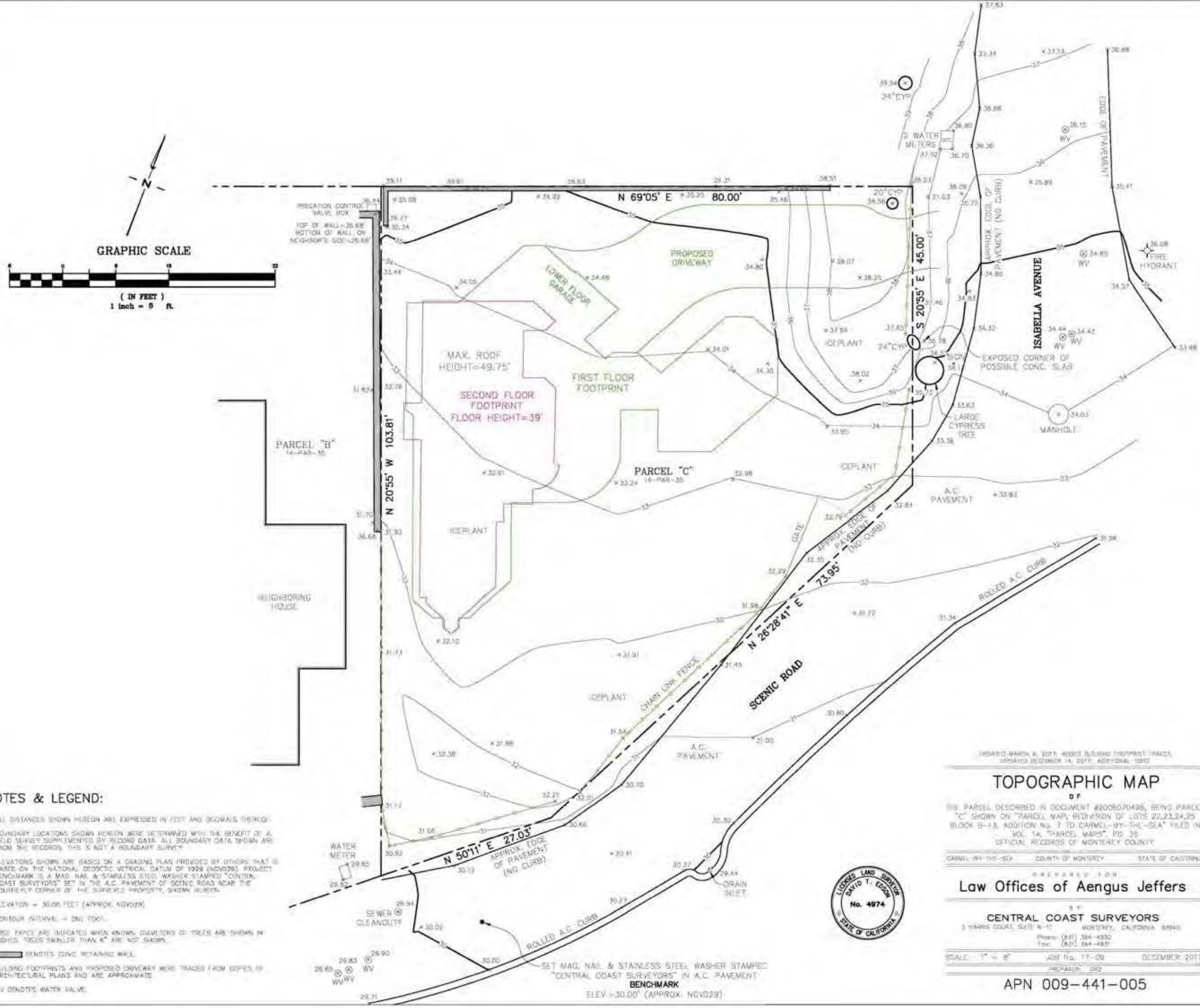
2024.03.25 - ISSUED FOR MONTEREY COUNTY REVIEW

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1



NOTES & LEGEND:

1. ALL DISTANCES SHOWN HEREON ARE EXPRESSED IN FEET AND DECIMALS THEREOF.
2. BOUNDARY LOCATIONS SHOWN HEREON WERE DETERMINED WITH THE BENEFIT OF A FIELD SURVEY SUPPLEMENTED BY RECORD DATA. ALL BOUNDARY DATA SHOWN ARE FROM THE RECORDS. THIS IS NOT A BOUNDARY SURVEY.
3. ELEVATIONS SHOWN ARE BASED ON A GRADING PLAN PROVIDED BY OTHERS THAT IS BASED ON THE NATIONAL GEODETIC VERTICAL DATUM OF 1929 (NGVD29). PROJECT BENCHMARK IS A MAG. NAIL & STAINLESS STEEL WASHER STAMPED "CENTRAL COAST SURVEYORS" SET IN THE A.C. PAVEMENT OF SCENIC ROAD NEAR THE SOUTHERLY CORNER OF THE SURVEYED PROPERTY, SHOWN HEREON.

   ELEVATION = 30.00 FEET (APPROX. NGVD29)
4. CONTOUR INTERVAL = ONE FOOT.
5. TREE TYPES ARE INDICATED WHEN KNOWN. DIAMETERS OF TREES ARE SHOWN IN INCHES. TREES SMALLER THAN 6" ARE NOT SHOWN.
6. ▬ DENOTES CONC. RETAINING WALL.
7. BUILDING FOOTPRINTS AND PROPOSED DRIVEWAY WERE TRACED FROM COPIES OF ARCHITECTURAL PLANS AND ARE APPROXIMATE.
8. WV DENOTES WATER VALVE.

UPDATED MARCH 6, 2017: ADDED BUILDING FOOTPRINT TRACES
UPDATED DECEMBER 14, 2017: ADDITIONAL TOPO

TOPOGRAPHIC MAP

OF

THE PARCEL DESCRIBED IN DOCUMENT #2008070496, BEING PARCEL "C" SHOWN ON "PARCEL MAP, REDIVISION OF LOTS 22,23,24,25 BLOCK B-13, ADDITION No. 7 TO CARMEL-BY-THE-SEA" FILED IN VOL. 14, "PARCEL MAPS", PG. 35 OFFICIAL RECORDS OF MONTEREY COUNTY

CARMEL-BY-THE-SEA — COUNTY OF MONTEREY — STATE OF CALIFORNIA

PREPARED FOR

Law Offices of Aengus Jeffers

BY

CENTRAL COAST SURVEYORS

3 HARRIS COURT, SUITE N-11 — MONTEREY, CALIFORNIA 93940

Phone: (831) 394-4930
Fax: (831) 394-4931

SCALE: 1" = 8' — JOB No. 17-09 — DECEMBER 2017

PREPARER: DRZ

APN 009-441-005

JOB NAME

PURCELL RESIDENCE

CARMEL CALIFORNIA

JOB NUMBER 1720

Vertical Datum: Elevations shown are based on NGVD29

SHOPE RENO WHARTON

ORIENTATION — SEAL

ISSUE DATES

SHEET TITLE

EXISTING CONDITIONS SURVEY BY CENTRAL COAST SURVEYORS (PROVIDED FOR REFERENCE ONLY)

SHEET NUMBER

A 100

JOB NAME

PURCELL RESIDENCE

CARMEL
CALIFORNIA

JOB NUMBER 1720

ROOM LEGEND

1.	Front Entry Step	5'-6" x 12'-0"
2.	Front Entry Door	5'-0" x 6'-0"
3.	Kitchen	12'-0" x 19'-0"
4.	Living Room	17'-3" x 19'-0"
5.	Dining Room	13'-8" x 18'-4"
6.	Sitting Room	11'-0" x 11'-3"
7.	A/V Closet	4'-0" x 5'-0"
8.	Rear Entry Porch	8'-0" x 20'-0"
9.	Mud Room	5'-10" x 13'-0"
10.	Powder Room	5'-6" x 7'-6"
11.	Laundry Room (niche for machines)	3'-1" x 3'-2"
12.	Main Stair	8'-4" x 18'-6"
13.	Master Bedroom	12'-3" x 14'-0"
14.	Dressing Closet	12'-2" x 12'-6"
15.	Master Bath	8'-0" x 12'-6"

Vertical Datum: Elevations shown are based on NGVD29

SHOPE RENO WHARTON

ORIENTATION

SEAL

ISSUE DATES

SHEET TITLE

FIRST FLOOR AND SITE PLAN

SHEET NUMBER

A 200

LOWER LEVEL PLAN

3/16" = 1'-0"

JOB NAME

PURCELL RESIDENCE

CARMEL
CALIFORNIA

JOB NUMBER 1720

ROOM LEGEND

1.	Lower Level Exterior Entry	
2.	Mud Room	8'-6" x 14'-0"
3.	Main Stair	8'-4" x 18'-6"
4.	Bedroom Hall	3'-8" x 12'-8"
5.	Bedroom One	9'-6" x 13'-3"
6.	Bath One	5'-6" x 9'-6"
7.	Bedroom Two	11'-0" x 11'-8"
8.	Bath Two	6'-0" x 8'-8"
9.	Bedroom Three	9'-3" x 14'-3"
10.	Bath Three	5'-6" x 9'-10"
11.	Bedroom Four	9'-2" x 13'-2"
12.	Bath Four	5'-6" x 9'-0"
13.	Storage Closet below Stair	3'-4" x 8'-0"
14.	Garage	20'-0" x 24'-6"

Vertical Datum: Elevations shown are based on NGVD29

SHOPE RENO WHARTON

ORIENTATION

SEAL

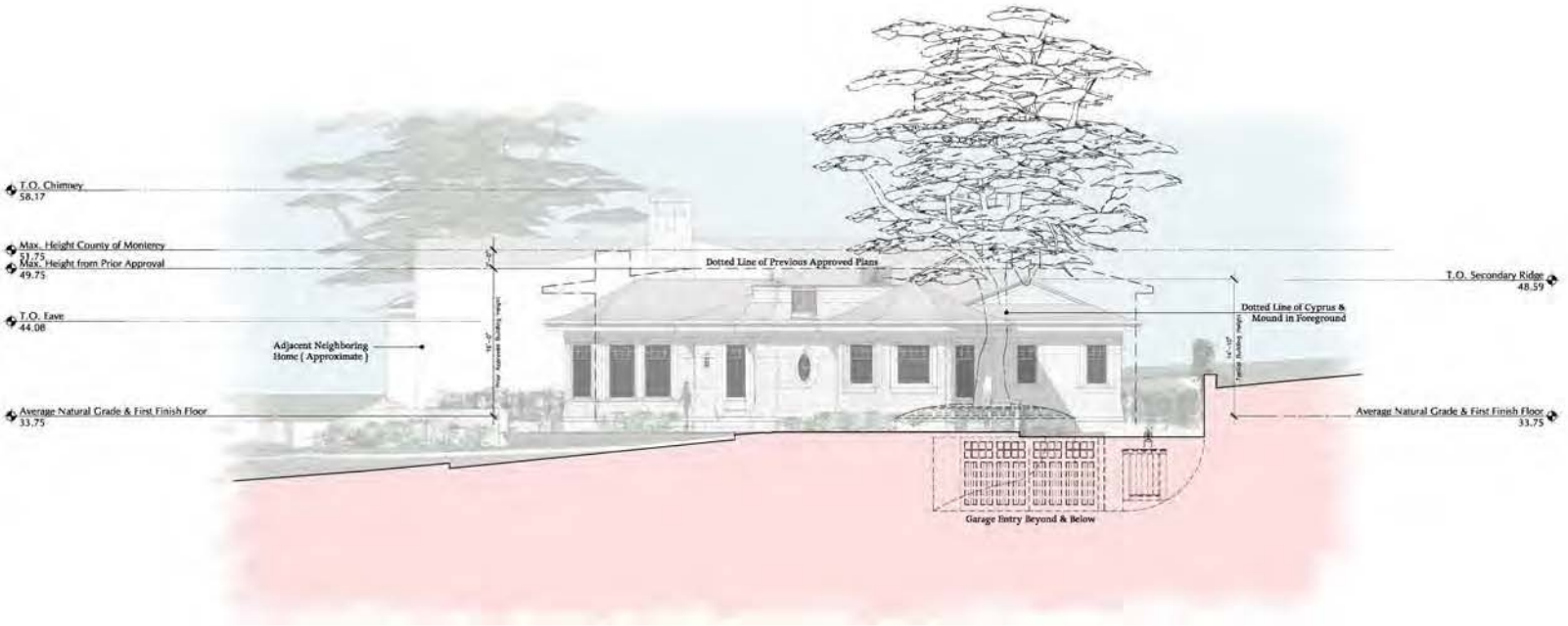
ISSUE DATES

SHEET TITLE

LOWER LEVEL PLAN

SHEET NUMBER

A 210



EAST ELEVATION

3/16" = 1'-0"

JOB NAME

PURCELL
RESIDENCE

CARMEL
CALIFORNIA

JOB NUMBER 1720

Vertical Datum: Elevations shown are based on NGVD29

SHOPE RENO WHARTON

ORIENTATION

SEAL

ISSUE DATES

2013.11.30 - ISSUED FOR DRB APPLICATION REVIEW

SHEET TITLE

EAST ELEVATION

SHEET NUMBER

A 301

NORTH ELEVATION

3/16" = 1'-0"

JOB NAME

PURCELL
RESIDENCE

CARMEL
CALIFORNIA

JOB NUMBER 1720

Vertical Datum: Elevations shown are based on NGVD29

SHOPE RENO WHARTON

T. 303.832.7235

ORIENTATION

SEAL

ISSUE DATES

SHEET TITLE

NORTH ELEVATION

SHEET NUMBER

A 302

WEST ELEVATION

3/16" = 1'-0"

JOB NAME

PURCELL
RESIDENCE

CARMEL
CALIFORNIA

JOB NUMBER 1720

Vertical Datum: Elevations shown are based on NGVD29

SHOPE RENO WHARTON

ORIENTATION

SEAL

ISSUE DATES

SHEET TITLE

WEST ELEVATION

SHEET NUMBER

A 303

MONTEREY COUNTY PLANNING COMMISSION

Meeting: April 28, 2010 **Time:** 9:45 A.M.	**Agenda Item No.: 3**
Project Description: Combined Development Permit consisting of 1) Coastal Administrative Permit and Design Approval to allow the demolition of an existing 1,529 square foot single family dwelling and the construction of a 3,676 square foot, three level single family dwelling with 1,284 square feet located completely below grade; 2) Coastal Development Permit for development on a parcel with positive archaeological reports; 3) Coastal Development Permit for the removal of a 48" planted and diseased Cypress tree; replacement of a 6 foot high, 158 linear foot retaining wall at the rear of the property and continued around three sides of the property; grading (500 cubic yards cut/50 cubic yards fill). The property is located at 26478 Carmelo Street, Carmel Area Land Use Plan, Coastal Zone.	
Project Location: 26478 Camelo Street, Carmel	**APN:** 009-471-024-000
Planning File Number: PLN080266	**Owner:** Steven Polkow **Agent**: Dana Annereau
Planning Area: Carmel Area Land Use Plan	**Flagged and staked:** Yes
Zoning Designation: : "MDR/2-D (18) (CZ)" Medium Density Residential, 2 units per acre-Design Control District, (18 Foot Height Limit) in the Coastal Zone	
CEQA Action: Mitigated Negative Declaration	
Department: RMA - Planning Department	

RECOMMENDATION:

Staff recommends that the Planning Commission adopt a resolution (**Exhibit C**) to:

1) Adopt Mitigated Negative Declaration (**Exhibit F**) with Mitigation Monitoring Reporting Plan (**Exhibit C-1**);
2) Approve PLN080266, to allow demolition of the existing 1,529 square foot single family dwelling, construction of a new 3,676 square foot single family dwelling with 1,284 square feet located completely below grade; associated grading and removal of one planted Monterey Cypress tree, based on the findings and evidence (**Exhibit C**) and subject to the conditions of approval (**Exhibit C-1**); and
3) Deny the request to replace the 6 foot high, 158 linear foot retaining wall at the rear of the property:

PROJECT OVERVIEW:

The applicant requests the necessary entitlements to remove an existing home and construct a new 3,676 square foot, three level single family dwelling with 1,284 square feet located completely below grade. The site is located in the Carmel Point area and is highly visible from Carmel State Beach and from Scenic Drive. In addition the site is in a location that is rich in archaeological resources. Fragments of a human cranium were discovered behind the existing retaining wall. As such, staff is recommending denial of the 6 foot high, 158 linear foot retaining wall. This project is being brought to the Planning Commission because there is a significant policy issue related to archaeology. For a more detailed discussion see Exhibit A.

OTHER AGENCY INVOLVEMENT: The following agencies and departments reviewed this project:

√ RMA - Public Works Department
Environmental Health Division
√ Water Resources Agency
√ Cypress Fire Protection District
√ Parks Department

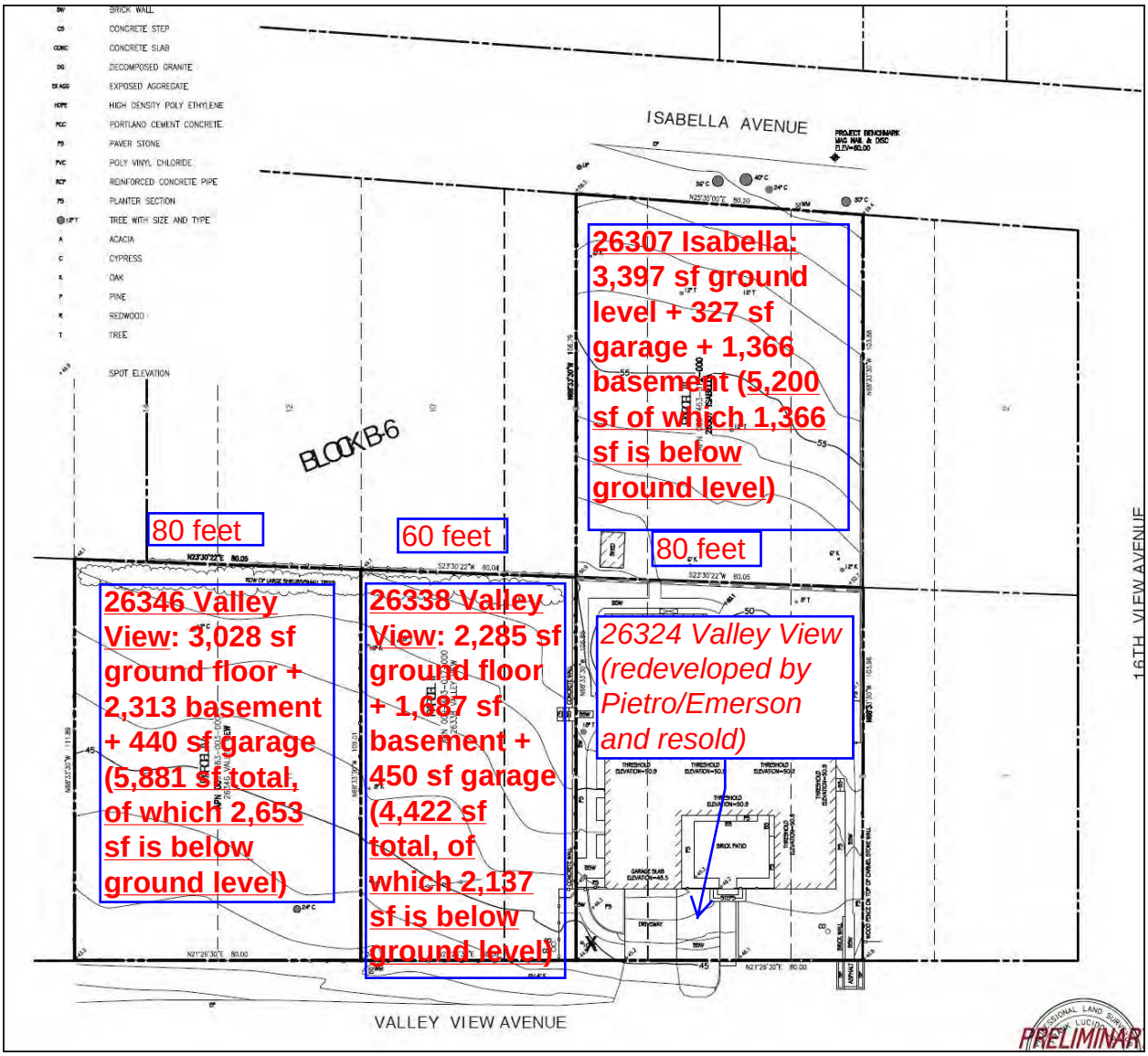


Figure 2 – Survey: 26338 Valley View Avenue (APN: 009-463-017-000) and 26346 Valley View Avenue (APN: 009-463-003-000) are adjacent parcels

Figures 3a and 3b provide a view of the Site Plan. From Valley View Avenue (east), the proposed residences would be set back 20 feet from the front property line. **FIG 3a** shows a gate and courtyard within the front setback and a water feature with a central location among four large (proposed) trees just beyond this point for APN:009-463-017-000). The driveway is located on Valley View Avenue and is shown to be at a lower elevation than the house. The proposed residential layout is a T-shape with offsets occurring on the south end; a courtyard is shown in the southwest area and a deck and chimney would encroach into the south side setback (allowable under the zoning setback exceptions, Section 20.62.040. D. – Title 20). Figure 3b shows a similar T-shaped layout, with offsets occurring on the east and west sides of the adjacent proposed residence.

Note: Initial Study front page says:
"Date Revised: November 28, 2018"

About the Cover

The Carmel Pine Cone

Real Estate

October 19-25, 2018

LOBOS RIDGE ESTATES

Big Sur Setting & Carmel Location

Shown by Appointment | 2990RedWolfCarmel.com

THE MAGIC AND AWE OF OUR EXQUISITE CALIFORNIA COAST, well-defined by our own Monterey Peninsula, becomes very real and personal on the ridge above Point Lobos. The renowned architect Mary Ann Schicketanz has artfully created a magnificent blend of rustic and modern. The home captures world-class views from the expansive entertaining patio, the protected Zen patio, and from virtually every room in the house.

$5,490,000

Rhonda Williams & Judy Tollner

831.236.5463 | 831.402.2076

DRE#: 00432364 • williamsandtollner.com • DRE#: 01830671

CARMEL REALTY COMPANY
ESTABLISHED 1913

Ocean View
152 Acre Lot ▪ $1,250,000

Real Estate Sales October 7 - 13

Carmel

Isabella Avenue — $915,000
Michael Amaral to Isabella 2 LLC
APN: 009-451-015

Carpenter Street, NW corner of Second Avenue — $925,000
Randall Lopez to Santa Rosa Motel Co. LP, Rancho del Monte Country Club CV LP and Mohammad Rezai
APN: 010-021-016

Junipero Street, 3 SW of Eighth Avenue — $1,369,000
Sally McCarthy to Harald and Veronica Vaernes
APN: 010-088-003

Monte Verde Street, 6 NW of Santa Lucia Avenue — $2,400,000
Fumhiko and Elizabeth Sato to Barbara Hiller
APN: 010-176-005

1123 Balboa Avenue, Pacific Grove – $2,150,000

Eighth Avenue, NE corner of Scenic — $6,000,000
Robert Daniels to 2017 HAL Revocable Trust
APN: 010-311-014

See **HOME SALES** *page 4RE*

523 Loma Alta Road, Carmel ▪ 6 Bed, 5.5 Bath ▪ $6,950,000

BROCCHINI-RYAN

(831) 601.1620 | Paul Brocchini DRE #00904451 | Mark Ryan | (831) 238.1498 DRE #01458945

CARMEL REALTY COMPANY
ESTABLISHED 1913

LUXURY

California Secretary of State
Electronic Filing

FILED
Secretary of State
State of California

LLC Registration – Articles of Organization

Entity Name: Isabella 2 LLC

Entity (File) Number: 201826910164
File Date: 09/22/2018
Entity Type: Domestic LLC
Jurisdiction: California

Detailed Filing Information

1. Entity Name: Isabella 2 LLC

2. Business Addresses:
   a. Initial Street Address of Designated Office in California: 26306 Monte Verde
   Carmel, California 93923
   United States

   b. Initial Mailing Address: 26306 Monte Verde
   Carmel, California 93923
   United States

3. Agent for Service of Process: Chris Adamski
   26306 Monte Verde
   Carmel California 93923
   United States

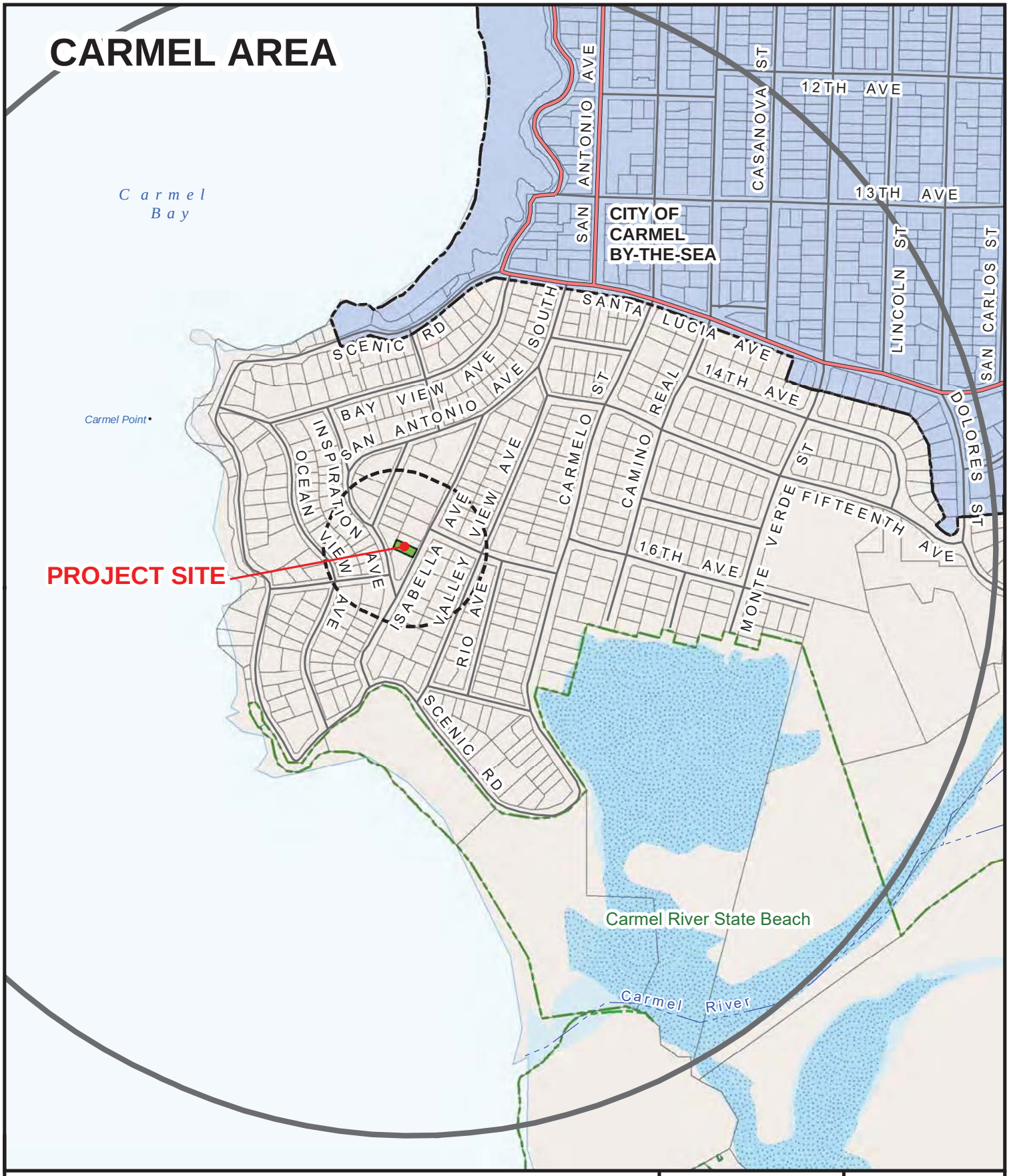
4. Management Structure: One Manager

5. Purpose Statement: The purpose of the limited liability company is to engage in any lawful act or activity for which a limited liability company may be organized under the California Revised Uniform Limited Liability Company Act.

Electronic Signature:

The organizer affirms the information contained herein is true and correct.

Organizer: By: Cheyenne Moseley, Assistant Secretary of Legalzoom.com, Inc.



APPLICANT: ISABELLA 2 LLC

APN: 009-451-015-000 **FILE #** PLN180523

Project Site | 2500' Limit | 300' Limit

PLANNER: BLANCO

MONTEREY COUNTY
RESOURCE MANAGEMENT AGENCY
Carl P. Holm, AICP, Director

Building Services / Environmental Services / Planning Services / Public Works & Facilities
1441 Schilling Place, South 2nd Floor (831)755-4800
Salinas, California 93901 www.co.monterey.ca.us/rma

January 4, 2019 VIA EMAIL

Isabella 2 LLC
Attn: Chris Adamski
26306 Monte Verde
Carmel, CA 93923

Studio Carver Architects
PO Box 2684
Carmel, CA 93923

Subject: **PLN180523 ISABELLA 2, LLC. – Complete Submittal**

Dear applicant,

Your application for a Combined Development Permit has been deemed **complete** on January 4, 2019.

Per our conversation earlier today (January 4, 2019), an Initial Study will be required for the project being proposed. Staff will commence preparation of the environmental document once payment has been received; draft conditions enclosed do not reflect the full suite of planning conditions/mitigation measures. You will receive more information about the hearing date/body as it approaches.

This project will be reassigned by the RMA Services Manager, Craig Spencer. If you do not receive a reassignment email within the next two weeks, please contact him at 831-755-5233.

Sincerely,

Maira Blanco, Associate Planner
Resource Management Agency – Planning

cc: PLN180523

Application Name: Caddell Michael A & Chapman Cynthia B
File No: PLN140737
Location: 2337 Bay View Ave, Carmel
Applied Date: 09/22/2014
Planner Assigned: Daniel Lister
Planner Email: listerdm@co.monterey.ca.us
Entitlement: Rezoning
Current Status: Referred
Referred Date 10/29/2014

Description

Adopt an ordinance to amend Section 20.08.060 of Title 20 (Coastal Zoning Ordinance) of the Monterey County Code to rezone a 0.18 acre parcel from the "MDR/2-D (18) (CZ)" [Medium Density Residential, 2 units per acre with a Design Control Overlay and 18 foot Height Restriction (Coastal Zone)] zoning classification to the "MDR/2-D-HR (18) (CZ)" [Medium Density Residential, 2 units per acre with a Design Control and Historic Resources Overlay and 18 foot Height Restriction (Coastal Zone)] zoning classification, upon finding that the ordinance is categorically exempt under the California Environmental Quality Act. The property is located at 2337 Bay View Avenue, Carmel (Assessor's Parcel Number 009-422-007-000), Carmel Land Use Plan, Coastal Zone.

Re-Submitted

Application Name: Jsm Assets Llc
File No: PLN150199
Location: 190 San Remo Rd, Carmel
Applied Date: 06/30/2015
Planner Assigned: Ashley Nakamura
Planner Email: nakamuraa@co.monterey.ca.us
Entitlement: Combined Development Permit
Current Status: Re-Submitted
Status Date 11/04/2015

Description

Combined Development Permit consisting of: 1) a Coastal Administrative Permit to allow development within 750 feet of a known archaeological resource; 2) a Coastal Administrative Permit to allow the construction of a single family dwelling and site grading; 3) a Coastal Development Permit to allow development on slopes of 30% or greater; and 3) a Design Approval. The property is located at 190 San Remo Road, Carmel (Assessor's Parcel Number 243-201-004-000), Carmel Land Use Plan, Coastal Zone.

Application Name: Isabella 2 Llc
File No: PLN180523
Location: 26308 Isabella Ave, Carmel
Applied Date: 11/13/2018
Planner Assigned: Joe Sidor
Planner Email: sidorj@co.monterey.ca.us
Entitlement: Combined Development Permit
Current Status: Re-Submitted
Status Date 01/04/2019

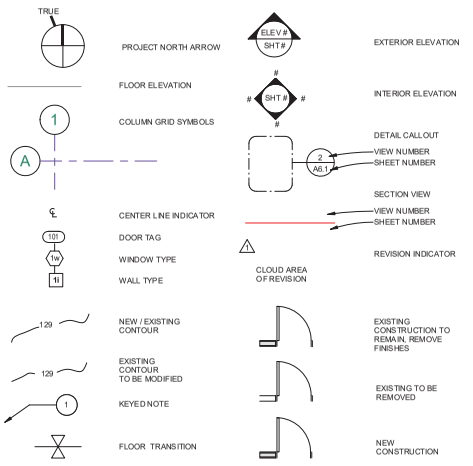
Description

Combined Development Permit consisting of a: 1) Coastal Administrative Permit and Design Approval for a new 2,968 square foot three-story single family dwelling, inclusive of a 1,242 basement and 458 square feet of decks; and 2) Coastal Development Permit for development within 750 feet of a known archaeological resource. This permit also includes the removal of four (4) Coast Live Oak trees. The property is located at 26308 Isabella Avenue, Carmel (Assessor's Parcel Number 009-451-015-000), Carmel Land Use Plan, Coastal Zone.

Set for Hearing

(The project has been set for a public or administrative hearing)

ARCHITECTURAL SYMBOLS



ARCHITECTURAL ABBREVIATIONS

&	AND	E	EAST	JAN.	JANITOR	R	RADIUS / RISER
<	ANGLE	(E)	EXISTING	JT.	JOINT	RA.	RETURN AIR
@	AT	EA.	EACH			RD.	ROOF DRAIN
°	DIAMETER	EC.	ENTRY CLOSET	L	ANGLE	REF.	REFRIGERATOR
2CP	2 COAT PLASTER	E.J.	EXPANSION JOINT	LB.	POUND	REINF.	REINFORCED
3CP	3 COAT PLASTER	EL.	ELEVATION	LG.	LONG L ENGTH	RES.	RESIN
		ELEC.	ELECTRICAL	LAM.	LAMINATE(D)(N)	REV.	REVISED(ION)
AB.	AGGREGATE BASE	EL.EV.	ELEVATOR	LAV.	LAVATORY	REQD.	REQUIRED
A.B.T	ANCHOR BOLT	EMER.	EMERGENCY	LLH	LONG LEG HORZ.	RM.	ROOM
AC.	AIRCONDITIONER	E.M.R.	ELEVATOR MACHINE RM.	LLV	LONG LEG VERT.	R.O.	ROUGH OPENING
ACD.	ACCESS DOOR	ENCL.	ENCLOSURE, ENCLOSED	LT(G)	LIGHT(ING)		
ACT.	ACOUSTIC TILE	ENGR.	ENGINEER	LVR.	LOUVER	S	SOUTH
AD.	AREA DRAIN	ENTR.	ENTRANCE			SAFB.	SOUND ATTENTUATION FIRE BLANKET
A.D.A	AMERICANS WITH DISABILITIES ACT	EQ.	EQUAL	MACH.	MACHINE	SC.	SEALED CONCRETE SOLID CORE
		EQP.	EQUIPMENT	MAX.	MAXIMUM	SCH.	SCHEDULE
ADJ.	ADJUSTABLE	EST.	ESTIMATE	MC.	MEDICINE CABINET	SCP.	SKIM COAT PLASTER
A.F.F.	ABOVE FINISH FLOOR	EX.	EXISTING	MECH.	MECHANICAL	SEC.	SECTION
AL.	ALUMINUM	EXH.	EXHAUST	MEMB.	MEMBRANE	S.F.	SQUARE FEET
ANOD.	ANODIZED	EXP.	EXPANSION	MEZZ.	MEZZANINE	SHT.	SHEET
A.P.	ACCESS PANEL	EXT.	EXTERIOR	MFR.	MANUFACTURER	SIG.	SOUND INSULATING GLASS
ARCH.	ARCHITECTURAL			MH.	MAN HOLE	SIM.	SIMILAR
AVG.	AVERAGE	F.A.I.	FRESH AIR INTAKE	MIN.	MINIMUM	SIP	Structural Insulated Panel
		F.D.	FLOOR DRAIN	MISC.	MISCELLANEOUS	S.J.	SCORED JOINT
BD.	BOARD	FDN.	FOUNDATION	M.O.	MASONRY OPENING	SPKLR.	SPRINKLER
BITUM.	BITUMINOUS	F.E.	FIRE EXTINGUISHER	MTD.	MOUNTED	SPKR.	SPEAKER
BLDG.	BUILDING	FF.	FINISH FLOOR OR FINISHED FACE	MTG.	MEETING	SQ.	SQUARE
BLK.	BLOCKING	F.G.	FINISH GRADE	MTL.	METAL	S.S.	STAINLESS STEEL
BM.	BEAM	FGL.	FIBERGLASS			SWI	SEE MANUFACTURERS INSTRUCTIONS
B.M.	BENCH MARK	F.H.	FIRE HYDRANT, FLAT HEAD	N	NORTH	SED	SEE ENGINEERING DRAWINGS
B.O.	BOTTOM OF	F.H.C.	FIRE HOSE CABINET	NAT.	NATURAL	SSD	SEE STRUCTURAL DRAWINGS
BR.	BRASS	FIN.	FINISH	N.I.C.	NOT IN CONTRACT	ST	STONE TILE / STONE
BRK.	BRICK	FLR.	FLOOR	NO.	NUMBER	STL.	STEEL
B.S.	BOTH SIDES	FL.	FLUORESCENT	NOM.	NOMINAL	STC	SOUND TRANSMISSION COEFFICIENT
BSMT.	BASEMENT	F.O.	FACE OF	NRC	NOISE REDUCTION COEFFICIENT	STD.	STANDARD
B.U.R.	BUILT-UP ROOF	F.O.C.	FACE OF CONC.			STOR.	STORAGE
		F.O.M.	FACE OF MASONRY	N.T.S.	NOT TO SCALE	STRUCT.	STRUCTURAL
CAB.	CABINET	F.O.S.	FACE OF STUD			SUSP.	SUSPENDED
CAP.	CAPACITY	F.P.	FIRE PROOFING	O/	OVER	SW.	STAINED WOOD
CAT.	CATALOG	FR.	FRAME / FIRE RATED	O.C.	ON CENTER		
C.C.F.I.	CLOSED CELL FOAM INSULATION	F.S.	FULL SIZE/SCALE	O.D.	OUTSIDE DIAMETER	T	TREAD
		FT.	FOOT/FEET	OFF.	OFFICE	TB.	TILE BACKER BOARD
C.B.	CATCH BASIN	FTG.	FOOTING	O.H.	OPPOSITE HAND	T.C.	TERRA COTTA
CE.	CEDAR	FXTR.	FIXTURE	OPG.	OPENING	TEL.	TELEPHONE
CEM.	CEMENTITIOUS	GA.	GAUGE	OPP.	OPPOSITE	TEMP.	TEMPORARY
CER.	CERAMIC	GALV.	GALVANIZED	OVHD.	OVERHEAD	TERR.	TERRACE
CFM.	CUBIC FEET/MIN.	G.C.	GENERAL CONTRACTOR			T&G	TONGUE AND GROOVE
C.I.	CAST IRON	GEN.	GENERAL			THK.	THICK
C.L.	CENTERLINE	GFCI.	GROUND FAULT CIRCUIT INTERRUPTER	PERF.	PERFORATED	THRU.	THROUGH
CLG.	CEILING			PL.	PLATE	TMPD	TEMPERED
CLO.	CLOSET	G.I.	GALVANIZED IRON	PLAS.	PLASTER	TL	TILE
CLR.	CLEAR	GL.	GLASS	PLBG.	PLUMBING	(T)	TEMPERED
CLW.	CLEAR RINSH WOOD	GLM.	GLUELAM	PLG.	PANELLING	T.O.P.	TOP OF PLATE
C.J	CONTROL JOINT	GLZ.	GLAZING	PLY	PLYWOOD	T.O.S	TOP OF SLAB
CMU.	CONC. MASONRY UNIT	GMT.	GLASS MOSAIC TILE	PM.	PREF. MTL.	T.O.W.	TOP OF WALL
CNTR.	COUNTER	GR.	GRADE	POL.	POLISH(ED)	T.S.S.	TOP OF STRUCTURAL STEEL
C.O.	CLEANOUT	GT.	GLASS TILE	PR.	PAIR	TYP.	TYPICAL
CONF.	CONFERENCE	GWB.	GYPSUM WALL BOARD	PT.	PAINTED	TZ.	TERRAZZO
COL.	COLUMN	GYP.	GYPSUM	PTN.	PARTITION		
COM.	COMMUNICATION			PW.	PAINTED WOOD	UFA	UNDER FLOOR ACCESS
CONC.	CONCRETE	HC.	HOLLOW CORE			UNF.	UNFINISHED
CONST.	CONSTRUCTION	HDR).	HEADER)	QT.	QUARRY TILE	UN.O	UNLESS NOTED OTHERWISE
CONT.	CONTINOUS	HDWD.	HARDWOOD	QTY.	QUANTITY	UPD.	UPHOLSTERED
CORR.	CORRIDOR	HDWR.	HARDWARE				
CPT.	CARPET	HM.	HOLLOW MTL.			VENT.	VENTILATION
CRS.	COURSE	HORZ.	HORIZONTAL			VERT.	VERTICAL
CT.	CERAMIC TILE	HR.	HOUR			VEST.	VESTIBULE
CTR.	CENTER	HS.	HEADED STUD			VF.	VERIFY IN FIELD
CW	COLD WATER	HT.	HEIGHT			V.R.	VENEER PLASTER
		HTG.	HEATING			V.P.	VENETIAN PLASTER
DBL.	DOUBLE	HTR.	HEATER				
DEMO	DEMOLITION	HVAC	HEATING VENTILATION & AIR CONDITIONING			W	WIDE, WIDTH
DET.	DETAIL					W(O)/	WITH (OR WITHOUT)
DF.	DOUGLAS FIR	HW	HOT WATER			WA.	WALNUT
DIA	DIAMETER					W.C.	WATER CLOSET
DIAG.	DIAGONAL	IB.	IMPERIAL BOARD			WD.	WOOD
DIM.	DIMENSION	I.D.	INSIDE DIAMETER			WDW.	WINDOW
DKG.	DECKING	IN.	INCHES			WLP.	WALL PAPER
DN.	DOWN	INSL.	INSULATION			W.P.	WATERPROOFING
D.O.	DOOR OPENING	INV.	INVERT			WT.	WEIGHT
DR.	DOOR					W.R.B.	WATER RESISITVE BARRIER
D.S.	DOWNSPOUT						
DTL.	DETAIL					YD	YARD
DWG.	DRAWING						

SHEET INDEX

SCOPE OF WORK

CONSTRUCTION OF A NEW 2,968 SF, THREE STORY, SINGLE FAMILY RESIDENCE. 866.8 CU YDS OF GRADING.

PROJECT TEAM

OWNER
EMERSON DEVELOPMENT GROUP
PO Box 5837, Carmel, CA 93921
Phone: (831) 238-9655
Fax: (831) 309-7683
E-mail: C/O Applicant

ARCHITECT/APPLICANT
STUDIO CARVER ARCHITECTS
P.O. Box 2684, Carmel, CA 93921
Phone: (831) 624-2304
Fax: (831) 624-0364
E-mail: Robert@StudioCarver.com
Contact: Robert Carver, AIA, Leed AP

SURVEYOR
RASMUSSEN LAND SURVEING, INC.
2150 Garden rd., Suite A-3
Monterey, CA 93942
Phone: (831) 375-7240 Fax: (831) 375-2545
E-mail: gordon@rasmussenland.com

BUILDING CODE INFO

THIS PROJECT SHALL COMPLY WITH THE FOLLOWING:

THE 2016 CALIFORNIA RESIDENTIAL CODE (CRC),
THE 2016 CALIFORNIA MECHANICAL CODE (CMC)
THE 2016 CALIFORNIA PLUMBING CODE (CPC)
THE 2016 CALIFORNIA ELECTRICAL CODE (CEC)
THE 2016 CALIFORNIA ENERGY CODE (CEC)

PROJECT INFORMATION

PROPERTY ADDRESS	26308 ISABELLA AVE., CARMEL, CA 93923	
APN	009-451-015-000	
ZONING	MDR/2-D(18)(CZ)	
PERMIT #	PLN180057	
GENERAL PLAN LAND USE DESIGNATION	RESIDENTIAL	
TYPE OF CONSTRUCTION	TYPE V-B	
OCCUPANCY GROUP	R-3 / SINGLE FAMILY RESIDENCE U / GARAGE	
WILDLAND URBAN INTERFACE AREA (ALL MATERIALS & CONSTRUCTION TO COMPLY WITH CHAPTER 7A OF THE 2016 CBC)	NO	
AVERAGE NATURAL GRADE		ELEV. = 501' - 8 1/2"
ALLOWED HEIGHT LIMIT ABOVE A.N.G	18' - 0"	ELEV. = 519' - 8 1/2"
(P) HEIGHT ABOVE A.N.G	18' - 0"	ELEV. = 519' - 8 1/2"

LOT COVERAGE

LOT SIZE	.08805 ACRES (3,835.5 SF)
ALLOWABLE LOT COVERAGE	35% OR 1,343 SF
(P) LOT COVERAGE	
(P) RESIDENCE	1,027 SF
(P) LEVEL 3 OVERHANGS	182 SF
TOTAL	1,209 SF OR 31.5%
IMPERVIOUS AREA COVERAGE	
(P) RESIDENCE	1,027 SF
(P) PATIOS, FENCE, WALKWAYS	857 SF
TOTAL	1,884 SF OR 49.1%

BUILDING AREA

(P) BUILDING AREA	
LEVEL 1	1,242 SF
LEVEL 2	963 SF
LEVEL 3	763 SF
TOTAL	2,968 SF
DECKS	458 SF
ALLOWABLE FLOOR AREA RATIO	45% OR 1,726 SF
(P) FLOOR AREA	
LEVEL 2	963 SF
LEVEL 3	763 SF
TOTAL	1,726 SF or 45%

GRADING ESTIMATES

GRADING CUT	866.8 CU.YDS.
GRADING FILL	0 CU.YDS.
GRADING NET EXPORT	866.8 CU.YDS.

MISCELLANEOUS

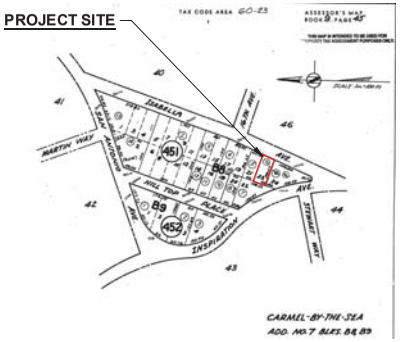
WATER SOURCE	CAL AM
SEWER SYSTEM	CAWD
TREES TO BE TRANSPLANTED	4 (OAK)
REQUIRED PARKING	2 SPACES/UNIT
PROPOSED PARKING	2 SPACES (1 COVERED)

BUILDING CODE DATA

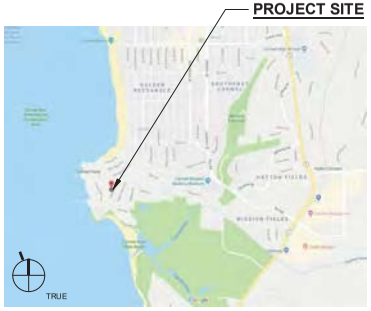
SPRINKLERS	**YES**

SITE PROPERTY PHOTO

PARCEL MAP



VICINITY MAP



3D PERSPECTIVE

NOT FOR CONSTRUCTION

ISABELLA 2 LLC
26308 ISABELLA AVE., CARMEL, CA 93923

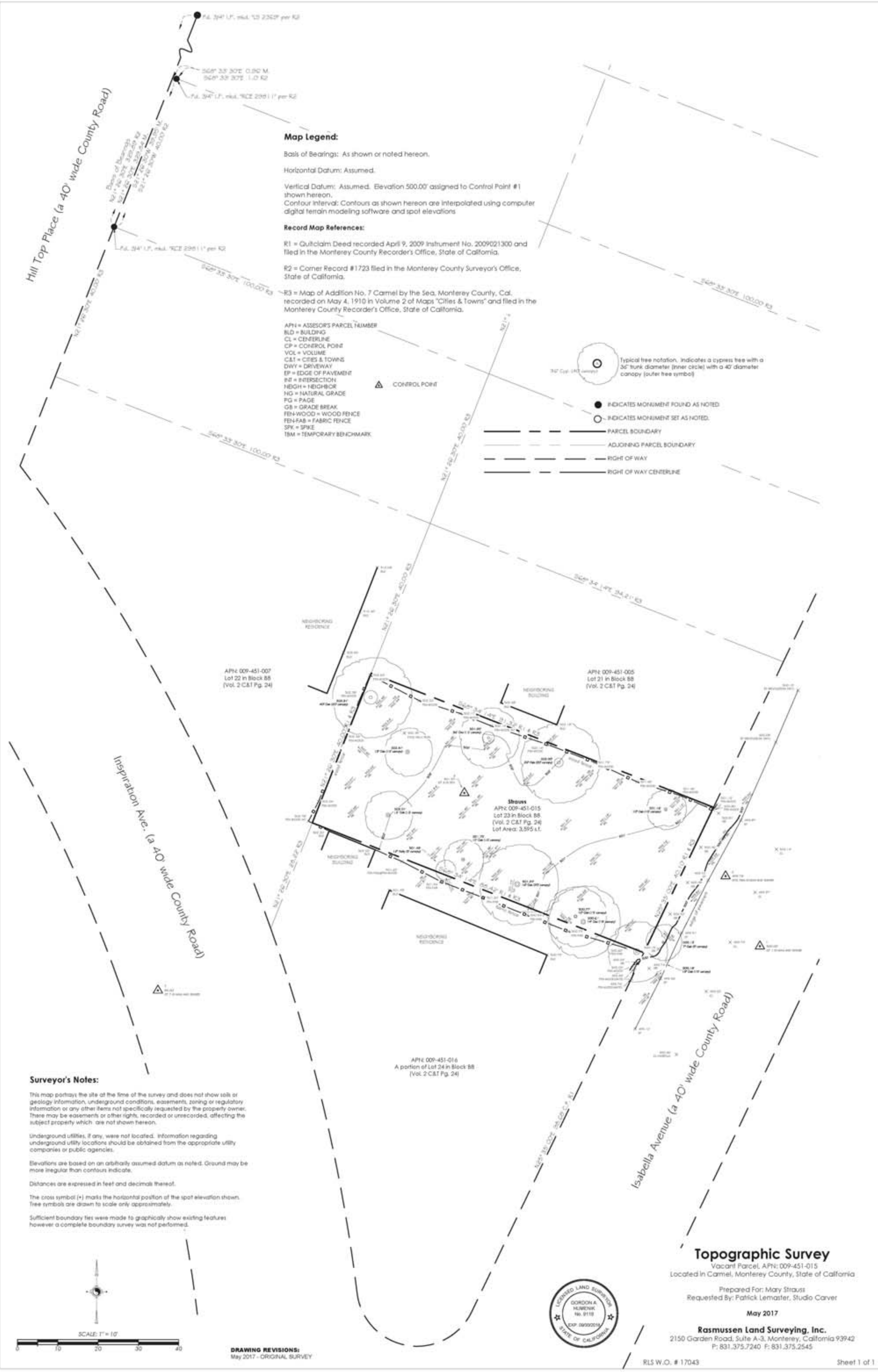
PLANNING DEPT. SUBMITTAL

REVISION #

ARCHITECTURAL
COVER SHEET

Scale: 1/8" = 1'-0" @ 24x36
Drawn By: DP
Job: 1713

G1.0
11/13/2018



Map Legend:

Basis of Bearings: As shown or noted hereon.

Horizontal Datum: Assumed.

Vertical Datum: Assumed. Elevation 500.00' assigned to Control Point #1 shown hereon.
Contour Interval: Contours as shown hereon are interpolated using computer digital terrain modeling software and spot elevations

Record Map References:

R1 = Quitclaim Deed recorded April 9, 2009 Instrument No. 2009021300 and filed in the Monterey County Recorder's Office, State of California.

R2 = Corner Record #1723 filed in the Monterey County Surveyor's Office, State of California.

R3 = Map of Addition No. 7 Carmel by the Sea, Monterey County, Cal. recorded on May 4, 1910 in Volume 2 of Maps "Cities & Towns" and filed in the Monterey County Recorder's Office, State of California.

APN = ASSESOR'S PARCEL NUMBER
BLD = BUILDING
CL = CENTERLINE
CP = CONTROL POINT
VOL = VOLUME
C&T = CITIES & TOWNS
DWY = DRIVEWAY
EP = EDGE OF PAVEMENT
INT = INTERSECTION
NEIGH = NEIGHBOR
NG = NATURAL GRADE
PG = PAGE
GB = GRADE BREAK
FEN-WOOD = WOOD FENCE
FEN-FAB = FABRIC FENCE
SPK = SPIKE
TBM = TEMPORARY BENCHMARK

CONTROL POINT

Typical tree notation. Indicates a cypress tree with a 36" trunk diameter (inner circle) with a 40' diameter canopy (outer tree symbol)

INDICATES MONUMENT FOUND AS NOTED.
INDICATES MONUMENT SET AS NOTED.
PARCEL BOUNDARY
ADJOINING PARCEL BOUNDARY
RIGHT OF WAY
RIGHT OF WAY CENTERLINE

Surveyor's Notes:

This map portrays the site at the time of the survey and does not show soils or geology information, underground conditions, easements, zoning or regulatory information or any other items not specifically requested by the property owner. There may be easements or other rights, recorded or unrecorded, affecting the subject property which are not shown hereon.

Underground utilities, if any, were not located. Information regarding underground utility locations should be obtained from the appropriate utility companies or public agencies.

Elevations are based on an arbitrarily assumed datum as noted. Ground may be more irregular than contours indicate.

Distances are expressed in feet and decimals thereof.

The cross symbol (+) marks the horizontal position of the spot elevation shown. Tree symbols are drawn to scale only approximately.

Sufficient boundary ties were made to graphically show existing features however a complete boundary survey was not performed.

DRAWING REVISIONS:
May 2017 - ORIGINAL SURVEY

Topographic Survey

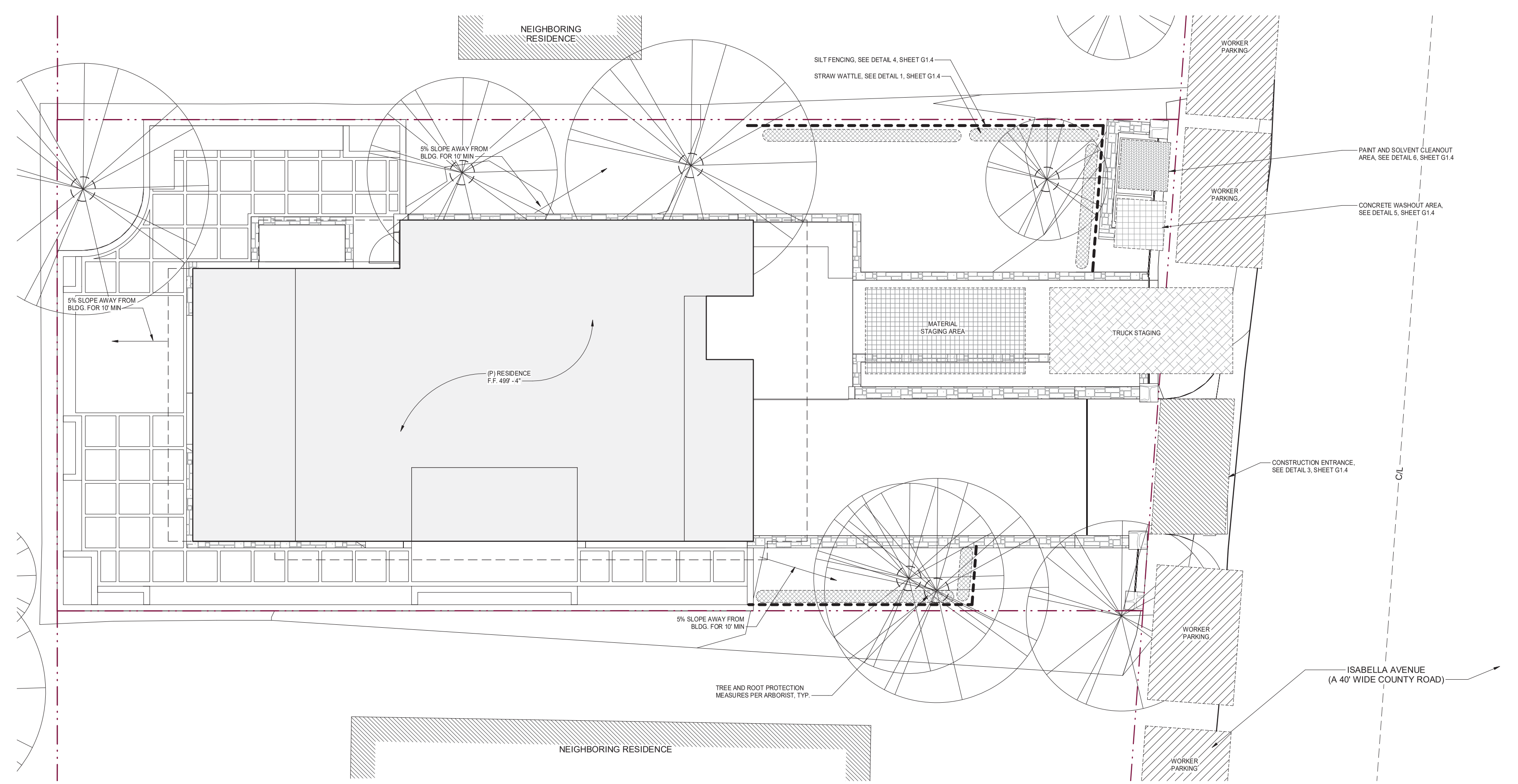
Vacant Parcel, APN: 009-451-015
Located in Carmel, Monterey County, State of California

Prepared For: Mary Strauss
Requested By: Patrick Lemaster, Studio Carver

May 2017

Rasmussen Land Surveying, Inc.
2150 Garden Road, Suite A-3, Monterey, California 93942
P: 831.375.7240 F: 831.375.2545

RLS W.O. # 17043



1 EROSION CONTROL & CONSTRUCTION MANAGEMENT PLAN
1/4" = 1'-0"

CONSTRUCTION MANAGEMENT NOTES

1. DURATION OF CONSTRUCTION IS ESTIMATED TO BE 12-18 MONTHS STARTING FROM THE DATE PERMITS ARE ISSUED.
2. WORK SHALL BE PERFORMED ON WEEKDAYS BETWEEN THE HOURS OF 7 AM AND 7 PM AND ON SATURDAYS FROM 8 AM TO 6 PM. WORK PERFORMED BEFORE 8AM SHALL BE NON-CONSTRUCTION ACTIVITY (QUIET HOUR).
3. TRUCKS WILL BE ROUTED TO AND FROM THE SITE USING HIGHWAY 1 VIA RIO RD., SANTA LUCIA AVE., SAN ANTONIO AVE. & ISABELLA AVE.
4. THE NUMBER OF WORKERS WILL VARY THROUGH OUT THE CONSTRUCTION. WORKERS ONSITE WILL RANGE FROM 2 TO 12.
5. EROSION CONTROL PROTECTION TO BE INSTALLED PER THE PERMITTED PLANS PRIOR TO THE START OF CONSTRUCTION.
6. STERILE STRAW WATTLES SHALL BE PLACED BEFORE AND DURING RAIN STORM EVENTS TO CONTAIN STORM WATER AND EROSION DURING CONSTRUCTION.
7. ALL ON AND OFF-ROAD DIESEL EQUIPMENT SHALL NOT IDLE FOR MORE THAN 5 MINUTES.
8. SUBSTITUTE GASOLINE-POWERED IN PLACE OF DIESEL-POWERED EQUIPMENT, WHERE FEASIBLE.
9. USE ALTERNATIVELY FUELED CONSTRUCTION EQUIPMENT ON-SITE WHERE FEASIBLE, SUCH AS COMPRESSED NATURAL GAS (CNG), LIQUEFIED NATURAL GAS (LNG), PROPANE OR BIODIESEL.
10. CONSTRUCTION TRUCK TRIPS WILL BE SCHEDULED DURING NON-PEAK HOURS TO REDUCE PEAK HOUR EMISSIONS.
11. DUST CONTROL MEASURES WILL BE IMPLEMENTED INCLUDING THE USE WATER TRUCKS OR SPRINKLER SYSTEMS IN SUFFICIENT QUANTITIES TO PREVENT AIRBORNE DUST FROM LEAVING THE SITE. WATERING FREQUENCY SHALL BE INCREASED WHENEVER WIND SPEEDS EXCEED15 MPH. RECLAIMED (NON-POTABLE) WILL BE USED WHENEVER POSSIBLE.
12. ALL TRUCKS HAULING DIRT, SAND, SOIL, OR OTHER LOOSE MATERIALS ARE TO BE COVERED OR SHOULD MAINTAIN AT LEAST TWO FEET OF FREEBOARD (MINIMUM VERTICAL DISTANCE BETWEEN TOP OF LOAD AND TOP OF TRAILER) IN ACCORDANCE WITH CVC SECTION 23114.

STORMWATER DRAINAGE LEGEND

- CONSTRUCTION ENTRY
- WORKER PARKING
- EQUIPMENT PARKING AND MATERIAL STAGING AREA
- TRUCK STAGING
- SILT FENCE
- PAINT AND SOLVENT CLEANOUT AREA
- CONCRETE WASHOUT AREA
- TREE AND ROOT PROTECTION MEASURES PER ARBORIST
- STRAW WATTLE EROSION CONTROL
- TRAFFIC

CONTACT INFO DURING CONSTRUCTION

EMERSON DEVELOPMENT GROUP
PO Box 5837, Carmel, CA 93921
Phone: (831) 238-9655
Fax: (831) 309-7683

TRUE
0' 4' 8' 16'

NOT FOR CONSTRUCTION

ISABELLA 2 LLC
26308 ISABELLA AVE., CARMEL, CA 93923

PLANNING DEPT. SUBMITTAL

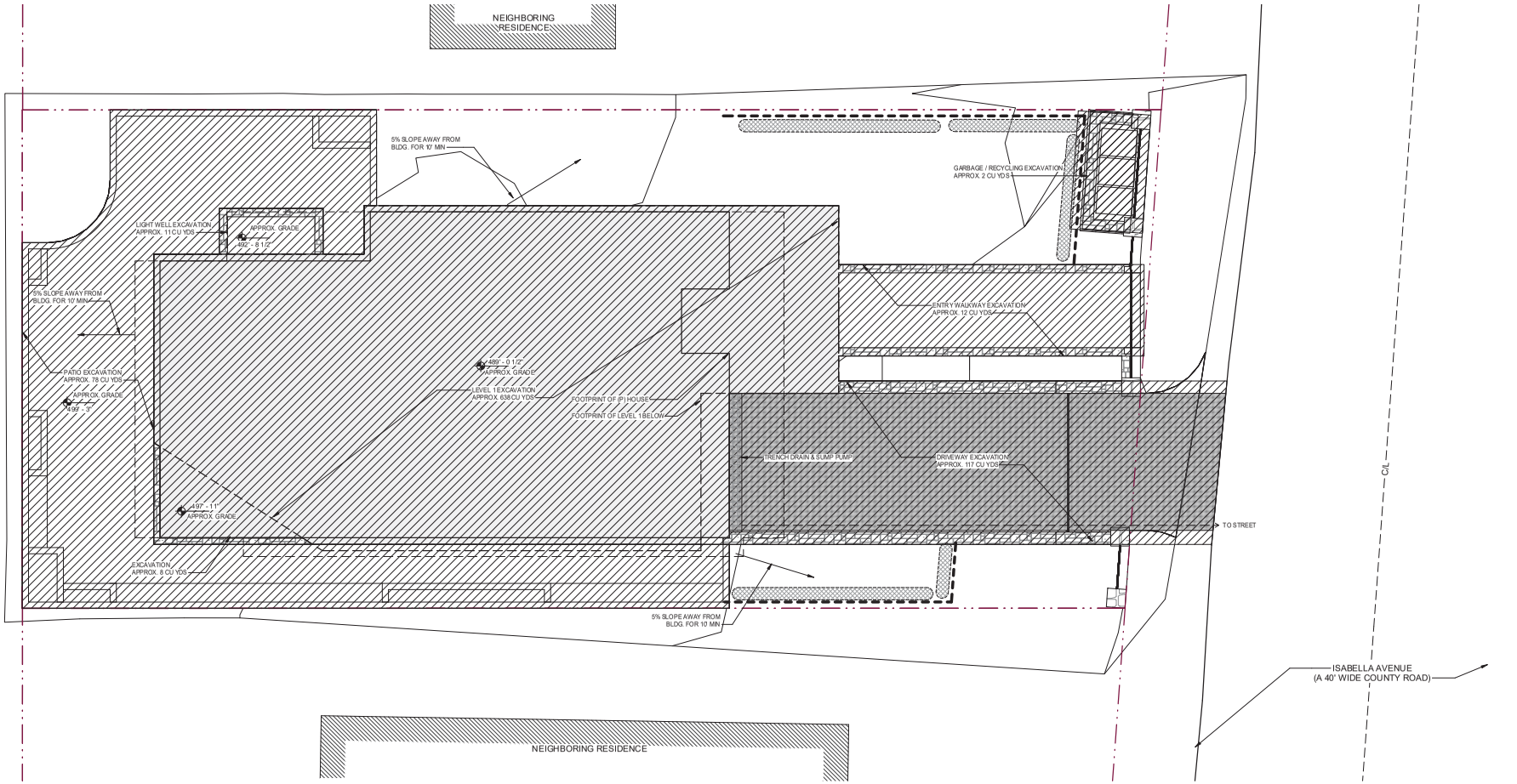
STUDIO CARVER
ARCHITECTURE • PLANNING • INTERIOR DESIGN

△ REVISION #

ARCHITECTURAL
EROSION CONTROL / CONSTRUCTION MGMNT PLAN

Scale: As indicated @ 24x36
Drawn By: DP
Job: 1713

G1.5
11/13/2018



1 GRADING / SLOPE / DRAINAGE PLAN
1/4" = 1'-0"

GENERAL NOTES

1. CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO CONSTRUCTION AND NOTIFY ARCHITECT IN WRITING OF ANY DISCREPENCIES.

2. CONTRACTOR SHALL PROTECT EXISTING TREES AND ROOT SYSTEM. ALL EXCAVATION AROUND EXISTING TREES SHALL BE MADE BY HAND.

3. CULTURAL, ARCHAEOLOGICAL, HISTORICAL OR PALEONTOLOGICAL RESOURCES NOTIFICATION: "STOP WORK WITHIN 50 METERS (165 FEET) OF UNCOVERED RESOURCE AND CONTACT MONTEREY COUNTY RMA-PLANNING AND A QUALIFIED ARCHAEOLOGIST IMMEDIATELY IF CULTURAL, ARCHAEOLOGICAL, HISTORICAL OR PALEONTOLOGICALRESOURCES ARE UNCOVERED".

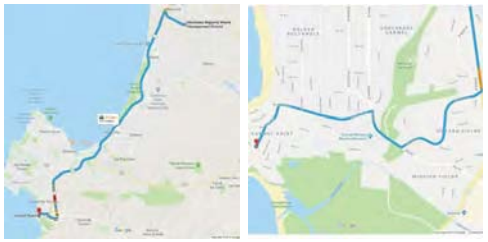
4. TOPOGRAPHY WAS PREPARED BY RASMUSSEN LAND SURVEYING, INC.

5. THE EXISTENCE, LOCATION AND ELEVATION OF ANY UNDERGROUND FACILITIES ARE SHOWN ON THESE PLANS AS REFERENCE ONLY. NOT ALL UTILITIES MAY BE SHOWN. IT IS MANDATORY THAT THE CONTRACTOR EXPOSE AND VERIFY THE TOP AND BOTTOM OF ALL UTILITIES PRIOR TO ANY WORK. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO MAKE THE FINAL DETERMINATION AS TO THE EXISTENCE, LOCATION AND ELEVATION OF ALL UTILITIES AND TO BRING ANY DISCREPANCY TO THE ATTENTION OF THE ARCHITECT.

LEGEND:

- 30% SLOPE OR GREATER
- MAN-MADE SLOPE 30% OR GREATER
- PROPOSED CUT
- PROPOSED FILL
- DRIVEWAY PAVERS
- WATER FLOW
- SILT FENCING
- STRAW WATTLE

HAUL MAP



GRADING ESTIMATES

GRADING CUT	866.8 CU.YDS.
GRADING FILL	0 CU.YDS.
GRADING NET EXPORT	866.8 CU.YDS.

TRUE

0' 4' 8' 16'

NOT FOR CONSTRUCTION

ISABELLA 2 LLC

26306 ISABELLA AVE., CARMEL, CA 93923

PLANNING DEPT. SUBMITTAL

STUDIO CARVER

REVISION #

1 REVISION

ARCHITECTURAL

GRADING/SLOPE MAP & DRAINAGE PLAN

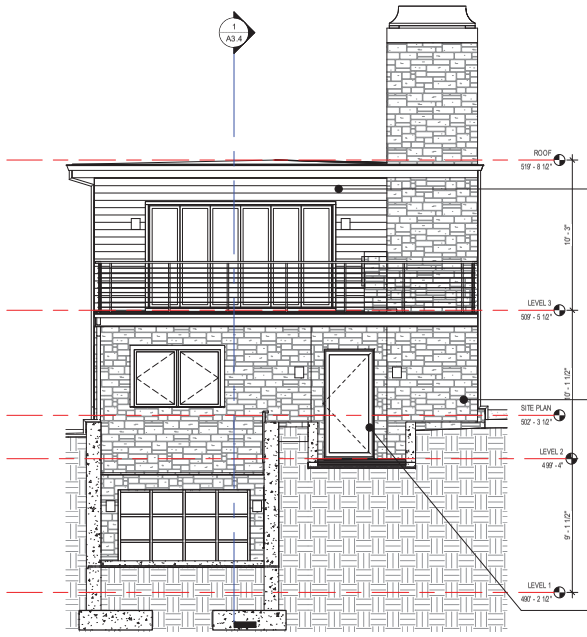
Scale: 1/4" = 1'-0" @ 24x36

Drawn By: DP

Job: 1713

G1.7

11/13/2018



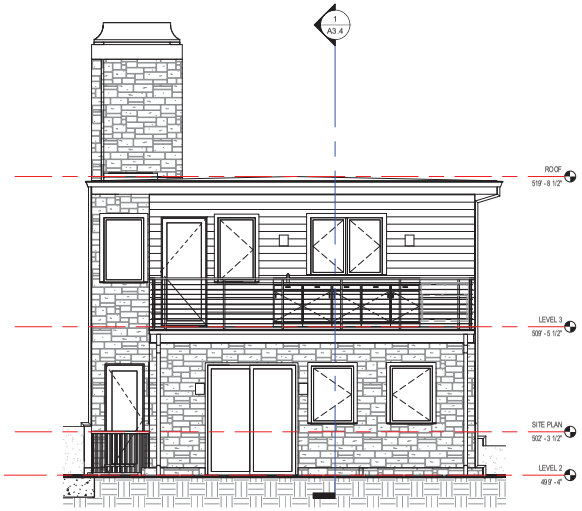
1 EAST ELEVATION
1/4" = 1'-0"

CEDAR SIDING

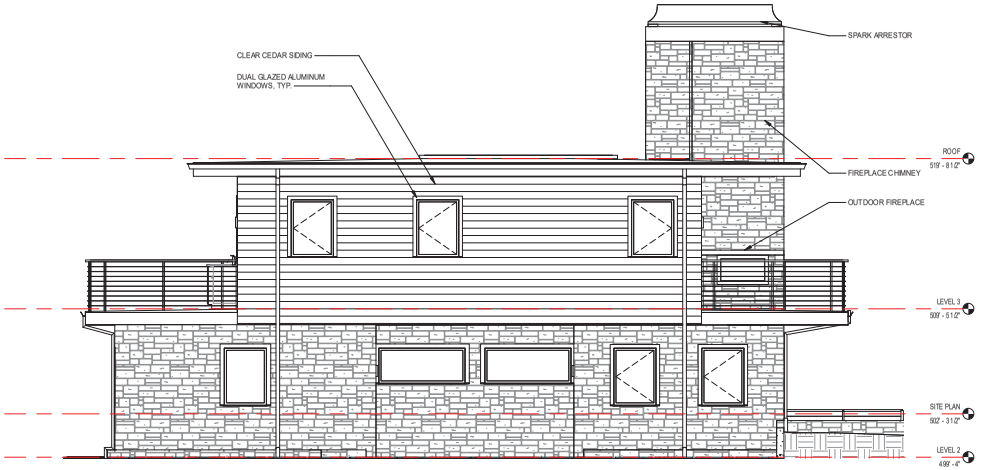
CARMEL STONE VENEER

BRONZE DOOR & WINDOW FINISH, TYP.

2 NORTH ELEVATION
1/4" = 1'-0"



3 WEST ELEVATION
1/4" = 1'-0"



4 SOUTH ELEVATION
1/4" = 1'-0"

0' 2' 4' 8'

NOT FOR CONSTRUCTION

ISABELLA 2 LLC

26308 ISABELLA AVE.,
CARMEL, CA 93923

PLANNING DEPT. SUBMITTAL

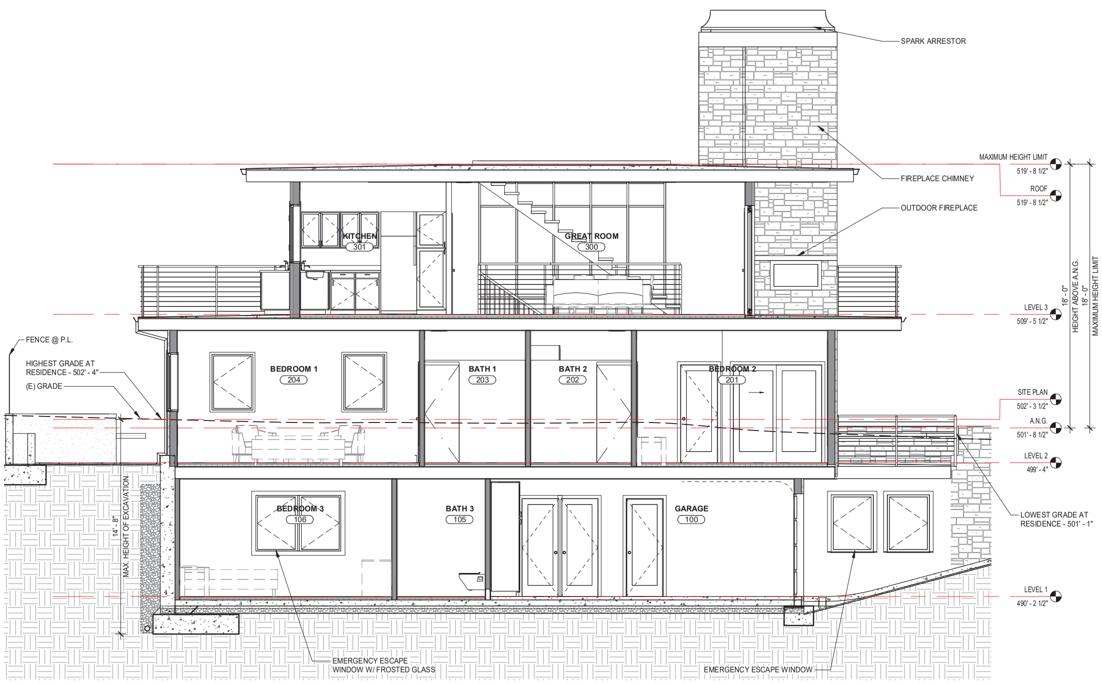
STUDIO CARVER ARCHITECTURE | INTERIOR DESIGN

REVISION #

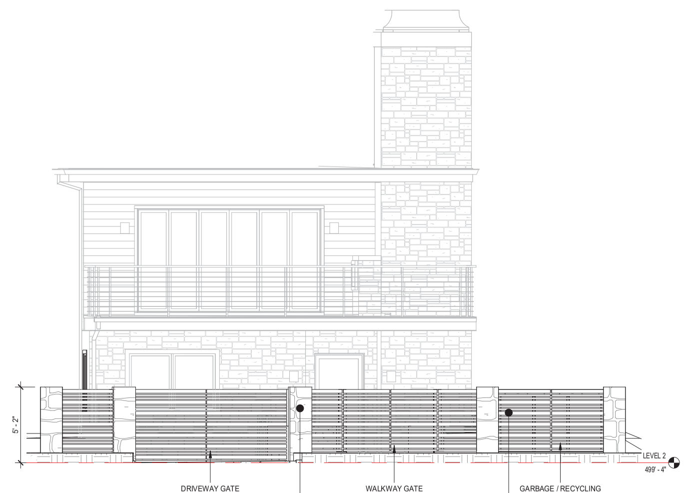
ARCHITECTURAL
EXTERIOR ELEVATIONS

Scale: 1/4" = 1'-0" @ 24x36
Drawn By: DP
Job: 1713

A3.0
11/13/2018



1 E/W SECTION 1
1/4" = 1'-0"



2 FENCE ELEVATION
1/4" = 1'-0"

CARMEL STONE VENEER

CLEAR CEDAR BOARDS

0' 2' 4' 8'

NOT FOR CONSTRUCTION

ISABELLA 2 LLC

26308 ISABELLA AVE., CARMEL, CA 93923

PLANNING DEPT. SUBMITTAL

STUDIO CARVER
ARCHITECTURE | PLANNING | INTERIOR DESIGN

△ REVISION #

ARCHITECTURAL
BUILDING SECTIONS

Scale:	1/4" = 1'-0" @ 24x36
Drawn By:	DP
Job:	1713

A3.4
11/13/2018

Secretary of State
Statement of Information
(Limited Liability Company)

LLC-12

18-C19333

FILED

In the office of the Secretary of State
of the State of California

JUN 25, 2018

This Space For Office Use Only

IMPORTANT — Read instructions **before completing this form.**

Filing Fee – $20.00

Copy Fees – First page $1.00; each attachment page $0.50;
Certification Fee - $5.00 plus copy fees

1. Limited Liability Company Name (Enter the exact name of the LLC. If you registered in California using an alternate name, see instructions.)

VALLEY POINT, LLC

2. 12-Digit Secretary of State File Number	3. State, Foreign Country or Place of Organization (only if formed outside of California)
201810110004	CALIFORNIA

4. Business Addresses

	City (no abbreviations)	State	Zip Code
a. Street Address of Principal Office - Do not list a P.O. Box 26306 Monte Verde	Carmel	CA	93923
b. Mailing Address of LLC, if different than item 4a 26306 Monte Verde	Carmel	CA	93923
c. Street Address of California Office, if Item 4a is not in California - Do not list a P.O. Box 26306 Monte Verde	Carmel	CA	93923

5. Manager(s) or Member(s)

If no managers have been appointed or elected, provide the name and address of each member. At least one name and address must be listed. If the manager/member is an individual, complete Items 5a and 5c (leave Item 5b blank). If the manager/member is an entity, complete Items 5b and 5c (leave Item 5a blank). Note: The LLC cannot serve as its own manager or member. If the LLC has additional managers/members, enter the name(s) and addresses on Form LLC-12A (see instructions).

a. First Name, if an individual - Do not complete Item 5b	Middle Name	Last Name	Suffix
Chris		Adamski	

b. Entity Name - Do not complete Item 5a

c. Address	City (no abbreviations)	State	Zip Code
26306 Monte Verde	Carmel	CA	93923

6. Service of Process (Must provide either Individual OR Corporation.)

INDIVIDUAL – Complete Items 6a and 6b only. Must include agent's full name and California street address.

a. California Agent's First Name (if agent is not a corporation)	Middle Name	Last Name	Suffix
Kelly		Sutherland	

b. Street Address (if agent is not a corporation) - Do not enter a P.O. Box	City (no abbreviations)	State	Zip Code
144 W Gabilan Street	Salinas	CA	93901

CORPORATION – Complete Item 6c only. Only include the name of the registered agent Corporation.

c. California Registered Corporate Agent's Name (if agent is a corporation) – Do not complete Item 6a or 6b

7. Type of Business

a. Describe the type of business or services of the Limited Liability Company
Real Estate Development

8. Chief Executive Officer, if elected or appointed

a. First Name	Middle Name	Last Name	Suffix
Chris		Adamski	

b. Address	City (no abbreviations)	State	Zip Code
26306 Monte Verde	Carmel	CA	93923

9. The information contained herein, including any attachments, is true and correct.

06/25/2018	Kelly Sutherland	Attorney	
Date	Type or Print Name of Person Completing the Form	Title	Signature

Return Address (Optional) (For communication from the Secretary of State related to this document, or if purchasing a copy of the filed document enter the name of a person or company and the mailing address. This information will become public when filed. SEE INSTRUCTIONS BEFORE COMPLETING.)

Name:

Company:

Address:

City/State/Zip:

California Secretary of State
Electronic Filing

FILED
Secretary of State
State of California

LLC Registration – Articles of Organization

Entity Name: Isabella 2 LLC

Entity (File) Number: 201826910164
File Date: 09/22/2018
Entity Type: Domestic LLC
Jurisdiction: California

Detailed Filing Information

1. Entity Name: Isabella 2 LLC

2. Business Addresses:
   a. Initial Street Address of Designated Office in California: 26306 Monte Verde
   Carmel, California 93923
   United States

   b. Initial Mailing Address: 26306 Monte Verde
   Carmel, California 93923
   United States

3. Agent for Service of Process: Chris Adamski
   26306 Monte Verde
   Carmel California 93923
   United States

4. Management Structure: One Manager

5. Purpose Statement: The purpose of the limited liability company is to engage in any lawful act or activity for which a limited liability company may be organized under the California Revised Uniform Limited Liability Company Act.

Electronic Signature:

The organizer affirms the information contained herein is true and correct.

Organizer: By: Cheyenne Moseley, Assistant Secretary of Legalzoom.com, Inc.

18-040449

Secretary of State
Statement of Information 81
(California Stock, Agricultural Cooperative and Foreign Corporations)

SI-550

IMPORTANT — Read instructions **before completing this form.**

Fees (Filing plus Disclosure) – $25.00;

Copy Fees – First page $1.00; each attachment page $0.50;
Certification Fee - $5.00 plus copy fees

FILED
Secretary of State
State of California
MAY 07 2018

NF

This Space For Office Use Only

1. Corporation Name (Enter the exact name of the corporation as it is recorded with the California Secretary of State. Note: If you registered in California using an assumed name, see instructions.)
Emerson Development Group Inc.

2. 7-Digit Secretary of State File Number
C3274018

3. Business Addresses

	City (no abbreviations)	State	Zip Code
a. Street Address of Principal Executive Office - Do not list a P.O. Box: 3345 7th Ave.	Carmel	CA	93923
b. Mailing Address of Corporation, if different than Item 3a			
c. Street Address of Principal California Office, if any and if different than Item 3a - Do not list a P.O. Box		CA	

4. Officers The Corporation is required to list all three of the officers set forth below. An additional title for the Chief Executive Officer and Chief Financial Officer may be added; however, the preprinted titles on this form must not be altered.

	First Name	Middle Name	Last Name	Suffix
a. Chief Executive Officer/	Chris	P	Adamski	
Address: PO Box 5837			City: Carmel	State: CA Zip: 93921
b. Secretary	Courtney	L	Adamski	
Address: PO Box 5837			City: Carmel	State: CA Zip: 93921
c. Chief Financial Officer/	Chris	P	Adamski	
Address: PO Box 5837			City: Carmel	State: CA Zip: 93921

5. Director(s) California Stock and Agricultural Cooperative Corporations ONLY: Item 5a: At least one name and address must be listed. If the Corporation has additional directors, enter the name(s) and addresses on Form SI-550A (see instructions).

	Middle Name	Last Name	Suffix
a. First Name: Chris	P	Adamski	
Address: 3345 7th Ave.		City: Carmel	State: CA Zip: 93923
b. Number of Vacancies on the Board of Directors, if any			

6. Service of Process (Must provide either Individual OR Corporation.)

INDIVIDUAL – Complete Items 6a and 6b only. Must include agent's full name and California street address.

	Middle Name	Last Name	Suffix
a. California Agent's First Name (if agent is not a corporation): Gary		Redenbacher	
b. Street Address (if agent is not a corporation) - Do not enter a P.O. Box: 5401 Scotts Valley Drive	City (no abbreviations): Scotts Valley	State: CA	Zip Code: 95066

CORPORATION – Complete Item 6c only. Only include the name of the registered agent Corporation.

c. California Registered Corporate Agent's Name (if agent is a corporation) – Do not complete Item 6a or 6b

7. Type of Business

Describe the type of business or services of the Corporation
Construction

8. The information contained herein, including in any attachments, is true and correct.

Date	Type or Print Name of Person Completing the Form	Title	Signature
5/3/2018	Gary Redenbacher	Attorney	

SI-550 (REV 01/2017)

Alliance *of* Monterey Area Preservationists

June 30, 2020

California Coastal Commission
Central Coast District Office
725 Front Street, Suite 300
Santa Cruz CA 95060

RE: Appeals No. A-3-MCO-19-0039, 0041, 0042, July 9

Commissioners,

The board of the Alliance of Monterey Preservationists (AMAP) continues to strongly support your staff's recommendations regarding these three properties. These construction sites are not only in a recognized area of high archaeological sensitivity (CA-MNT-17), but they lie in an area where cultural resources, including human remains., have actually been recorded. Protection of these 9,000-year-old archaeological resources is of utmost importance.

We support the approval of construction of the three residences but *without* excavated basements. Excavation of livable basements at Carmel Point is not typical or necessary. Construction of single-family residences can still occur while minimizing impacts to the cultural resources by minimal grading and appropriate archaeological and cultural monitoring.

Your decision will provide an excellent signal that development in sites of high archaeological sensitivity must be appropriate, with minimal impacts to the cultural resources. Your staff's recommended modifications to these three Coastal Development Permits make it clear that one of our nation's oldest areas of known archeological resources should be protected and that mitigation measures cannot simply be ignored.

Thank you,

Mimi Sheridan
Mimi Sheridan, President
mimisheridan@msn.com

From:	Nancy Runyon
To:	Watson, Michael@Coastal
Cc:	CentralCoast@Coastal; Craig, Susan@Coastal; Carl, Dan@Coastal
Subject:	Commission agenda/#/2020/7 July 9 items 13a-c Carmel Point/Pietro/Emerson
Date:	Wednesday, June 24, 2020 1:48:31 PM

California Coastal Commission
c/o Mike Watson

Re: **Th13a-c** A-3-MCO-19-0039, A-3-MCO-19-0041, and A-3- MCO-19-0042 (Pietro Family Investments/Valley Point SFDs)

Dear Coastal Commissioners:

I strongly support you staff's recommendations to approve the CDP's for these three projects on Carmel Point to be built without basements. Your staff has thoroughly examined the issues involved and correctly determined that permits with basements would violate the LCP and CEQA. The original Monterey County staff planner's report also recommended no basements. Local preservationists, local Native American tribal representatives and neighbors in Carmel Point have objected to these basements at county hearings for years.

These three project are within the boundaries of a known recorded cultural resource area (i.e., CA-MNT-17, an expansive shell midden and habitation site that encompasses a large part of Carmel Point and contains both prehistoric materials and human remains associated with the Costanoan (Ohlone) tribal group), who's history dates back 9,000 years. These three projects are within one block of the boundaries of two additional known cultural sites. It's hard to imagine that cultural resources would not be found here; mechanically trenched, bulldozed and desecrated.

The three lots are similar in size to others on Carmel Point and can easily accommodate homes of similar size as their neighbors who own some of the most expensive real estate on the Monterey Peninsula. A home without a basement is typical in California and the respectful choice to make for these sites.

Thank you for approving your staff's recommendations and protecting California's cultural resources.

Sincerely,

Nancy Runyon
nancyrunyon.com
1195 Hoffman Avenue
Monterey, CA 93940

(831) 649-8132 home/office
email: nancy@nancyrunyon.com

Linda Yamane
1585 Mira Mar Ave
Seaside, CA 93955
rumsien123@yahoo.com

2 July 2020

TO: California Coastal Commission
Central Coast District • 725 Front St, Suite 300 • Santa Cruz, CA 95060

SUBJECT: CDP Application #s: A-3-MC0-19-0039 • A-3-MC0-19-0041 • A-3-MC0-19-0042
Pietro Family Investments & Valley Point LLC Projects on Carmel Point

I am writing to express my support for the California Coastal Commission's "Staff Report: De Novo Hearing," dated 6/19/2020, which recommends no basements.

I am a resident of Monterey County and trace my heritage to the indigenous Rumsen (Ohlone) people who were living in various permanent villages along the Monterey region's coastline and in lower Carmel Valley for several thousand years before the coming of the Spanish in 1769. I have been culturally active in preserving and sharing Ohlone culture for some 35 years.

For about 25 of those years, I served as a Most Likely Descendant (MLD) for the State of California's Native American Heritage Commission. As MLD, I was called upon to make recommendations for the respectful treatment and disposition of Native American remains and associated grave goods encountered during construction or other ground disturbance activities in Monterey, San Benito, Santa Cruz, Santa Clara and other Bay Area counties.

I was called as MLD for three projects on Carmelo Street, just one and two streets away from the projects being considered by you now. Working alongside archaeologists, I learned a lot about the cultural resources present on Carmel Point. And I witnessed first-hand the hauling out of dozens of truckloads of culturally-and-archaeologically-rich midden soil from a small lot that a previous archaeologist had deemed "low sensitivity for cultural resources." It was quite the opposite. Excavation for an underground garage unearthed artifacts, human remains, and samples that dated as old as 9,000-plus years – the oldest identified to date in Monterey County. I had similar experiences in Santa Clara and Santa Cruz Counties, where spectacular cultural or funerary material was unearthed in unexpected places. I learned that site pre-testing cannot be trusted.

Once destroyed, these valuable records of Monterey County's history and heritage can never be replaced. Staff recommendations, as detailed in the Staff Report, will minimize excavation, and therefore minimize potential negative impact on these irreplaceable and precious cultural resources.

Thank you for your consideration.

Linda L Yamane

2-Jul-2020

To: **CentralCoast@coastal.ca.gov**

Subject: **Public Comment on July 2020 Agenda Items Thursday 13a, 13b, 13c -- Application Nos. A-3-MCO-19-0039, -0041, -0042 (Pietro Family Investments and Valley Point LLC, Carmel, Monterey County) – Carmel Point houses**

Dear Chair Padilla and members of the California Coastal Commission:

I am a longtime resident of Monterey County and I strongly support the staff recommendation to prohibit the three large basements at Carmel Point.

My family moved to coastal Monterey County in 1951. The County had no protections in place for Native American graves then, as far as I know. I have seen graves of Native American people unearthed when clearing land to farm, and because of ignorance and insensitivity these graves were considered little more than a curiosity at best. I don't remember any effort to preserve these graves or even mark the locations. I remember this with great chagrin and regret. We just didn't know any better, and the public agencies did not care enough to educate us.

Now we know better, and it is incumbent on us to do the right thing. All sacred sites and particularly burial sites must be protected. Any construction likely to encounter such sites should be absolutely avoided. Common decency and state and federal laws require it.

The Carmel Area Local Coastal Plan requires protection of the archaeological resources including the burials of Native Americans. We have disrespected our Native American community for hundreds of years and we took their lands. They have asked for protection of their ancestors. The LCP provides the protection, and the Coastal Commission should honor the policy. If you allow these basements it would mean that many more basements would be proposed, causing even further harm to the protected resources at Carmel Point. The staff recommendation would allow the construction of three above-ground houses.

Thank you.

David Evans, Monterey County
360 Hudson Landing Road, Watsonville, CA 95076

From: CentralCoast@Coastal
To: Watson, Michael@Coastal
Subject: Fw: Public Comment on CDP Applications from Pietro Family Investments and Valley Point LLC
Date: Tuesday, June 30, 2020 7:31:30 AM

From: Lorin Letendre <letendre@sbcglobal.net>
Sent: Tuesday, June 30, 2020 5:18 AM
To: CentralCoast@Coastal <CentralCoast@coastal.ca.gov>
Cc: Karen Letendre <karenletendre@sbcglobal.net>
Subject: Public Comment on CDP Applications from Pietro Family Investments and Valley Point LLC

Subject: Objection to Pietro Family Development Projects on Carmel Point and Support for CC Staff Recommendation
Date of Hearing: Thursday, July 9, 2020 (Agenda item numbers 13a, 13b, and 13c)

Dear Members of the Coastal Commission:

As residents of Carmel Point for 18 years, and having grown up on the Monterey Peninsula (Karen), we very strongly object to the three over-sized homes proposed on Valley View and Isabella that the Coastal Commission is considering on July 9, 2020. The proposed projects will require extensive grading and landform alteration that are not in compliance with the minimizing impact policies in the LCP Land Use Plan. Furthermore, they actually **maximize** landform alteration and excavation in known archeological sites.

Huge basements in archeologically sensitive areas such as Carmel Point must not be allowed. Carmel is no place for homes much larger than the lot size should comfortably handle. Removing large amounts of the earth just to maximize square footage are not what many of us who live on beautiful Carmel Point want for our community.

The voice of the Native Americans who are objecting to this violation of their ancestral land should be honored.

Therefore, we strongly urge you to approve the Staff Recommendation and the impact minimization conditions contained therein.

Finally, we want to express our appreciation for the Commission's efforts to halt this type of overbuilding and disturbance to the fabric of our neighborhood.

Thank you,
Karen and Lorin Letendre
26377 Rio Avenue
Carmel, CA 93923

letendre@sbcglobal.net
831-277-0276

From:	CentralCoast@Coastal
To:	Watson, Michael@Coastal
Subject:	Fw: Public Comment on July 2020 Agenda Item Thursday 13a - Application No. A-3-MCO-19-0039 (Pietro Family Investments, Carmel, Monterey Co.)
Date:	Tuesday, June 30, 2020 7:29:56 AM

From: Paul Ingemanson <pingemanson@gmail.com>
Sent: Saturday, June 27, 2020 2:19 PM
To: CentralCoast@Coastal <CentralCoast@coastal.ca.gov>
Subject: Public Comment on July 2020 Agenda Item Thursday 13a - Application No. A-3-MCO-19-0039 (Pietro Family Investments, Carmel, Monterey Co.)

As a long time resident of Carmel Point, I find it very disturbing that the character of neighborhoods is being dramatically changed by allowing large basements with additional living space to be added to projects. Such attempts to increase the speculative value of a property by adding underground square footage will cause increased congestion in the area and should not be permitted.

Paul Ingemanson

From:	CentralCoast@Coastal
To:	Watson, Michael@Coastal
Subject:	Fw: Public Comment on July 2020 Agenda Item Thursday 13b - Application No. A-3-MCO-19-0041 (Pietro Family Investments, Carmel, Monterey Co.)
Date:	Tuesday, June 30, 2020 7:30:22 AM

From: Paul Ingemanson <pingemanson@gmail.com>
Sent: Saturday, June 27, 2020 2:24 PM
To: CentralCoast@Coastal <CentralCoast@coastal.ca.gov>
Subject: Public Comment on July 2020 Agenda Item Thursday 13b - Application No. A-3-MCO-19-0041 (Pietro Family Investments, Carmel, Monterey Co.)

I am very disturbed that the developer was able to move a tree without permission and is now requesting to add a large basement to the project. As I said in an earlier comment regarding another of their applications, I am a long time resident of Carmel Point and find it very disturbing that the character of neighborhoods is being dramatically changed by allowing large basements with additional living space to be added to projects. Such attempts to increase the speculative value of a property by adding underground square footage will cause increased congestion in the area and should not be permitted.

To be requesting to completely change the neighborhood by making multiple similar developments should not be allowed.

Paul Ingemanson

From:	CentralCoast@Coastal
To:	Watson, Michael@Coastal
Subject:	Fwd: Public Comment on July 2020 Agenda Item Thursday 13a - Application No. A-3-MCO-19-0039 (Pietro Family Investments, Carmel, Monterey Co.)
Date:	Monday, July 06, 2020 8:52:29 AM

Sent from my Verizon, Samsung Galaxy smartphone
Get Outlook for Android

From: Douglas Schmitz <djschmitz51@icloud.com>
Sent: Friday, July 3, 2020 11:17:16 AM
To: CentralCoast@Coastal <CentralCoast@coastal.ca.gov>
Subject: Public Comment on July 2020 Agenda Item Thursday 13a - Application No. A-3-MCO-19-0039 (Pietro Family Investments, Carmel, Monterey Co.)

Chairman Padilla and Members of the Commission,

I write in support of the Commission's staff in regard to the three applications for home construction on Carmel Point in Monterey County—Items 13a, 13b and 13c. I regularly walk Carmel Point, sometimes twice daily. I am also a local Carmel historian. Are we the generation that will halt the continuing desecration of these ancient burial lands or will be just the next generation that obliterates our cultural heritage? In 1600, history tells of the Destruction of the Seven Cities in Chile by the Mapuche. In 2020, are we the destroyers of the sacred grounds on three lots on Carmel Point? Our local Carmel area history is now in your hands. If not you, who? If not now, when will it stop?

The amount of construction activity on Carmel Point is overwhelming. I see it daily on my walks—new projects or the remodeling of old structures; the removal of old gardens and the digging that occurs for new plantings. Yet, for all my walking sojourns, I never see a County inspector or a County vehicle. Inspection is de minimis for all the work taking place on the Point. Please, Commissioners, stop the destruction of our heritage sites on Carmel Point. Thank you! Douglas Schmitz

From:	Eleanor Doyle
To:	Watson, Michael@Coastal
Subject:	July 9th Agenda Item 13a,b,c, (Pietro) Support Staff Recommendation
Date:	Sunday, July 05, 2020 12:04:11 PM

Dear Commissioners:

I support the Staff recommendations.

I'm a homeowner on Valley View. In this world of adversity, one may still have a beautiful Carmel home without a basement.

Thank you for your consideration.

Ellie Spare

Sent from my iPad

From:	V. Thomas
To:	Watson, Michael@Coastal
Subject:	July 9 Agenda Item 13a,b,c.(Pietro) Support Staff Recommendations
Date:	Saturday, July 04, 2020 4:53:28 PM

Dear Commissioners,

I support the staff recommendations.

Much study and deliberation went into the writing of the Carmel Area Land Use Plan which was approved by the Monterey County Board of Supervisors in 1983.

The prior owner of these three parcels, Virginia Tompkins, was very interested in preserving the natural beauty and historical resources. She had hoped the parcels would be a natural reserve.

Since 1983 there has been an even greater increase in understanding the importance of being good stewards of our natural resources.

The majority of the people who can enjoy this area are not residents or investors, but visitors to the Carmel Point State Beach area.

I would hope that the Land Use Plan would be applied equally to all, not just to unrepresented homeowners.

Thanks for your consideration,

Vicky Thomas

ANTHONY LOMBARDO & ASSOCIATES
A PROFESSIONAL CORPORATION

ANTHONY L. LOMBARDO
KELLY MCCARTHY SUTHERLAND
JOSEPH M. FENECH
CODY J. PHILLIPS

144 W. GABILAN STREET
SALINAS, CA 93901
(831) 751-2330
FAX (831) 751-2331

July 1, 2020

Our File No. 5064.000

Steve Padilla, Chair
California Coastal Commission
Central Coast District Office
725 Front Street, Suite 300
Santa Cruz, CA 95060-4508

RE: **Pietro Family Investments (A-3-MCO-19-0039 and A-3- MCO-19-0041) and Valley Point, LLC (A-3-MCO-19- 0042)**

Dear Chair Padilla and Commissioners:

Our office represents Chris Adamski and Mike Pietro, the property owners in the above referenced applications. The basis of the appeal and the staff's recommendation is that the projects will impact archaeological and cultural resources in violation of the Carmel Area LCP. These allegations are completely unfounded and the staff's recommendation has no factual or legal support. In fact, the property owner went above and beyond the recommended archaeological investigations usually performed by other applicants in Monterey County, obtaining 5 separate surveys by 4 different archaeologists on each of the 3 lots for a total of 15 surveys, none of which concluded there was a potential for any impact to cultural or archaeological resources. The property owner also obtained an archaeological report following the utility trenching performed on the Valley View properties by PG&E, and that report also came back negative. The most recent archaeological report, which was prepared in October 2019, and updated/expanded in February 2020 utilized both ground penetrating radar ("GPR") and targeted geo-probe borings. (The original October 2019 Paleowest report is attached hereto as Exhibit "A" and the updated February 2020 report is attached hereto as Exhibit "B"). None of these expert analyses found any evidence of cultural or archaeological resources within the entirety of the subsurface area to be disturbed for the construction of these homes.

The County not only imposed the same mitigations and conditions on these projects that have been applied to every other project on Carmel Point (including a requirement that both an archaeological and a tribal monitor be present during all grading and excavation activities) but the applicant also agreed to a further condition that requires the home be redesigned if significant cultural or archaeological resources are encountered which could not otherwise be mitigated. The projects are consistent with the LUP and as a result, the Commission should approve the projects as approved by the County of Monterey, with basements.

I. Summary of Archaeological Investigations

Nearly all of the parcels on Carmel Point, including the three Pietro lots, are located within 750 feet of an archaeological resource. Neither the LCP or CIP prohibit excavation on these properties. Instead, Section 20.146.090 of the Coastal Implementation Plan ("CIP") requires that a survey be conducted to determine whether any archaeological resources are located on the property. A total of 15 archaeological surveys were conducted on the 3 properties, including one involving the use of a manual boring tool to reach up to 10' in depth and two others involving ground penetrating radar (GPR) and fourteen (14) geo-probe borings covering every square inch of the areas proposed for disturbance on each lot. Each archaeologist reached the same conclusion: that they did not believe there was any potential for significant impacts to archaeological resources as a result of the projects as proposed (i.e. with basements). The GPR and geo-probe report prepared by Paleowest confirmed there is no evidence that any cultural or archaeological resources will be encountered on these sites during excavation. No significant archaeological or tribal cultural resources were found on any of the three parcels as a result of the surface investigation or twenty-six (26) total borings. All four archaeologists concluded that there was no reason to delay or redesign the projects, and they all recommended mitigations to be applied to the projects during construction to avoid or minimize impacts to resources out of an abundance of caution, "should they be found". The following are excerpts from the reports:

Arch Report #1 (Albion 2016, covering the three project sites): "Albion's field effort revealed a partially disturbed Project Area with limited cultural material. No anthropogenic soils were observed, and no intact archaeological deposits were discovered...

...

Therefore, it is Albion's judgment that no additional archaeological testing is necessary; however, several protection measure [sic] should be implement [sic] for the proposed development project, in an effort to protect cultural resources."

Arch Report #2 (Breschini 2017; site-specific): The following language, contained in the report for the Isabella project, is substantially the same as the language contained in the Valley View reports: "None of the materials frequently associated with prehistoric cultural resources in this area (dark midden soil containing fragments of weathered marine shell, flaked or ground stone, weathered bones or bone fragments, fire-affected rock, etc....) were observed in the soil of the project area during the field survey.

...

Based upon the background research and the field assessment, we have concluded that there is no surface evidence of potentially significant archaeological resources on the project parcel. The auger bore produced no evidence of cultural resources to a depth of beyond 4 feet near the center of the parcel.

...

The proposed project should not be delayed for archaeological reasons."

Arch Report #3 (Morley, 2018; all three parcels):"We augered four (4) test holes, one to a depth of 275 cm (or approximately 9 feet), one to 9.5 feet, one to 6.5 feet, and one to 100 cm or 3 feet. We screened all the soil we excavated from these four auger holes. We encountered no cultural resources in any of these soils that we excavated and screened. We did not encounter any of the materials expected of an archaeology site in this region. There are no midden soils, shell or shell fragments, there were no burnt or unburnt cobbles, bone, or lithic debitage encountered in any of the four auger holes we excavated except for one cultural object we encountered, which was one fragment of a Franciscan chert biface (midsection) at APN 009-463-012 at a depth of 40 cm. As a result of these findings it is recommended that there is no reason to delay the project due to concerns about cultural resources, however, the following mitigation measures are recommended because the project parcels are located in the neighborhood of three recorded archaeological sites."

Arch Report #4 (Paleowest, 2019; all three parcels): "The additional Phase II Archaeological Presence/Absence Testing (GPR and geo-probe boring) for the Project parcels produced negative results with no archaeological deposits or cultural sediments encountered. It is recommended that the mitigation measures in the Project's mitigated negative declaration (MND) be followed (Monterey County Planning Commission 2018).

Following the publication of the Coastal Commission's staff report for its substantial issue determination on November 1, 2019, Paleowest prepared a follow-up letter (attached hereto as Exhibit "C") which analyzed staff's recommendation regarding the basement removal and provided the following response:

> Ultimately, a series of four different archaeological firms and multiple qualified archaeologists have come to the same conclusion, namely that there is no evidence for significant archaeological deposits within these parcels, whether or not the parcels are included within the boundaries of CA-MNT-17. Each of these archaeologists is highly experienced and believes in the protection and preservation of archaeological sites. To ignore that expertise and deny the Applicant a permit for construction that includes a basement based on issues of archaeology does not appear to be defensible.
>
> From an archaeological standpoint, it is considered to be very unlikely that a significant archaeological deposit may be present within the excavation footprints of the proposed houses at 26307 Isabella Avenue (APN: 009-463-012), 26346 Valley View Avenue (APN: 009-463-003), and 26338 Valley View Avenue (APN: 009-463-017). From a cultural resources management perspective, there is no

> evidence that eliminating the basements from these planned houses would result in the preservation or protection of any archaeological site. The mitigation measures proposed in past cultural resources investigations (Albion Environmental 2016, Breschini 2017a, 2017b, 2017c; Morley 2018, Tudor Elliott and Wheelis 2019) and adopted by Monterey County are robust and will likely help prevent any impacts to unanticipated archaeological discoveries.

In February 2020, following a series of conversations with Coastal Commission staff, the developer obtained an expanded GPR survey from Paleowest which extended beyond the footprint of the proposed homes to cover the entirety of the three parcels (see Exhibit "B"). In its staff report, Coastal staff incorrectly states that the applicant limited the GPR work to just the footprint of the proposed homes. The expanded Paleowest report shows the extent of the GPR work and concluded that no resources were present on the site, providing that:

> A continuous core was extracted from each bore location in order to identify and accurately depict the subsurface soil and sediment stratification. All core samples were extracted using a direct push method, collecting continuous core sample in 2.5-inch diameter transparent plastic tubes housed within a steel casing that was hydraulically driven into the subsurface in one five foot increment. All of these investigative efforts resulted in no evidence of cultural materials and no evidence of cultural soils or sediments within any of the parcels tested.

Coastal staff also requested evidence from the applicant that GPR testing is an effective method of archaeological reconnaissance. In response, Scott Byram, the individual who performed the GPR testing on these lots for Paleowest, prepared a memo dated April 19, 2020, attesting to the effectiveness of GPR surveys in detecting subsurface artifacts, and in particular human bones and burials. That memo is attached hereto as Exhibit "D". Mr. Byram concluded in his memo that:

> GPR is an effective way of identifying buried features that can represent burials and human remains as well as other cultural resources. I have experience identifying such deposits that are well beyond 7500 years in age in some cases. On sites like the Pietro sites, the use of this technology is particularly effective, because the sandy soils on these sites allows the radar imaging to capture a comparatively clear subsurface image to the full depth of the soil profile proposed for excavation. Using GPR to identify buried deposits usually results in over identification of buried deposits rather than missing existing deposits.

In its staff report, Coastal staff ignored Mr. Byram's opinion and wrote off the conclusions of the experienced archaeological team on this project by saying that staff had "reached out" to the manufacturer of the GPR equipment used on these sites who told staff that GPR technology was not widespread or necessarily effective in identifying human remains. This is incorrect. Paleowest and Mr. Byram contacted GSSI, the manufacturer of the equipment used in the GPR studies on these parcels, on this matter. Mr. Byram details this in his June 25, 2020, memo challenging staff's conclusions on GPR (attached hereto as Exhibit "E"):

> Archaeologists using GPR recognize that, except in special situations such as the Jamestown grave, bone can resemble other material sources of hyperbolic reflection such as wood or stone. Therefore we look for potential features (e.g. clusters of hyperbolae, breaks in layers) that can be probed to determine their make up (as was done in the case of the 3 Pietro lots). Depending on its condition, though bone often has a different dielectric than homogenous dune sand, for example. During our call, Peter again emphasized that burials are most often in pits which are shown as stratigraphic disruption by GPR.
>
> ...
>
> When I spoke with Peter he was unaware that he had spoken to anyone from the California Coastal Commission. On reviewing his notes of people who contact him he said a person named Mike Watson contacted him who Peter thought was a planner or an architect who wanted information on GPR and burials. This individual mentioned he might work with Paleowest to evaluate something. Peter recalled he likely gave him the typical explanation for laypersons. Since it seemed like this individual was looking for a service provider, Peter gave him my name and contact information. I have never been contacted by Mr. Watson. At no time did Peter say that GPR was inappropriate technology for identification of archaeological resources, including human remains.

Staff further claims that GPR is ineffective in identifying subsurface bones by relying on a single source (Doolittle, J.A., Bellantoni, N.F., The search for graves with ground-penetrating radar in Connecticut, Journal of Archaeological Science (2009)) which focused on finding human remains on the east coast, in soils completely different from those found on the subject parcels. My office reached out to the author of that 2009 article, Mr. Doolittle and Mr. Bellantoni, to respond to staff's utilization of their report for the proposition that GPR analyses are unreliable. These two individuals are the foremost pioneers in GPR technology, with experience with the technology dating back over 30 years. Mr. Doolittle stated that not only is GPR technology perfectly suited for detecting subsurface human remains, but that the soil types on these parcels are exceptionally suited to yield clear results of what lies beneath the surface even at the depth of the proposed basements. Mr. Doolittle provided in an email, attached hereto, along with USDA soil survey maps as Exhibit "F" that:

> As evident on this map, most of the soils in this area are considered well-suited to the application of GPR (shades of green). Soils in these areas should be generally well suited to deep penetration and high resolution with GPR. I would consider GPR a most appropriate geophysical tool for archaeological investigations in soils colored in shades of green.

As is clearly demonstrated from each of the excerpts above, all archaeologists and experts involved with the archaeological investigations on these sites arrived at the same conclusion as a result of

their surveys and analysis of the subject lots. Contrary to staff's position, the fact that the project archaeologists recommended that the standard County mitigations be followed is not confirmation that there are in fact subsurface resources on the project sites, rather it is out of an abundance of caution, consistent with the County's longstanding interpretation of its LCP and predated the extensive GPR testing. The reports are unequivocal in their conclusion that no significant resources were encountered during the surveys.

Regarding the imposition of the County's mitigation measures, the LCP requires the preparation of an initial study in all cases where development occurs within 750' of a known archaeological resource. These are the same mitigations applied to every project within 750' of a known archaeological site (whether or not they involve the construction of a basement). There is nothing unusual about this condition nor is it evidence that this project will have any impact on cultural or archaeological resources. Despite the unanimous findings in the archaeological investigations as described above, the County went beyond the standard mitigations to try and address the appellant's concerns by adding requirements that should significant tribal archaeological or cultural resources be found, the design of the home would have to be revised to avoid impacts to those resources (Conditions 10 & 11).

II. The Project is Consistent with the LCP

Staff claims that the project is inconsistent with the LCP because instead of avoiding or minimizing impacts archaeological sites and limiting landform alteration and grading, the proposed projects maximize landform alteration and excavation on these sites, in contravention of Policy 2.8.2 and that the excavation below grade proposed for these projects does not comply with LUP Policies/objectives in Policies 2.8.2 and 2.8.3.3, 2.7.4.1 and 2.2.3.7.

In fact, the projects are consistent with the Coastal Commission and County's interpretation of these policies over the past 30 or more years. LUP Policy 2.8.2 provides the following:

> Carmel is archaeological resources [sic], including those areas considered to be archaeologically sensitive but not yet surveyed and mapped, shall be maintained and protected for their scientific and cultural heritage values. New land uses, both public and private, should be considered compatible with this objective only where they incorporate all site planning and design features necessary to minimize or avoid impacts to archaeological resources.

This policy, as well as Policy 2.8.3.4, does not prohibit excavation, they require that development minimize *or* avoid impacts to cultural resources. In the case of the Applicant's projects, while excavation on the site cannot be avoided due to the soils on the sites, the unrefuted archaeological evidence in the record is that there will be no cultural or archaeological resource impacts. Therefore, the policy goals are met with the home designs as approved by Monterey County.

LUP Policy 2.8.3.3 requires that all available measures be explored to avoid development on sensitive archaeological sites. In this case, after reviewing the 9 archaeological analyses that had

been prepared at that time for the 3 projects, and after consultation with the OCEN tribal representative, local Native American tribal representatives, and the Native American Heritage Commission, the County reviewed the projects and produced a series of mitigation measures to ensure that any potential impact to a cultural or tribal cultural resource will be mitigated to a level of less than significant. This is consistent with LUP Policy 2.8.4.6 which provides the following:

> When other site planning constraints do not permit avoidance of construction on archaeological or other types of a cultural sites, adequate preservation measures shall be required. Mitigation shall be designed in accord with guidelines of the State Office of Historic Preservation and the State of California Native American Heritage Commission.

Archeological and cultural sites are not present on these parcels. Staff states that the project is inconsistent with LUP Policy Section 2.8.3.4 because it does not minimize or avoid impacts to archaeological or cultural sites. That policy provides:

> When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids or substantially minimizes impacts to such cultural sites. To this end, emphasis should be placed on preserving the entire site rather than on excavation of the resource, particularly where the site has potential religious significance.

What staff fails to appreciate is that there are no archaeological or cultural sites located on these three parcels, they are simply located near (within 750') such a site, as virtually all parcels on Carmel Point are.

Staff also ignores the fact that these parcels are not "archaeological sites" as defined in Section 20.146.020(C) of the CIP. That section defines "archaeological site" as, "a site of known Native American remains or activity, as evidenced by shells, fire-cracked rocks, other lithic remains, charcoal, bedrock mortars, rock art, quarry sites, etc..." (none of which exist on these sites). More appropriately, the parcels are in an area of "high" archaeological sensitivity, which is defined in Section 20.146.020(B) of the CIP as being an area where, "there are archaeological sites already identified in the area with a strong possibility that Native Americans lived in and occupied that area." There is no question that Carmel Point is rich with cultural resources and that there have been remains and artifacts found throughout the area, just not on these parcels. That has been confirmed and documented by 15 different archaeological analyses covering these three parcels.

The numerous archaeological analyses performed on the site make it very clear that these parcels do not contain archaeological or cultural resources. Staff states that the applicant carried out these numerous archaeological reports because it was required to do so by the LUP Policies requiring archaeological surveys in areas of archaeological sensitivity. In fact, the applicant has gone far above and beyond what any other applicant has done in terms of archaeological reconnaissance on Carmel Point in its history, and certainly since the adoption of the LUP.

Staff also states that the project is inconsistent with Policies 2.2.3.7 and 2.7.4 because the project requires "extensive landform alteration". The landform alteration required for this project is no different than would be required for any of the other dozens of homes with and without basements that have been approved by the County and Coastal Commission and built on Carmel Point. Moreover, Policy 2.7.4 concerns geologic hazards, not archaeological resources, and provides that "mitigation measures shall be required as necessary" to ensure that potential impacts arising from "geologic and seismic hazards and erosion" are addressed. This policy is completely inapplicable to this appeal. The foundation/basement excavation for these sites create no geologic/seismic or erosion hazards.

Staff points to a single project in the jurisdiction of Monterey County for the proposition that the denial of a basement on Carmel Point is not without precedent. That project was PLN120519, (Bearman). In that case, the property owner had illegally converted a garage in an existing home into living space. In order to avoid the necessity of digging a subterranean garage on a site with known archaeological resources, the County granted the property (at the property owner's request) a variance to eliminate the covered parking requirements for that lot. The County found that granting the variance rather than requiring the construction of the garage to comply with the parking standards would avoid potential impacts to the known resources on that parcel. Monterey County did not deny the Bearman application. Following it's cite to the Bearman case, staff then states that "Monterey County has also denied basements in projects otherwise approved" without citing to a single case.

In fact, dozens of homes with basements have been approved and built in the Carmel Point area since the adoption of the LCP and have been deemed to be consistent with the Carmel Area Land Use Plan. See map attached hereto as Exhibit "G" which shows the other basements which have been approved and built on Carmel Point, none of which were ever appealed to or by the Coastal Commission. On Exhibit G, the pink homes are recent approvals while the blue homes represent all other homes identified with basements. To our knowledge, the Coastal Commission has not taken issue with any of those prior approvals. This is, presumably, a result of the County including the mitigation measures set forth in the LUP, as well as the requirement that all parcels in the area obtain an archaeological report. Such a requirement, when paired with the recommended mitigation measures, has allowed the County (and the Commission) to deem every home which includes excavation on Carmel Point to be consistent with the LUP with a full understanding of the nature of the resources that may be present on the project site on a site-by-site basis.

By its recommendation, staff is attempting to undertake a de facto amendment to the Carmel Area LCP. Staff has admitted that its goal is to prohibit the construction of basements in this area without there being an LCP policy prohibiting them.

III. OCEN's Objections to the Project are Without Merit

Commission staff implies in its staff report that because OCEN objected to ground disturbance on these sites that its requests were ignored. This was not the case, as CEQA (PRC Section

21090.3.2(b)(1)) requires, a tribal consultation occurred in order to develop mitigation measures mutually agreed upon by the tribal representative and the County. As staff points out in its report, this consultation occurred back in October of 2017. Furthermore, in the County Supervisor's Board Report for these projects, staff provided that:

> The consultation was concluded when, in compliance with PRC Section 21080.3.2(b)(1), parties reached mutual agreement concerning appropriate measures or preservation or mitigation. Staff agreed to the following measures to mitigate a significant effect, if a significant effect would be found to exist, on a tribal cultural resource, as requested by Ramirez:
>
> - Retain a tribal monitor during soil movement. This tribal monitor may be authorized to stop construction,
> - Return artifacts to the tribe,
> - Rebury human remains along with artifacts, either onsite or at a site appropriate for reburial provided by the owner (Excerpt from Board Report is attached hereto as Exhibit "H".)

In conformance with state law, the County and the tribal representative agreed on the mitigation measures above during the consultation process. The tribal representative did not request and the County did not agree to a mitigation of "no ground disturbance" and had no obligation to do so under CEQA. Furthermore, the conditions were reviewed and ultimately approved by the Native American Heritage Commission (see email attached hereto as Exhibit "I").

OCEN's request for "no ground disturbance" on these three sites has nothing to do with any specific information OCEN has on these parcels (i.e. burial locations or positive archaeological reports), rather it is a blanket request that OCEN sends out on virtually every project everywhere in Monterey County, regardless of whether any ground disturbance is even proposed. For example, OCEN sent out exactly the same letter for an apartment project in the City of Marina and for the Airport Land Use Compatibility Plan update for the Monterey Regional Airport. Those letters, as well as the letter OCEN sent in response to these three projects, are attached hereto as Exhibit "J". As staff states in its report, "[t]he number one priority for OCEN is that its ancestors' human remains located within its ancestral burial and village sites be protected and undisturbed." (CCC Staff Report, page 20). Fortunately, due to the extensive archaeological testing carried out on these three parcels it is clear that they do not contain either human burials or habitation.

Furthermore, Rudy Rosales, a former tribal chair of the Esselen Nation, one of the tribes traditionally affiliated with the Carmel Point area, agrees that the County's mitigation measures are sufficient to protect archaeological and cultural resources, should any be found. Mr. Rosales testified before the Monterey County Board of Supervisors that this area of Carmel Point was neither a burial ground or tribal cultural resource site for his people.

Tom Little Bear Nason, the current tribal chair for the Esselen Nation, also agrees that the County mitigation measures are adequate and that these three sites do not have any special cultural significance and do not contain any burials or unique archaeological resources. Mr. Nason, on behalf of the Esselen Nation, provided a letter to the applicant supporting the projects, providing in part that:

> We have monitored the archaeologists during the geo-probe boring on these three parcels. The ETMC [Esselen Tribe of Monterey County] has worked with all of these archaeological consulting firms for many years we believe that their work is reliable. The ETMC believes that the work of these professionals over these past four years has demonstrated that there are no significant cultural resources present on these three parcels that would preclude the construction projects.

Mr. Nason and Mr. Rosales are both local, lifelong residents of Monterey County who have represented the interests of the native peoples there for decades, whereas OCEN is based in San Jose. We urge the Commission to consider the opinion of the local representatives of the native peoples of Monterey County, who are in support of the project as approved by the County of Monterey. (Attached hereto as Exhibit "K" are Nason and Rosales letters in support of the project.)

The applicant strongly objects to the staff's completely unfounded suggestion that the applicants are not treating Native American remains, artifacts and/or cultural sites with the respect they deserve. In fact, the applicant has treated these three sites (which are absent of remains or artifacts of any kind) with more respect than any other project applicant on any site on Carmel Point by obtaining 15 different investigations of the parcels. The idea that any excavation on these parcels will result in the "desecration" of Native American remains or artifacts, as staff asserts, is completely without merit. From the beginning, the applicant has worked to ensure that if any culturally significant materials were uncovered on these parcels, they would be treated with the dignity they deserve.

IV. The Project Requires Excavation Even Without Basements

The Coastal Commission's Senior Coastal Engineer, Dr. Lesley Ewing agrees that even without the construction of basements, these sites require the excavation of soils to a depth of 5-9 feet to construct any home on the Pietro sites. This amount of excavation would extend beyond the likely location of subsurface artifacts which are typically found less than 5 feet below the surface according to archaeologist Brenna Wheelis of Paleowest. Coastal Staff should be aware of the fact that Native American remains and artifacts are typically found within top 5 feet of soil as it points to human remains which were uncovered in 2019 on a property on Scenic Road near the project sites at a depth of just 18 inches.

Per County requirements, the Applicant obtained a geotechnical report and also a subsequent letter from Haro and Kasunich and Associates dated October 30, 2018, (attached hereto as Exhibit "L") which concludes that the upper 5 to 9 feet of sandy soil is not structurally adequate to allow the

construction of a foundation for a home and would require excavation and recompaction to at least that depth in order to meet the requirements of the California Building Code even without a basement. Furthermore:

1.) The soils report and subsequent letter from the engineer clearly states that excavation of 5 – 9' with 1' of scarification is required (as determined on site by the engineer) for placement of an engineered pad for any portion or portions of the structure which does not have a basement.
2.) Contrary to assertions by the appellant that helical piers are an alternative to an engineered pad, the soils report clearly states that helical piers may only be used for exterior flat work. Helical piers (if they were an option) represent indiscriminate drilling, presenting the same uncontrolled damage to potential resources, if they existed.
3.) Calculations and analysis presented by planning staff at the April 23 Board of Supervisors hearing in response to the appellant's objections to "grading quantities" for the project clearly showed that the "no basement" option would result in approximately the same amount of excavations for the sites.

As the Coastal Commission's engineer has agreed, excavation to and below the location where archaeological and cultural resources are typically found is required to build any home of these sites regardless of whether the basement is included as a component of the projects.

V. "Unpermitted" Trenching and Tree Removal

Finally, staff refers to the utility trenching and tree removal work carried out on the Valley View sites in early 2019 as unpermitted and a "violation." This is not correct. In fact, the owner received a permit in June of 2018 for PG&E trenching and extension of electrical conduit from the PG&E franchise in the County right-of-way to the two Valley View parcels (a third building permit was also issued for the Isabella parcel; however, that work has not yet been performed). The plans approved with the issued building permits (18CP01784 and 18CP01785) are attached hereto as Exhibit "M". The portion of the trenching work which took place in the County right-of-way/PG&E franchise would have necessitated the removal of an oak tree. PG&E could have simply removed the tree per County Code Section 16.60.060 as an extension of utilities from an existing overhead powerline; however, the owner instead chose to save the tree and relocate it from the right-of-way onto his property, 10 feet to the southwest of its original location to avoid the tree's removal. This work was carried out by professional tree relocation experts at great expense to the owner.

Due to PG&E's workload and scheduling, the permitted work was not carried out until February of 2019. After the trenching was performed, but before the trenches could be backfilled, on or about February 15, 2019, County staff issued a "stop work" order on the two Valley View parcels.

The orders stated that the work being performed was "unpermitted"; however, both sites had obtained the necessary building permits from the County (18CP01784 and 18CP01785).

Neither the trenching nor the tree removal constitutes violations. The trenching work was permitted and carried out according to approved plans, and the tree was simply relocated and could have otherwise been removed by PG&E without issue.

Furthermore, the owner retained an archaeologist, Susan Morley, to review the PGE trenching spoils on February 24, 2019, and she concluded that her findings, "lack association with cultural features or deposits, and having no research potential are considered archaeology [sic] insignificant."

VI. Conclusion

There is no evidence to support the staff's opinion that development of these homes as approved by Monterey County are inconsistent with the Carmel Area Local Coastal Plan or could have an impact on archaeological or cultural resources. There is, however, overwhelming evidence that the projects as approved will not have an impact on any such resources. The multitude of archaeological reports including the GPR and subsequent geo-probe testing conclusively demonstrates that there are no archeological or cultural resources below the surface on any of these parcels. The conditions imposed by the County of Monterey (prior to the GPR testing) ensure that no impacts will occur to archaeological or cultural resources.

The GPR analysis that has been performed conclusively proven these projects will have no impact on cultural or archaeological resources.

Based on the foregoing, we respectfully request that the Commission not follow the staff recommendation and approve the projects as approved by Monterey County.

Sincerely,

Anthony L. Lombardo

cc: Client

October 31, 2019

Chris Adamski
Emerson Development
24576 Portola Avenue
Carmel, California 93923

Report on Additional Phase II Archaeological Presence/Absence Testing for Three Undeveloped Parcels in Carmel, California

Dear Mr. Adamski,

In compliance with our contract with Emerson Development, this letter report summarizes the results of the additional Phase II archaeological presence/absence testing in support of the Emerson Development Group's Valley View and Isabella Avenue projects (Project) in unincorporated Carmel, California.

The additional Phase II subsurface presence/absence testing for all Project parcels involved using ground penetrating radar (GPR). Direct push geo-probe boring technologies were implemented at locations where GPR studies identified anomalies in order to determine whether the anomalies contained potential cultural features or strata. Three previous Phase I and II archaeological studies have concluded that the proposed Project would result in less than significant effect on unknown resources, and a mitigated negative declaration was adopted for each of the Project parcels in December 2018.

This report contains a summary of the project background, summary of previous studies, summary of environmental, cultural, and historic settings, a description of the results of the ground penetrating radar and contingent geo-probe boring activities, and professional recommendations.

Project Location and Description

The Project is in unincorporated Carmel, California, and is located on three contiguous parcels that form an L-shape: 26307 Isabella Avenue (APN: 009-463-012), and 26346 and 26338 Valley View Avenue (APNs: 009-463-003 and 009-463-017, respectively). There are no structures on the Project parcels and plans are proposed to construct a new single-family dwelling on each parcel.

Cultural Setting

The cultural setting is based on the reports by Breschini (2017a, 2017b, 2017c). The project area is within the currently recognized ethnographic territory of the Ohlone or Costanoan group of Native Americans. Discussions of this group and their territorial boundaries can be found in Kroeber (1925), Levy (1978), Margolin (1978), and other sources. In brief, the Ohlone practiced a basic hunting and gathering subsistence pattern with some dependence on the native oak acorn crop. Habitation was semi-sedentary with most occupation sites located near water, such as the confluence of streams, terraces along streams, or in the vicinity of springs. Also, resource gathering and processing areas and associated temporary campsites are frequently found in locations containing resources utilized by the group. Factors that may influence the locations of these sites include the presence of suitable exposures of rock for bedrock

mortars or other milling activities, the presence of specific resources (oak groves, marshes, quarries, game trails, trade routes, etc.), proximity to water, and the availability of shelter. Temporary camps or other activity areas can also be found along ridges or other travel corridors.

Previous Studies on the Project Site

In 2016 Albion Environmental excavated eight shovel test pits to a depth of 80 cm or about 2.5 feet (Albion 2016). Two shovel test pits (STPs) were excavated on each parcel. AE also tested one parcel, 009-463-016, that is not part of this project. Albion's small-scale investigation produced 40 pieces of lithic debitage, low density fragmented marine shell, one piece of bone, and eight modern items including glass, rusted metal and plastic. Albion's field effort revealed a partially disturbed Project Area with limited cultural materials. No anthropogenic soils were observed, and no intact archaeological deposits were discovered. Albion concluded that "no additional archaeological testing is necessary.".

In 2017, Dr. Gary Breschini conducted a second Phase 1 survey on the Project parcels (Breschini 2017a, 2017b, 2017c). His survey found no surface evidence of potentially significant resources. He concluded that the projects would not have an impact on archaeological or cultural resources but that the County should require archaeological monitoring in case buried archaeological deposits are encountered during ground disturbance.

In 2018, auger testing to the depth of the proposed project foundations were conducted on the three parcels (APNs 009-463-003, 009-463-012, 009-463-017) under the direction of Susan Morley (Morley 2018). Four auger holes were excavated: two down to 3.05 m, one to 1.05 m that terminated when rock was encountered, and one to 1.82 m, which was also ended when rock was encountered. No midden soils, shell or shell fragments, burnt or unburnt cobbles, bone, or lithic debitage were encountered in any of the auger holes. Archaeological monitoring during construction was recommended.

Ground Penetrating Radar (GPR)

In order to provide a comprehensive and complete examination of the potential presence of cultural or archaeological resources on these sites, archaeological ground-penetrating radar (GPR) investigations were conducted on the Project parcels on the behalf of PaleoWest by Byram Archaeological Consulting in September 2019 (Bryam 2019). Six GPR grids were surveyed at high resolution, 0.33 meter transect intervals. The grids were positioned over the design footprints for house excavation areas on the lots. On the 26338 Valley View lot Grids 1, 2 and 4 were surveyed. On 26346 Valley View, Grids 3 and 5 were surveyed. On the 26307 Isabella lot Grid 7
was surveyed.

Each grid consisted of parallel transects and were positioned adjacent to one another for transect data processing in GPR Slice software. Data from individual transects are shown as transect profiles (grayscale), and data from grids are presented as amplitude slice maps (RGB color), each representing a specified depth range (or time interval for radar travel). Depth estimates are approximate due to soil variation and surface conditions, but in general the GSSI SIR 4000 with the 350 HS digital antenna yielded accurate radar data up to 3.2 m depth in the sandy soils of Carmel Point. For each grid, this depth range is presented as ns, or nanoseconds, representing the time window that corresponds to depth when dielectric properties are known. The RDP (dielectric constant) for the project area was determined to be 6.03, allowing the greater than normal depth at high resolution, thus facilitating the identification of potential cultural or archaeological resources within the excavation area of project foundations.

Distinct features were visible in profiles and in slice maps. Many appear to be related to previous construction, irrigation, drain field or refuse pit use. In order to insure these features were not cultural or archaeological resources, additional direct push geoprobe soil borings were conducted into the area of these anomalies. No laminated midden layers were identified on any of the sites.

26338 Valley View, Grids 1, 2 and 4

Grid 1 had little evidence of concentrations of objects such as rocks or bottles and cans. Small pits and extensive buried surfaces were not evident. One large, rectilinear feature from 1.5 to 2 m deep was observed and thought to be a filled excavation pit.

Grid 2 is located south of and adjacent to Grids 1 and 4. A feature has deep expression with metal, and a concrete block on the surface nearby suggests this is an abandoned well. An adjacent buried surface at 2.4 m from beginning to 5 m was noted. Also there appeared to be a possible structure foundation.

In Grid 4, a possible buried horizon, was observed at a depth of 2.6 m. A shallow cluster of nodes and lamina is present between 2 and 3 m on transect 97 that was recommended for further investigation. A possible pit feature at 10 m in profile 113 (roughly 50 cm depth) was also observed

Two anomalies which could not be clearly identified as non-cultural or archaeological resources on this lot were selected for boring.

26346 Valley View, Grids 3 and 5

Grid 3 a change in soil at 1.3 m depth noted in the north. Stumps are present in this grid. Another feature appears to be part of an abandoned septic drain field or irrigation related structure.

In Grid 5 a shallow pit feature was located in the upper levels. A possible midden sediment or a likely Aeolian sand bedding was identified in the northwest quadrant. A set of reflection features in the northwest corner of Grid 5 were thought to be an irrigation structure such as an access vault with pipes extending outward from it at roughly 60-70 cm depth. Other abandoned metal pipes also appear to be present in this area.

Four anomalies were selected for boring on this lot.

26307 Isabella, Grid 7

Grid 7 transects were run north-south, beginning in the southwest corner and continuing eastward at 3 per meter. The depth range was opened slightly to 3.25 m for this grid. The land was a tree garden in the past, and root base excavation has likely occurred in several places for living tree removal. Results showed a more level southern buried surface at 1.9 m depth lapping over a dune slope to the north. The dune deposit was homogenous except where prior tree excavation holes intrude. Distinct features possibly related to tree garden activity were identified. The southern area where a buried surface appeared was recommended for testing for buried features. This anomaly was selected for boring.

Geo-probe Boring

Seven of the anomalies described above were further investigated by PaleoWest using geo-probes. Those included bores 1-4 at 26346 Valley View; bores 5-6 at 26338 Valley View; bore 7 at 26307 Isabella. PaleoWest conducted the geo- probe bores on October 23, 2019. A hydraulic coring device, or "geo-probe," was used to obtain core samples from the seven anomalies. Cores were drilled to a maximum depth of 12 ft below ground surface. A continuous core was extracted from each bore location

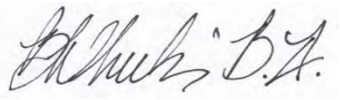
in order to identify and accurately depict the subsurface soil and sediment stratification. All core samples were extracted using a direct push method, collecting continuous core samples in 2.5-inch diameter transparent plastic tubes housed within a steel casing that was hydraulically driven into the subsurface in four-foot increments. The results of the geo- probe boring were negative, no cultural material and no evidence of cultural soils or sediments were encountered. The location and results of the boring are tabulated and figured in Appendix 1.

Recommendations

The additional Phase II Archaeological Presence/Absence Testing (GPR and geo-probe boring) for the Project parcels produced negative results with no archaeological deposits or cultural sediments encountered. It is recommended that the mitigation measures in the Project's mitigated negative declaration (MND) be followed (Monterey County Planning Commission 2018).

Sincerely,

Evan Tudor Elliot, MA, RPA,
Senior Archaeologist,
PaleoWest Archaeology



Brenna Wheelis, B.A.
Associate Archaeologist, Project Manager
PaleoWest Archaeology

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Monterey County Planning Commission

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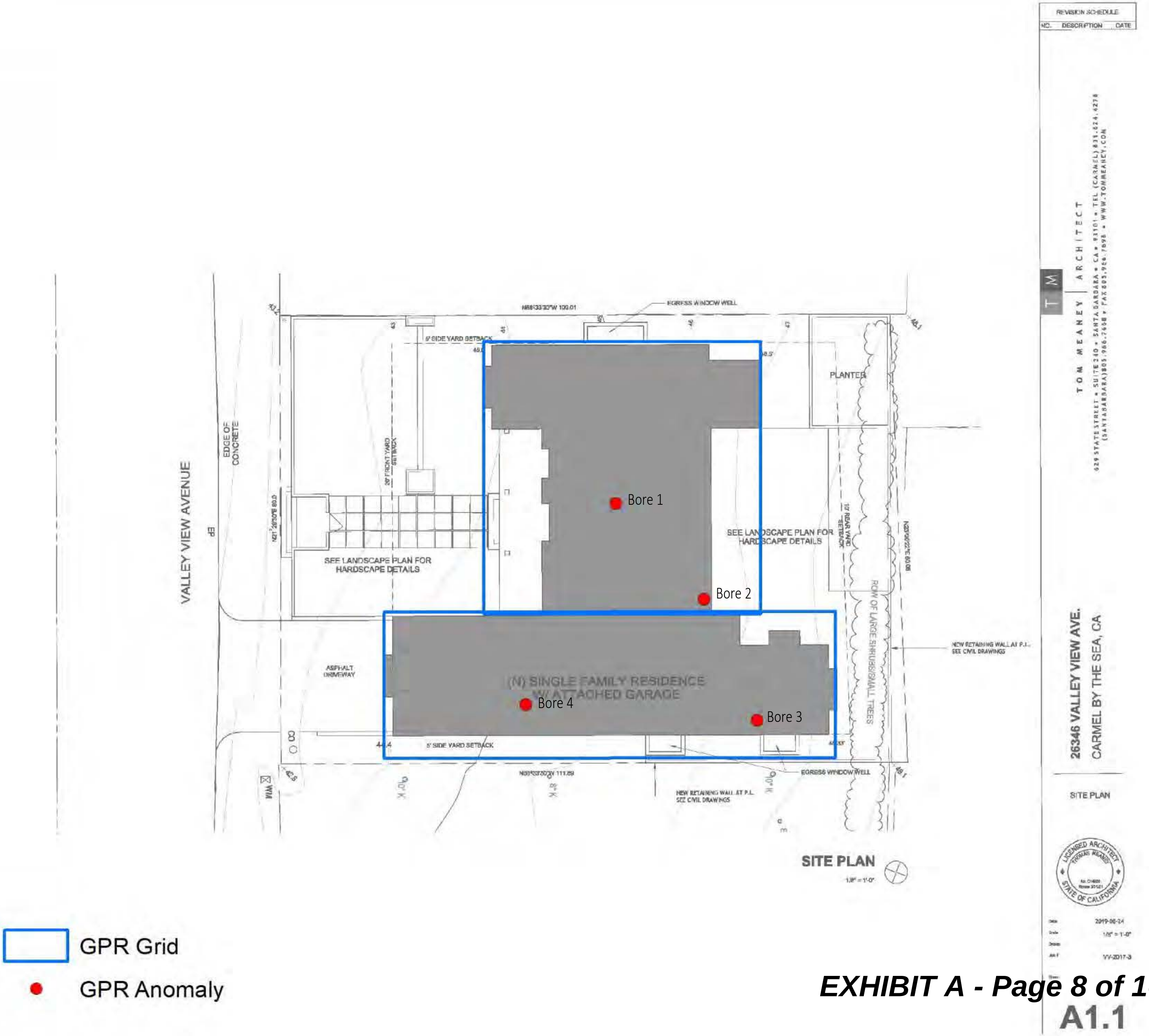
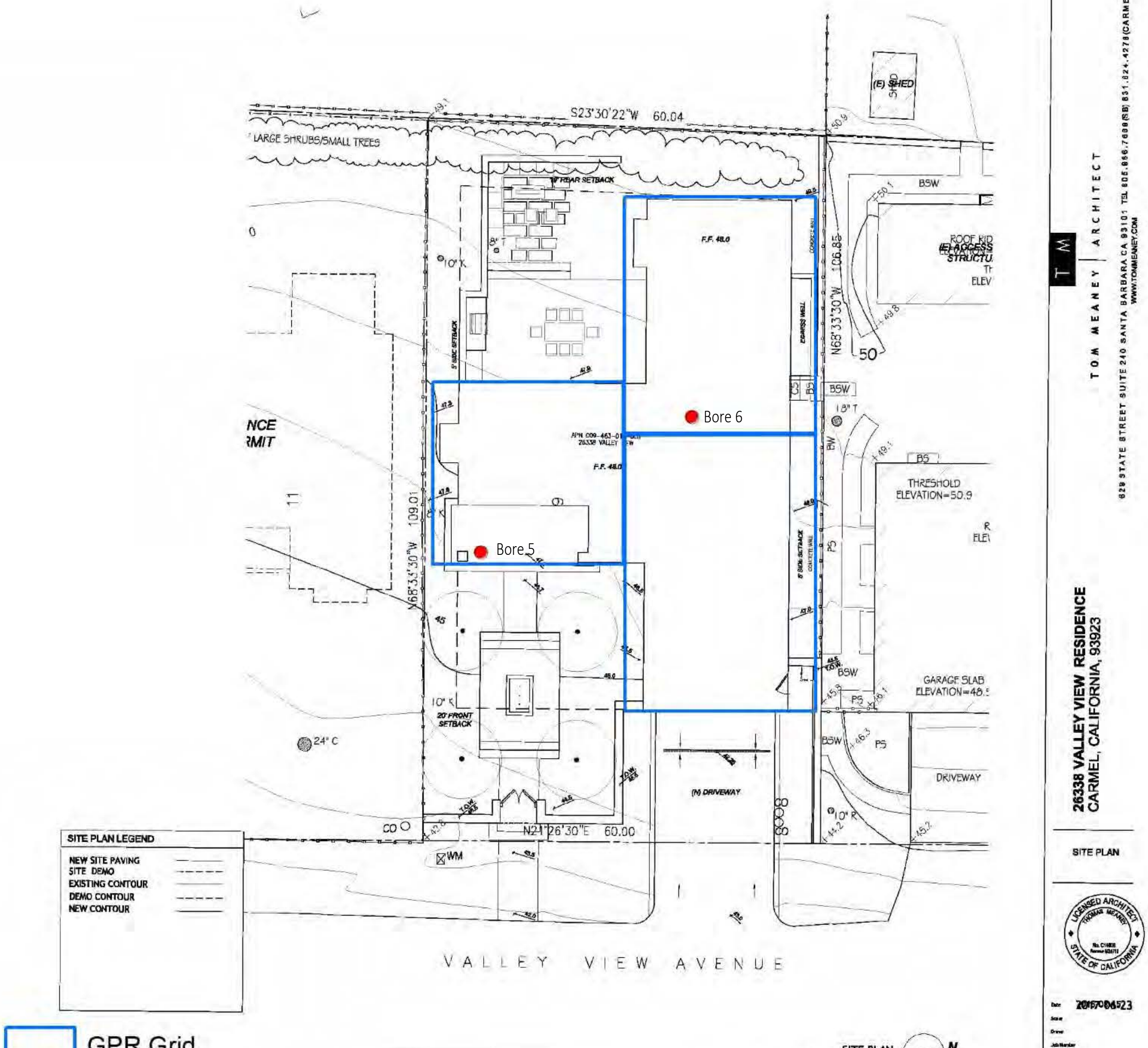
Appendix A: Geo-probe Bore Results

Geo-probe Boring Results

Bore	Depth ra	Sediment description	Munsell	Cultural materials
1	0-5.30	Semi-moist. fine to medium granularity, minor root turbation in first 3 ft. No platy structure, no blocky structure. No shell, no faunal, no lithic, no charcoal, no midden soil. Gravels <1%. No cultural constituents.	10YR 3/2 very dark grayish brown	**None**
	5:30-6.25	Dry and compact, medium to coarse granularity. No root turbation, no platy structure, medium blocky structure. No shell, no faunal, no lithics, no charcoal, no midden soils. gravels<1%, no cultural constituents.	10YR 3/2 very dark grayish brown	**None**
	6.25-6.33	Small granite rock, decomposing or impacted by pressure of direct push probe. sitting on top of dune formation, inbetween sandy loam/sand dune transition, no cultural constituents.	5Y 7/2 light gray	**None**
	6.33-12	Semi-moist compact sand, decomposed granite. moderate-coarse granularity, no platy structure, mild blocky structure. No shell, no faunal, no lithic, no charcoal, no midden soils, no cultural constituents.	10YR 5/6 yellowish brown	**None**
2	0-6.2	Dry, fine to moderate granularity, no platy structure, no blocky structure. no shell, faunal, lithic, charcoal. no midden soils, no cultural constituents	10YR 3/2 very dark grayish brown	**None**
	6.2-12	Stark transition from loamy sand to sand. coarse granularity, no platy structure, mild blocky structure. no shell, no faunal, no lithic, no charcoal, no midden soils, no cultural constituents.	10YR 5/4 yellowish brown	**None**
3	0-6.2	Dry, fine to moderate granularity loamy sand, no platy structure, no blocky structure. mild root turbation, no gravels, no shell, no bone, no lithic, no charcoal, no midden soils. No cultural constituents. gravels <1%	10YR 3/2 very dark gray	**None**
	6.2-12	Semi moist, compact, moderately blocky and coarse sand (<1 cm max length).no rodent or root turbation, no cultural constituents.	10YR 3/1 very dark greenish gray	**None**
4	0-3	Dry, compact loamy sand, no platy or blocky structure, no root turbation, no cultural constituents,	10YR 6/4 light yellowish brown	**None**
	3-6.1	Compact, fine, loamy sand, no platy or blocky structure, no root turbation or gravels no cultural constituents.	10Y 3/2 very dark grayish brown	**None**
	6.1-12	Compact, dry, coarse, no platy structure, moderate blocky structure, no cultural constituents.	10YR 2/2 very dark brown	**None**
5	0-3.5	Dry, semi compact, fine to moderately fine granularity, no platy structure, no blocky structure, mild root turbation, gravels <1%. no cultural constituents,	10YR 6/4 light yellowish brown	**None**

Bore	Depth ra	Sediment description	Munsell	Cultural materials
	3.5-7.2	Dry, compact, fine to moderate granularity, no platy structure, no blocky structure, mild root turbation. no cultural constituents	10YR 2/2 very dark brown	**None**
	7.2-12	Coarse, dry, compact sand. mild blocky structure no platy structure. rodent krotovina no cultural constituents.	10YR 6/2 light brownish gray	**None**
6	0-4 in.	Semi compact, dry, fine granularity. no platy or blocky structure. rubber pipe segment	10YR 2/2 very dark brown	Rubber pipe segment, debris from neighboring Parcel construction
	4-8 in.	Present with lime rich conglomerate, modern concretions (cement tailings).	10YR 2/2 very dark brown	Cement tailings
	8-20 in.	Semi moist, compact, fine granularity, no platy structure, no blocky structure. no root turbation, no cultural constituents.	10YR 5/6 yellowish brown	**None**
	20 in.-6.7	Compact, dry, semi coarse sandy loam, no platy or blocky structure, no cultural constituents.	10YR 3/2 very dark grayish brown	**None**
	6.7-12	Coarse, dry, compact sand, no platy structure, no blocky structure. no shell, bone, lithic, charcoal, midden soils. no root turbation, no rodent krotovina, no cultural constituents	10YR 4/6 dark yellowish brown	**None**
7	0-5	Dry, fine granularity loamy sand. no platy or blocky structure, no cultural constituents.	10YR 3/2 very dark grayish brown	**None**
	5-6	Moderately coarse and compact sand, discreet transition from sandy loam to sand. no platy structure, mild blocky structure. soils are very hard, break out of core with difficulty. no cultural constituents, no gravel, no cultural constituents.	10YR 5/4 yellowish brown	**None**
	6-6.8	Homogeneous with previous strat; rodent krotovina present, no cultural constituents.	10YR 5/4 yellowish brown	**None**
	6.8-12	Coarse, compact sand dune formation. granularities measure ~1cm max length. Decomposing granite, no cultural constituents. small gravels present between 10-12'. No cultural constituents.	10YR 3/2 very dark grayish brown	**None**


REVISION SCHEDULE
NO. DESCRIPTION DATE
TOM MEANEY ARCHITECT
26346 VALLEY VIEW AVE.
CARMEL BY THE SEA, CA
SITE PLAN
A1.1
VALLEY VIEW AVENUE
EDGE OF CONCRETE
EGRESS WINDOW WELL
5' SIDE YARD SETBACK
20' FRONT YARD SETBACK
PLANTER
SEE LANDSCAPE PLAN FOR HARDSCAPE DETAILS
SEE LANDSCAPE PLAN FOR HARDSCAPE DETAILS
10' REAR YARD SETBACK
ROW OF LARGE SHRUBS/SMALL TREES
NEW RETAINING WALL AT P.L. SEE CIVIL DRAWINGS
ASPHALT DRIVEWAY
(N) SINGLE FAMILY RESIDENCE W/ ATTACHED GARAGE
Bore 1
Bore 2
Bore 3
Bore 4
5' SIDE YARD SETBACK
EGRESS WINDOW WELL
NEW RETAINING WALL AT P.L. SEE CIVIL DRAWINGS
SITE PLAN
GPR Grid
GPR Anomaly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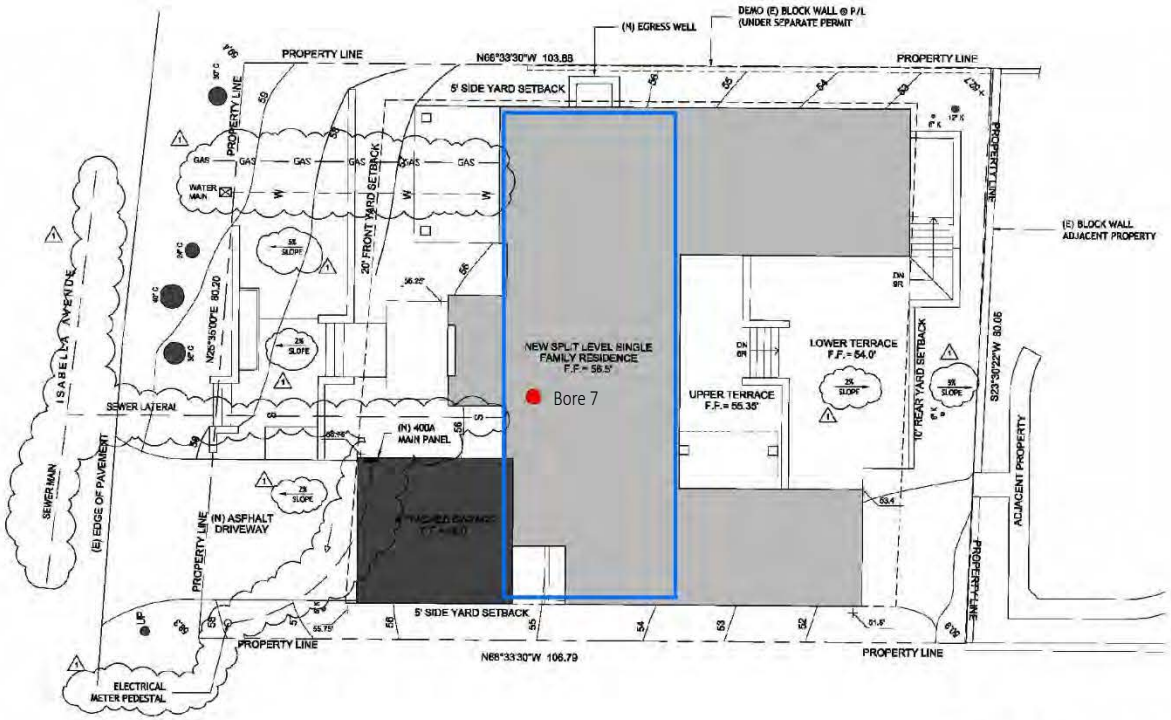
LARGE SHRUBS/SMALL TREES
(E) SHED
F.F. 48.0
N68°33'30"W 106.85
BSW
Bore 6
Bore 5
APN 009-463-01
26338 VALLEY VIEW
F.F. 48.0
N68°33'30"W 109.01
THRESHOLD ELEVATION=50.9
GARAGE SLAB ELEVATION=48.5
20' FRONT SETBACK
(N) DRIVEWAY
DRIVEWAY
N21°26'30"E 60.00
WM
VALLEY VIEW AVENUE
SITE PLAN LEGEND
NEW SITE PAVING
SITE DEMO
EXISTING CONTOUR
DEMO CONTOUR
NEW CONTOUR
GPR Grid
GPR Anomaly
TOM MEANEY | ARCHITECT
629 STATE STREET SUITE 240 SANTA BARBARA CA 93101
WWW.TOMMEANEY.COM
26338 VALLEY VIEW RESIDENCE
CARMEL, CALIFORNIA, 93923
SITE PLAN
LICENSED ARCHITECT
THOMAS MEANEY
STATE OF CALIFORNIA
A1.2



GPR Grid

GPR Anomaly

A1.1

REVISION SCHEDULE

NO	DESCRIPTION	DATE
1	PC Comments	2019-07-02

T M TOM MEANEY | ARCHITECT
629 STATE STREET • SUITE 240 • SANTA BARBARA • CA • 93101 • TEL (CARMEL) 831.624.4278
(SANTA BARBARA) 805.966.7688 • FAX 805.966.7688 • WWW.TOMMEANEY.COM

26307 ISABELLA AVE.
CARMEL BY THE SEA, CA

SITE PLAN

LICENSED ARCHITECT TOMMIE MEANEY No. C14408 RENEW 8/31/21 STATE OF CALIFORNIA

Date 2019-07-14
Scale As Indicated
Drawn ATW
Job # ISAB-2016-11

February 25, 2020

Chris Adamski
Emerson Development
24576 Portola Avenue
Carmel, California 93923

Re: Report Addendum on Additional Phase II Archaeological Presence/Absence Testing for Three Undeveloped Parcels in Carmel, Monterey County, California

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with most occupation sites located near water, such as the confluence of streams, terraces along streams, or in the vicinity of springs. Also, resource gathering and processing areas and associated temporary campsites are frequently found in locations containing resources utilized by the group. Factors that may influence the locations of these sites include the presence of suitable exposures of rock for bedrock mortars or other milling activities, the presence of specific resources (oak groves, marshes, quarries, game trails, trade routes, etc.), proximity to water, and the availability of shelter. Temporary camps or other activity areas can also be found along ridges or other travel corridors.

Previous Studies on the Project Site

In 2016, Albion Environmental (Albion) excavated six shovel test pits (STPs) to a depth of 80 centimeters (cm) or about 2.5 feet (ft) (Albion 2016). Two STPs were excavated on each parcel. Albion's investigation produced 40 fragments lithic debitage, low density fragmented marine shell, one piece of bone, and eight modern items including glass, rusted metal and plastic. Albion's field effort revealed a partially disturbed Project area with limited cultural materials. No anthropogenic soils were observed, and no intact archaeological deposits were discovered. Albion concluded that no additional archaeological testing was necessary. In 2017, Dr. Gary Breschini conducted a second Phase 1 survey on the Project parcels (Breschini 2017a, 2017b, 2017c). His survey found no surface evidence of potentially significant resources. He concluded that the Project would not have an impact on archaeological or cultural resources but that the County should require archaeological monitoring in case buried archaeological deposits are encountered during ground disturbance.

In 2018, auger testing to the depth of the proposed Project foundations were conducted on the three parcels (APNs 009-463-003, 009-463-012, 009-463-017) under the direction of Susan Morley (Morley 2018). Four auger holes were excavated: two down to 3.05 meters (m), one to 1.05 m that terminated when rock was encountered, and one to 1.82 m, which was also ended when rock was encountered. No midden soils, shell or shell fragments, burnt or unburnt cobbles, bone, or lithic debitage were encountered in any of the auger holes. Archaeological monitoring during construction was recommended.

In September 2019, PaleoWest conducted a GPR survey to identify potential cultural strata on the Project parcels. Seven anomalies were identified and mapped during the GRP survey (Byram 2019). In October of 2019, PaleoWest tested the anomaly locations with a direct push geoprobe. The geoprobe bores extended to depths of 12 ft below ground surface. The results of the geoprobe boring program were negative: no cultural material and no evidence of cultural soils were encountered (PaleoWest 2019).

Ground Penetrating Radar (GPR)

Expanded archaeological ground-penetrating radar (GPR) investigations at two Valley View lots and the Isabella lot on Carmel Point we conducted to help determine whether buried cultural features and human burials may be present within areas of planned excavation for home construction. Six additional GPR grids were surveyed at high resolution, 0.33 m transect intervals. The additional grids were positioned outside of the grids surveyed in September 2019 and included driveway and patio excavation areas. Vertical obstructions, including trees, fencing and utilities, were present on each parcel at the time of the survey, limiting the horizontal extent of the survey grids. On the 26338 Valley View lot Grids 8, 9, and 10 were surveyed (Figure 1). On the 26346 Valley View lot, Grid 11 was surveyed (Figure 2). On the 26307 Isabella lot Grids 13 and 14 were surveyed (Figure 3).

Data from individual transects are shown as transect profiles (grayscale), and data from grids are presented as amplitude slice maps (RGB color), each representing a specified depth range (or time interval for radar travel). Depth estimates are approximate due to soil variation and surface conditions, but in general the GSSI SIR 4000 with the 350 HS digital antenna yielded accurate radar data up to 2.8 m depth in the sandy soils of Carmel Point. The RDP (dielectric constant) for the Project area was determined to be 7.8, allowing the greater than normal depth at high resolution, but slightly less depth than the survey in September 2019, likely due to slightly increased groundwater.

Reflection features were often visible in real time screen profiles, and these were marked for subsequent probing. As with the September survey, many appear to be related to previous construction, trenching, irrigation, drain field and tree planting. The GPR survey emphasized identifying potential Native American burials and midden layers. None of the potential features marked on the surface were determined to be of Native American origin, however. While buried stratigraphic interfaces were identified, no laminated midden layers were identified.

Note that this is not a utilities and hazards GPR survey. While information about buried utilities may be posited in the report, this is solely for the purpose of understanding archaeological patterning and the effects of utilities placement (such as trenching) on site deposits. To avoid encountering buried utilities, call for a utilities locate. Approach any buried anomaly with caution, particularly those that may be associated with utilities, waste disposal etc.

Several linear and rectilinear features were observed, and while many are likely irrigation or drainage pipes, others may represent former building foundations or filled trenches and pits. Roots likely account for many distinctive reflections (arcing point reflections of variable width), but metal was also present in the survey area, presenting a pole-like “ringing down” of multiple reflections beneath the antenna.

26338 Valley View, Grids 8, 9 and 10

Grid 8 is located in the eastern portion of the Valley View parcel; transects are 17 m long. There are several vertical metal posts in the southeast, and previously a tree was excavated from the northern portion of the grid area. Robust, vertical steel fence-post bases are along the eastern and northern perimeter. The feature in the southeast corner is a water meter box. There are reportedly two sewer laterals in Grid 8. No anomalies were identified in Grid 8.

Grid 9 is located west of Grid 8 and parallel, with a small gap due to trees. There are vertical rebar, fence posts, and trees around southern perimeter. In the eastern part of the grid, there is a large oak tree planting pit. No anomalies were identified in Grid 9.

Grid 10 is located in the southwest part of Valley View parcel north. This grid is 9 m north-south but roughly 5 m wide. One anomaly was identified in the south east corner of Grid 10 at approximately 1 m deep. Two geoprobe bore tests were recommended in this location.

26346 Valley View, Grid 11

Grid 11 is located in the eastern portion of the Valley View south parcel, slightly overlapping in the northwest with Grid 5 from the September 2019 survey. The grid measures 20.5 m north to south and 9.7 m. A gravel road cuts across west to east in the south-central part of the grid, and there is additional gravel in the northwest. A cypress tree in the north central part of the grid has roots that radiate out in slice maps.

The slope descends toward the southeast gradually. One anomaly was identified approximately 1 m below ground surface in the southwest of Grid 11 and was recommended for probing. A deeper ridge is evident in slice maps and profiles likely representing a geological transition. This area of the parcel is adjacent to an existing fault line and may partly explain the buried stratum. One additional anomaly was identified in Grid 11: two probes were recommended for this anomaly.

26307 Isabella, Grids 13 and 14

Grid 13 (Isabella East) is east of Grid 7. A brick barbeque pit and numerous wooded shrubs are located on the surface in the northern edge of the grid. The GPR study identified one buried planar horizon in the south center area of the grid identified as the previous owners well system. One additional small anomaly was identified in the north half of the grid and recommended for probing.

Grid 14 was the last grid surveyed. Numerous objects were present around the perimeter of the grid may have produced airwaves. The previous owner's use of this lot as an ornamental garden likely accounts for a portion of the subsurface variability. Two locations were recommended for probing, provided if deeper excavations were planned for the area.

At this time, all anomalies appear to be historic, likely dating to the 20th century or more recent years. These anomalies are likely associated with the previous owner's landscaping and tree planting, recent utilities trenching, and fencing construction . Buried strata are geomorphic not midden in origin, as has been established by subsequent testing. The thorough GPR survey with high density coverage shows there no indication that a buried archaeological site is present within the Project area.

Geo-probe Boring

Seven of the anomalies described above were further investigated by PaleoWest using geo-probes and one STP. On February 21, 2020, Geo-probe coring was conducted on the Project parcels to ensure a thorough investigation into any potential cultural or archaeological materials present in the Project area. These activities were monitored by PaleoWest archaeologists, and Cari Herthel of the Esselen Tribe of Monterey County. Bores 9 and 10 were cored at 26338 Valley View, bores 11-13 were cored at 26346 Valley View, bore 14, 15, and one shovel test pit (STP1) were completed at 26307 Isabella. Cores were drilled to a maximum depth of 5 ft below ground surface, the STP reached a depth of 18 in. The results of the geo-probe coring are outlined in Appendix A.

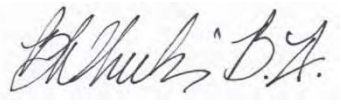
A continuous core was extracted from each bore location in order to identify and accurately depict the subsurface soil and sediment stratification. All core samples were extracted using a direct push method, collecting continuous core sample in 2.5-inch diameter transparent plastic tubes housed within a steel casing that was hydraulically driven into the subsurface in one five foot increment. All of these investigative efforts resulted in no evidence of cultural materials and no evidence of cultural soils or sediments within any of the parcels tested.

Recommendations

The additional Phase II Archaeological Presence/Absence Testing (GPR and geo-probe boring) for the Project parcels once again produced negative results, with no archaeological deposits or cultural sediments encountered. It is recommended that the mitigation measures in the Project's mitigated negative declaration (MND) be followed (Monterey County Planning Commission 2018).

Sincerely,

Evan Tudor Elliot, MA, RPA,
Senior Archaeologist,
PaleoWest Archaeology



Brenna Wheelis, B.A.
Associate Archaeologist, Project Manager
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PaleoWest

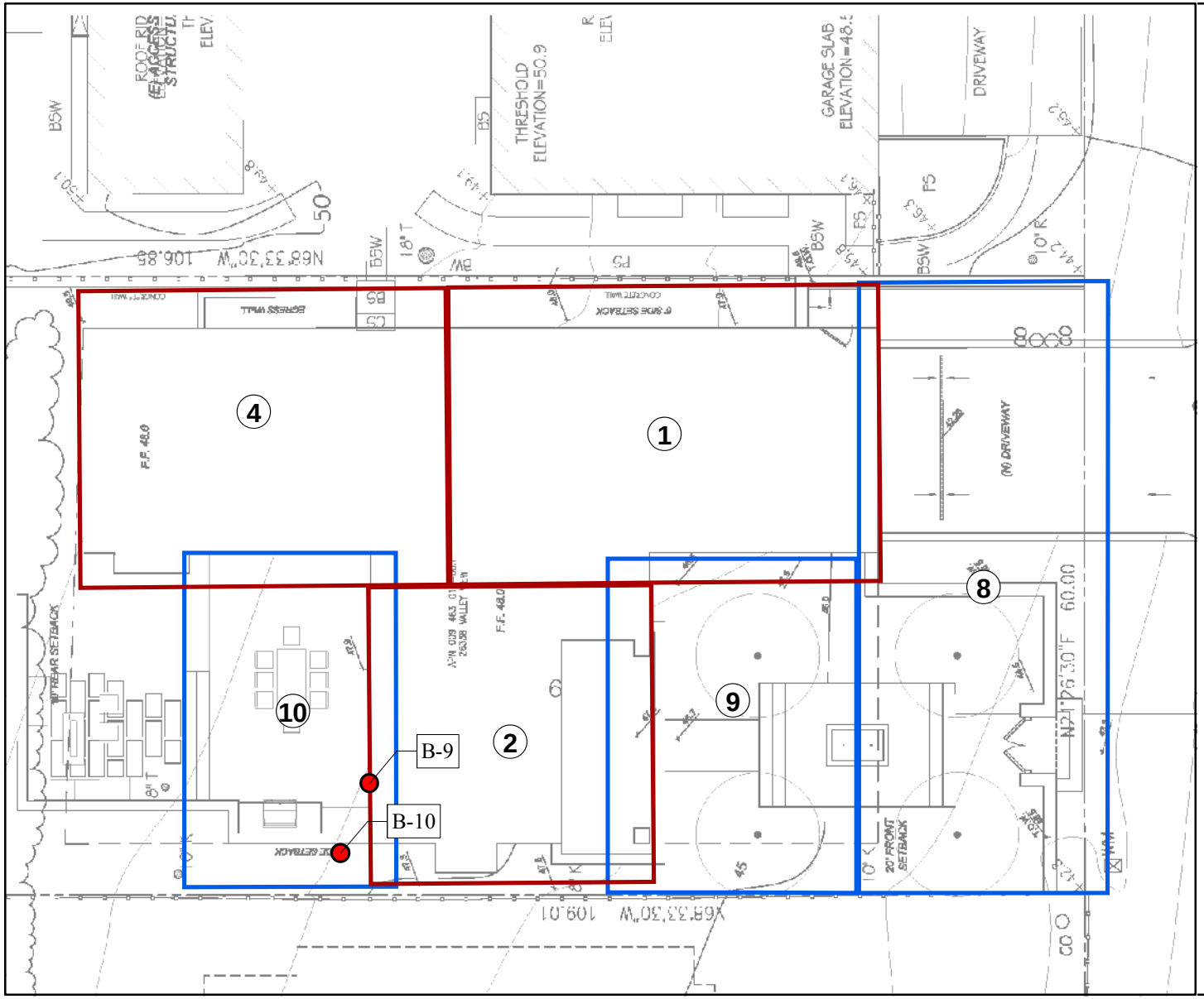
2019 Report on Additional Phase II Archaeological Presence/Absence Testing for Three Undeveloped Parcels in Carmel, California

Appendix A: Geo-probe Bore Results

Bore	Depth (ft).	Sediment description	Munsell	Cultural materials
9	0-1.5	Compact sandy loam, semi-moist, fine to medium granularity, no block structure, mild platy structure. Mild root turbation. No midden soil, shell, bone, or charcoal present.	10YR 3/2 very dark grayish brown	None
	1.5-2.25	Compact sandy loam, semi-moist, fine to medium Granularity, no blocky structure, mild platy Structure. Rodent krotovina lens. No midden Soil, shell, bone or charcoal present.	10YR 4/3 dark brown	None
	2.25-5	Compact sandy loam, semi-moist, fine to medium granularity, no blocky structure, mild platy structure. No midden soil, shell, bone, or charcoal present.	10YR 2/2 very dark brown	None
10	0-1.5	Compact sandy loam, semi-moist, fine to medium granularity, no blocky or platy structure, no roots or gravels. Sawdust in top 2". No midden soil, shell, bone or charcoal present.	10YR 4/2 Dark grayish brown	None
	1.5-5	Sandy loam, semi-moist, fine to medium granularity, no blocky structure, mild platy structure, no roots or gravels, no midden soil, shell, bone or charcoal present.	10 YR 2/2-2/1 Very dark brown/black	None
11	0-0.5	Loose sandy loam, minor roots, semi moist, fine-medium granularity, no blocky structure or platy structure, gravels <1%; No midden soil, shell, bone or charcoal present.	10YR 3/3-3/2 Dark brown-Very dark Grayish brown	None
	0.5-2	Semi-compact sandy loam, semi-moist, no blocky structure, mild platy structure. No midden soil, shell, bone or charcoal present.	10YR 3/1 Very dark gray	None
	2-4.5	Compact sandy loam, semi-moist, no blocky structure, mild platy structure. No midden soil, shell, bone or charcoal present	10YR 2/2 Very dark brown	None
	4.5-5	Compact coarse sandy, gravels <1%, mild block structure, no platy structure. No midden soil, shell, bone or charcoal present	10YR 4/3 Dark brown	None
12	0-0.5	Mildly compact topsoil/duff sandy loam, minor root turbation and gravels (<1%). No midden soil shell, bone or charcoal present.	10YR 4/2 Dark grayish brown	None
	0.5-1	Compact sandy loam, semi-moist, no blocky structure, mild platy structure. No midden soil, shell, bone or charcoal present.	10YR 3/2 Very dark grayish brown	None
	1-4.5	Compact sandy loam, semi-moist, no blocky structure, mild platy structure. No gravels. No midden soil, shell, bone or charcoal present.	10YR 2/2-2/1 Dark brown-Very dark Grayish brown	None
	4.5-5	Compact coarse sand, gravels <1%, slightly dryer than upper strata. Mild blocky structure, no platy structure. No midden soil, shell, bone or charcoal present.	10 YR 4/3-3/3 Dark Brown	None
13	0-0.5	Topsoil duff, loosely compacted, root turbation present, gravels <1%, no midden soil, shell, bone or charcoal present.	10YR 3/3 Dark brown	None
	0.5-4.5	Compact sandy loam, semi-moist, no blocky structure, mild platy structure. No gravels. No midden soil, shell, bone or charcoal present	10YR 2/2-2/1 Very dark brown-black	None
	4.5-5	Compact, dry coarse sand, gravels <1%. Mild	10YR 3/2	None

Bore	Depth (ft).	Sediment description	Munsell	Cultural materials
		Blocky structure, no platy structure. No midden Soil, shell, bone or charcoal present	Dark brown	
14	0-0.5	Topsoil duff, live plant matter and root turbation present. No blocky or platy structure. No midden soil, shell, bone, or charcoal present.	10YR 4/3 Dark Brown	None
	0.5-3.5	Compact sandy loam, semi-moist, fine to moderate granularity, moderate blocky structure (~1"), mild platy structure. No midden soils, Shell, bone or charcoal present.	10YR 2/2 Very dark brown	None
	3.5-5	Very compact, mottled loamy clay, semi moist, Decomposed granite gravel constituents <5%. No Midden soils, shell, bone or charcoal present.	10YR 3/4 Yellowish brown 10 YR5/1-5/2 Gray-grayish brown 10YR 5/3 Brown 10YR 5/6	None
15	0-0.5	Topsoil duff, loosely compact loam, fine to Moderate granularity. No midden soil, shell, bone Or charcoal present.	10YR 4/3 Dark Brown	None
	0.5-3	Compact sandy loam, dry, moderate granularity, Mild blocky structure, mild platy structure. No Midden soils, shell, bone or charcoal present.	10YR 3/3-3/2 Dark brown-very dark Grayish brown	None
	3-4.5	Compact silty sandy loam, fine granularity. Mild Blocky structure, mild platy structure. No midden Soils, shell, bone or charcoal present.	10YR 3/3 Dark Brown	None
	4.5-5	Compact coarse sand, dry, no blocky or platy Structure. Gravels <1%. No midden soils, shell Bone or charcoal present.	10YR 5/8-5/6 Yellowish brown	None
STP1	0-0.25	Topsoil duff, plant root and bark inclusions. No Midden soils, shell, bone or charcoal present.	10YR 4/3 Dark Brown	None
	0.25-1.5	Compact silty sandy loam, fine granularity. Mild Blocky structure, mild platy structure. Small mud-Stone present (~4 cm L), not worked. No midden Soils, shell, bone or charcoal present.	10YR 2/2 Very dark brown	None

Appendix B: Figures



PALEO WEST

Figure 1

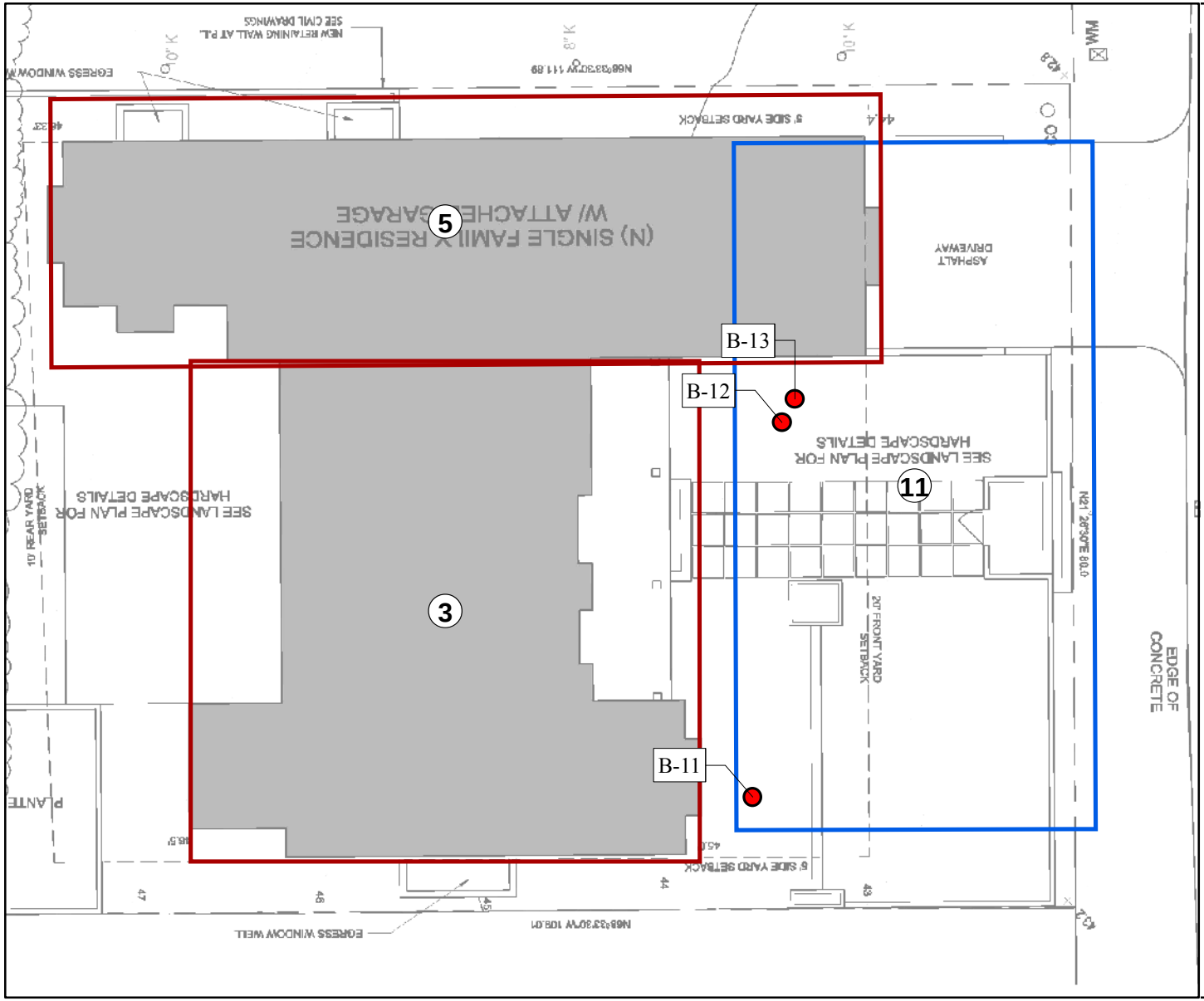
26338 Valley View
Carmel, CA 93923

Grid (2020)
Grid (2019)
Bore (B-#)

0 10
feet

0 5
Meters

Map Location



PALEO WEST

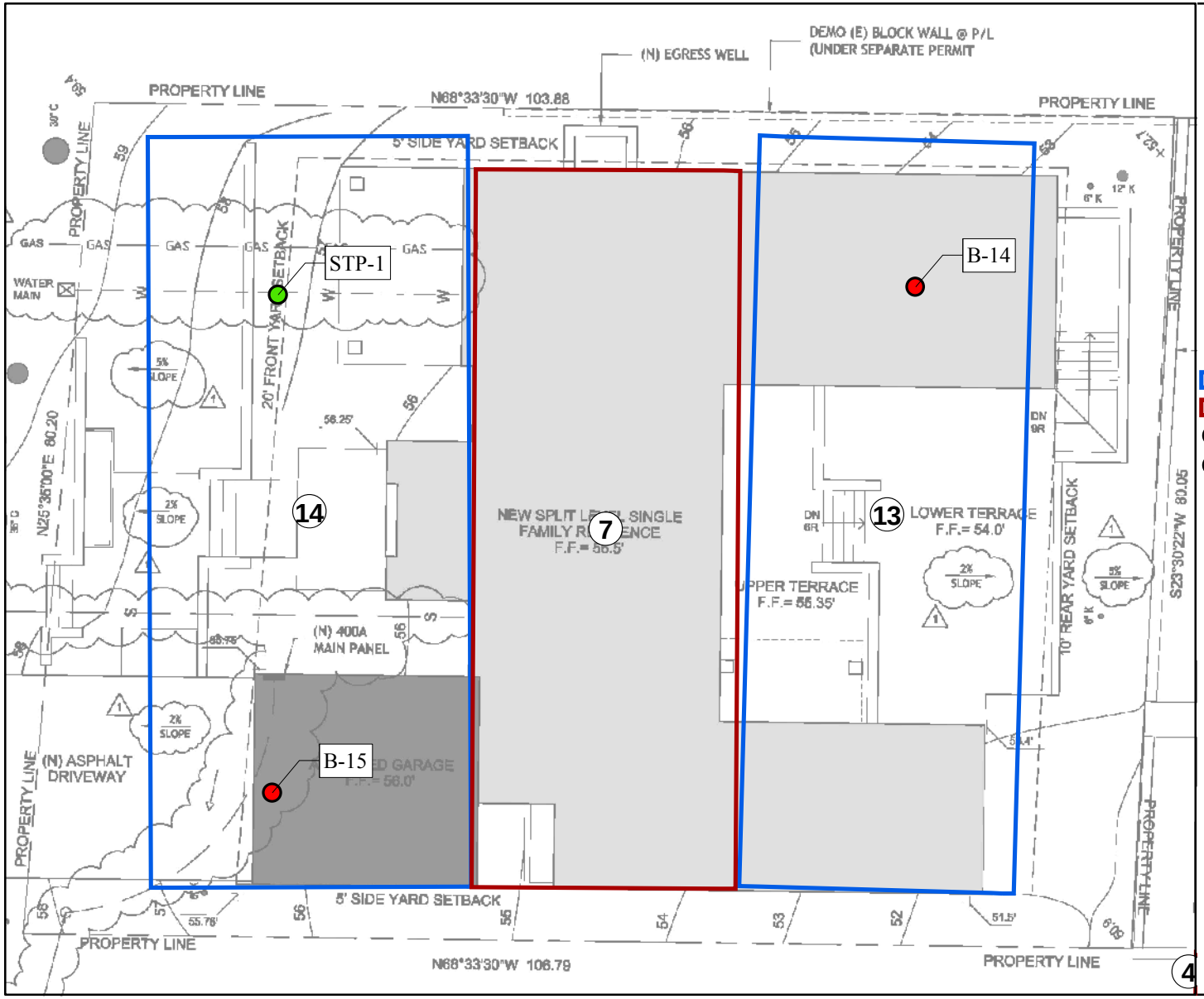
Figure 2

26346 Valley View
Carmel, CA 93923

Grid (2020)
Grid (2019)
Bore (B-#)

0 12
feet
0 5
Meters

Map Location



PALEO WEST

Figure 3

26307 Isabella Ave
Carmel, CA 93923

- Grid (2020)
- Grid (2019)
- Bore (B-#)
- Shovel Test Pit (STP-#)

0 12
feet
0 5
Meters

Map Location

PALEOWEST

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1870 Olympic Blvd, Ste 100
Walnut Creek, CA 94596

Technical Memorandum in Response to California Coastal Commission Appeal Staff Report (W32a-c)

Prepared for: Chris Adamski, Emerson Development, 24576 Portola Avenue, Carmel, CA 93923

Prepared by: Evan Tudor Elliott, MA, RPA, Senior Archaeologist, PaleoWest Archaeology

November 7, 2019

Background

On November 1, 2019, the staff of the California Coastal Commission (Commission) released a report addressing issues in an appeal of the coast development permits (CDPs) approved by the Monterey County Board of Supervisors regarding three developments of vacant lots in the Carmel Point neighborhood of unincorporated Monterey County. This appeal was filled by Save Carmel Point Cultural Resources (Appellant) against the Applicant, Emerson Development Group, Inc. Specifically, this appeal (numbers A-3-MCO-19-0039, A-3-MCO-19-0041, and A-3-MCO-19-0042) is regarding applications for 26307 Isabella Avenue (PLN170611, APN 009-463-012), 26338 Valley View Avenue (PLN170612, APN 009-463-017), and 26346 Valley View Avenue (PLN170613, APN 009-463-003). The Applicant retained PaleoWest Archaeology LLC (PaleoWest) beginning August 28, 2019, to provide additional Phase II archaeological presence/absence testing for the Valley View and Isabella Avenue projects (Project). Additionally, the Applicant retained PaleoWest to provide support for a technical response to the issues raised in the permit appeal and in the Commission Appeal Staff Report.

Appeal Staff Report Summary

The report prepared by staff for the Commission regarding this Project recommends that the Commission take control of the permitting activity and impose a set of conditions that include elements related to cultural resources. The report accepts that the Appellant raises substantial issues regarding the permit application, including that the Project activities are not consistent with the Monterey County Local Coastal Program (LCP) Land Use Plan (LUP) policies regarding archaeological resource protection. The Appellant contends that the County's approval does not appear to incorporate the LUP-recommended siting and design strategies to avoid and/or substantially minimize impacts to cultural resources, does not emphasize preservation of archaeological resources over excavation of the site, and does not ensure that archaeological resources would be protected and maintained for their scientific and cultural heritage value as required by the LCP. Furthermore, the Appellant suggests that the mitigation measures proposed for the Project will not "remedy the inconsistencies of the projects with the LCP with respect to protection of archaeological resources" and states that these measures are neither "meaningful or effective" (Watson 2019).

The staff analysis rejects the idea that the Project can follow the LCP and completely avoid culturally sensitive areas as "full avoidance would require denial of the residential projects, and denial could

engender constitutional takings questions…" (Watson 2019). Instead, staff suggests that the LCP can be followed by eliminating the substantial basements and any grading beyond basic foundation, utilities, and access installations.

Additionally, the Appeal Report suggests conditions that must be met, including:

- A representative of the Ohlone/Costanoan-Esselen Nation (OCEN) conduct a surface archaeological survey of the Project parcels,
- OCEN representatives would be required to monitor all subsequent ground disturbing activities to ensure cultural resource protection and would guide further archaeological work on the site.
- Any measures vetted during tribal consultation or spelled out in the County permit:
    - prohibiting the use of the same archaeological monitor during concurrent soil disturbing activities,
    - requiring cultural resource awareness and response training,
    - halting all work within 50 meters of materials or human remains discovered during construction,
    - providing for reburial offsite of any found human remains,
    - providing for project design contingencies if human remains are found onsite that cannot be reburied elsewhere,
    - returning any discovered artifacts to OCEN,
    - and recording a conservation easement to permanently protect any human remains that remain onsite.

The Appeal Report also suggests that a series of special conditions be added to the CDP. The conditions that regard cultural resources are:

> **Special Condition 1** requires the submittal of final plans demonstrating that the basement and other substantial subsurface elements have been eliminated from each of the projects.
>
> **Special Condition 3** requires that the CDP include the mitigation measures adopted by the County during the CEQA analysis, including any modifications to those measures spelled out in the Appeal Report.
>
> **Special Condition 4** requires additional surficial reconnaissance in the form of six additional test units around the perimeter of each proposed home, which must be performed in the presence of an OCEN representative and the Applicant prior to issuance of the CDP.

Related to Special Condition 4 are the Supplementary Archaeological Mitigations, that states that the "project archaeologist shall perform additional surficial reconnaissance, in the presence of an OCEN representative and the Applicant, comprised of at least six additional test units" as well as "the project archaeologist's recommendation as to whether any discovered materials should be considered significant" and, if so, the preparation of a Supplemental Archaeological Mitigation Plan, in consultation between the project archaeologist and OCEN.

Previous Phase I and Phase II Archaeological Investigations Summary

Between 2016 and 2018, a series of Phase I and Phase II archaeological investigations were conducted at the Project parcels by three different cultural resources management firms. In 2016, Albion

Environmental did an intensive examination of the parcels' surface, finding shell fragments and pieces of debitage. This led to Albion Environmental excavating eight shovel test pits, measuring 40 cm in diameter and up to 100 cm in depth. These resulted in a small amount of debitage and shell fragments, but no midden soils. They concluded that this was inconclusive and that the materials recovered may represent either the periphery of a much denser site located nearby or materials that have been redeposited here in the past (Albion Environmental 2016). Following this, Archaeological Consulting conducted a second Phase I survey on the Project parcels (Breschini 2017a, 2017b, 2017c). This survey found no surface evidence of potentially significant resources but recommended archaeological monitoring to minimize the chance of disturbing unknown buried archaeological deposits during ground disturbance. Finally, in 2018, Susan Morley led the excavation of four hand auger bores to a maximum depth of 3.05 m. These bores did not encounter any midden soils, shell or shell fragments, burnt or unburnt cobbles, bone, or lithic debitage, with a midsection fragment of a Franciscan chert biface as the only sign of prehistoric occupation (Morley 2018).

Phase II Archaeological Presence/Absence Testing Summary

The Phase II archaeological investigations were conducted to investigate the areas within the footprints of the Project excavation to the maximum depth of that excavation, considered to be 12 feet (ft) below ground surface (bgs). These investigations took the form of an initial ground-penetrating radar (GPR) investigation in order to identify if any potential buried archaeological features or human burials were present within the excavation areas. The radar anomalies were subsequently investigated with direct push sediment sampling bores (geoprobe bores). The geoprobe boring activities were monitored by Esselen Tribe of Monterey County. Together, these methods do not investigate whether any cultural deposits are intact or their eligibility to any federal, state, or local registers, but instead they test for the presence or absence of such materials, providing a way to assess the potential for encountering archaeological sites or human burials without conducting mass excavation throughout the entire Project area.

As a science that deals with unknown quantities, archaeological investigations generally provide assessment for the potential to encounter or not encounter cultural resources below the surface. These investigations cannot provide a definite conclusion as to whether any intact cultural deposits are present without completely excavating the area to a sediment older than the entry of humans into North America (approximately 15,000 years before present) or to bedrock. However, the techniques used at the Project parcels have an excellent record for identifying if any archaeological deposits are present within the depth described and thus it is extremely unlikely that any prehistoric or historic-era archaeological deposits or human burials are present within the excavation footprints above a depth of 12 ft bgs.

Ground-Penetrating Radar Testing Summary

GPR generates data via a series of specific time interval pulses of radar energy directed into the ground from a surface antenna that is moved across the area being investigated in transects. These pulses reflect off buried objects, features, or sediment strata and return to a receiving antenna that collects the reflection traces at intervals tallied with a calibrated survey wheel (Byram 2019; Conyers 2004, 2012). As this radar energy passes through different subsurface materials the wave velocity is altered depending on the physical and chemical properties of the material (Conyers 2004). Using multiple adjacent transects on a grid, this data is used to generate amplitude slice maps. Data from individual transects are shown as transect profiles (grayscale), and data from grids are presented as amplitude slice maps (RGB color), each representing a specified depth range (or time interval for radar travel). These maps represent varying depths and are the basis for GPR data interpretation and are used to identify features and sediment changes (Bayham 2019; Conyers 2004, 2012; Sunseri and Byram 2017).

Six GPR grids were surveyed at high resolution, 0.33 meter transect intervals. The grids were positioned over the design footprints for house excavation areas on the three parcels. Distinct features were visible in profiles and in slice maps. Many appear to be related to previous construction, irrigation, drain field, or refuse pit use. Others have been indicated as potential small pits of the size that could be burials, though GPR alone is not sufficient for determining the content of these pits. An effort was made to identify potential Native American site midden layers, as these often-laminated deposits are often recognizable. While likely buried surfaces have been identified, no laminated midden layers have clearly been identified (See Byram 2019 for full description of features and anomalies).

Once potential features were identified through the GPR testing, features that were considered more likely to represent archaeological deposits, particularly human remains or midden soils, were further investigated using direct push sediment sample bores, also referred to as geoprobes.

Direct Push Sediment Sample Bore Testing Summary

Direct push (DP) sampling methods provide an alternative to traditional rotary drilling methods for investigation of sediments and unconsolidated formations. These bores are accomplished using a hydraulic percussion hammer that advances a hollow tube casing into the subsurface and is retracted to recover samples incrementally as the bore continues deeper. The samples are presented in plastic sheaths that are opened to observer the sediments and strata. These bores are often referred to as geoprobes, after a commonly used system of DP sampling.

The GPR investigation suggested seven anomalies that had a higher likelihood of being cultural features or archaeological deposits. PaleoWest conducted the DP bore sampling at the locations of those anomalies on October 23, 2019.

- Bores 1-4 at 26346 Valley View Ave
- Bores 5-6 at 26338 Valley View Ave
- Bore 7 at 26307 Isabella Ave

Bores were advanced to a maximum depth of 12 ft bgs. A continuous core was extracted from each bore location in order to identify and accurately depict the subsurface soil and sediment stratification. Core samples were collected in 2.5-inch diameter transparent plastic tubes housed within a steel casing that was hydraulically driven into the subsurface in 4-ft increments. The results of the boring effort were negative, with no cultural material and no evidence of cultural soils or sediments encountered. Specifically, these core samples did not contain midden in any of the three parcels from the surface to 12 ft. bgs, the depth of planned construction excavation.

In general, the sediments near the surface were loamy sands, while the sediments near the bottom were coarser sands mixed with decomposing granite. The decomposing granite may represent an older layer that has become interspersed with the aeolian dune sand that is present throughout the sample depth. The sediments as observed are generally consistent with the Oceano-series sediments (UC Davis 2019). For further detail regarding these investigations, including descriptions of sediments encountered at different levels in each of the borings, please see Tudor Elliott and Wheelis 2019.

Response to Appeal Report

When the Commission staff composed their report, they did not have all the information regarding the amount and kinds of archaeological investigations that had been conducted on the Project parcels, and may not have fully understood the nature archaeological recommendations and how such

recommendations will almost never consist of conclusions that there is no chance of encountering unknown archaeological deposits.

It is concerning that the Appeal Report suggests that OCEN, a Native American tribe, conduct a "surface level archaeological reconnaissance" of the Project parcels and determine whether significant cultural materials are present. Within the CEQA and the permitting process, the role of Native American groups is to provide information about whether places of cultural significance will be impacted by a Project, not to provide archaeological services. Archaeological significance and Native American cultural significance are considerably different and should not be conflated. Having OCEN provide archaeological investigations also goes against the County's requirement (LUP Policy 2.8.3.5) that such investigations be conducted under the supervision of a qualified archaeologist who is a member of the Society of Professional Archaeologists (now the Register of Professional Archaeologists).

Additionally, it is inappropriate to single out OCEN in the CDP. OCEN is not the only Native American group in Monterey County or the only Native American group with interest in protecting the cultural resources of Carmel Point. Recently the County has been made aware that only consulting with OCEN is a violation of their responsibilities under Assembly Bill 52 and Senate Bill 18. Furthermore, it is not in the spirit of Native American consultation to privilege one group while ignoring others. While OCEN representatives have not monitored work within the Project parcels in the past, representatives of the Esselen Tribe of Monterey County were present for the geoprobe boring investigation. This group also has traditional cultural ties to Carmel Point and is committed to the protect and preservation of cultural resources related to their ancestral activities. The Esselen Tribe of Monterey County is included on the Native American Heritage Commission's list of groups to consult with and have indicated to Monterey County their interest to consult on projects under Assembly Bill 52.

The Appeal Report also suggests additional archaeological mitigations, including "surficial reconnaissance" in the form of six subsurface test units along the edges of each house footprint, and that those excavations be used to evaluate the significance of any finds. This is not truly mitigation, which is designed to reduce or eliminate impacts to archaeological site, but is instead identification and evaluation. Testing is aimed at determining if a site should be considered eligible for listing in federal, state, or local registers and is generally restricted to a very small sample, to limit disturbance to the site being investigated. Simply placing a large number of test units within the building footprint when there is no indication of an archaeological deposit present is not a sound methodology. If an unknown archaeological deposit was present there, that amount of excavation would most likely be inappropriate and arbitrary. The methods use by PaleoWest on the Project parcels, namely a combination of GPR and 2.5-inch diameter bores, is a more effective and potentially less damaging way of investigating the presence of archaeological materials. As those investigations did not reveal the presence of such deposits within 12 ft of the surface, further excavation in the form of test units is simply unnecessary (Tudor Elliott and Wheelis 2019). The presence of archaeological and Native American monitors during any ground disturbance is a more efficient way of identifying unanticipated discoveries which can then be subjected to evaluation for their significance.

An implication in the Appeal Report and the issues raised by the Appellant is that it is better to cover an archaeological deposit with a building rather than to perform data recovery excavation. Specifically, the Appeal Report states that "certified LUP policies that require archaeological resources to be maintained and protected for their scientific and cultural values." The scientific value of an archaeological resource is in the data that it contains. The idea that scientific value of any (unlikely to be present) archaeological resources is protected and maintained by eliminating deeper excavation but still permitting a building to be constructed that would permanently remove any access to the data that makes up that scientific value

runs contrary to that policy. The act of permanently restricting access to scientific value essentially causes it to be neither maintained nor protected.

LUP Policy 2.8.3.4 states that when development is proposed for parcels where archaeological resources are located, project design must avoid or substantially minimize impacts to such sites, and preserving the entire site rather than excavating the resource is mandatory (Watson 2019). This is an excellent goal, but not one that applies here. Despite the parcels being within the mapped boundaries of an archaeological site (CA-MNT-17), a series of four archaeological investigations have concluded that there is no evidence for the presence of archaeological resources. Additionally, it would be impossible to preserve the entirety of site CA-MNT-17 following that policy as the site has already been disturbed and destroyed in many of the surrounding parcels.

Therefore, the Appeal Report is insufficient to provide the Commission with an accurate and complete view of the Project and the likelihood of encountering previously unknown archaeological deposits. This in turn limits the Commission's ability to make a fair and informed decision regarding the Project and its potential to cause impacts to a significant archaeological site. The preponderance of evidence is that none of the archaeological sites within the immediate area (CA-MNT-16, CA-MNT-17, and CA-MNT-1286) extend into the three Project parcels in any observable way. The presence of a limited amount of archaeological materials in the 2016 Albion Environmental investigations likely represents the movement and redeposition of artifacts from denser site areas nearby, a conclusion that is supported by the almost complete lack of prehistoric materials encountered during the auguring conducted by Morley (2018) and during the 2019 DP sample borings conducted by PaleoWest (Tudor Elliott and Wheelis 2019).

Ultimately, a series of four different archaeological firms and multiple qualified archaeologists have come to the same conclusion, namely that there is no evidence for significant archaeological deposits within these parcels, whether or not the parcels are included within the boundaries of CA-MNT-17. Each of these archaeologists is highly experienced and believes in the protection and preservation of archaeological sites. To ignore that expertise and deny the Applicant a permit for construction that includes a basement based on issues of archaeology does not appear to be defensible.

Conclusion

From an archaeological standpoint, it is considered to be very unlikely that a significant archaeological deposit may be present within the excavation footprints of the proposed houses at 26307 Isabella Avenue (APN: 009-463-012), 26346 Valley View Avenue (APN: 009-463-003), and 26338 Valley View Avenue (APN: 009-463-017). From a cultural resources management perspective, there is no evidence that eliminating the basements from these planned houses would result in the preservation or protection of any archaeological site. The mitigation measures proposed in past cultural resources investigations (Albion Environmental 2016, Breschini 2017a, 2017b, 2017c; Morley 2018, Tudor Elliott and Wheelis 2019) and adopted by Monterey County are robust and will likely help prevent any impacts to unanticipated archaeological discoveries.

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Attachment A:
Report on Additional Phase II Archaeological Presence/Absence Testing for Three Undeveloped Parcels in Carmel, California

October 31, 2019

Chris Adamski
Emerson Development
24576 Portola Avenue
Carmel, California 93923

Report on Additional Phase II Archaeological Presence/Absence Testing for Three Undeveloped Parcels in Carmel, California

Dear Mr. Adamski,

PaleoWest Archaeology LLC (PaleoWest) in compliance with our contract with Emerson Development this letter report summarizes the results of the additional Phase II archaeological presence/absence testing in support of the Emerson Development Groups Valley View and Isabella Avenue projects (Project) in unincorporated Carmel, California.

This scope of work represents additional Phase II subsurface presence/absence testing for all Project parcels using ground penetrating radar (GPR). Direct push geo-probe boring technologies were implemented at locations where GPR studies identified anomalies with potential cultural features or strata. Three previous Phase I and II archaeological studies have concluded that the proposed Project would result in less than significant effect on unknown resources, and a mitigated negative declaration was adopted for each of the Project parcels in December 2018.

This report includes a summary of the project background, summary of previous studies, summary of environmental, cultural, and historic settings, a description of the results of the ground penetrating radar and contingent geo-probe boring activities, and professional recommendations.

Project Location and Description

PaleoWest understands that the Project is located in unincorporated Carmel, California and is located on three separate parcels: 26307 Isabella Avenue (APN: 009-463-012), and 26346 and 26338 Valley View Avenue (APNs: 009-463-003 and 009-463-017, respectively). The Project consists of three contiguous parcels that form an L-shape. There are no structures on the Project parcels and plans are proposed to construct a new single-family dwelling on each of these three parcels.

Cultural Setting

The cultural setting is based on the reports by Breschini (2017a, 2017b, 2017c). The project area is within the currently recognized ethnographic territory of the Ohlone or Costanoan group of Native Americans. Discussions of this group and their territorial boundaries can be found in Kroeber (1925), Levy (1978), Margolin (1978), and other sources. In brief, the Ohlone practiced a basic hunting and gathering subsistence pattern with some dependence on the native oak acorn crop. Habitation was semi-sedentary with most occupation sites located near water, such as the confluence of streams, terraces along streams, or in the vicinity of springs. Also, resource gathering and processing areas and associated temporary

campsites are frequently found in locations containing resources utilized by the group. Factors that may influence the locations of these sites include the presence of suitable exposures of rock for bedrock mortars or other milling activities, the presence of specific resources (oak groves, marshes, quarries, game trails, trade routes, etc.), proximity to water, and the availability of shelter. Temporary camps or other activity areas can also be found along ridges or other travel corridors.

Several archaeological surveys have been conducted in the vicinity of the Project parcels that identified and provided information on one local site, CA-MNT-17B. Four of these are pertinent to the Project area.

Cartier conducted a subsurface test on nearby parcel 009-463-014 in 1977. He excavated two 1-x-1-meter units and found dark soil containing lithic material without any clear stratification of the soil. Dark midden sediments were reported as deep as 180+ cm. This most likely is the same as the deep midden sediments found at CA-MNT-17A (Cartier 1977). In 1979, Cartier conducted archaeological work on another nearby parcel, APN 009-463-015. This project included trench excavation to a depth of 70 cm and construction monitoring. *Haliotis* and *Mytilus* shellfish remains were present along with several other species. Two pieces of bone thought to be prehistoric in origin (deer and rabbit) were also recovered. Artifacts included five utilized chert flakes, along with miscellaneous debitage. Four battered granitic stones made up the balance of the artifacts. No radiocarbon dating was conducted (Cartier 1979). In 2010 archaeological monitoring was conducted on parcel APN 009-463-009. A small rock feature and a number of stone artifacts were recovered. Most of the 27 artifacts recovered were granitic stones with a variety of end-and edge-battering. Also recovered were one granitic pestle, one granitic mano fragment, and seven ground stone artifacts, most of which appeared to be grinding slabs or slab. Two of the battered stones were also pitted. Finally, several andesitic artifacts were found, including three which may have functioned as choppers. Other midden constituents included one piece of large mammal bone and one chert flake. Finally, since no shell was recovered, no radiocarbon dating was performed. This area of CA-MNT-17 This area of the site was thought to be Early Period or Archaic in age (Breschini 2010). Finally, an assessment of APN 009-462-005, in the next block to the east, identified gray ashy sandy midden soil containing sparse small, eroded marine shell fragments (Doane and Breschini 2012).

Previous studies on the Project site

In 2016 Albion Environmental excavated eight shovel test pits to a depth of 80 cm or about 2.5 feet (Albion 2016). Two STPs on each parcel. AE also tested one parcel, 009-463-016, that is not part of this project. Albion's small-scale investigation produced 40 pieces of lithic debitage, low density fragmented marine shell, one piece of bone, and eight modern items including glass, rusted metal and plastic. Albion's field effort revealed a partially disturbed Project Area with limited cultural materials. No anthropogenic soils were observed, and no intact archaeological deposits were discovered. However, they did find enough cultural material to justify additional archaeological testing on the Project parcels.

In 2017, Dr. Gary Breschini conducted a second Phase 1 survey on the Project parcels (Breschini 2017a, 2017b, 2017c). His survey found no surface evidence of potentially significant resources. He recommended that the Project continue but with archaeological monitoring in case buried archaeological deposits be encountered during ground disturbance.

In 2018, auger testing was conducted on three parcels (APNs 009-463-003, 009-463-012, 009-463-017) under the direction of Susan Morley (Morley 2018). A total of four auger holes were excavated: two down to 3.05 m, one to 1.05 m that was refused when rock was encountered and one to 1.82 m which also ended on rock. No midden soils, shell or shell fragments, no burnt or unburnt cobbles, bone, or lithic debitage was encountered in any of the auger holes. Only one Franciscan chert biface midsection fragment was found at a depth of 40 cm. Archaeological monitoring during construction was recommended.

Ground Penetrating Radar (GPR)

Archaeological ground-penetrating radar (GPR) investigations were conducted on the Project parcels on the behalf of PaleoWest by Byram Archaeological Consulting in September 2019 (Bryam 2019).

Six GPR grids were surveyed at high resolution, 0.33 meter transect intervals. The grids were positioned over the design footprints for house excavation areas on the lots. On the 26338 Valley View lot Grids 1, 2 and 4 were surveyed. On 26346 Valley View, Grids 3 and 5 were surveyed. On the 26307 Isabella lot Grid 7 was surveyed.

Each grid consisted of parallel transects and were positioned adjacent to one another for transect data processing in GPR Slice software. Data from individual transects are shown as transect profiles (grayscale), and data from grids are presented as amplitude slice maps (RGB color), each representing a specified depth range (or time interval for radar travel). Depth estimates are approximate due to soil variation and surface conditions, but in general the GSSI SIR 4000 with the 350 HS digital antenna yielded accurate radar data up to 3.2 meters depth in the sandy soils of Carmel Point. For each grid, this depth range is presented as ns, or nanoseconds, representing the time window that corresponds to depth when dielectric properties are known. The RDP (dielectric constant) for the project area was determined to be 6.03, allowing the greater than normal depth at high resolution.

Distinct features were visible in profiles and in slice maps. Many appear to be related to previous construction, irrigation, drain field or refuse pit use. Others have been indicated as potential small pits of the size that could be burials, though GPR alone is not sufficient for determining the content of these pits. An effort was made to identify potential Native American site midden layers, as these often-laminated deposits are often recognizable. While likely buried surfaces have been identified, no laminated midden layers have clearly been identified.

26338 Valley View, Grids 1, 2 and 4

Grid 1 was the most vegetated of the grids at the time of survey, but for the most part good ground contact was made in all grids. There was little evidence of concentrations of objects such as rocks or bottles and cans. Small pits and extensive buried surfaces were not evident. One large, rectilinear feature from 1.5 to 2 meters deep was observed and thought to be a filled excavation pit.

Grid 2 is located south of and adjacent to Grids 1 and 4. A feature has deep expression with metal, and a concrete block on the surface nearby suggests this is a well. An adjacent buried surface at 2.4 meters from beginning to 5 meters was noted. Also there appeared to be a possible structure foundation or other feature complex.

In Grid 4, a possible buried horizon was observed at 2.6 meters depth. A shallow cluster of nodes and lamina is present between 2 and 3 meters on transect 97 that was recommended for further investigation. A possible pit feature at 10 meters in profile 113 (roughly 50 cm depth) was also observed

Two anomalies were selected for boring.

26346 Valley View, Grids 3 and 5

Grid 3 a change in soil at 1.3 meters depth noted in the north. Stumps and massive buried features are present in this grid. Another feature was thought to be part of a drain field or irrigation related structure.

In Grid 5 a shallow pit feature was located in the upper levels. A possible buried soil layer at 4 meters depth was identified in the northwest quadrant. Potentially it was thought it could hold cultural materials.

It was identified as either a midden sediment or a likely aeolian sand bedding. A set of reflection features in the northwest corner of Grid 5 were thought to be an irrigation structure such as an access vault with pipes extending outward from it at roughly 60-70 cm depth. Other pipes also appear to be present.

Four anomalies were selected for boring.

26307 Isabella, Grid 7

This is the only grid where transects run north to south, beginning in the southwest corner and continuing eastward at 3 per meter. The depth range was opened slightly to 3.25 meters for this grid. The land was reportedly a tree garden in the past, and root base excavation has likely occurred in several places for living tree removal. Results showed a more level southern buried surface at 1.9 meters depth lapping over a dune slope to the north. The dune deposit was homogenous except where pits intrude. Distinct features possibly related to tree garden activity were identified. The southern area where a buried surface appeared was recommended for testing for buried features. This anomaly was selected for boring.

Geo-probe Boring

Seven anomalies thought to be cultural features or strata were identified during the ground penetrating radar study, PaleoWest conducted geo-probe investigations of the positive locations: bores 1-4 at 26346 Valley View; bores 5-6 at 26338 Valley View; bore 7 at 26307 Isabella. PaleoWest conducted the geo-probe bores on October 23, 2019. A hydraulic coring device, or "geo-probe," was used to obtain core samples from the seven anomalies. Cores were drilled to a maximum depth of 12 feet bgs. A continuous core was extracted from each bore location in order to identify and accurately depict the subsurface soil and sediment stratification. All core samples were extracted using a direct push method, collecting continuous core samples in 2.5-inch diameter transparent plastic tubes housed within a steel casing that was hydraulically driven into the subsurface in four-foot increments. The results of the geo-probe boring were negative, no cultural material and no evidence of cultural soils or sediments were encountered. The results of the boring are tabulated in Appendix 1.

Recommendations

Although the additional Phase II Archaeological Presence/Absence Testing (GPR and geo-probe boring) for the Project parcels produced negative results, with no archaeological deposits or cultural sediments encountered, it is recommended that the mitigation measures in the Project's mitigated negative declaration (MND) be followed to ensure that no significant impacts occur to archaeological remains (Monterey County Planning Commission 2018). The potential for finding components of the prehistoric site CA-MNT-17 and -17B on the Project parcels remains.

The MND mitigation measures include the implementation of archaeological and tribal monitoring during Project construction, the use of a flat blade during all excavations with a backhoe, which should be equipped with rubber tires, and the following all state and county protocols in the case of the discovery of human remains.

Sincerely,

Evan Tudor Elliot, MA, RPA,
Senior Archaeologist,
PaleoWest Archaeology

Brenna Wheelis, B.A.
Associate Archaeologist, Project Manager
PaleoWest Archaeology

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Appendix A: Geo-probe Bore Results

Geo-probe Boring Results

Bore	Depth Range (ft)	Sediment Description	Munsell Color	Cultural Materials
1	0-5.30	Semi-moist. fine to medium granularity, minor root turbation in first 3 ft. No platy structure, no blocky structure. No shell, no faunal, no lithic, no charcoal, no midden soil. Gravels <1%	10YR 3/2 very dark grayish brown	None
	5:30-6.25	Dry and compact, medium to coarse granularity. No root turbation, no platy structure, medium blocky structure. No shell, no faunal, no lithics, no charcoal, no midden soils. gravels<1%	10YR 3/2 very dark grayish brown	None
	6.25-6.33	Small granite rock, decomposing or impacted by pressure of direct push probe. sitting on top of dune formation, in between sandy loam/sand dune transition.	5Y 7/2 light gray	None
	6.33-12	Semi-moist compact sand, decomposed granite, moderate-coarse granularity, no platy structure, mild blocky structure. No shell, no faunal, no lithic, no charcoal, no midden soils. No root turbation.	10YR 5/6 yellowish brown	None
2	0-6.2	Dry, fine to moderate granularity, no platy structure, no blocky structure. no shell, faunal, lithic, charcoal. no midden soils.	10YR 3/2 very dark grayish brown	None
	6.2-12	Stark transition from loamy sand to sand. coarse granularity, no platy structure, mild blocky structure. no shell, no faunal, no lithic, no charcoal, no midden soils	10YR 5/4 yellowish brown	None
3	0-6.2	Dry, fine to moderate granularity loamy sand, no platy structure, no blocky structure. mild root turbation, no gravels, no shell, no bone, no lithic, no charcoal, no midden soils. gravels <1%	10YR 3/2 very dark grayish brown	None
	6.2-12	Semi moist, compact, moderately blocky and coarse sand (<1 cm max length). no cultural inclusions, no rodent or root turbation	10YR 3/1 very dark greenish gray	None
4	0-3	Dry, compact loamy sand, no platy or blocky structure, no cultural constituents, mild root turbation.	10YR 6/4 light yellowish brown	None
	3-6.1	Compact, fine, loamy sand, no platy or blocky structure, no cultural constituents. no root turbation or gravels.	10Y 3/2 very dark grayish brown	None
	6.1-12	Compact, dry, coarse, no platy structure, moderate blocky structure, no cultural constituents.	10YR 2/2 very dark brown	None
5	0-3.5	Dry, semi compact, fine to moderately fine granularity, no platy structure, no blocky structure, no cultural constituents, mild root turbation, gravels <1%	10YR 6/4 light yellowish brown	None
	3.5-7.2	Dry, compact, fine to moderate granularity, no platy structure, no blocky structure, no cultural constituents, mild root turbation.	10YR 2/2 very dark brown	None
	7.2-12	Coarse, dry, compact sand. mild blocky structure, no platy structure. no root turbation, rodent krotovina at 11.25'. no cultural constituents.	10YR 6/2 light brownish gray	None
6	0-4 in.	Semi compact, dry, fine granularity. no platy or blocky structure. rubber pipe segment	10YR 2/2 very dark brown	Constructi on debris
	4-8 in.	Present with lime rich conglomerate, modern concretions (cement tailings).	10YR 2/2 very dark brown	Cement tailings
	8-20 in.	Semi moist, compact, fine granularity, no platy structure, no blocky structure. no root turbation or cultural constituents.	10YR 5/6 yellowish brown	None
	20 in.-6.7	Compact, dry, semi coarse sandy loam, no platy or blocky structure, no cultural constituents.	10YR 3/2 very dark grayish brown	None
	6.7-12	Coarse, dry, compact sand, no platy structure, no blocky structure. no shell, bone, lithic, charcoal, midden soils. no root turbation, no rodent krotovina	10YR 4/6 dark yellowish brown	None

7	0-5	Dry, fine granularity loamy sand. no platy or blocky structure, no cultural constituents. mild root turbation	10YR 3/2 very dark grayish brown	None
	6-May	Moderately coarse and compact sand, discreet transition from sandy loam to sand. no platy structure, mild blocky structure. soils are very hard, break out of core with difficulty. no cultural constituents, no gravels.	10YR 5/4 yellowish brown	None
	6-6.8	Homogeneous with previous stratum; rodent krotovina present	10YR 5/4 yellowish brown	None
	6.8-12	Coarse, compact sand dune formation. granularities measure ~1cm max length. Decomposing granite, no cultural constituents. small gravels present between 10-12'.	10YR 3/2 very dark grayish brown	None

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Attachment B:
Ground-Penetrating Radar at Valley View and Isabella Properties, Carmel, California

Ground-Penetrating Radar at Valley View and Isabella Properties, Carmel, Ca.

by Scott Byram, Ph.D., R.P.A.

Byram Archaeological Consulting, LLC, El Cerrito, Ca.

Prepared for PaleoWest Archaeology

September, 2019

Archaeological ground-penetrating radar (GPR) investigations were conducted at Two Valley Veiw and two Isabella lots on Carmel Point to help determine whether buried cultural features and human burials may be present within areas of planned excavation for home construction. The results of this GPR survey are presented in this report, following context and methodology discussion. Methods used here follow those presented by Byram et al. (2018), and Sunseri and Byram (2017).

GPR grids were surveyed at high resolution, 0.33 meter transect intervals. A total of seven grids were positioned over the design footprints for house excavation areas on four lots. On the Valley View north lot Grids 1, 2 and 4 were surveyed. On Valley View south, Grids 3 and 5 were surveyed. On the western Isabella lot Grid 6 was surveyed, and on the eastern Isabella lot Grid 7 was surveyed.

Each grid consists of parallel transects that are positioned adjacent to one another for transect data processing in GPR Slice software. Data from individual transects are shown as transect profiles (grayscale), and data from grids are presented as amplitude slice maps (RGB color), each representing a specified depth range (or time interval for radar travel). Depth estimates are approximate due to soil variation and surface conditions, but in general the GSSI SIR 4000 with the 350 HS digital antenna yielded accurate radar data up to 3.2 meters depth in the sandy soils of Carmel Point. For each grid, this depth range is presented as ns, or nanoseconds, representing the time window that corresponds to depth when dielectric properties are known. The RDP (dielectric constant) for the project area was determined to be 6.03, allowing the greater than normal depth at high resolution.

Distinct features are visible in profiles and in slice maps. Many appear to be related to previous construction, irrigation, drain field or refuse pit use. Others have been indicated as potential small pits of the size that could be burials, though GPR alone is not sufficient for determining the content of these pits. An effort was made to identify potential Native American site midden layers, as these often laminated deposits are often recognizable. While likely buried surfaces have been identified, no laminated midden layers have clearly been identified.

Note that this is not a utilities and hazards survey. While information about buried utilities may be posited in the report, this is for the purpose of understanding archaeological patterning and the effects of utilities placement (such as trenching) on site deposits. To avoid encountering buried utilities, call for a utilities locate. Approach any buried anomaly with caution, particularly those associated with utilities, waste disposal etc.

GPR Methods

Ground-penetrating radar data are generated by sending pulses of radar energy into the ground from a surface antenna at a specific time interval (Conyers 2004, 2012). The energy reflected off buried objects, features, or strata is measured as the waves return to a receiving antenna, often as it is moved along a transect, collecting reflection traces at intervals tallied with a calibrated survey wheel. The data are sampled and processed by a control unit designed for this purpose (SIR 4000), attached by cable to the receiving 350MHz antenna.

As radar energy passes through different subsurface materials the velocity of the waves changes depending on the physical and chemical properties of the material (Conyers 2004). The larger the contrast in electromagnetic properties (measured as RDP, or relative dielectric permittivity) between two materials at an interface, the stronger the reflected signal. This determines the amplitude of the radar wave at a specific depth. Radar variation depends on sediment mineralogy, ground moisture, survey depth (radar time window) and site topography. Electrically conductive or highly magnetic materials including salt and some clays will attenuate the radar energy, resulting in little or no reflection in profile and less depth of data profiles. Dry sediments are generally more reflective than saturated sediments, resulting in deeper dry soil penetration and more detailed reflections when traces are combined to form a transect profile.

Data processing was done with GPR Slice software, developed by Dean Goodman. Amplitude slice maps are generated from multiple adjacent transects collected in a grid at fixed intervals. These maps represent varying depths, or segments of the time window for radar travel. Analysis of transect profiles is central to archaeological interpretation of GPR data (Sunseri and Byram 2017; Conyers 2004, 2012). There are several steps to processing radar data for interpretation. For an individual transect profile, signal gains may be adjusted to compensate for diminishing signal return with depth. Continuous, horizontal background waves may be uniformly removed, though care must be taken to avoid removal of horizontal patterns that are not due to ambient radar energy. Filtering of high and low frequency radar energy may be adjusted. Determining depth through assessment of RDP value and hyperbola fitting may be useful, RDP in one part of a site may be different from another, particularly when stratum constituents vary across the site. In this report, an approximate depth scale appears at the left axis of GPR transect profile images. Often radar return time in nanoseconds is displayed instead of depth.

All transect profiles were examined and related to slice map patterns at transect locations. The GPR data remain archived and are available to researchers upon request, in digital format. A small number of grids were also processed using GPR Slice software. Archived data files include .DZT files compatible with

Summary of Findings at Carmel Point Lots

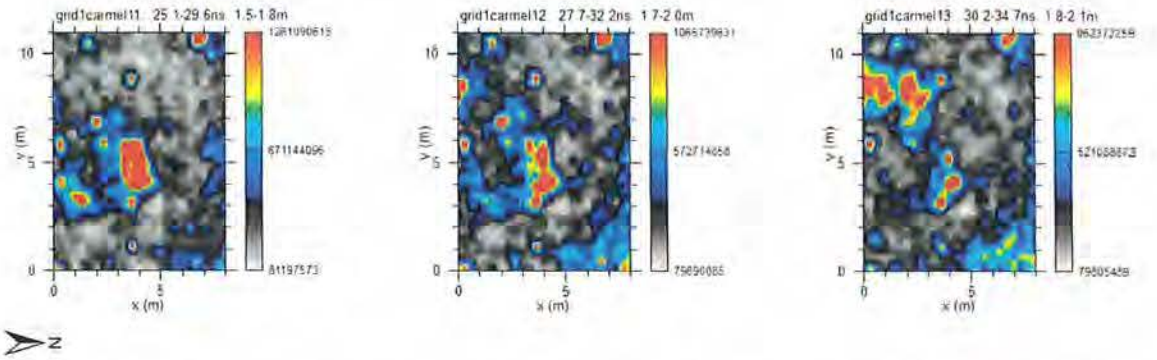
Several linear and rectilinear features were observed, and while many are likely irrigation or drain pipes, some may be building foundations or filled trenches and pits. Archaeological excavation may be needed to further assess the nature of these. Roots may account for many distinctive reflections (arcing point

reflections of variable width), but metal is also present in places, presenting a pole-like "ringing down" of multiple reflections beneath the antenna. Some of the stratigaphic transitions noted in profiles and slice maps may represent buried soils that can be tested to determine if they contain cultural midden. In the event that a cultural midden layer is identified, GPR data for this location can be revisisted to assess the variability within this layer.

In the grid by grid discussion that follows, reference is made to Grids 1 through 6, the starting corner for GPR transects is the southeast, where the X axis is at 0 meters and the Y axis is also at 0 meters. Locations specified in this report will refer to the start corner and the X and Y axis, as shown in slice maps. For example, a feature may be centered at X = 3 m, Y = 4.5 m, at a depth of 40-60 cm. Please refer to the individual slice map sets (Appendix 1) for each grid. Some examples of selected slice maps are included in the grid by grid discussion, but there are 20 slices for each grid, with features appearing at different depths.

Grid 1

Grid 1 was the most vegetated of the 7 grids at the time of survey, but for the most part good ground contact was made in all grids. Vegetation includes bushes and small trees. Most of the Grid 1 features appear to be layers or large objects with smooth surfaces. There is little evidence of concentrations of objects such as rocks or bottles and cans. Small pits and extensive buried surfaces are also not evident.

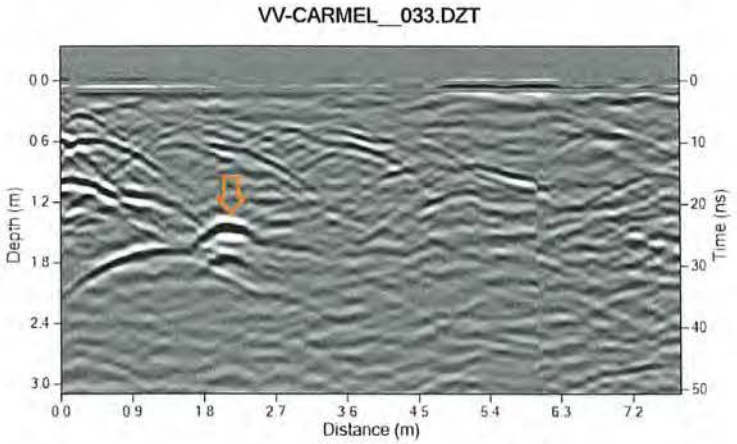


Above: In Grid 1 slice maps ranging from 1.5 to 2.1 meters above, a large, rectilinear feature from 1.5 to 2 meters deep at base of large feature that appears in shallower slice maps. Shown above, the feature complex at the lower depths extends west into the southwest portion of the grid, and may extend south of the grid.

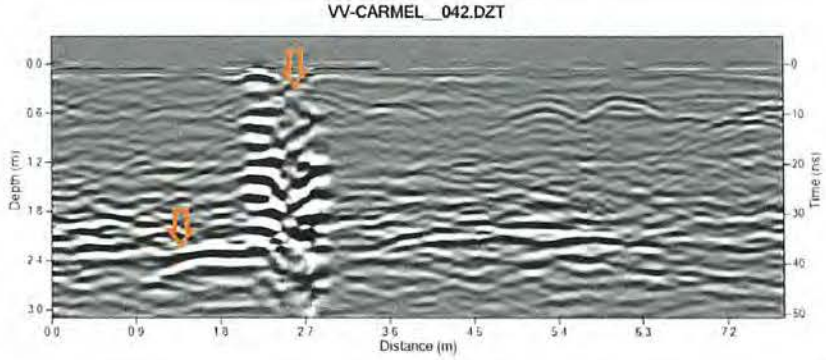
The lack of small node reflections suggests this is a filled excavation pit. Probing may determine otherwise. No other features were evident in Grid 1.

Grid 2

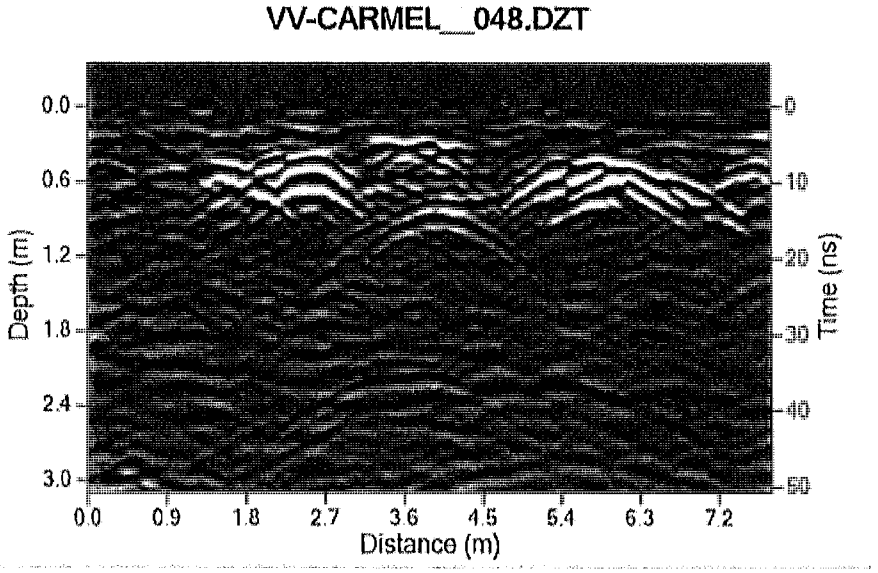
Grid 2 is located south of and adjacent to Grids 1 and 4. The starting file is 31, beginning in the southeast corner running west. Near the start trees are adjacent to the grid. A deeper feature was noted in this area, similar to the one in the southwest corner of grid 1, but this feature does not appear to be continuous through the northern portion of Grid 2.



Above: an object at X = 0.5 m, Y = 2 m in the southeast corner of Grid 2. This may be a segment of irrigation or drain pipe. Some of the complex reflections in this portion of the grid are likely roots of the nearby trees.



Above: File 42 feature has deep expression with metal, and a concrete block on the surface nearby suggests this is a well. An adjacent buried surface at 2.4 meters from beginning to 5 meters is noted. Location of the upper arrow in file 42 is X = 3m, Y =2.5 m in Grid 2. Note that the lower planar feature may be narrow, running east-west. It could be unrelated to the upper one, as the metallic "ringing down" from above can cloak deeper radar data. In the NW corner of grid a buried surface was also noted at this approximate depth, and it appears to extend into the grid to the north.

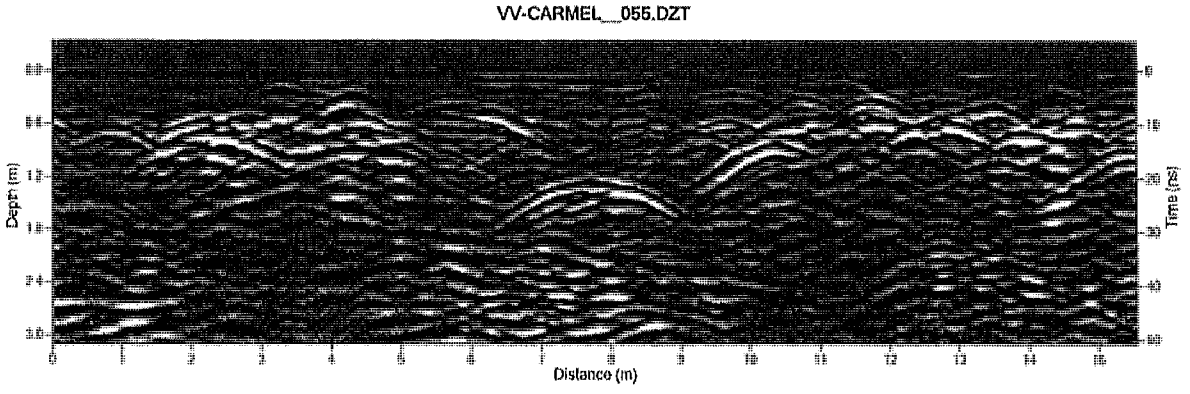


Above: File 48 is typical of those in the northern half of Grid 2, with slice maps showing a possible structure foundation or other feature complex. This is most evident in slices near the 50 cm depth range in the slice map set. Transect 48 is viewed facing north, and this transect is at 5.7 meters on the grid's X axis (Grid X = 0, Y= 0 is at the southeast corner). File 52 is the last Grid 2 file, overlapping with first files in grids 1 and 5 respectively.

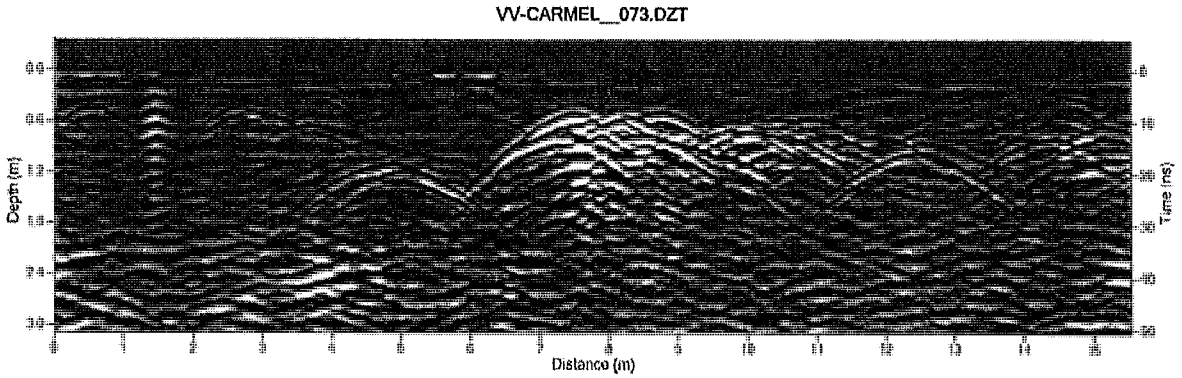
Summary of Grid 2: Excavation may determine if the mid- depth feature complex in Grid 2 is of cultural origin and potentially significant.

Grid 3

Located in the southern part of Valley View parcel south. Transects run west from the southeast corner for 15 meters beginning with file 53. A change in soil at 1.3 meters depth noted in the north. Stumps and massive buried features are present in this grid.



Above: File 55 in Grid 3, facing south. There are roots of large trees in this portion of the grid, but probing at this location could determine if a feature is present at X = 0.7 m, Y = 3 m



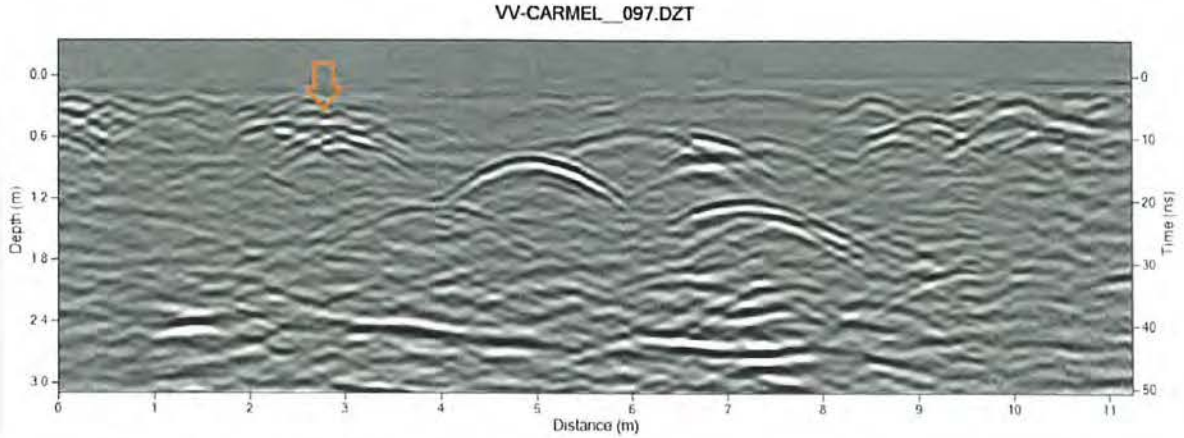
Above: File 73 in Grid 3 facing south. This feature may be part of a drain field or irrigation related structure. The arrow in file 73 marks the position X = 6 m, Y = 8 m in grid 3 slice maps, at 60 cm depth. In plan view this feature extends below a meter deep and is rectilinear at some depths, as is seen on Grid 3 slice maps.

Summary of Grid 3: The west edge of the grid in the southwest corner and the larger feature complex in the center are the two areas of potential for testing.

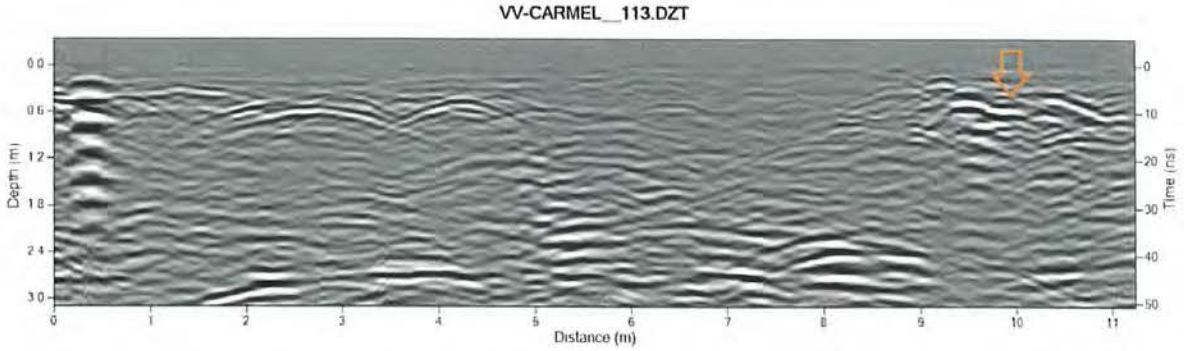
Grid 4

This grid is located in the northwest corner of the Valley View parcel. 12.5 meter transect length, slightly longer than adjacent grid 1 to east. Stumps and brush were removed shortly before the GPR survey.

Buried horizon extends from south, 2.6 meters deep. Stump clusters at west end of grid 4 in and out of grid.



Above: A shallow cluster of nodes and lamina is present between 2 and 3 meters on transect 97 (viewed facing south) at 35-70 cm depth (orange arrow). Recommended for further investigation, and located at X = 0.7 m and Y = 2.8 m. It is possible that this feature is actually a root cluster, but this may become evident through surface examination. Deeper probing at the center of the X = 0.7 m transect (file 97) could determine if a buried soil is present in this area, as a stratigraphic change is indicated below 2.4 meters.

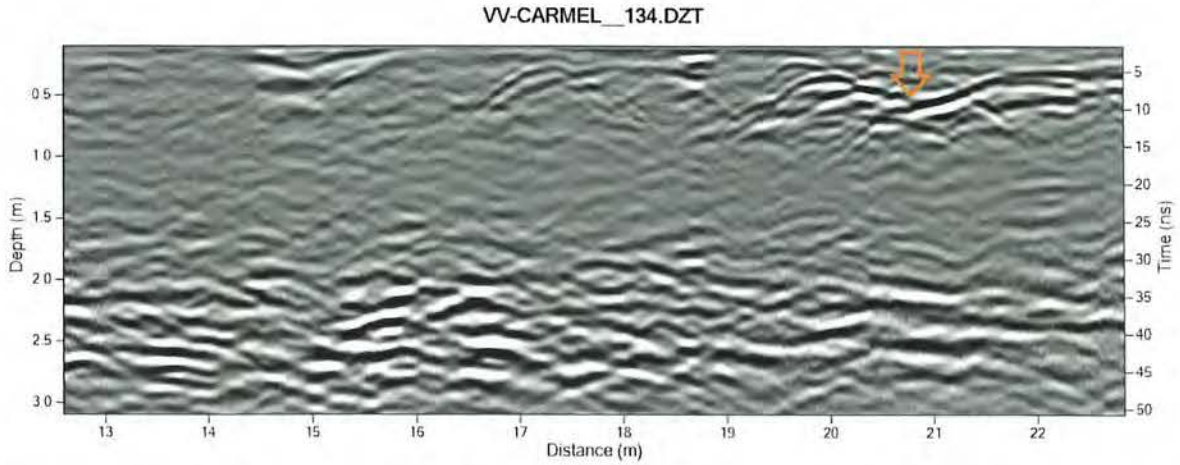


Above: A possible pit feature at 10 meters in profile 113 (roughly 50 cm depth). Location: X=6m Y=10m.

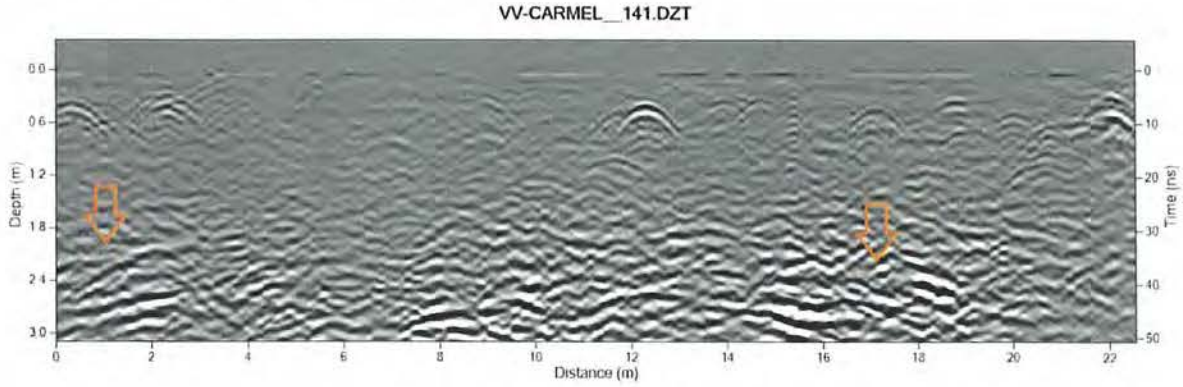
Summary of Grid 4: Deeper probing to assess a potential buried soil, and shallow testing of the two small features below 40 cm depth are recommended.

Grid 5

This grid is located north of and adjacent to Grid 3 in the southern Valley View parcel. Transects are 23.5 meters in length, spaced at 37 cm.



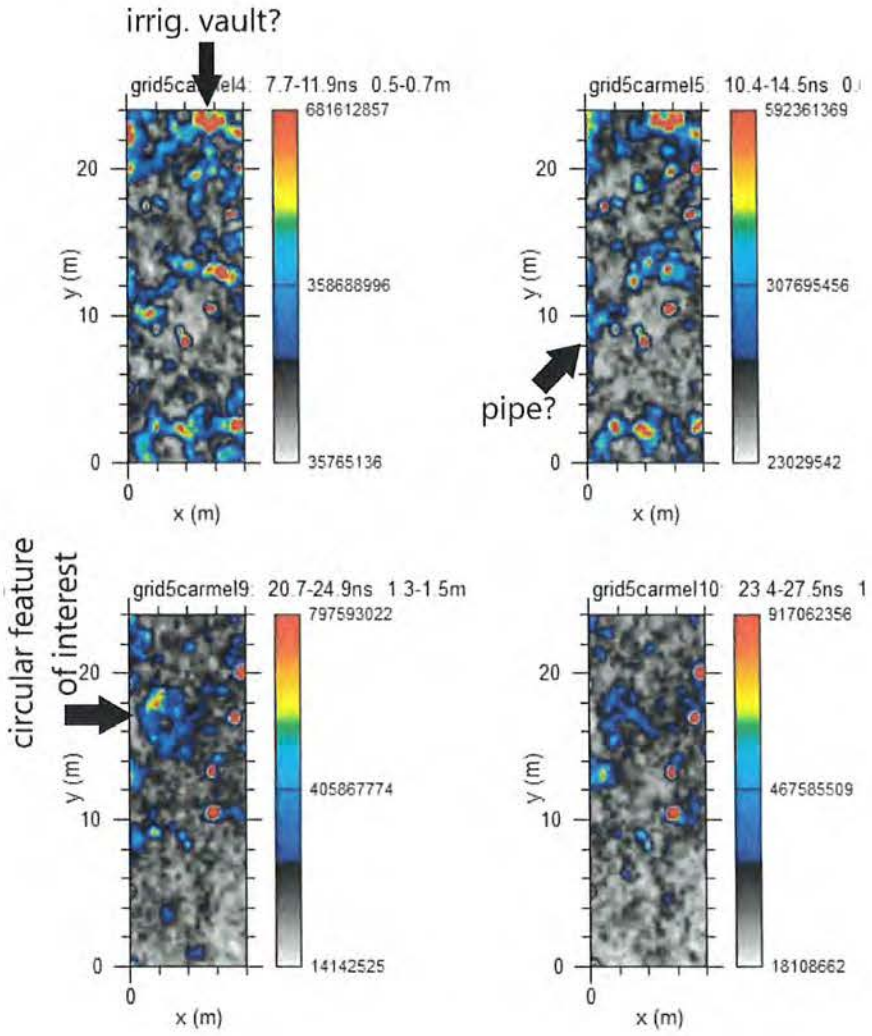
Above: A shallow pit feature centered at 21 meters in file 134, 2 m from east grid edge. A stake was left at this location X = 4.4 m, Y = 2.0 m.



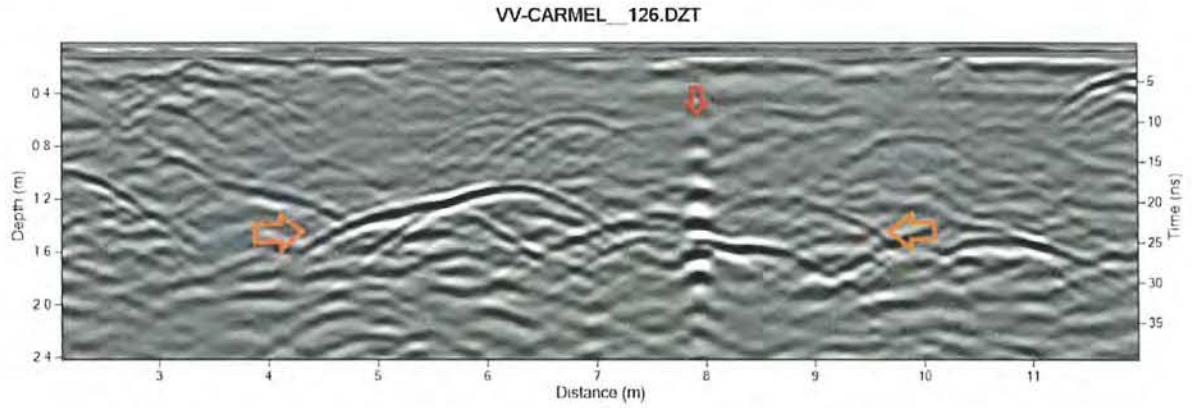
Above: Deeper stratified deposits may be of interest (see lower arrow in file 141) most evident in the northeast quadrant should be probed to determine if it is a buried soil layer that may hold cultural materials. Augering may determine if this is a buried soil. It may be laminated in places, as is often the case with midden, but if no soil is present and there are no other indications of a stable surface later buried by dunes, then the deposits are most likely aeolian sand bedding.

Slice maps (see those labeled below) indicate a set of reflection features in the northwest corner of Grid 5 may be an irrigation structure such as an access vault) with pipes extending outward from it at roughly 60-70 cm depth. Other pipes also appear to be present.

A feature of primary interest in Grid 5 is a circular planar feature centered at Y17/X3 at 4 meters depth. This is marked with an arrow in slice map 9, below, and a profile that crosses the feature is shown in the subsequent figure. This circular GPR reflection feature is recommended for further archaeological investigation.



Above: Selected Grid 5 slice maps with arrows marking features discussed in preceding section and below.



Above: facing north, a portion of transect profile 126 in Grid 5. The area between the two orange arrows corresponds to the circular feature of interest in Grid 5 slice maps at approximately 1.4 meters

depth. The red arrow marks what is likely the base of a vertical rebar or metal fence post, likely unrelated to the feature in question.

Summary of Grid 5: The circular feature shown on the slice map and in file 126 are of primary interest, in addition to the more shallow pit feature marked with a stake 2 meters from the east edge of the grid. Deeper deposits should be probed to determine if they are buried, layered soils that may contain midden.

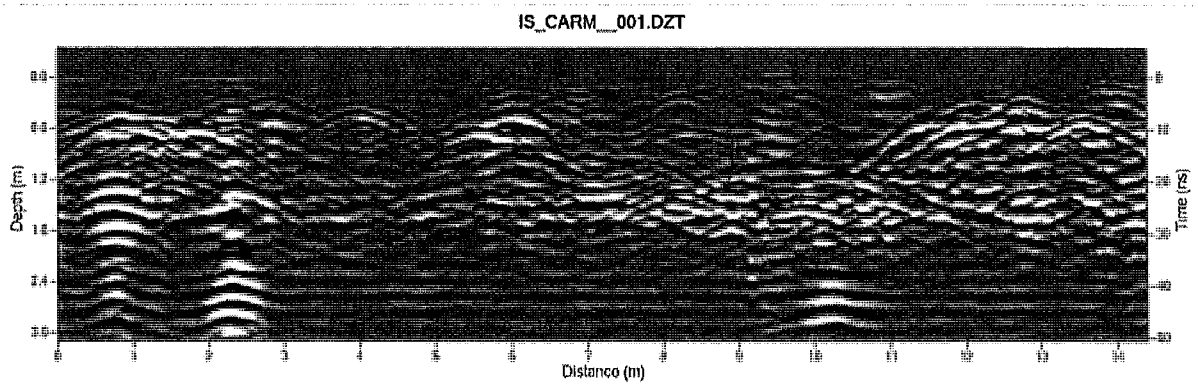
Grid 6

Grid 6 (Isabella West) files begin with 1, running west from the southeast corner. This is a similar geomorphic setting to that of the Valley View parcels where grids 1-5 were done. Transect spacing is also 3 per meter here.

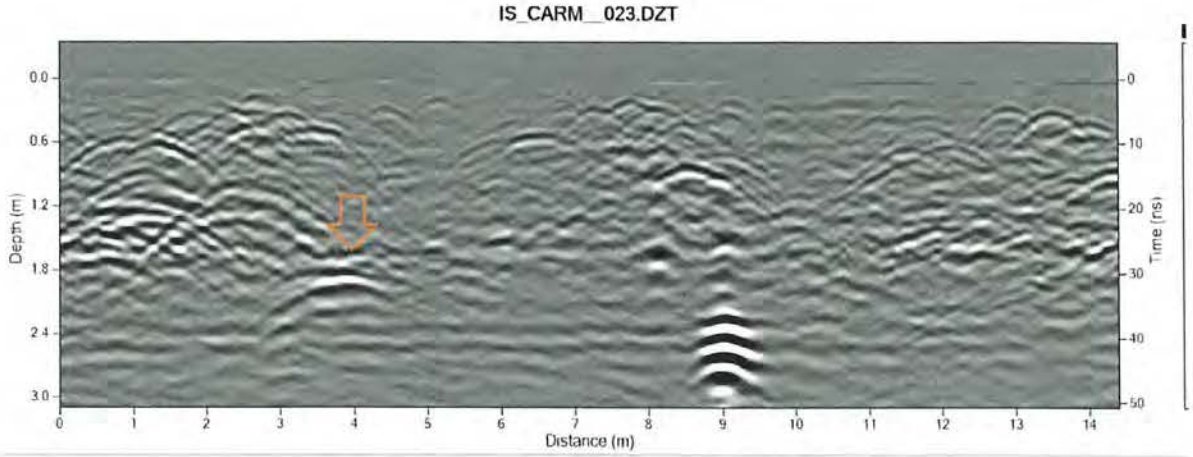
Trees border north and south of grid, live oak primarily. Tree roots likely account for some of the variability within the grid. More pronounced is metal from the poles located along the perimeter and interior, set deep in places. In the slice maps, high amplitude reflections derived from the metal in these poles are very distinct in the lower slices. These are due to the "ringing down" or multiple reflection process caused by metal reflecting high amounts of energy back to the receiving antenna.

Based largely on slice maps, one area of interest for testing is at X = 1.7 m, Y = 10 m. A large difference in the sediments here may be related to a cultural feature of unknown origin.

Likely trenching and possible pipe placement are noted in portions of the grid, particularly in the upper meter.



Above: Buried stratum of interest in file 1 at 9 meters, (south edge of grid) facing south.



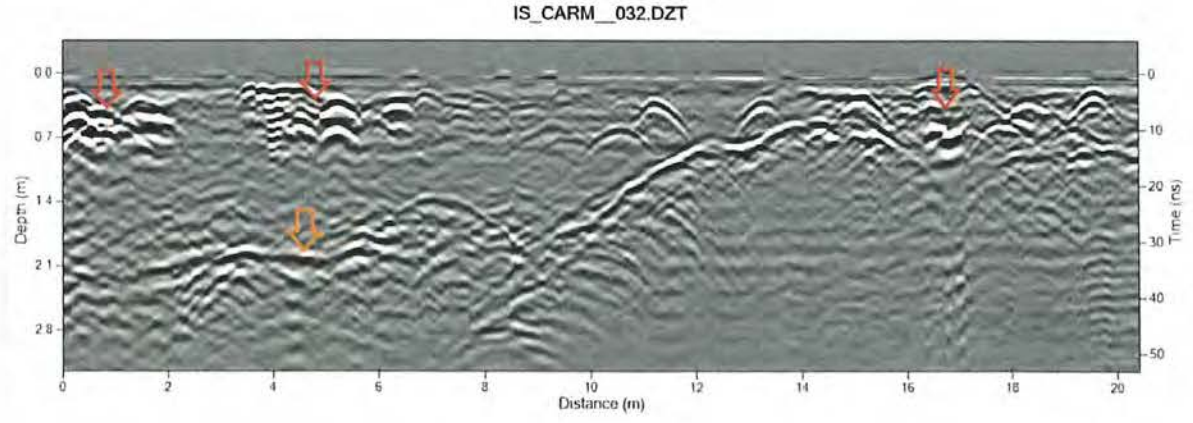
Above: The arrow marks a deep object that does not appear to be related to one of the metal poles. This location is recommended for probing. It is located 70 cm from the north edge of the grid and 4 meters from the east edge. In this profile the dense multiple reflection in the lower portion of the profile at 9 meters is caused by a nearby metal pole not at this depth. Probing here would also allow assessment of the soil transition at 1.7 meters across much of the grid.

Summary of Grid 6: Probing in 2-3 areas may be informative.

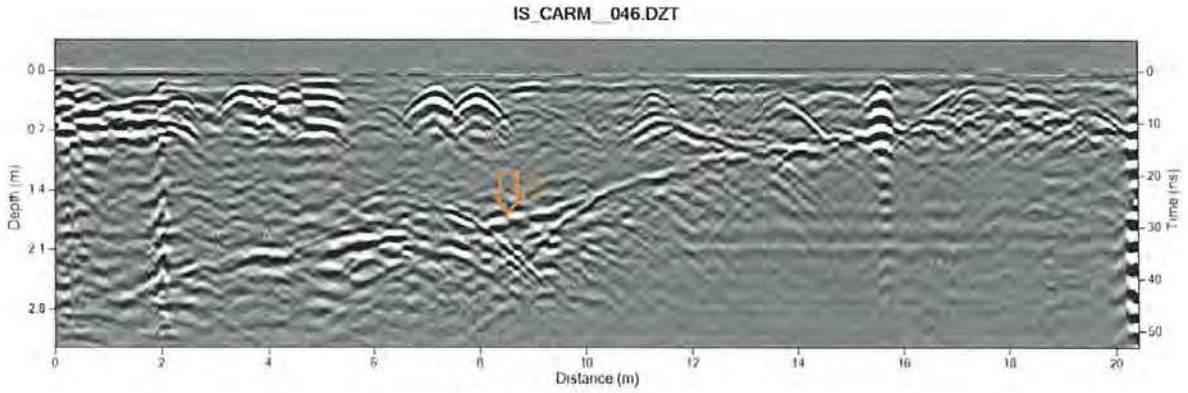
Grid 7

This is the only grid where transects run north to south, beginning in the southwest corner and continuing eastward at 3 per meter. The depth range was opened slightly to 3.25 meters for this grid. The land was reportedly a tree garden in the past, and root base excavation has likely occurred in several places for living tree removal.

The first file passes between a vertical well pipe and post at 14.2 meters. The pipe is evident in the profile, and may relate to a well. A location marked with a stake on the surface would be suitable for deep probe at 9 meters in file 32.



Above: Profile 32 from Grid 7 (Isabella east) shows the more level southern buried surface at 1.9 meters depth (orange arrow) lapping over the dune slope to the north, intersecting at roughly 10 meters. The dune deposit is homogenous except where pits intrude from the surface (red arrows). The red arrows mark distinct features, but these may be related to tree garden activity.



Above: File 46, arrow at X = 6 m, Y = 8.5 meters, view facing west. Note the distinct stratigraphic transition that slopes up from left to right (south to north). In other profiles from Grid 7 this buried dune has distinct southern and northern manifestations (also evident in the slice maps), with the southern being less sloped and more complex in terms of its constituents. The southern area should be tested for buried features.

Summary of Grid 7: probing of sediments below 1.4 meters in the southern half of the grid area can determine whether this buried heterogenous deposit has cultural origins.

Authorship

Scott Byram, Ph.D. is a registered, professional archaeologist and a research affiliate at the University of California, Berkeley Archaeological Research Facility. He has conducted GPR surveys since 2009 within the U.S. and abroad, primarily in California. In 2006 he established Byram Archaeological Consulting, LLC in Oregon and the firm is now based in El Cerrito, California. In addition to numerous reports on California GPR research Byram has published academic journal articles (e.g. Byram et al. 2018; Sunseri and Byram 2017). For more information about Scott Byram's previous GPR projects and landscape archaeology see pages at www.featuresurvey.com and https://berkeley.academia.edu/ScottByram.

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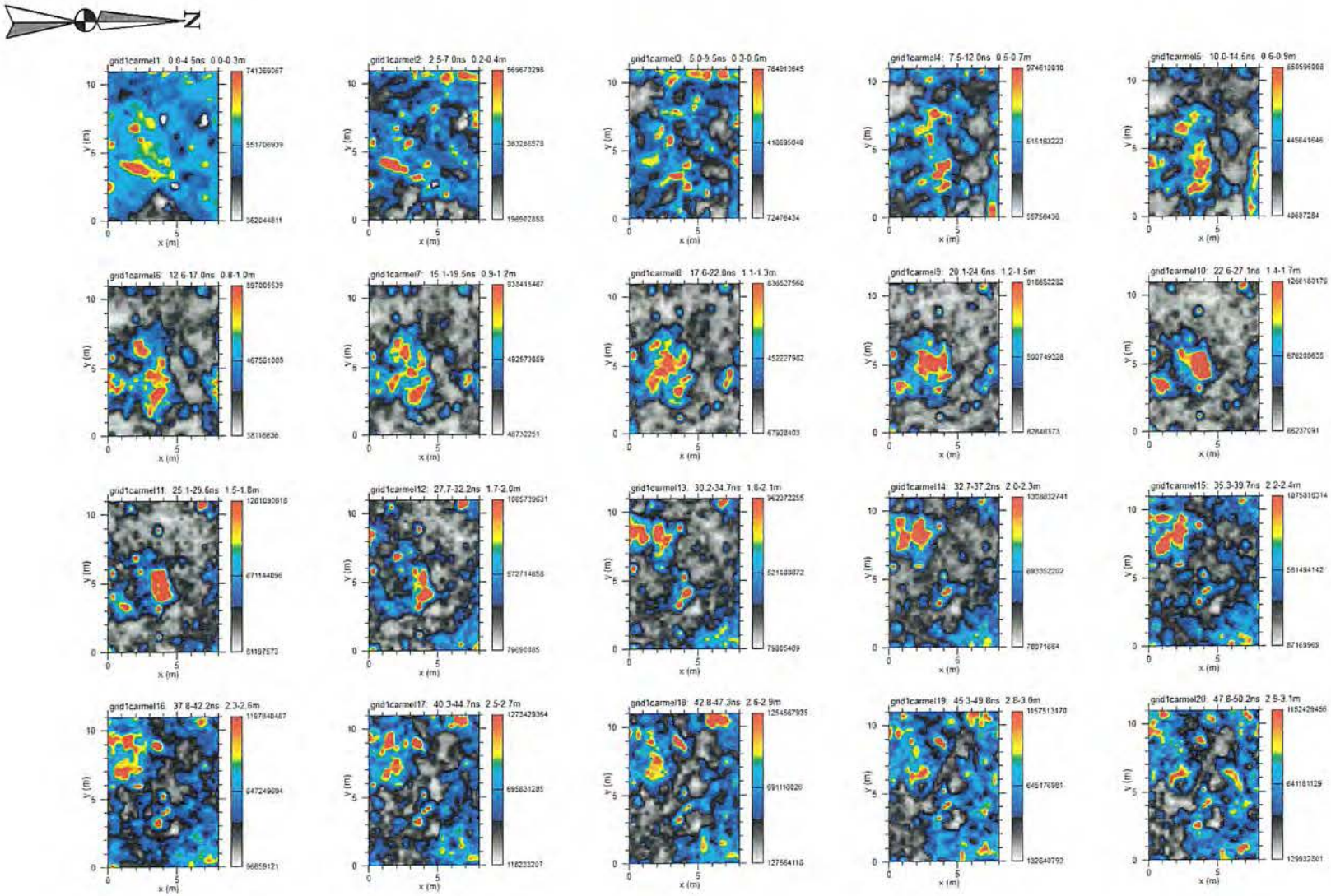
Appendix 1:

Amplitude Slice Map Sets for Grids 1 through 7

Carmel Point Valley View and Isabella lots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grid1carmel9: 20.1-24.6ns 1.2-1.5m
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grid1carmel15: 35.3-39.7ns 2.2-2.4m
grid1carmel16: 37.8-42.2ns 2.3-2.6m
grid1carmel17: 40.3-44.7ns 2.5-2.7m
grid1carmel18: 42.8-47.3ns 2.6-2.9m
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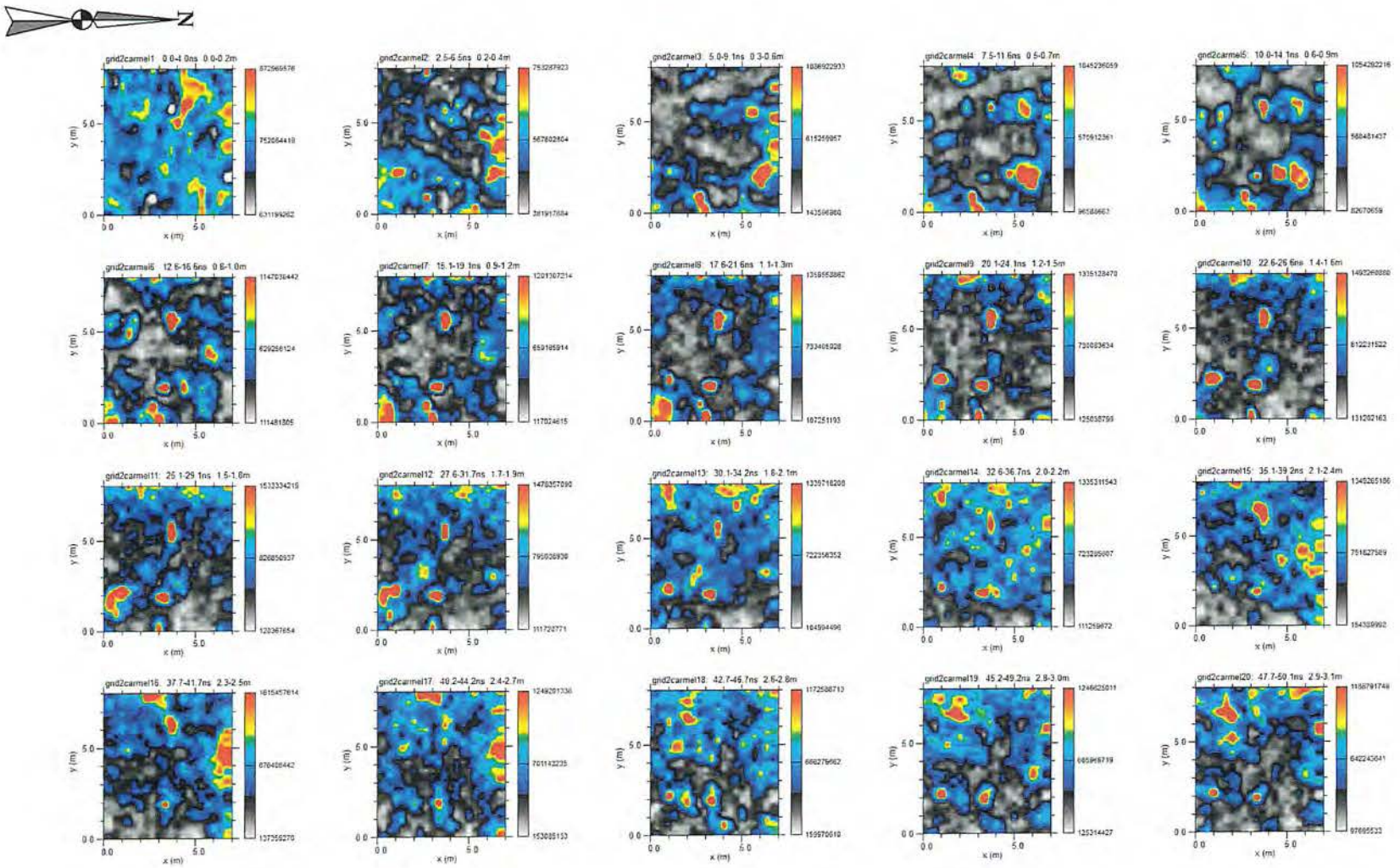
y (m)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grid2carmel11 25.1-29.1ns 1.5-1.8m
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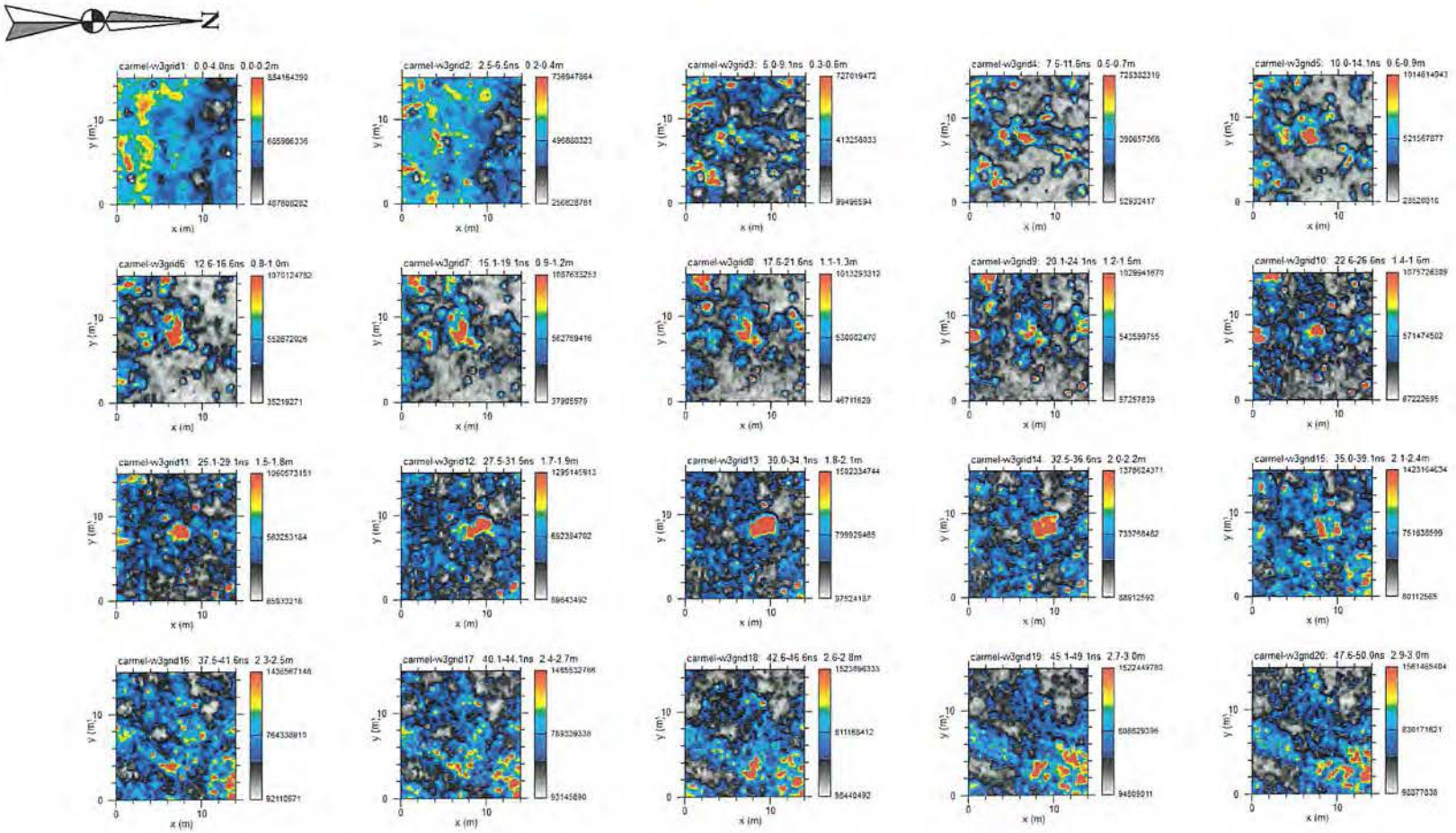
y (m)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carmel-w3grid19: 45.1-49.1ns 2.7-3.0m
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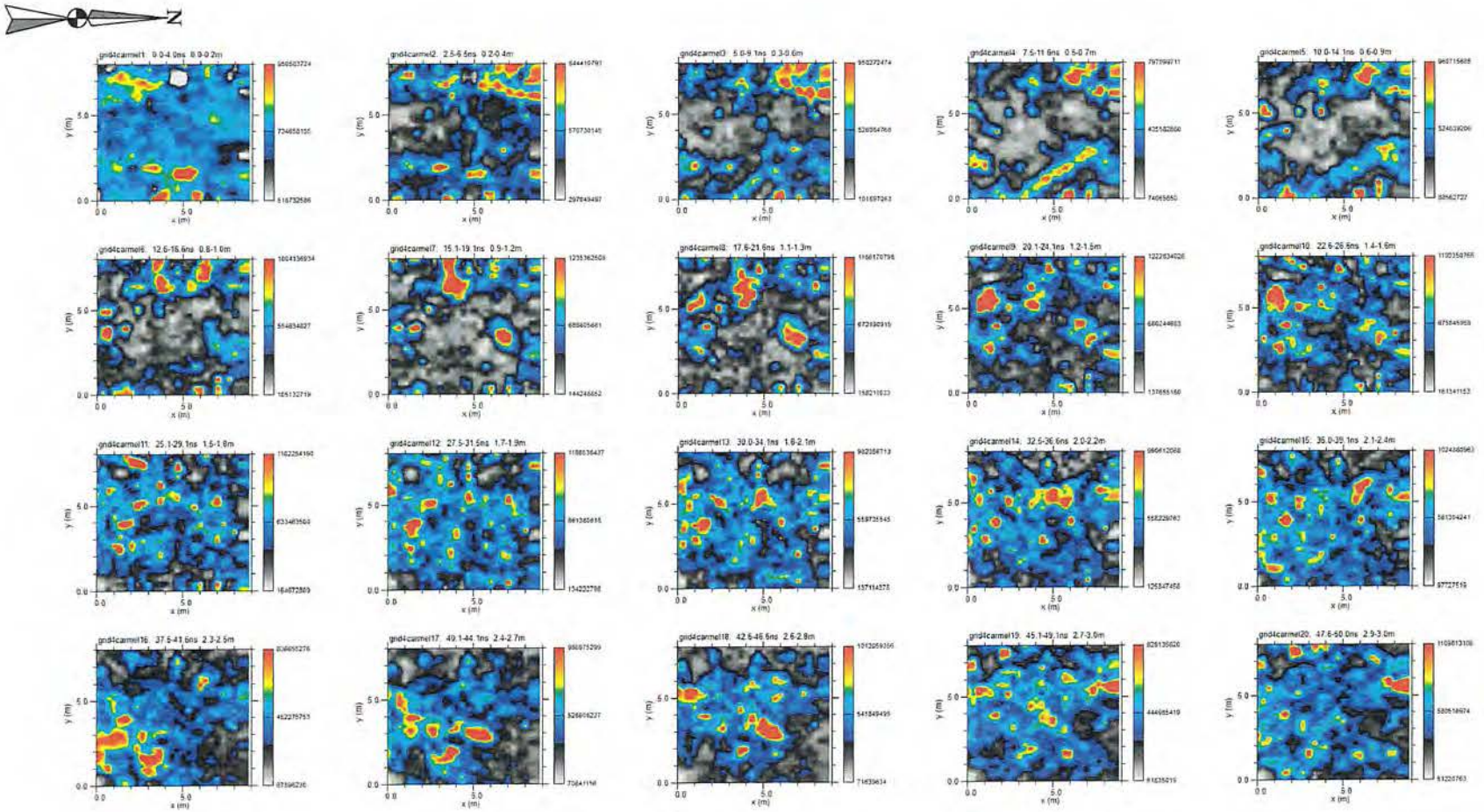
x (m)
y (m)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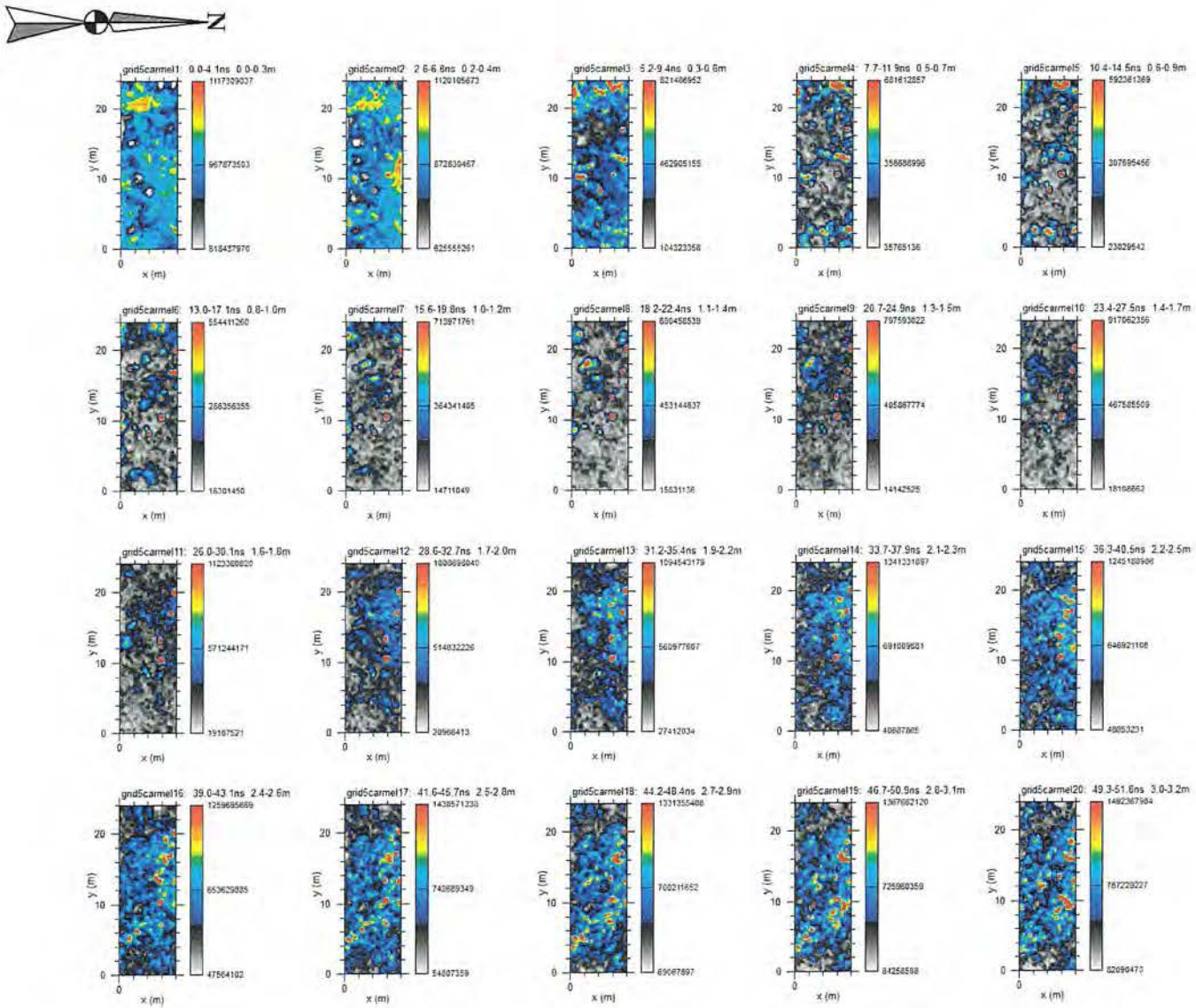
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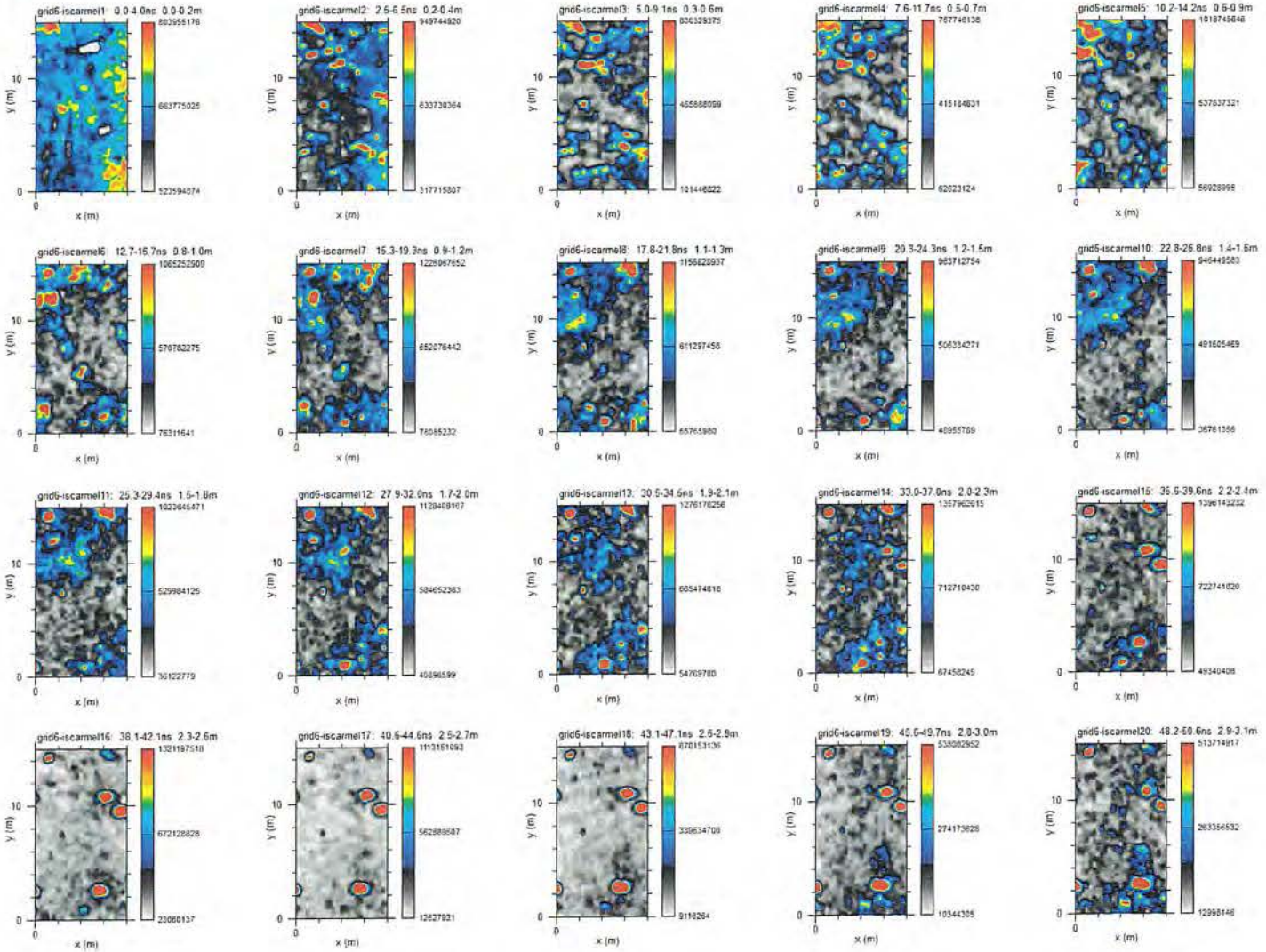
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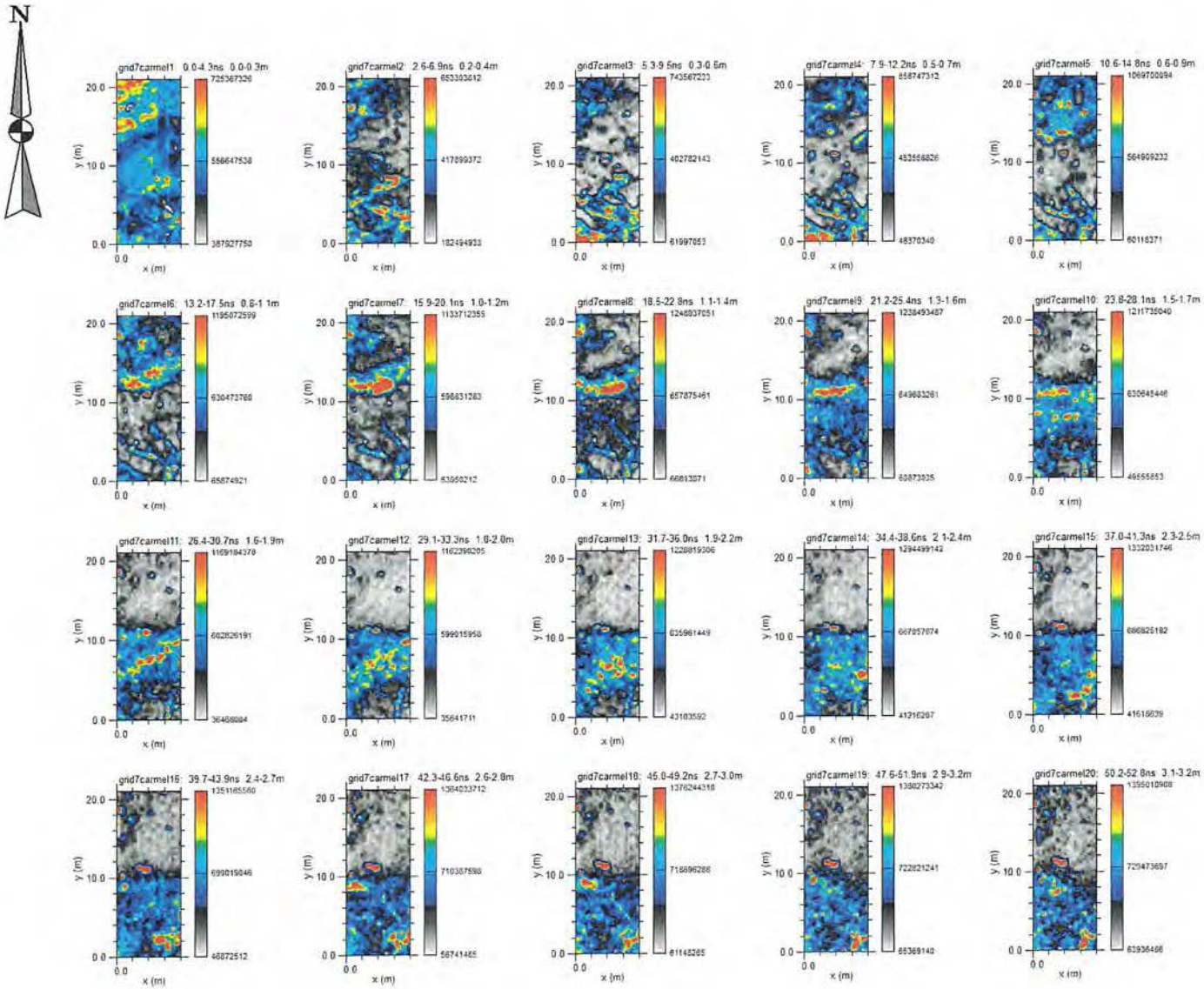
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grid7carmel16 39.7-43.9ns 2.4-2.7m
grid7carmel17 42.3-46.6ns 2.6-2.8m
grid7carmel18 45.0-49.2ns 2.7-3.0m
grid7carmel19 47.6-51.9ns 2.9-3.2m
grid7carmel20 50.2-52.8ns 3.1-3.2m
x (m)
y (m)

Fr: Scott Byram, GPR Specialist

To: Brenna Wheelis, PaleoWest

April 19, 2020

Dear Brenna,

This memo is in regard to your inquiry regarding the adequacy of ground penetrating radar (GPR) technology as it relates specifically to the Pietro project sites in the Carmel Point area of Monterey County and my experience in being able to identify prehistoric archaeological and cultural resources (and specifically human burials) through GPR.

GPR is an effective way of identifying buried features that can represent burials and human remains as well as other cultural resources. I have experience identifying such deposits that are well beyond 7500 years in age in some cases. On sites like the Pietro sites, the use of this technology is particularly effective, because the sandy soils on these sites allows the radar imaging to capture a comparatively clear subsurface image to the full depth of the soil profile proposed for excavation. Using GPR to identify buried deposits usually results in over identification of buried deposits rather than missing existing deposits. This is why GPR analyses are usually paired with an additional form of subsurface investigation. When an underground anomaly is encountered, a technique such as geoprobing is used to confirm the contents of even small underground anomalies and determine if they represent the presence of archaeological or cultural materials, including human remains.

Depending on the setting, age alone may not be a significant factor for identification by GPR, with the formation of the burial being more important. I have successfully used GPR to locate features and strata at a 7500 year old village site on the Oregon coast (35CU7, Tseriadun) and at a 7 million year old megatylopus (a prehistoric giant camel) remains site in central Oregon. I have conducted GPR investigations on at least seven sites where anomalies were determined to represent human burials. I have also used this technology to identify and locate strata that contain cultural midden layers, a deposit type known to be associated with burials.

GPR can identify human remains, as well as the graves or pits that formed the receptacle for the burials, and grave markers such as cairns, and grave goods such as stone bowls, even in cases where the bones have not been well preserved. Prehistoric burials (graves) are often associated with previous surfaces that are now buried by modern soil, dunes, and fill. The burials consist of remains that were placed in a pit dug into this older surface and then filled. In sandy settings such as Pietro lots, these buried surfaces or “paleosols” are very likely to be evident in GPR data. Our study at the Pietro lots identified potential buried surfaces of the kind that in other areas have been shown to contain such pits. Each of these potential paleosols identified by GPR as changes in the subsurface reflection texture was subsequently probed archaeologically by PaleoWest. Each was shown not to represent human activity, instead representing other natural geological and geomorphic changes.

The term “anomalies” is a general one often used by archaeologists to refer to areas of interest identified during GPR surveys. All of the locations that the GPR identified as having the greatest potential to hold archaeological features, including potential paleosols and clusters of reflections that could represent pit fill, cairns, or other indicators of burials were subjected to coring. The cores at the

locations of these potential features did not result in the identification of human remains or other Native American cultural material

As noted above, the technique that is often best for identifying prehistoric burials is to combine GPR with excavation techniques such as geotechnical probing. GPR can identify pit anomalies as well as buried strata that may potentially hold cultural material. These anomalies can then be probed to see if cultural materials, such as artifacts, shell, fire-cracked rock or midden soil, or human remains are present. In the case of the Pietro building sites, all GPR anomalies were probed, confirming that they do not represent human remains or any other cultural resources. The Pietro lots present an ideal condition for the use of GPR because any pits filled with organic material, clusters of stones, or layers of midden may be quite distinct from surrounding materials.

My expertise and experience in these matters makes me confident in saying that the combined GPR and geoprobing regimen conducted at the Pietro parcels is not only sufficient to identify buried deposits such as human burials, but it is the best method for such conditions short of large scale excavation. The results of the GPR and Geoprobe studies produced no evidence of buried human remains or archaeological deposits at any of the three sites.

Ground-Penetrating Radar in Archaeology

Archaeologists use GPR to examine variation in interior site surfaces or interfaces between different objects and strata. While it is common to look for "anomalies" or distinctive patterns in GPR data, modern techniques characterize the range of variability in GPR reflective data, much as an archaeologist describes features and stratigraphy from excavation exposures. The book *Interpreting Ground-Penetrating Radar for Archaeology* (2013) by Lawrence Conyers presents numerous examples of these findings.

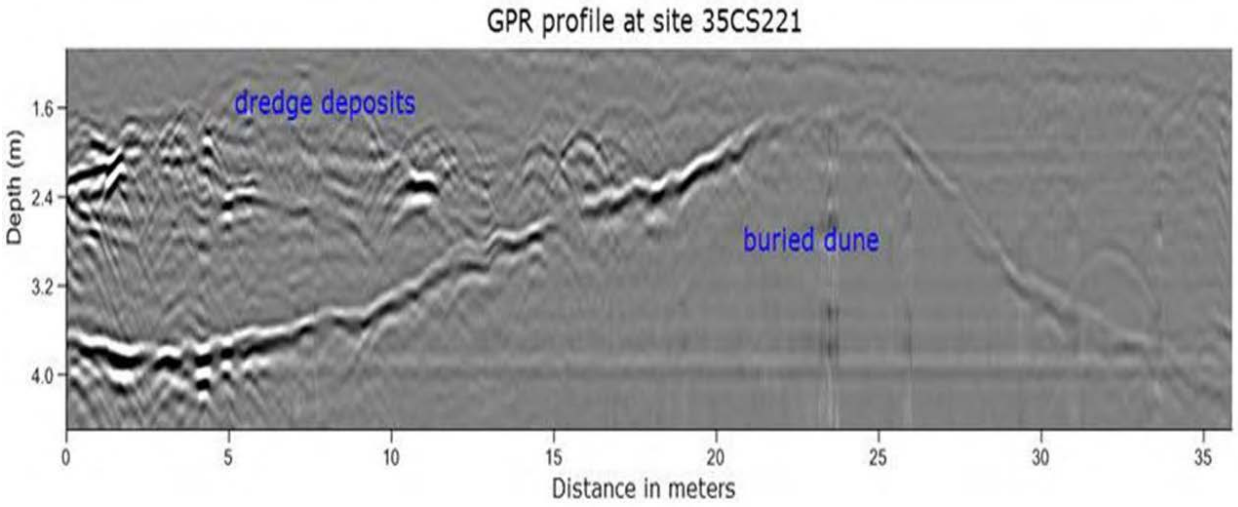
In the site interiography approach Byram developed with UC Berkeley Professor Jun Sunseri (Sunseri and Byram 2017, *Journal of Archaeological Method and Theory*) texture and form are the variables used to describe GPR data prior to assessment of features and stratigraphy. The emphasis is on the overall composition of a site and the interrelationship of objects and strata. The goal of this approach is to better integrate GPR analysis with the language of traditional "dirt archaeology."

How GPR works

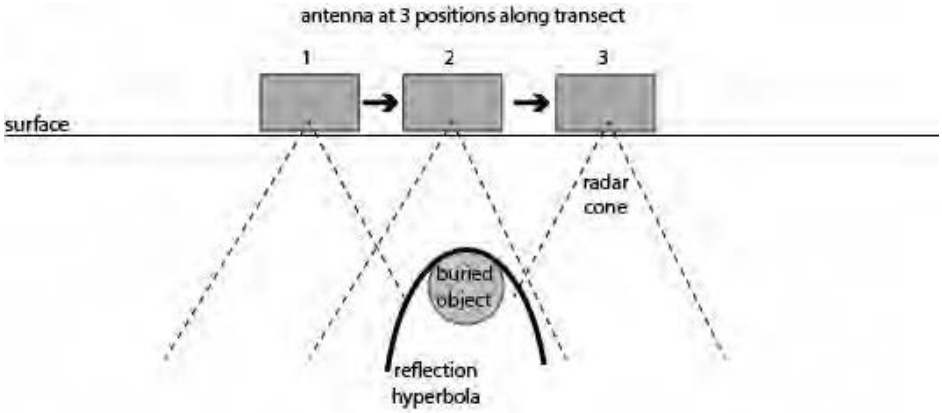
Ground-penetrating radar data are generated by sending pulses of radar energy into the ground from a surface antenna at a specific time interval. The energy reflected off of buried objects, features, or strata is measured as the waves return to a receiving antenna, often as it is moved along a transect, collecting reflection traces at intervals tallied with a calibrated survey wheel. The data are sampled and processed by a computer designed for this purpose, attached by cable to the receiving antenna.

As radar energy passes through different subsurface materials the velocity of the waves changes depending on the physical and chemical properties of the material. The larger the contrast in electromagnetic properties (RDP) between two materials at an interface, the stronger the reflected signal, or wave amplitude at the given depth. Variables include sediment type, ground moisture, survey depth (radar time window) and site topography. Some clays and salts limit depth penetration to less than one half meter with a medium frequency 400 MHz antenna, while the same antenna may penetrate to over 4 meters in dry sand.

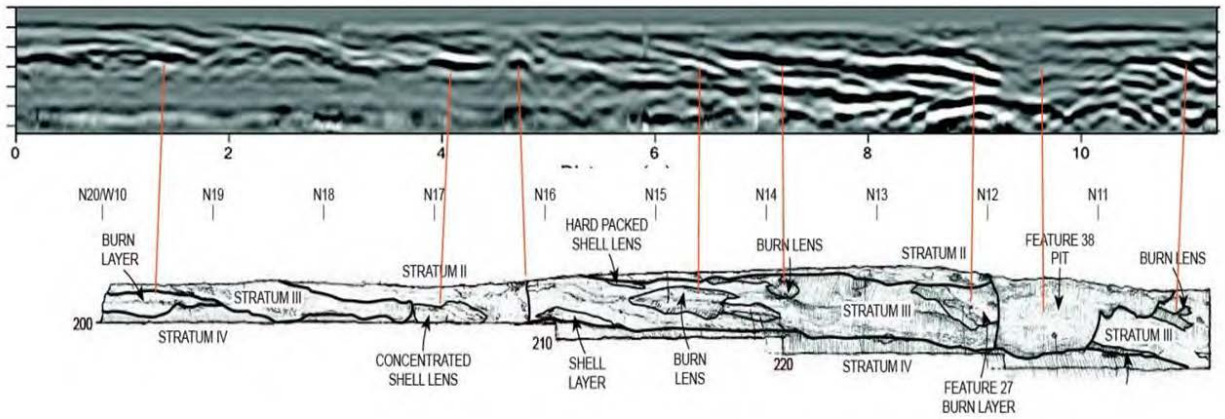
Individual transect profiles are central to archaeological interpretation of GPR data. Often a GPR profile will show a combination of point reflections (nodes) and planar reflections (horizon breaks) much like an archaeological profile diagram shows objects such as rocks and artifacts in strata. Amplitude slice maps are generated from multiple adjacent transects collected in a grid. Each map represents specific depth range within the site. Large features such as structure foundations, privy or well pits may be evident in slice maps.



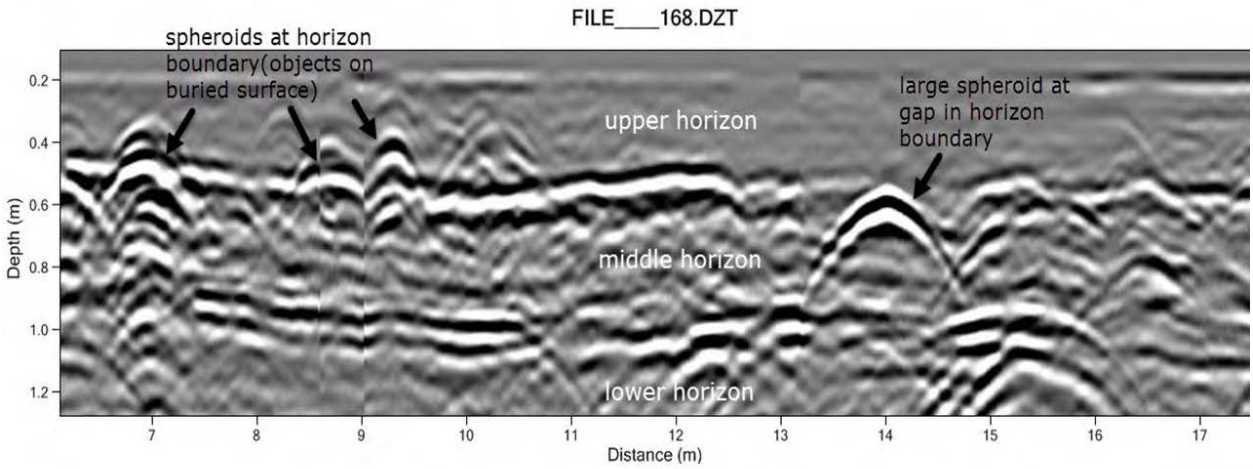
Above: Large scale profile of sand dune buried beneath sandy dredge deposited materials.



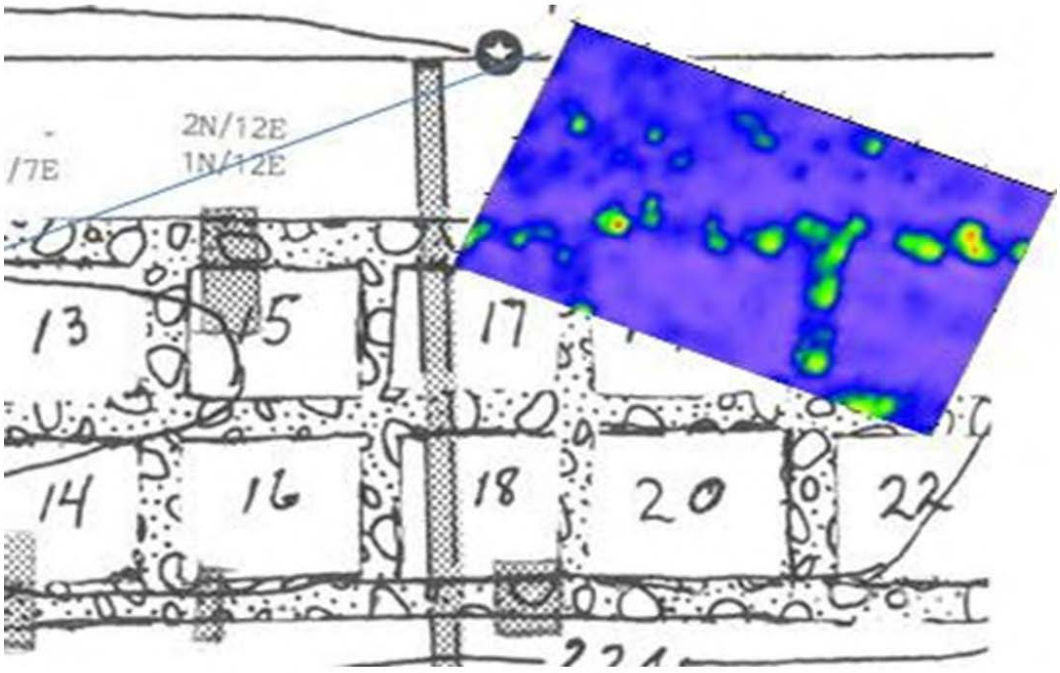
Above: Diagram showing the hyperbola created in a profile when a buried object is crossed by the GPR antenna.



Above: Stege Mound excavation profile (lower) and corresponding GPR profile (upper) with lines relating GPR data to known features and strata. Burial pits identified with GPR not shown in this image (Sunseri and Byram 2017).



Above: Multiple horizons and their constituents in a GPR profile from Mono Mills, CA.



Above: Slice map plotted on hypothesized adobe room blocks (Indian family housing) structure based on limited excavations, Mission San Juan Bautista Taix Lot.

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June 25, 2020

Technical Memorandum
Response to the California Coastal Commission Staff Report Th13a-c

Re: Personal Communication with Peter Leach, GSSI Staff Archaeologist: Archaeology and Forensics Application Specialist, Training and Technical Support Team Member

I recently spoke with Peter Leach at GSSI, the manufacturer of the ground penetrating radar (GPR) equipment I used on the Pietro properties, and he sent some additional materials that are relevant to the methods we use to survey for archaeological features at properties in Carmel. These are along the lines of what I provided last spring regarding the types of distinctive reflections (anomalies) that are often probed when identified in GPR profiles and slice maps. He sent a recent example of a scan he did showing a 500 year old burial at the Jamestown site in Virginia, which clearly shows many individual bones of the skeleton before (GPR slice map) and during subsequent excavation. For this detail he used the same GSSI GPR unit I use, including on the Pietro sites, with an antenna set for shallow survey. This is a good example of using radar to scan human bone. Peter explained that in this and other imaging of human remains he found the facets on the bone were more or less reflective depending on the angle of the bone's facets relative to the GPR antenna. This is one reason that some bones are more distinct than others in GPR scans of human burials. Of course the scan is also dependent on the degree of preservation. Sometimes even when the bones are completely gone, the pit itself will still be identified. As Peter writes,

"In forensic and cemetery contexts we are interested in targets associated with breaks in overlying layer reflections; this suggests the target was buried. If the human remains and burial container are completely decayed an obvious target may not be present but the associated stratigraphic breaks should still be visible. On historical or precontact sites pits and trenches will also cut through natural soil layers (Leach 2020:11)."

Peter was also able to clarify that his archaeology and forensics manual that's prominently featured on the GSSI web site is a useful reference regarding using GPR to locate human remains. Here's an excerpt:

"Archaeologists and forensic specialists rely on GSSI GPR as a key tool for non-invasive investigations. Whether the goal is landscape-scale site mapping, excavation planning, locating forensic targets or sensitive cultural resources, GSSI's remote sensing technologies have augmented the traditional archaeological and forensic toolkits for almost 50 years. Non-destructive GPR surveys are critical components of field investigations. Archaeologists commonly use GPR to locate, investigate, and protect/avoid cultural resources. This includes mapping unmarked graves and site assessments prior to construction activities. Law enforcement, forensic anthropologists, and crime scene investigators employ GPR to locate clandestine burials and buried objects.
https://www.geophysical.com/wp-content/uploads/2020/01/GSSI-GPRforArchaeology-RevA.pdf

Archaeologists using GPR recognize that, except in special situations such as the Jamestown grave, bone can resemble other material sources of hyperbolic reflection such as wood or stone. Therefore we look for potential features (e.g. clusters of hyperbolae, breaks in layers) that can be probed to determine their make up (as was done in the case of the 3 Pietro lots). Depending on its condition, though bone often has a different dielectric than homogenous dune sand, for example. During our call, Peter again emphasized that burials are most often in pits which are shown as stratigraphic disruption by GPR.

I have identified such pits or stratigraphic breaks in several cemetery sites and precontact sites where remains are present. For further reference, please refer to the memo I prepared dated April 19, 2020.

When I spoke with Peter he was unaware that he had spoken to anyone from the California Coastal Commission. On reviewing his notes of people who contact him he said a person named Mike Watson contacted him who Peter thought was a planner or an architect who wanted information on GPR and burials. This individual mentioned he might work with Paleowest to evaluate something. Peter recalled he likely gave him the typical explanation for laypersons. Since it seemed like this individual was looking for a service provider, Peter gave him my name and contact information. I have never been contacted by Mr. Watson. At no time did Peter say that GPR was inappropriate technology for identification of archaeological resources, including human remains.

Sincerely,

Scott Byram. Byram Archaeological Consulting

Byram, Scott

2020 *Technical Memo on Ground Penetrating Radar field methodology and expertise.* April 19, 2020

Leach, Peter A.

2020 *A Theory Primer and Field Guide for Archaeological, Cemetery, and Forensic Surveys with Ground Penetrating Radar*. Geophysical Survey Systems, Inc. Nashua, NH 03060

Gail Hatter

From: Gail Hatter
Sent: Thursday, July 2, 2020 4:38 PM
To: Gail Hatter; Angela Love
Subject: FW: FW: GPR in Carmel California
Attachments: 20200701_14054302613_61_Ground_Penetrating_Radar_Penetration.pdf

From: James Doolittle <gprdoolittle@gmail.com>
Sent: Wednesday, July 1, 2020 12:30 PM
To: Gail Hatter <Gail@alombardolaw.com>
Subject: Re: FW: GPR in Carmel California

Gail,
I received your email and attachments, which I will review shortly. I do not know the exact location of this study other than its near Carmel Point. Attached is a soil suitability map for the general area surrounding Carmel Point. This map is from the USDA's WebSoil Survey. As evident on this map, most of the soils in this area are considered well-suited to the application of GPR (shades of green). Soils in these areas should be generally well suited to deep penetration and high resolution with GPR. I would consider GPR a most appropriate geophysical tool for archaeological investigations in soils colored in shades of green.

As I am retired and doing very little under the imposed COVID-19 restrictions here in the Philadelphia, PA, area, I am at home and idle most of the days. If you provide me with a date and time, I will be available at my home phone # is 610-543-4274

Best wishes,
Jim Doolittle

Ground Penetrating Radar Penetration—Monterey County, California
(Carmel Point GPR Soil Suitability Map)

Map Scale: 1:4,890 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 50 100 200 300

Feet: 0 200 400 800 1200

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 10N WGS84

MAP LEGEND

Area of Interest (AOI)
- Area of Interest (AOI)

Soils

Soil Rating Polygons
- Unsuited
- Very low penetration
- Low penetration
- Moderate penetration
- High penetration
- Very high penetration
- Not rated or not available

Soil Rating Lines
- Unsuited
- Very low penetration
- Low penetration
- Moderate penetration
- High penetration
- Very high penetration
- Not rated or not available

Soil Rating Points
- Unsuited
- Very low penetration
- Low penetration
- Moderate penetration
- High penetration
- Very high penetration
- Not rated or not available

Water Features
- Streams and Canals

Transportation
- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background
- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Monterey County, California
Survey Area Data: Version 17, May 29, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Dec 31, 2009—Sep 15, 2017

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Ground Penetrating Radar Penetration

Map unit symbol	Map unit name	Rating	Component name (percent)	Rating reasons (numeric values)	Acres in AOI	Percent of AOI
Ac	Alviso silty clay loam	Low penetration	Alviso (85%)	Attenuation due to clay, water, and exchangeable ions (0.67)	4.1	3.8%
Af	Aquic Xerofluvents	Moderate penetration	Aquic Xerofluvents (85%)	Attenuation due to clay, water, and exchangeable ions (0.50)	0.1	0.1%
BbC	Baywood sand, 2 to 15 percent slopes	Very high penetration	Baywood (85%)	Attenuation due to clay, water, and exchangeable ions (0.17)	9.7	8.9%
Cm	Coastal beaches	Unsuited	Beaches, Coastal (90%)	Attenuation due to salts, sulfates, and carbonates (1.00)	18.2	16.7%
				Attenuation due to clay, water, and exchangeable ions (0.17)		
GkB	Gorgonio sandy loam, 0 to 5 percent slopes	Very high penetration	Gorgonio (70%)	Attenuation due to clay, water, and exchangeable ions (0.17)	2.6	2.4%
OaD	Oceano loamy sand, 2 to 15 percent slopes	Very high penetration	Oceano (85%)	Attenuation due to clay, water, and exchangeable ions (0.17)	59.6	54.7%
Totals for Area of Interest					**108.9**	**100.0%**

Rating	Acres in AOI	Percent of AOI
Very high penetration	71.9	66.0%
Unsuited	18.2	16.7%
Low penetration	4.1	3.8%
Moderate penetration	0.1	0.1%
Totals for Area of Interest	**108.9**	**100.0%**

Description

The ratings for Ground Penetrating Radar Penetration are based on the soil properties that affect the penetration of GPR signals into the soil. Soil properties affecting the penetration are considered. In many soils, high amounts of signal attenuation severely restrict radar penetration depths and limit the suitability of GPR for a large number of applications. The ratings are for soils in their natural condition and do not consider present land use. The properties that affect signal penetration include clay content, water saturation, organic matter content, carbonate content, sulfate content, salinity, and sodicity.

The ratings are both verbal and numerical. Rating class terms indicate the extent to which the soils are limited by all of the soil features that affect the specified use. "Very high penentration" indicates that the soil has features that are very favorable for the specified use. Good performance can be expected. "High penetration" grading to "Very low penetration" indicates that the soil has features that are less favorable for the radar penetration. "Unsuited" indicates that the soil has features that will not let radar penetrate.

Numerical ratings indicate the severity of individual limitations. The ratings are shown as decimal fractions ranging from 0.01 to 1.00. They indicate gradations between the point at which a soil feature has the greatest negative impact on the use (1.00) and the point at which the soil feature is not a limitation (0.00).

The map unit components listed for each map unit in the accompanying Summary by Map Unit table in Web Soil Survey or the Aggregation Report in Soil Data Viewer are determined by the aggregation method chosen. An aggregated rating class is shown for each map unit. The components listed for each map unit are only those that have the same rating class as that listed for the map unit. The percent composition of each component in a particular map unit is given so that the user will realize the percentage of each map unit that has the specified rating.

A map unit may have other components with different ratings. The ratings for all components, regardless of the map unit aggregated rating, can be viewed by generating the equivalent report from the Soil Reports tab in Web Soil Survey or from the Soil Data Mart site. Onsite investigation may be needed to validate these interpretations and to confirm the identity of the soil on a given site.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

Your Organization — Map Title

Legend

- Parcels
- Road_Centerline
  - Freeway
  - Other Principal Arterial
  - Minor Arterial
  - Major Collector
  - Minor Collector
  - Local
- Railroads
- Addresses
- Incorporated Cities (Bound)
- County Boundary (Bound)
  - MONTEREY CO
  - OTHER
  - PACIFIC OCEAN

1: 3,291

0.1 0 0.05 0.1 Miles

NAD_1983_StatePlane_California_IV_FIPS_0404_Feet

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.
THIS MAP IS NOT TO BE USED FOR NAVIGATION

Notes

This map was automatically generated using Geocortex Essentials.

project-related ground disturbance.

July 2017
The application requests for each of the three projects came in July 25, 2017.

September 2017
In accordance with State AB52, Staff consultation with the tribe that is traditionally and culturally affiliated with the geographic area took place on September 12, 2017. Pursuant to PRC §21080.3.1(b)(2), the County is required to correspond with the "lead contact person" as either designated by the affiliate Native American tribe or by the Native American Heritage Commission (NAHC) that maintains a contact list with the names of individuals associated with each tribe. Louise Ramirez of the Ohlone Costanoan Esselen Nation (OCEN) is the lead contact person with whom Staff consulted as required. The consultation was concluded when, in compliance with PRC §21080.3.2(b)(1), parties reached mutual agreement concerning appropriate measures for preservation or mitigation. Staff agreed to the following measures to mitigate a significant effect, if a significant effect would be found to exist, on a tribal cultural resource, as requested by Ramirez:

- Retain a tribal monitor during soil movement. This tribal monitor may be authorized to stop construction,
- Return artifacts to the tribe,
- Rebury human remains along with artifacts, either onsite or at a site appropriate for reburial provided by the owner

Code violation cases 17CE00360 (26338 Valley View) & 17CE00361 (26346 Valley View) were opened on September 27, 2017. The violations are described as follows:

- clearing of indigenous vegetation (ground cover),
- placement of approximately 100 cubic yards of fill without a grading permit or Coastal Development Permit within 750 feet of known archaeological resources, and
- alterations are likely to cause conditions for accelerated erosion.

December 2017
Subsequent surface reconnaissance was conducted and reported in Preliminary Archaeological Assessments at each of the three parcels (LIB170435, LIB170436, and LIB170448), prepared by Gary S. Breschini in December 2017. The report on 26346 Valley View (17CE00361) concludes that none of the materials frequently associated with prehistoric cultural resources were observed in the soil of the project area or in the large mound of soil which had been deposited on the western end of the parcel. Materials frequently associated with prehistoric cultural resources include dark midden soil containing fragments of weathered marine shell, flaked or ground stone (debitage), weathered bones or bone fragments, fire-affected rock, etc. The report on 26338 Valley View (17CE00360) concludes that none of the materials frequently associated with prehistoric cultural resources were observed in the soil of the project area or in the imported layer of soil which had been spread on most of the parcel. Observation is noted that this parcel showed evidence of fairly recent demolition of a previous structure. The report on the Isabella parcel concludes that none of the materials frequently associated with prehistoric cultural resources were observed in the soil of the project area; however, two large piles of imported soil of unknown origin produced four pieces of cultural material associated with local archaeological sites.

Anthony Lombardo

From: Totton, Gayle@NAHC <Gayle.Totton@nahc.ca.gov>
Sent: Tuesday, March 12, 2019 8:50 AM
To: Guthrie, Jaime S. x6414; ClerkoftheBoard; 100-District 1 (831) 647-7991; 100-District 2 (831) 755-5022; 100-District 3 (831) 385-8333; 100-District 4 (831) 883-7570; 100-District 5 (831) 647-7755; Adams, Mary L.; Alejo, Luis; Anderson, Yuri; Askew, Wendy R. x7572; Barba, Priscilla x3019; Chappell, Lori A.; Franz, Isabelle R.; Gomez, Javier x5328; Gonzalez, Linda x5869; Hardgrave, Sarah x7876; Jimenez, Jacqueline x5127; Link, Claudia J. x5022; Markey, Kristi A. x7576; Mckeithen, Shane x5127; Moore, Susan x7664; Munoz, Monica x5022; Oliverez, Sandra L. 796-3018; Parker, Jane; Phillips, John M. x5022; Stratton, Josh Q. x5022
Cc: Dugan, John x6654; Holm, Carl P. x5103; Molly Erickson; Anthony Lombardo; Swanson, Brandon xx5334; Spencer, Craig x5233
Subject: Re: Item No. 32 - Pietro Appeal

Good morning Mr. Guthrie,

I have reviewed the updated IS/MND for the project. The mitigation included in the document appears to be adequate to cover inadvertent finds of Cultural Resources and Tribal Cultural Resources.
Thank you again for sending the newer document.
Sincerely,

Gayle Totton, M.A., Ph.D.
Associate Governmental Program Analyst
Native American Heritage Commission
(916) 373-3714

From: Guthrie, Jaime S. x6414 <GuthrieJS@co.monterey.ca.us>
Sent: Monday, March 11, 2019 6:06:45 PM
To: ClerkoftheBoard; 100-District 1 (831) 647-7991; 100-District 2 (831) 755-5022; 100-District 3 (831) 385-8333; 100-District 4 (831) 883-7570; 100-District 5 (831) 647-7755; Adams, Mary L.; Alejo, Luis; Anderson, Yuri; Askew, Wendy R. x7572; Barba, Priscilla x3019; Chappell, Lori A.; Franz, Isabelle R.; Gomez, Javier x5328; Gonzalez, Linda x5869; Hardgrave, Sarah x7876; Jimenez, Jacqueline x5127; Link, Claudia J. x5022; Markey, Kristi A. x7576; Mckeithen, Shane x5127; Moore, Susan x7664; Munoz, Monica x5022; Oliverez, Sandra L. 796-3018; Parker, Jane; Phillips, John M. x5022; Stratton, Josh Q. x5022
Cc: Dugan, John x6654; Holm, Carl P. x5103; Molly Erickson; Anthony Lombardo; Swanson, Brandon xx5334; Spencer, Craig x5233; Totton, Gayle@NAHC
Subject: Item No. 32 - Pietro Appeal

Please find attached a memo for Item No. 32 on the Board Agenda concerning the Pietro Appeal.

Jaime Scott Guthrie, AICP
Associate Planner
County of Monterey
Resource Management Agency - Planning
1441 Schilling Place South, 2nd Floor
Salinas, CA 93901
831.796.6414

Ohlone/Costanoan-Esselen Nation

Previously acknowledged as
The San Carlos Band of
Mission Indians
The Monterey Band
And also known as
O.C.E.N. or Esselen Nation
P.O. Box 1301
Monterey, CA 93942

www.ohlonecostanoanesselennation.org.

July 29, 2017

Christy Hepper
City of Marina
211 Hillcrest Avenue
Marina, CA 93933

Re: 3125 De Forest Rd. - General Plan Map/Text Amendment, Zoning Map Amendment and Adoption of a Specific Plan, Senate Bill Consultation

Saleki Atsa,

Ohlone/Costanoan-Esselen Nation is an historically documented previously recognized tribe. OCEN is the legal tribal government representative for over 600 enrolled members of Esselen, Carmeleno, Monterey Band, Rumsen, Chalon, Soledad Mission, San Carlos Mission and/or Costanoan Mission Indian descent of Monterey County. Though other indigenous people may have lived in the area, the area is the indigenous homeland of our people. Included with this letter please find a territorial map by Taylor 1856; Levy 1973; and Milliken 1990, indentifying Tribal areas.

Ohlone/Costanoan-Esselen Nation objects to all excavation in known cultural lands, even when they are described as previously disturbed, and of no significant archaeological value. Please be advised that it is our first priority that our ancestor's remains be protected and undisturbed. We desire that all sacred burial items be left with our ancestors on site or as culturally determined by OCEN. All cultural items returned to Ohlone/Costanoan-Esselen Nation. We ask for the respect that is afforded all of our current day deceased, by no other word these burial sites are cemeteries, respect for our ancestors as you would expect respect for your deceased family members in today's cemeteries. **Our definition of respect is no disturbance.**

OCEN's Tribal leadership desires to be provided with archaeological reports/surveys, including subsurface testing, and presence/absence testing. OCEN request to be included in mitigation and recovery programs, reburial of any of our ancestral remains, placement of all cultural items, and that a Native American Monitor of Ohlone/Costanoan-Esselen Nation, approved by the OCEN Tribal Council be used within our aboriginal territory.

OCEN requests consultation on <u>all projects</u> affecting our aboriginal homelands, <u>which include all ground disturbance</u> (not limited to ground disturbance). It is our request to consult on projects to establish a procedure, 1. provide OCEN with all reports, 2. establish procedure for disturbance of unknown sites, 3. procedure for known sites, etc.

We ask that a sacred lands search with the Northwest Information Center, Sonoma State University and the Native American Heritage Commission. Please feel free to contact me at (408) 629-5189. Nimasianexelpasaleki. Thank you

Sincerely and Respectfully Yours,

Louise J. Miranda Ramirez, Chairperson
Ohlone/Costanoan-Esselen Nation
(408) 629-5189

Cc: OCEN Tribal Council

Ohlone/Costanoan-Esselen Nation

Previously acknowledged as
The San Carlos Band of
Mission Indians
The Monterey Band
And also known as
O.C.E.N. or Esselen Nation
P.O. Box 1301
Monterey, CA 93942

www.ohlonecostanoanesselennation.org.

February 3, 2017

Joseph Sidor
Monterey County
Resource Management Agency
168 W. Alisal Street, 2nd Floor
Salinas, CA 93901

Re: Monterey Regional Airport, CA-MNT-798 and Marina Municipal Airport

Saleki Atsa,

Ohlone/Costanoan-Esselen Nation is an historically documented previously recognized tribe. OCEN is the legal tribal government representative for over 600 enrolled members of Esselen, Carmeleno, Monterey Band, Rumsen, Chalon, Soledad Mission, San Carlos Mission and/or Costanoan Mission Indian descent of Monterey County. Though other indigenous people may have lived in the area, the area is the indigenous homeland of our people. Included with this letter please find a territorial map by Taylor 1856; Levy 1973; and Milliken 1990, indentifying Tribal areas.

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We request consultation on projects affecting our aboriginal homelands, which include all ground disturbance. We look forward to hearing more information about this project; please feel free to contact me at (408) 629-5189. Nimasianexelpasaleki. Thank you for your attention to this matter.

Sincerely and Respectfully Yours,

Louise J. Miranda Ramirez, Chairperson
Ohlone/Costanoan-Esselen Nation
(408) 629-5189

Cc: OCEN Tribal Council

Ohlone/Costanoan-Esselen Nation

Previously acknowledged as
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The Monterey Band
And also known as
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Monterey, CA 93942

www.ohlonecostanoanesselennation.org.

May 2, 2017

Maria Blanco, Planner
168 W. Alisal St. 2nd floor
Salinas, CA 93901

Re: Formal Notification of a Proposed Project pursuant to Public Resources Code Section 21080.3.1 *et seq.* and Title 20 of the Monterey County (Coastal Zoning Ordinance) Section 20.70.050

Saleki Atsa,

Ohlone/Costanoan-Esselen Nation is an historically documented previously recognized tribe. OCEN is the legal tribal government representative for over 600 enrolled members of Esselen, Carmeleno, Monterey Band, Rumsen, Chalon, Soledad Mission, San Carlos Mission and/or Costanoan Mission Indian descent of Monterey County. Though other indigenous people may have lived in the area, the area is the indigenous homeland of our people. Included with this letter please find a territorial map by Taylor 1856; Levy 1973; and Milliken 1990, indentifying Tribal areas.

Ohlone/Costanoan-Esselen Nation objects to all excavation in known cultural lands, even when they are described as previously disturbed, and of no significant archaeological value. Please be advised that it is our first priority that our ancestor's remains be protected and undisturbed. We desire that all sacred burial items be left with our ancestors on site or as culturally determined by OCEN. All cultural items returned to Ohlone/Costanoan-Esselen Nation. We ask for the respect that is afforded all of our current day deceased, by no other word these burial sites are cemeteries, respect for our ancestors as you would expect respect for your deceased family members in today's cemeteries. **Our definition of respect is no disturbance.**

OCEN's Tribal leadership desires to be provided with archaeological reports/surveys, including subsurface testing, and presence/absence testing. OCEN request to be included in mitigation and recovery programs, reburial of any of our ancestral remains, placement of all cultural items, and that a Native American Monitor of Ohlone/Costanoan-Esselen Nation, approved by the OCEN Tribal Council be used within our aboriginal territory.

OCEN **requests consultation on <u>all projects</u> affecting our aboriginal homelands, <u>which include all ground disturbance</u>** (not limited to ground disturbance). It is our request to consult on projects to establish a procedure, 1. provide OCEN with all reports, 2. establish procedure for disturbance of unknown sites, 3. procedure for known sites, etc.

Please feel free to contact me at (408) 629-5189 and we can make an appointment to begin the consultation process. Nimasianexelpasaleki. Thank you for your attention to this matter.

Sincerely and Respectfully Yours,

Louise J. Miranda Ramirez, Chairperson
Ohlone/Costanoan-Esselen Nation
(408) 629-5189

Cc: OCEN Tribal Council

The local and historic
Esselen Tribe of Monterey County
PO Box 95, Carmel Valley, CA 93924

Our Mission Statement:

To preserve and to protect our cultural heritage and ancestral sacred sites, namely of the Esselen, Rumsen, Chalone, Sureño and Guatcharrone people, which includes but is not limited to the villages of Achasta, Chalon, Echilat, Ensen, Excelen, Esslenajan, Ixchenta, Jojopan, Kuchun, Pachepas, Sargenta-Ruc, Soccoronda, and Tucutnut, located within sacred pre-historic and historic tribal lands of Monterey County, California.

Chris Adamski
Emerson Development
24576 Portola Avenue
Carmel, California 93923
April 8, 2020

Dear Mr. Adamski,

The Esselen Tribe of Monterey County (ETMC) writes in support of the Emerson Development Group's projects proposed at three undeveloped lots on Carmel Point: 26307 Isabella Avenue (APN: 009-463-012), and 26346 and 26338 Valley View Avenue (APNs: 009-463-003 and 009-463-017.

The ETMC has been involved in many proposed and ongoing projects on Carmel Point; we have been involved as well in projects throughout Monterey County for decades. We have attended Monterey County Planning Commissions over the duration of this proposed project which has taken at least four years, since 2016. We have recently monitored this archaeology project (all three parcels) as archaeological work has been conducted.

Four separate and well-regarded archaeologic firms from Central California have conducted both Phase I and Phase II testing consisting of subsurface probes into the soils of these three parcels. Albion Environmental of Santa Cruz conducted the first testing in 2016; they found a sparse scatter of flakes of abalone shell. The next year Dr. Gary Breschini conducted a survey and subsurface probe of these three parcels and found no significant cultural materials. In 2018 Susan Morley, MA., RPA conducted a third testing program on these three parcels. She, too, found no significant cultural materials either on the surface or below grade. All of these respected consultants recommended archaeological monitoring as a precautionary measure due to the sensitive nature of the neighborhood. Recently, Paleowest, a cultural resources firm from Walnut Creek conducted ground-penetrating radar on grids established over the three parcels. Paleowest archaeologists noted seven subsurface 'anomalies' so they conducted

geo-probe boring to determine the nature of these anomalies. The results of all these geo-probes was negative.

The ETMC has read these reports. We have monitored the archaeologists during the geo-probe boring on these three parcels. The ETMC has worked with all of these archaeological consulting firms for many years we believe that their work is reliable. The ETMC believes that the work of these professionals over these past four years has demonstrated that there are no significant cultural resources present on these three parcels that would preclude the construction projects. Although there may be sparse quantities of marine shell fragments on the surface, as well as a sparse presence of thermally affected rocks, which are often used to identify archaeology sites, there is no evidence of intact cultural features which would be damaged as a result of these projects moving forward.

Sincerely,

Tom Little Bear Nason

Tribal Chairperson
Esselen Tribe of Monterey County
P.O Box 95, Carmel Valley
California 93924
831-214-5345
tribalchairman@esselentribe.org

Anthony Lombardo & Associates
144 W. Gabilan Street
Salinas, CA 93901

Dear Mr. Lombardo,

As the former tribal Chairperson of the Ohlone Costanoan Esselen (OCEN), I am writing in support of the Emerson Development Group's three projects proposed at three undeveloped lots on Carmel Point: 26307 Isabella Avenue (APN: 009-463-012), and 26346 and 26338 Valley View Avenue (APNs: 009-463-003 and 009-463-017. As the former tribal chairperson and now as a continuing tribal person and monitor, I have been involved in many proposed and ongoing projects on Carmel Point for decades. I have attended the Monterey County Planning Commission and Board of Supervisors hearings for these projects that have occurred since 2016 in support of the projects as designed.

Archaeological studies have been conducted by four separate and well-regarded archaeologic firms of Central California, who conducted both Phase I and Phase II testing consisting of subsurface probes into the soils of these three parcels. Albion Environmental of Santa Cruz conducted the first testing in 2016. Albion found no significant archaeological or cultural resources. The next year Dr. Gary Breschini conducted a survey and subsurface probe of these three parcels and found no significant archaeological or cultural resources. In 2018 Susan Morley, MA., RPA conducted a third testing program involving hand augering up to a depth of 6' and 10' on these three parcels. She, too, found no significant archaeological or cultural resources either on the surface or below grade. All of these respected consultants recommended archaeological monitoring as a precautionary measure due to the sensitive nature of the neighborhood. In 2019 & 2020, Paleowest conducted ground-penetrating radar on grids established over the three parcels, covering all areas to be disturbed by excavation for the projects and to the total depth of the proposed excavation. Further Paleowest archaeologists conducted geo-probe borings to determine the nature of these any/all 'anomalies' that appeared in the ground-penetrating radar grids. The results of all of these geo-probes was negative.

I have read all of these reports. I have also worked with and/or have consulted with all of these archaeological consulting firms for many years, and I believe that their work is reliable. I am certain that the work of these professionals over these past four years has demonstrated that there are no significant cultural resources present on these three parcels that would preclude the construction.

There is no evidence of intact cultural features which would be damaged as a result of these projects moving forward. I strongly recommend approval for the projects as designed.

Sincerely,

Rudy T. Rosales
Ohlone Costanoan Esselen Nation
Former Tribal Chairman

(831) 917-1866 Mobile
esselennation46@aol.com

PO Box 647
Monterey, CA 93942

Rudy T. Rosales,
Former Chairperson
Ohlone Costanoan Esselen Nation

HARO, KASUNICH AND ASSOCIATES, INC.

CONSULTING GEOTECHNICAL & COASTAL ENGINEERS

Project No. M11382
30 October 2018

MS. GAIL HATTER
c/o Anthony Lombardo & Associates
144 West Gabilan Street
Salinas, California 93901

Subject: Foundation Zone Soil Condition Mitigation Measures
For Proper Foundation Support

Reference: Proposed Residential Construction - Three Lots
26338 Valley View Avenue
26346 Valley View Avenue
26307 Isabella Avenue
Carmel, California

Dear Ms. Hatter:

At your request, we have reviewed our geotechnical Investigations for the subject residential lots. The purpose of our review was to summarize the primary subsurface findings relative to the foundation zone soils and the proper mitigation to support residential structures on each lot. Our geotechnical investigations are dated 18 December 2017 and present in detail the subsurface soil conditions, the geotechnical analyses, conclusions and appropriate recommendations to mitigate the loose near surface soil conditions at each site.

In summary, the foundation zone soils to a depth of 5 to 9 feet are in a loose condition and not capable of supporting residential structures in their existing condition. The loose soils if not penetrated or removed and recompacted cannot sufficiently support residential structures without total and differential settlement occurring causing distress to the improvements over time. To mitigate for this loose soil condition, the recommendations of our geotechnical reports required either excavation of the near surface soils to a depth of at least 5 feet (with a potential to 8 feet) and the construction of a subsurface basement supported on the underlying denser competent soils; or redensification of the top 4 to 5 feet soil requiring subexcavation of the near surface soils, stockpiling them, scarifying the exposed subgrade and then replacing them as compacted engineered fill to a minimum relative density of 90 percent.

The use of helical screw anchors can be considered for exterior flatwork or the subexcavated basement, but will not adequately support habitable structures

founded at existing grade due to depth of loose, near surface soil and the slender anchors inability to restrain lateral forces from seismic shaking during moderate to strong earthquake activity in the immediate (Cypress Fault) or nearby (San Andreas or San Gregorio Faults) source points.

If you have any questions regarding the results of our geotechnical investigation and the recommendations presented to mitigate the loose soils on the reference site, please call our office.

Respectfully Submitted,

HARO, KASUNICH AND ASSOCIATES, INC.

John E. Kasunich
G.E. 455

JEK/dk
Copies: 2 to Addressee + pdf gail@alombardolaw.com

Legend

— SV —⊠ PG&E to install 350AL TPX UG service cable and meter
Applicant to trench, backfill and install 1–3" conduit(01–6471)

SHARED CONSTRUCTION WITH PG&E

GENERAL NOTES

1. APPLICANT TO DO ALL TRENCHING AND INSTALLATION OF CONDUIT/SUBSTRUCTURE. 2. TRENCH IS ELEC ONLY.

IMPORTANT!

DEVELOPER, GENERAL CONTRACTOR & ELECTRICAL CONTRACTOR PLEASE NOTE: BEFORE BEGINNING TRENCHING AND SUBSTRUCTURE WORK, PLEASE CONTACT PG&E INSPECTION DESK 2 WORKING DAYS IN ADVANCE:

PG&E UNDERGROUND INSPECTION DESK @ Centralcoastinspect@pge.com

WORK NOT PROPERLY INSPECTED MAY BE REJECTED. FOR JOB SCHEDULING INFORMATION PLEASE CALL PG&E PROJECT MANAGER: Denise Clarke @ 831–784–3316

IF THERE ARE CONFLICTS BETWEEN LANDSCAPING (MOUNDS, BERMS, TREES, BUSHES,..) AND SUBSTRUCTURE INSTALLATIONS (SPLICE BOXES, TRANSFORMER PAD,..) PLEASE CONTACT THE INSPECTOR PRIOR TO INSTALLATION.

Conduit runs and bends notes

1. The total number of factory bends installed in conduit run for primary cable shall not exceed 300 degrees, including the bend at the feed-in location.

2. The total number of factory bends installed in conduit runs for secondary cable and services having a maximum length of 200 feet shall not exceed 315 degrees, including the bend at the feed in location. If the total length of conduit run exceeds 200 feet, then the total number of factory bends for secondary and service cable will be 300 degrees.

Minimum Bend Radius for New Construction

Conduit Diameter	Vertical Radius	Horizontal Radius
2"	24"	36"
3"	24"	36"
4"	36"	60"
5"	36"	60"

APPLICANT NOTES:

1 APPLICANT TO PERFORM ALL TRENCHING AND INSTALL SUBSTRUCTURES & BACKFILL PER PG&E SPECIFICATIONS. TRENCH IS TO BE JOINT WHERE POSSIBLE. APPLICANT RESPONSIBLE FOR COORDINATION OF OTHER UTILITIES.

2. APPLICANT IS RESPONSIBLE FOR LOCATING UNDERGROUND UTILITIES. CONTACT U.S.A. LOCATE SERVICE AT 1-800-227-2600 OR 811 AT LEAST TWO WORKING DAYS PRIOR TO TRENCHING.

3. CUSTOMER CONDUIT MUST BE RIGID PVC DB-120, ASTM 512 OR BETTER. A POLYESTER FLAT PULL TAPE (PGE CODE 560154) SHALL BE INSTALLED IN ALL CONDUITS AND ATTACHED TO END CAPS. HEATED BENDS ARE NOT ALLOWED.

4. BACKFILL MATERIAL CONTAINING NOT MORE THAN OCCASIONAL ROUNDED ROCKS LESS THAN 1/2" DIAMETER IS ACCEPTABLE. TRENCH MATERIAL MUST BE ON SITE AND MUST BE INSPECTED PRIOR TO BACKFILL.

5. ANY CHANGES OR MODIFICATIONS MUST BE APPROVED BY PG&E.

6. PGE INSPECTOR TO APPROVE ALL EXCAVATIONS FOR TRENCHES AND SPLICE BOXES (LOCATION AND BACKFILL MATERIAL) PRIOR TO BACKFILLING.

7. TRENCHING AGENT TO DISPOSE OF ALL SOIL. TRENCHING AGENT TO SECURE ALL PERMITS.

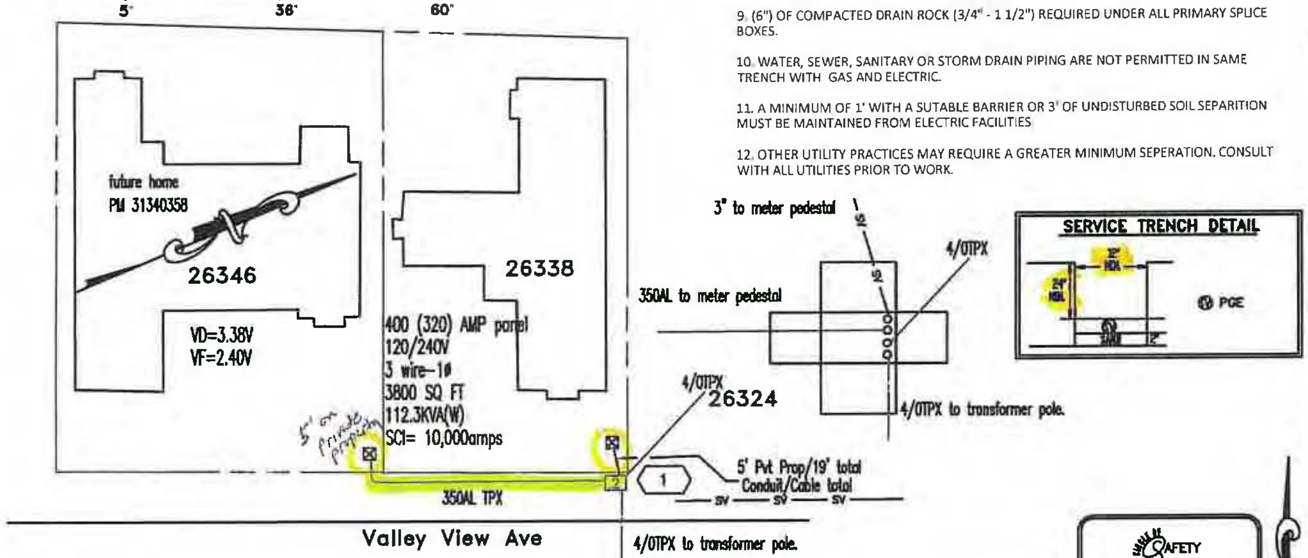
8. MINIMUM COVER FROM FINAL GRADE REQUIRED FOR ALL FACILITIES

9. (6") OF COMPACTED DRAIN ROCK (3/4" - 1 1/2") REQUIRED UNDER ALL PRIMARY SPLICE BOXES.

10. WATER, SEWER, SANITARY OR STORM DRAIN PIPING ARE NOT PERMITTED IN SAME TRENCH WITH GAS AND ELECTRIC.

11. A MINIMUM OF 1' WITH A SUTABLE BARRIER OR 3' OF UNDISTURBED SOIL SEPARITION MUST BE MAINTAINED FROM ELECTRIC FACILITIES

12. OTHER UTILITY PRACTICES MAY REQUIRE A GREATER MINIMUM SEPERATION. CONSULT WITH ALL UTILITIES PRIOR TO WORK.



COORDINATE #
100 0000 2 3797
LOADING DISTRICT
W
TX SIZE – 50
KVA 1ø – 38.3
KVA 3ø – 0
% L.F. – 59

Underground Service Alert

Call: TOLL FREE

811

TWO WORKING DAYS BEFORE YOU DIG

NO APPARENT PG&E GAS CONFLICTS FOR THIS PROJECT
GAS PLATS: Map#

PROJECT CONDITIONS STAMP

Type(s) of Work:
☒ New Business
☐ PG&E Maintenance & Construction

Project Conditions:
☒ NONE APPARENT (If project design changes, contact ADE)
or
☐ CONDITIONS APPLY:
☐ PERMITS ☐ TAILBOARD ☐ OTHER
(Provide additional information on line below)

Don Skinner(DES7) 5/7/18

SAFETY PLEDGE

I ALWAYS PUT SAFETY FIRST.
I LOOK FOR AND ACT TO RESOLVE UNSAFE SITUATIONS.
I HELP AND ENCOURAGE OTHERS TO ACT SAFELY.

CONSTRUCTION SKETCH

26338 Valley View Ave, Carmel
UG service/meter NB

PRIMARY VOLTAGE: 4.2 kV	VOLTAGE AREA: 1	EST: Don Skinner	831–784–3627
CKT. MAP: AQ131–B05	ELEC.MAP:AQ131–B05	ADE: Don Skinner	831–784–3627
SOURCE SIDE DEVICE:FUSE 2885		SUPV: Mary Galoyan	408–313–2895
SUB & CIRCUIT: Carmel 0405		REP: Denise Clarke	831–784–3316
DSGN SAG:SSU	RAPTOR ZONE:No	PLNR: N/A	N/A
LOADING AREA:Light	ARRESTER DIST:3	NOTIF: 112700858	JPA#: N/A
CORROSION AREA:Severe	INSULATION DIST:AA	SCALE: NTS	DATE:5/7/18
EXEMPT EQUIP. INST:No	FIRE AREA:LRA	PM: 35031724	SHEET:1 OF1 REV. 0

Know what's below. Call before you dig.

NO ENVIRONMENTAL ISSUES

GAS MAP: 3956–E06 | GAS CONFLICT: IN PROXIMITY | NEAR LOC:N/A

Legend

— SV —⊠ PG&E to install 350AL TPX UG service cable and meter
Applicant to trench, backfill and install 1-3" conduit(01-6471)

2E ☒ PG&E to remove 17" X 30" X 18" box
PG&E to install 17" X 30" X 26" box——betterment PGE expense

▲ PG&E to 50KVA, 2.4 X 4.2Y KV, 120/240V SS OH TX—betterment PGE expense

IMPORTANT!

DEVELOPER, GENERAL CONTRACTOR & ELECTRICAL CONTRACTOR PLEASE NOTE: BEFORE BEGINNING TRENCHING AND SUBSTRUCTURE WORK, PLEASE CONTACT PG&E INSPECTION DESK 2 WORKING DAYS IN ADVANCE:

PG&E UNDERGROUND INSPECTION DESK @ Centralcoastinspect@pge.com

WORK NOT PROPERLY INSPECTED MAY BE REJECTED. FOR JOB SCHEDULING INFORMATION PLEASE CALL PG&E PROJECT MANAGER: Denise Clarke @ 831-784-3316

IF THERE ARE CONFLICTS BETWEEN LANDSCAPINGS (MOUNDS, BERMS, TREES, BUSHES,..) AND SUBSTRUCTURE INSTALLATIONS (SPLICE BOXES, TRANSFORMER PAD,..) PLEASE CONTACT THE INSPECTOR PRIOR TO INSTALLATION.

SHARED CONSTRUCTION WITH PG&E

GENERAL NOTES

1. APPLICANT TO DO ALL TRENCHING AND INSTALLATION OF CONDUIT/SUBSTRUCTURE. 2. TRENCH IS ELEC ONLY.

Conduit runs and bends notes

1. The total number of factory bends installed in conduit run for primary cable shall not exceed 300 degrees, including the bend at the feed-in location.

2. The total number of factory bends installed in conduit runs for secondary cable and services having a maximum length of 200 feet shall not exceed 315 degrees, including the bend at the feed in location. If the total length of conduit run exceeds 200 feet, then the total number of factory bends for secondary and service cable will be 300 degrees.

Minimum Bend Radius for New Construction

Conduit Diameter	Vertical Radius	Horizontal Radius
2"	24"	36"
3"	24"	36"
4"	36"	60"
5"	36"	60"

APPLICANT NOTES:

1 APPLICANT TO PERFORM ALL TRENCHING AND INSTALL SUBSTRUCTURES & BACKFILL PER PG&E SPECIFICATIONS. TRENCH IS TO BE JOINT WHERE POSSIBLE. APPLICANT RESPONSIBLE FOR COORDINATION OF OTHER UTILITIES.

2. APPLICANT IS RESPONSIBLE FOR LOCATING UNDERGROUND UTILITIES. CONTACT U.S.A. LOCATE SERVICE AT 1-800-227-2600 OR 811 AT LEAST TWO WORKING DAYS PRIOR TO TRENCHING.

3. CUSTOMER CONDUIT MUST BE RIGID PVC. DB-120, ASTM 512 OR BETTER. A POLYESTER FLAT PULL TAPE (PGE CODE 560154) SHALL BE INSTALLED IN ALL CONDUITS AND ATTACHED TO END CAPS. HEATED BENDS ARE NOT ALLOWED

4. BACKFILL MATERIAL CONTAINING NOT MORE THAN OCCASIONAL ROUNDED ROCKS LESS THAN 1/2" DIAMETER IS ACCEPTABLE. TRENCH MATERIAL MUST BE ON SITE AND MUST BE INSPECTED PRIOR TO BACKFILL.

5. ANY CHANGES OR MODIFICATIONS MUST BE APPROVED BY PG&E

6. PGE INSPECTOR TO APPROVE ALL EXCAVATIONS FOR TRENCHES AND SPLICE BOXES (LOCATION AND BACKFILL MATERIAL) PRIOR TO BACKFILLING.

7. TRENCHING AGENT TO DISPOSE OF ALL SOIL. TRENCHING AGENT TO SECURE ALL PERMITS.

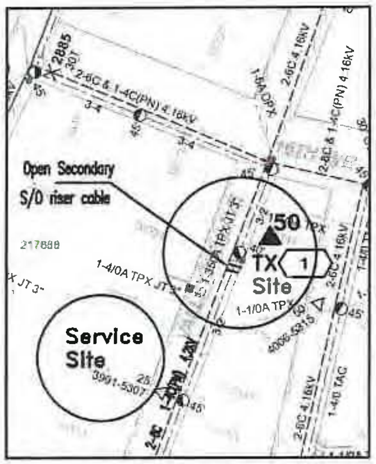
8. MINIMUM COVER FROM FINAL GRADE REQUIRED FOR ALL FACILITIES.

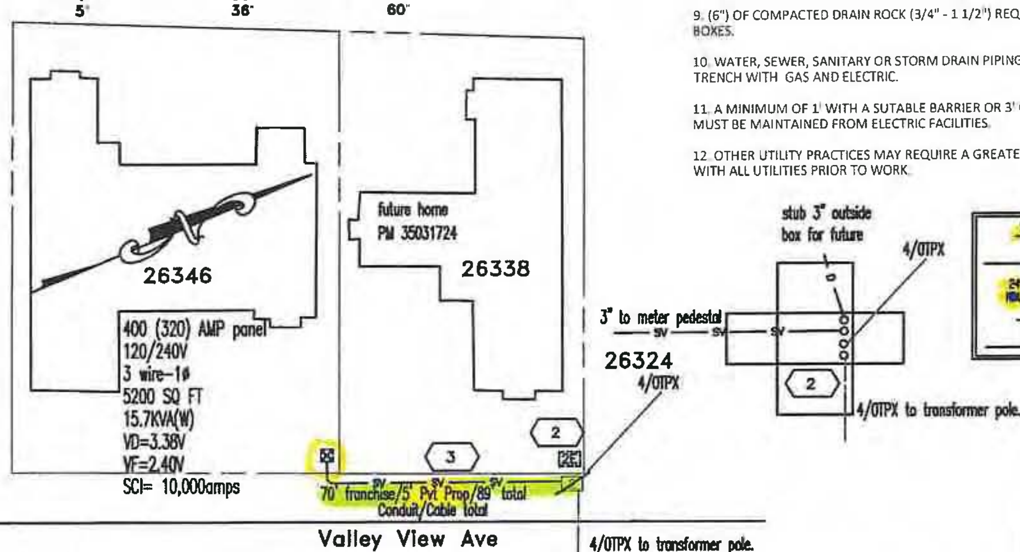
9. (6") OF COMPACTED DRAIN ROCK (3/4" - 1 1/2") REQUIRED UNDER ALL PRIMARY SPLICE BOXES.

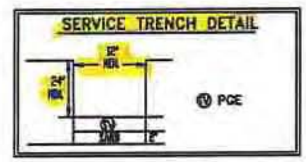
10. WATER, SEWER, SANITARY OR STORM DRAIN PIPING ARE NOT PERMITTED IN SAME TRENCH WITH GAS AND ELECTRIC.

11. A MINIMUM OF 1' WITH A SUTABLE BARRIER OR 3' OF UNDISTURBED SOIL SEPARITION MUST BE MAINTAINED FROM ELECTRIC FACILITIES.

12. OTHER UTILITY PRACTICES MAY REQUIRE A GREATER MINIMUM SEPERATION. CONSULT WITH ALL UTILITIES PRIOR TO WORK.







COORDINATE #
100 0000 2 3797
LOADING DISTRICT
W
TX SIZE – 50
KVA 1ø – 38.3
KVA 3ø – 0
% L.F. – 59

Mapping note:
Put 26346 and 26324 on the new transformer.
26338 to follow on PM 35031724.

Underground Service Alert
Call: TOLL FREE
811
TWO WORKING DAYS BEFORE YOU DIG
NO APPARENT PG&E GAS CONFLICTS FOR THIS PROJECT
GAS PLATS: Map#

PROJECT CONDITIONS STAMP
Type(s) of Work:
☒ New Business
☐ PG&E Maintenance & Construction
Project Conditions:
☒ NONE APPARENT (if project design changes, contact ADE)
or
☐ CONDITIONS APPLY:
☐ PERMITS ☐ TAILBOARD ☐ OTHER
(Provide additional information on the below)
Don Skinner(DES7) 5/3/18

SAFETY PLEDGE
I ALWAYS PUT SAFETY FIRST.
I LOOK FOR AND ACT TO RESOLVE UNSAFE SITUATIONS.
I HELP AND ENCOURAGE OTHERS TO ACT SAFELY.

PRIMARY VOLTAGE: 4.2 KV	VOLTAGE AREA: 1
CKT. MAP: AQ131-B05	ELEC.MAP:AQ131-B05
SOURCE SIDE DEVICE:FUSE 2885	
SUB & CIRCUIT: Carmel 0405	
DSGN SAG:SSU	RAPTOR ZONE:No
LOADING AREA:Light	ARRESTER DIST:3
CORROSION AREA:Severe	INSULATION DIST:AA
EXEMPT EQUIP. INST:No	FIRE AREA:LRA

CONSTRUCTION SKETCH
26346 Valley View Ave, Carmel
OH TX/UG service/meter NB

Know what's below. Call before you dig.

NO ENVIRONMENTAL ISSUES

GAS MAP: 3956-E06 | GAS CONFLICT:IN PROXIMITY | NEAR LOC:N/A

EST: Don Skinner	831-784-3627
ADE: Don Skinner	831-784-3627
SUPV: Mary Galoyan	408-313-2895
REP: Denise Clarke	831-784-3316
PLNR: N/A	N/A
NOTIF: 112648705	JPA#: N/A
SCALE: NTS	DATE:5/3/18
PM: 31340358	SHEET:1 OF1 REV. 0

EXHIBIT M - Page 2 of 2

CALIFORNIA COASTAL COMMISSION
CENTRAL COAST DISTRICT OFFICE
725 FRONT STREET, SUITE 300
SANTA CRUZ, CA 95060-4508
VOICE (831) 427-4863
FAX (831) 427-4877

Th13a-c

3-MCO-19-0039, -0041, AND -0042 (PIETRO FAMILY INVESTMENTS/VALLEY POINT SFD'S)

JULY 9, 2020 HEARING

CORRESPONDENCE

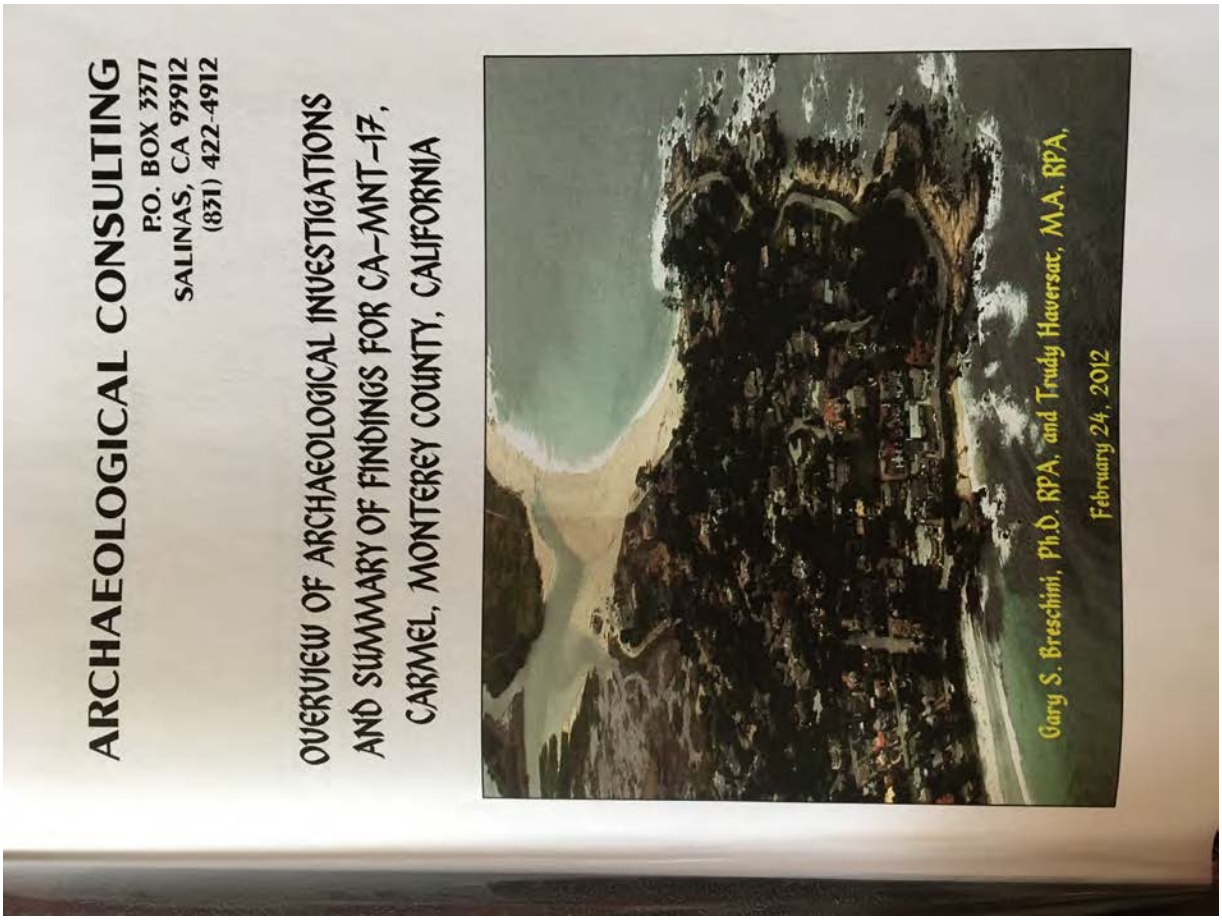
From: Linda Yamane
To: Watson, Michael@Coastal
Subject: Re: Carmel Pt appeals
Date: Sunday, March 01, 2020 9:11:11 AM
Attachments: image001.png

Hi Mike,

Attached you should find two images from 2012 archaeological report by Breschini and Haversat on Carmel Point. I think you'll find the map especially interesting, as it shows at a glance the multitude of archaeological sites on the point.

I apologize for the delay in sending this and will try to carve out a bit of time to send other pages with pertinent information for you. But if, by chance, you find yourself needing to come over Monterey direction, I hope you'll let me know and we could try coordinating a short meeting.

Linda Yamane



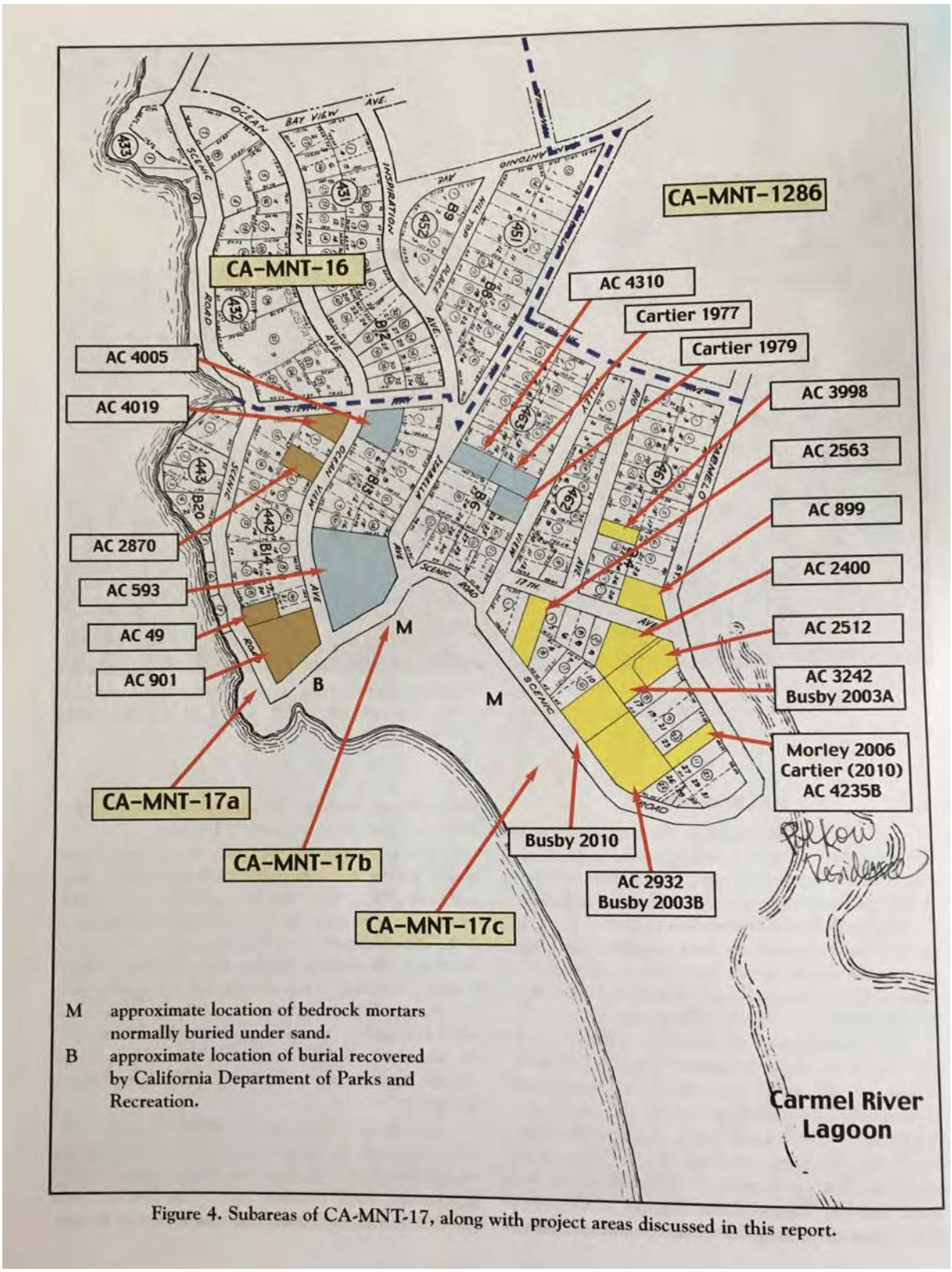


Figure 4. Subareas of CA-MNT-17, along with project areas discussed in this report.

1585 Mira Mar Ave
Seaside, CA 93955
831.905.5915
Sent from Yahoo Mail for iPad

On Thursday, February 20, 2020, 8:29 AM, Watson, Michael@Coastal <Michael.Watson@coastal.ca.gov> wrote:

> Nice talking with you this morning. Feel free to provide your comments and / or materials. I'm in the office most of next week but have a few meetings and site visits. I'm sure we'll be able to find a time to chat. Mike
>
> Mike Watson
>
> Coastal Planner
>
> California Coastal Commission
>
> Central Coast District Office
>
> 725 Front Street, Suite 300
>
> Santa Cruz, CA 95060
>
> Direct: 831 427-4898
>
> Office: 831 427-4863
>
> Michael.watson@coastal.ca.gov
>
> CALIFORNIA COASTAL COMMISSION
>
> Every Californian should conserve water. Find out how at:
>
> Save Our Water
>
> SaveOurWater.com · Drought.CA.gov

The local and historic
Esselen Tribe of Monterey County
PO Box 95, Carmel Valley, CA 93924

Our Mission Statement:

To preserve and to protect our cultural heritage and ancestral sacred sites, namely of the Esselen, Rumsen, Chalone, Sureño and Guatcharrone people, which includes but is not limited to the villages of Achasta, Chalon, Echilat, Ensen, Excelen, Esslenajan, Ixchenta, Jojopan, Kuchun, Pachepas, Sargenta-Ruc, Soccoronda, and Tucutnut, located within sacred pre-historic and historic tribal lands of Monterey County, California.

Chris Adamski
Emerson Development
24576 Portola Avenue
Carmel, California 93923
April 8, 2020

Dear Mr. Adamski,

The Esselen Tribe of Monterey County (ETMC) writes in support of the Emerson Development Group's projects proposed at three undeveloped lots on Carmel Point: 26307 Isabella Avenue (APN: 009-463-012), and 26346 and 26338 Valley View Avenue (APNs: 009-463-003 and 009-463-017.

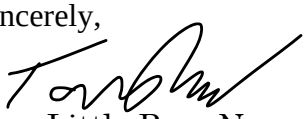
The ETMC has been involved in many proposed and ongoing projects on Carmel Point; we have been involved as well in projects throughout Monterey County for decades. We have attended Monterey County Planning Commissions over the duration of this proposed project which has taken at least four years, since 2016. We have recently monitored this archaeology project (all three parcels) as archaeological work has been conducted.

Four separate and well-regarded archaeologic firms from Central California have conducted both Phase I and Phase II testing consisting of subsurface probes into the soils of these three parcels. Albion Environmental of Santa Cruz conducted the first testing in 2016; they found a sparse scatter of flakes of abalone shell. The next year Dr. Gary Breschini conducted a survey and subsurface probe of these three parcels and found no significant cultural materials. In 2018 Susan Morley, MA., RPA conducted a third testing program on these three parcels. She, too, found no significant cultural materials either on the surface or below grade. All of these respected consultants recommended archaeological monitoring as a precautionary measure due to the sensitive nature of the neighborhood. Recently, Paleowest, a cultural resources firm from Walnut Creek conducted ground-penetrating radar on grids established over the three parcels. Paleowest archaeologists noted seven subsurface 'anomalies' so they conducted

geo-probe boring to determine the nature of these anomalies. The results of all these geo-probes was negative.

The ETMC has read these reports. We have monitored the archaeologists during the geo-probe boring on these three parcels. The ETMC has worked with all of these archaeological consulting firms for many years we believe that their work is reliable. The ETMC believes that the work of these professionals over these past four years has demonstrated that there are no significant cultural resources present on these three parcels that would preclude the construction projects. Although there may be sparse quantities of marine shell fragments on the surface, as well as a sparse presence of thermally affected rocks, which are often used to identify archaeology sites, there is no evidence of intact cultural features which would be damaged as a result of these projects moving forward.

Sincerely,



Tom Little Bear Nason

Tribal Chairperson
Esselen Tribe of Monterey County
P.O Box 95, Carmel Valley
California 93924
831-214-5345
tribalchairman@esselentribe.org

From: Christina McGinnis
To: Watson, Michael@Coastal
Subject: Re: white paper
Date: Tuesday, May 05, 2020 11:19:28 AM
Attachments: image001.png
Staff Report (1).pdf
Exhibit A - Carmel Point Discussion (1).pdf

Hi Mike,

Great talking with you. Funny how the convo morphed into Carmel Point. I found the Staff Report I prepared in 2018, as well as the associated research paper, (which as I mentioned were **presented one item prior to the PC hearing for Pietro**). Feel free to call if you want to talk about any of it. I'm so happy to hear about your recommendation to the Commission, it gives me hope that something will be done. It really is a larger policy issue-the paper is long and there are several tangible recommendations at the conclusion of it that could be implemented by the County. They took action on none of them, even the most benign. So disheartening.

Thanks and hope to meet you in person sometime. Keep up the wonderful work you do!!

Christina

On Tue, May 5, 2020 at 10:47 AM Watson, Michael@Coastal <Michael.Watson@coastal.ca.gov> wrote:

> Nice talking with you and look forward to reading the paper on cultural resources. Mike
>
> PS. If you change your mind and want to forward your observations on Carmel Beach, feel free to do so.
>
> Mike Watson
>
> Coastal Planner
>
> California Coastal Commission
>
> Central Coast District Office
>
> 725 Front Street, Suite 300
>
> Santa Cruz, CA 95060
>
> Direct: 831 427-4898
>
> Office: 831 427-4863
>
> Michael.watson@coastal.ca.gov

CALIFORNIA COASTAL COMMISSION

Every Californian should conserve water. Find out how at:

Save Our Water

SaveOurWater.com · Drought.CA.gov

Exhibit A

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EXHIBIT A
DISCUSSION

The attached report provides an overview on the status of the Point as it relates to archaeological resources. After decades of archeological investigations, the Point has yielded information that clearly makes it archaeologically significant and deserving of comprehensive protection. The Carmel Point area is presumed to be an Ohlone settlement dating to at least 4,000 years ago and has produced the oldest known archaeological artifact in Monterey County. Carmel Point has a rich archaeological history- there are three, sometimes overlapping, recorded archaeological sites on the Point: CA-MNT-17, CA-MNT-16, and CA-MNT-1286. Cultural resources which have been formally recorded with the Regional Information Center of the California Historic Resources Information System are referenced by this trinomial designation. CA-MNT-17, which extends well beyond the current project area, has been characterized as an expansive and moderately dense accumulation of marine shell, mammal bone, flaked and ground stone tools. The Carmel Area Land Use Plan recognizes the intensive prehistoric use of the Carmel area. According to the Carmel Coastal Implementation Plan (Part 4), the Point is considered a "high sensitivity zone"- an area where archaeological sites are already identified with a strong possibility of prehistoric/historic Native American occupation.

The report summarizes archeological research received by the County to date for individual projects located at or near the Point, and provides information regarding relevant existing policies applicable to the area that require archeological resource protection. It also introduces a newer technology and provides a suite of options that would assist in determining the status of the area and preventing further unintended disturbance to the resource.

The recent slate of projects in this area proposing underground basements and other projects requiring excavation to depths that are not reachable using archaeological investigation methods present a policy challenge: *has the resource been protected using traditional approaches for cultural resource assessment and mitigation? The determination after a systematic review of projects on the Point as detailed in this report is that Monterey County has been applying mitigation that has not protected or avoided these resources, and has been reactive in nature.* Traditional mitigation requiring only a surface (Phase I) walkover, and even a Phase II with limited excavation, has not identified the more deeply buried resources that have been discovered, some including human remains. Unfortunately, this approach that has been incrementally destroying resources, even when an archaeological monitor is required to be present. Additional methods are available to assess the potential for the presence/absence of deeply buried archaeological resources (described in this report, called Geoprobes).

Several projects on the Point have recently proposed development of basements for new homes. In just the past year, RMA-Planning has received six requests for basement approvals on the Point. Carmel's key policy on Archaeological Resources is such that when development is

proposed for parcels where archaeological or other cultural sites are located, project design shall be required which avoids or substantially minimizes impacts to such cultural sites. The key components of this and other relevant and applicable policies include the following:

Coastal Implementation Plan (CIP)

- All avoidable measures, including purchase of archaeological easements, dedication to the County; tax relief and purchase of development rights shall be explored to avoid development on sensitive prehistoric or archaeological sites.

- When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required to avoid impacts to such cultural sites.

Carmel Area Land Use Plan

- "… emphasis should be placed on preserving the entire site rather than on excavation of the resource, particularly where the site has potential religious significance".

- ALL available measures, including purchase of archaeological easements, dedication to the County, tax relief, purchase of development rights, consideration of reasonable project alternatives, etc., shall be explored to avoid development on sensitive archaeological sites.

In order to be fully compliant with these policies, all available measures should be taken to determine the presence/absence of resources, and where they are found, they must be avoided.

Background

The purpose of this report is to provide the Monterey County Planning Commission and the public with a briefing on the Carmel Point (Point) area. The Point has a well-documented history of containing numerous archaeological resources within three individually recorded sites and is considered an area with extremely high sensitivity and potential for continued discovery of unknown archaeological resources. The Point has been studied for its archaeological significance for decades. Notably, in 2012, Breschini and Haversat prepared a comprehensive report with an overview of archaeological investigations and a summary of findings for the Point. One of the three known archaeological sites located there is referenced in the Breschini and Haversat report: CA-MNT-17 is *the oldest archaeological site in Monterey County, among the oldest on the central California coast, and contains three subsections, A-C*. The earliest radiocarbon date from CA-MNT-17 is in excess of 9,400 years before present (BP); prehistoric occupation extended as late as 1807 A.D. after establishment of the Mission at Carmel. The Breschini report states that "*it is likely that additional dates obtained from that same general area would extend this age even farther into the past.*" The other two documented sites, CA-MNT-1286 and CA-MNT-16, discovered in the early 1950's, are in close proximity to CA-MNT-17. The exact boundaries of these archaeological resources have not been systematically

defined, as this requires intensive ground surface survey and subsurface boundary testing excavation. While the exact locations of these sites cannot be publically disclosed due to state law regarding their sensitivity and confidentiality, they collectively are extremely important for several reasons.

The information gleaned from these sites located in the Point area indicates that they meet the criteria for listing on the California Register of Historic Resources (CRHR) and the federal National Register of Historic Places (NRHP) as they are capable of "yielding information important in prehistory." The Breschini and Haversat report considers that the Point area encompassing all of these sites is eligible for listing as an "historic district" per the NRHP definitions, given that prehistoric populations occupied this area for over 9,000 years.

Substantial evidence derived from 18 investigations associated with land use development as summarized by Breschini and Haversat (2012) conclude that a comprehensive synthesis of the data from various projects should be undertaken and all available methods should be used to determine the potential presence and avoidance of cultural deposits in the Point area. The archaeological investigations prepared for these relatively small residential projects on the Point have been modest in scope, have obtained relatively few radiocarbon dates, and have included only limited technical analyses of cultural resources recovered during excavations. As Breschini and Haversat state in their report, "most of these projects have not been able to support the levels of research needed to properly analyze the previous investigations and correlate the scattered information in order to more fully understand this site [CA-MNT-17]". The report argues how unfortunate this is, given that CA-MNT-17 is a "multi-component site spanning almost all of the prehistoric occupation of the Monterey Peninsula".

Systematic surveys currently required for all parcels within the Monterey County General Plan Archaeological Resources Moderate and High Sensitivity Zones should include adequate techniques to ensure the identification and whenever possible, and *avoidance* of deeply buried cultural deposits, so that the earliest periods of prehistoric occupation are identified and added to our understanding of local prehistory. There is evidence of prehistoric occupation of the Point area during the Middle Period of California prehistory (200 BC to 700 AD), which is scarce on the Monterey Peninsula, as well as evidence of some occupation during the preceding 1,000 years (1200 BC to 200 BC) when archaeologists have not recorded other evidence in the Point or vicinity. There is also evidence from the early Archaic (prior to 4000 BC), which is extremely rare in this portion of the California central coast. Breschini and Haversat state that any future projects in this area should be aware that there is the *potential for encountering Middle and Early (4000 BC to 1200 BC) Period cultural resources, and therefore should include provisions for addressing the unknown presence of older, sparse deposits in their research designs*.

After decades of archeological investigations, the Point has clearly yielded information that makes it archaeologically significant and deserving of comprehensive protection. Though the prehistoric archaeological occupational sequence is generally established, the reasons why local Native California populations increased or decreased over time are not understood. Possible explanations include climate change that affected food resource availability, population increases and resulting competition for available marine resources, and immigration of outside tribes that could have created competition for available resources. The changing geographic distribution of

archaeological sites over time is also not understood, though it was affected by sea levels that were much lower than today: approximately 200 feet lower 10,000 years ago, and 50-80 feet 7,000 years ago. Sea level reached its modern day elevation by about 3,000 years ago.

Monterey Bay region Native Californians were known Rumsen, Esselen/Excelen, Guacharrones/Wacharon, Ecclemachs, Sakhones, Sureños, and Carmeleños. Today, anthropologists continue to refer to these early inhabitants and their living descendants as '*Ohlone*,' a name adapted from Latham in 1856 and first consistently applied by Levy in 1978. The tribe's settlement patterns, as reflected by the distribution of archaeological sites over the landscape and ethnographers interviews of informants in the early 20th century is considered to have been "semi-sedentary": larger village sites have been recorded most often at the confluence of streams and the Pacific Ocean coastline, other prominent landforms such as marine terraces and ridgelines adjacent to streams, or in the vicinity of permanent springs. Smaller, localized seasonal resource gathering and food processing areas and associated temporary campsites are frequently found on the coast and interior areas frequented when seasonal fishing resources were less plentiful.

There are two contemporary Native Californian tribes in the County's jurisdiction identified by the state Native American Heritage Commission that are consulted when land use projects have the potential to impact their heritage issues: the Salinan Tribe, and the Ohlone/Costanoan-Esselen Nation (OCEN). Monterey County's Native American Heritage representative for the Point, OCEN, has stated that their priority is to protect and preserve without disturbance their ancestors' remains. If project excavation is unavoidable, OCEN requests all cultural and sacred items identified during these disturbances be left on site or where they are discovered, with their ancestors.

Information on cultural resources, particularly archaeological (historical) resources, can yield important environmental data, since past ecological conditions often are reflected in archaeological sites. Archeological sites may exhibit evidence of different occupations over different periods of time. These are qualities that address CEQA Guidelines Section 15064.5(3)(d) significance criteria:

> *Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code § 5024.1, Title 14 CCR, Section 4852) including the following:*
>
> *(D) Has yielded, or may be likely to yield, information important in prehistory or history*

At a local level, there has been a question about what constitutes a "unique archaeological resource," especially when artifacts recovered from a site may seem "insignificant" or otherwise non-substantive. CEQA provides some guidance by definition, as described later in this report.

Research Methods

There are limitations with conventional archaeological excavation methods typically used in the past by archaeologists to access deeply buried cultural resources, which cannot identify soils below 6 feet, and that is only with extensive, expensive mitigation excavations. *However, a technique is available that is less invasive to the site and explore depths not possible using traditional methods to assist in the archaeologists' determination of whether a site may contain deeply buried archaeological deposits that can be avoided. This technique uses* ***geoprobes*** *or cores, a method conventionally used by geologists to evaluate soil characteristics to define structural foundation requirements.* The geoprobes can effectively identify soils that may contain habitation debris that can be dated (only one shell or other identified artifact is needed) to contribute to our understanding of archaeological site patterns over time. This technique allows for recovering systematic 2-inch to 6-inch diameter core samples to any depth desired (e.g., to the depth of any proposed over-excavation for a project for an underground garage or basement), and provides a stratigraphy that allows the archaeologist to evaluate if there are indicators of deeply buried resources to help identify sites and avoid them if discovered. The depth of some archaeological sites is up to 10 feet below surface. The deepest resources below surface are the oldest, and least understood.

The following overview provides a general discussion on how archeological investigations are undertaken, and describes some of their limitations.

Phase 1 Surface Survey. The ground surface survey only can identify what cultural resources may be on the ground surface. The results of these surveys are often limited by landscaping, paved surfaces, and the like. If the project site topography has been graded or terraced and the resulting cuts are exposed, then the Phase 1 can identify the presence of subsurface deposits within these soils. However, terraced surfaces are normally obscured by retaining walls. The Phase 1 survey can only verify the presence of archaeological remains in ideal survey conditions. If an archeologist is aware that he/she is conducting a survey in a recorded archaeological site, the Phase 1 investigation doesn't indicate the presence/absence and depth of subsurface deposits. The Phase 1 surface survey also cannot define the precise horizontal boundary of a recorded archaeological site. Thus, Phase 1 surface surveys do not adequately provide sufficient evidence of cultural presence/absence, given their limited scope.

Extended Phase 1 Excavation: When conducting a survey within a known archaeological site boundary or adjacent to one, excavation must be performed to determine the presence/absence of cultural resources and how deeply they may extend. Secondarily, a determination of whether a site has been previously disturbed is also required, as this influences its significance (disturbance to archaeological artifacts can impair their ability to "yield information important in prehistory" if their horizontal and vertical relationships have been lost). There are several ways to conduct an Extended Phase I survey:

> Hand augering. This is typically done with a 4- to 6-inch hand auger. It can reach perhaps a depth of 6 feet below surface, and has limited capability to provide an indication of whether the soils have been disturbed (if modern cultural debris such as construction materials are found with the prehistoric remains, then this is possible). The auger does not provide information on the stratigraphy of the soils, which is an important indicator of significance.

Shovel test pits. These are holes dug by archaeologists generally 12- to 16-inches in diameter. They can generally only reach 4-feet below surface. The archaeologist can normally determine the presence of past disturbance to soils, but the limited depth of the excavation technique is a severe drawback when needing to explore substantial proposed excavation areas such as underground garages.

Geoprobes. The probes penetrate through any surface, including pavement, and can reach as deeply as required. Instead of traditional hand-excavation, mechanically driven geoprobes (2- to 6-inches in diameter) are a less invasive method of identifying resources and can better characterize the extent and integrity of archeological resources. In a village site where there are burials, the artifact density is likely sufficiently high and the soils developed with a contrasting color and texture (much like a well-developed compost soil) that the geoprobe would be a very useful investigation technology. It is also quick to implement, since a truck can be ordered and the probes can be completed in one day, providing a solid core of the soils ideal for analyzing stratigraphy and to determine whether a site has been previously disturbed. At the time of this report preparation, the cost of renting a geoprobe rig averages about $2000/day, and 6 to 8 cores can be dug in one day. The cores should be spaced no greater than 30 feet apart (ideally at shorter intervals) when they are conducted in a known village site or area of high archaeological sensitivity. As an example, if an applicant has a 1,000-square foot envelope, it would require one day of geoprobe core excavations to explore and assess the presence/absence of deeply buried cultural resources; then the archaeologist can assess the significance of the soils recovered in the probes. The cost may be on the higher range of $5,000-10,000, but there is no other way to explore to the depth of a garage or basement using traditional archaeological survey methods. There is only one report that was found using this technology for the Point, from 2010 when the proposed project included a basement. The cores showed positive archeological results at depths of 10-11 feet. Thus, since this technology has already been utilized at the Point, and has proven to help determine the presence/absence of archaeological deposits, it should be considered for all proposed projects at the Point proposing underground excavation.

The County has received a number of positive archaeological reports (where archaeological deposits were identified) that recommended an archaeological monitor during grading as mitigation for the project after only limited research and excavation [if any], then ultimately found cultural resources and in some cases, human remains. To date, the County records for projects at the Point show that 220 archeological reports have been received for the Point related to individual projects, with a total of 512 parcels located there (note: CSA area 1 contains 380, and 30 are vacant lots). A total of 47 projects on the Point contained a basement, subterranean garage, or underground living space. There were 131 negative reports with no resources identified on the ground surface, and no further investigation conducted (22 of the negative reports contained a basement, subterranean garage, or underground living space). Conversely, there were 87 positive archaeological findings, some including human remains. Of these positive reports, 25 of them included a below-ground basement or garage/dwelling. Auger boring for these positive reports was conducted only 16% of the time, in combination with excavation test units. Excavation test units alone were done 16% of the time, and *the majority of positive reports (52%) were completed using only a surface visual assessment and conducting background research.*

There have been a few particularly controversial reports with positive results for archaeological resources, most of them located in the CA-MNT-17 area after a Phase I completed background research and a surface visual assessment to assess the project site. For example, an original report for CA-MNT-17C stated human remains and artifacts were found and retrieved during construction monitoring from a previous project on the property. The same report stated very little resources were left on site due to the on-going disturbance from past cumulative excavation on the property. *In addition, human remains were also found in one additional site (CA-MNT-17A) during construction monitoring*. Hence, recommending monitoring during construction as a mitigation measure did not achieve the policy requirement of avoiding and preserving the significant archaeological resources on site. In addition, two reports from the CA-MNT-17 area had recommended as mitigation collecting artifacts from the site as a way to "increase the body of knowledge already developing regarding the site". Cultural materials recovered during monitoring should be curated in the public domain at a suitable research facility." This recommendation is an example of an archaeological report that conflicts with existing policy directives (see "Applicable Policies" below) and the requests of OCEN.

The sites in and around the Point have been incrementally disturbed in numerous cases by the construction of individual single-family residential projects. The issue at hand is whether or not the current interpretation and application of the policy contained in the Carmel Plan and other Monterey County regulations that apply are adequately protecting Carmel Point archaeological resources. ***The Carmel Land Use Plan's Key Policy 2.8.2 states that Carmel's archaeological resources, including those areas considered to be archaeologically sensitive but not yet surveyed and mapped, shall be maintained and protected for their scientific and cultural heritage values.*** Furthermore, new land uses, both public and private, should be considered *compatible with this objective only where they incorporate all site planning and design features necessary to minimize or* ***avoid*** *impacts to archaeological resources*. The policy requires avoidance; however, the practice has typically been to conduct Phase 1 ground surface surveys and when no initial indication of cultural materials is found, to simply require an archaeological monitor during construction. The issue with this approach is that deeper cultural deposits have been repeatedly found, even in light of a negative Phase I survey (as noted above), and even if a positive Phase I is prepared (e.g., discovery of surface indications that resources are likely present), the mitigation is to monitor during construction rather than conducting further significance excavation using all available technology to determine the vertical and horizontal extent of the cultural deposit, as well as understanding what important information it may have to "yield information important in prehistory."

<u>The key questions to be addressed via the information contained in this report include:</u>

- How can currently available archaeological methodologies used to identify the presence of deeply buried cultural resources help to better inform decisionmakers and RMA planning staff regarding proposed projects located on the Point?

- Given the documented archaeological importance of the Point, should Monterey County proceed with potentially pursuing a comprehensive Historic Resources (HR) site overlay, and/or consider the larger neighborhood eligible for listing on the California Register of

Historic Resources as well as the National Register of Historic Places as an archaeological district? Monterey County has not made a determination on whether the Point, as a whole is an "historic resource" as described by CEQA Guidelines Section 15064.5, and has not pursued elevated official status of the Point. Instead, the County's practice has been to analyze the potential effects of proposals on archaeological resources on a case-by-case project basis.

- Should other policy issues be considered, such as requiring all projects located on the Point to conduct more intensive Extended Phase 1 archaeological investigations (e.g., Geoprobes), when deeper excavations are proposed?

Applicable Policies

The area is governed by Monterey regulations and policies in the Carmel Coastal Implementation Plan (Part 4), Carmel Area Land Use Plan, 1982 General Plan, and the Monterey County Coastal Zoning Ordinance, Title 20, described briefly below. These policies all address the need to avoid known archaeological resources to the extent feasible through available measures, rather than allowing disturbance to sites with known sensitivity and/or resources. AB 52 is also applicable, and briefly described below.

Coastal Implementation Plan (CIP)

It should be noted that archaeological sensitivity zones are defined in the CIP as follows: A "Low" sensitivity zone is one in which there is limited probability of finding evidence of past Native American activity. A "Moderate" zone is one in which there is a probability that the area was used by Native Americans for hunting, gathering or collecting. *In a "High" sensitivity zone, there are archaeological sites already identified in the area with a strong possibility that Native Americans lived in and occupied that area. All of the Point is considered a HIGH SENSITIVITY zone, and there is ample evidence in the record to support this.*

In the CIP, Section 20.146.090, development on parcels with an archaeological site, as identified through an archaeological report prepared for the project, shall be subject to certain conditions of approval. The CIP includes the following General Development Standards (Section 20.146.090.D. 1-5) for development on, adjacent, or near archaeological resources [emphasis added in bold/italics where particularly relevant]:

1. ***All avoidable measures, including purchase of archaeological easements, dedication to the County; tax relief and purchase of development rights shall be explored to avoid development on sensitive prehistoric or archaeological sites.***

2. Development on parcels with an archaeological site as identified through an archaeological report prepared for the site, shall be subject to the following conditions of approval to be completed prior to the issuance of building or grading permits:

a. The recommended mitigation measures contained in the archaeological survey report prepared for the site shall be made a condition of approval.
b. The applicant shall request to add the combining "HR" zoning district to the existing zoning on the parcel. The rezoning shall not necessitate an amendment to the Land Use Plan or this ordinance.
c. The archaeological site shall be placed in an archaeological easement. The easement shall be required pursuant to Section 20.142.130. Prior to being accepted by the County, the proposed easement area shall be reviewed and verified as adequate to protect the resource by an archaeologist who has been selected from the County's list of archaeological consultants or who is a member of the Society of Professional Archaeologists [now called the Register of Professional Archaeologists, or RPA].

3. ***When developments are proposed for parcels where archaeological or other cultural sites are located, project design shall be required to avoid impacts to such cultural sites.***

4. Where construction on or construction impacts to an identified archaeological or paleontological site cannot be avoided, as verified in the archaeological report prepared for the project, a mitigation plan shall be required for the project. This mitigation plan shall be required by, submitted to and approved by the County. The plan shall be prepared at the applicants' expense. Included in the plan shall be recommended preservation measures in accordance with the guidelines of the State of Office of Historic Preservation and the State of California Native American Heritage Commission. The Consulting Archaeologist shall file the report with the State Office of Historic Preservation.

5. Where a mitigation plan has been prepared for a proposed development, a condition of project approval shall be that:

    a. The preservation measures shall be undertaken and completed prior to the issuance of building or grading permits; or,
    b. Where appropriate, according to the recommendations contained in the mitigation plan, the preservation measures shall be undertaken concurrent with grading or other soil-disturbing activities and shall be undertaken in accordance with the mitigation plan, as a condition of the grading and building permit; and,
    c. The results of the preservation activities shall be compiled into a final report prepared by the archaeologist and submitted to the County prior to the issuance of building or grading permits. Two copies of the report shall be submitted.

Chapter 20.146 of the Carmel Coastal Implementation Plan defines 'archaeological sensitivity zones' and 'archaeological site,' in the following ways:

B. Archaeological Sensitivity Zones: These categories describe the probability of finding archaeological resources throughout the County, as shown on County Archaeological sensitivity maps. In a "High" sensitivity zone, there are archaeological sites already identified in the area with a strong possibility that Native Americans lived in and occupied that area.

C. Archaeological site: A site of known Native American remains or activity, as evidenced by shells, fire-cracked rocks, other lithic remains, charcoal, bedrock mortars, rock art, quarry sites, etc.

Additionally, the Coastal Development Permit requirement is established for projects within 750 feet of known archaeological resources (via an interpretation request regarding development within 750 feet of a known archaeological resource provided in 2010 by the Monterey County Planning Director).

Carmel Area Land Use Plan

The Carmel Area Land Use Plan recognizes the intensive prehistoric use of the Carmel area. According to the Carmel LUP, the Carmel area shoreline from Carmel Point to Point Lobos Reserve contains one of the densest remaining concentrations of shellfish gathering activities along the central California coast. These archaeological deposits have been identified as a highly significant and sensitive resource. Carmel Area Land Use Plan Key Policy 2.8.2 (Chapter 2.8 Archaeological Resources) requires the *maintenance and protection of archaeological resources, including those areas considered to be archaeologically sensitive but not yet surveyed and mapped for their scientific and cultural heritage values*. Any proposed development should be considered compatible with the objective of this policy *only when all site planning and design features necessary to minimize or avoid impacts to archaeological resources have been incorporated*. This objective is furthered in General Policies, where Policy 2.8.3. 5 specifically states: "***to this end, emphasis should be placed on preserving the entire site rather than on excavation of the resource, particularly where the site has potential religious significance***".

1982 Monterey County General Plan

The project site is subject to the 1982 Monterey County General Plan (General Plan) which provides a regulatory framework, through goals and polices, for physical development. The goal of the Plan is to encourage the conservation and identification of the County's archaeological resources, with the objective to identify and conserve important representative and unique archaeological sites and features. The policies state that the County shall take such action as necessary to compile information on the location and significance of its archaeological resources so this information may be incorporated into the environmental or development review process, among other policies that require that *ALL available measures*, including purchase of archaeological easements, dedication to the County, tax relief, purchase of development rights, consideration of reasonable project alternatives, etc., *shall be explored to avoid development on sensitive archaeological sites.*

AB 52

A recent addition to the California Environmental Quality Act ("CEQA") is the Native American Historic Resource Protection Act (Assembly Bill 52), which is intended to minimize conflict between Native American and development interests. AB 52 adds "tribal cultural resources"

("TCR") to the specific cultural resources protected under CEQA, and requires lead agencies to notify relevant tribes about development projects. It also mandates lead agencies to consult with tribes if requested, and sets the principles for conducting and concluding the required consultation process. After July 1, 2015, AB 52 applies to all projects for which a lead agency has issued a notice of preparation of an environmental impact report ("NOP") or notice of intent to adopt a negative declaration or mitigated negative declaration ("NOI"). As described above, our tribal representative for the Point is OCEN.

CEQA

CEQA (Section 15064.5) defines the term “historic resource” as the following:

1. A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the California Register of Historical Resources.

2. A resource included in a local register of historical resources, meeting the requirements of the Public Resources Code, shall be presumed to be historically or culturally significant.

3. Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be “historically significant if the resource meets the criteria for listing on the CA Register of Historical Resources including the following:

    a. Is associated with events that have made a significant contribution to the broad patterns of California history and cultural heritage.
    b. Is associated with the lives of persons important in our past;
    c. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
    d. Has yielded or may be likely to yield, information important in prehistory or history.

    The fact that a resource is not listed in, or determined to be eligible for listing in the California Register of Historical Resources, not included in a local register of historical resources of the Public Resources Code, or identified in an historical resources survey of the PRC, does not preclude a lead agency from determining that the resource may be an historical resource as defined in PRC sections 5020.1 or 50241.1.

Under Public Resources Code Section 21083.2 (g), a unique archaeological resource is defined as an archaeological artifact, object, or site where it is clear there is a high probability of the following:

- Has information needed to answer important scientific research questions and public interest exists for that information.
- Has special or particular quality (ex: oldest of its type, best available of its type, etc.)
- Directly associated with a scientifically recognized important prehistoric or historic event or person.

General Plan, 2010 Open Space and Conservation Element

The County has recognized the need to discover and identify places of historical and cultural significance and to preserve the physical evidence of its historic past. A countywide historic preservation ordinance is implemented by the Parks Department's Historical Coordinator and the Historic Resources Review Board. Policies of this ordinance stress incentives to preserve sites that have proven historical or cultural significance, including any identified as part of an adopted County Historic Preservation Plan.

Summary and Potential Options for Protection of the Archaeological Resources

Taken together, the body of evidence available on the Point clearly shows that it is appropriate to consider additional protection mechanisms for the resources. A range of options exist to achieve this goal, described below.

Option 1 *– Staff recommendation*

Historic Resource Overlay for the Entire Point

The first of these options is to create an historic resource, or "HR" overlay for the entire Point, as opposed to the piecemeal approach that has resulted in incremental destruction of these irreplaceable archaeological resources. The CIP currently requires a designation of each individual site to receive an HR overlay, however, this method has not effectively protected these resources from incremental disturbances and significant, adverse impacts. A comprehensive HR overlay would immediately alert all staff who may be reviewing projects at the Point as to their potential sensitivity and significance.

Option 2 – *Staff recommendation*

Setting forth more stringent requirements for archeological evaluation for development projects proposed on the Point

As described above, the Extended Phase 1 Geoprobe technology is available to assess the presence/absence of archaeological materials prior to any excavation extending beyond the 4 feet that can feasibly be evaluated by archaeological hand-excavation, or even the need for project design, to determine whether resources can be avoided, in accordance with policy requirements that already exist.

Option 3 - *Staff recommendation*

Develop conditions of approval that would protect and avoid the resources, including but not limited to the following:

a. No Basements
b. Partial basements
c. Approve basements subject to a condition that if significant resources are found that the project has to be redesigned around those resources. This will require defining the threshold of significance.
d. Approve basement. If resources are found, then they are removed and cataloged, or relocated (if human remains).

Option 4 – *For consideration*

Nomination of the Point in its entirety for listing on the State CRHR and Federal NRHP as an archaeological district

Staff can prepare an application to designate the Point as an archaeological district for listing on the State California Register of Historic Resources in accordance with the State Historic Preservation Office (SHPO), and if directed, for the federal listing on the National Register of

Historic Places. Staff believes that this process could be undertaken with the information currently available, and that receiving either of these designations at the state and federal levels would assist the County in protecting the Point. Such a designation does not preclude development within the historic resource, but would attribute additional importance to the resources that are likely to exist throughout this community.

Conclusion

Staff awaits direction from the Commission regarding the implementation of additional protection measures for the Point. *Cultural resources are nonrenewable, and this attribute cannot be overestimated when considering the importance of their protection.*

Aerial photo of the Point, and the unincorporated portion of Carmel within County jurisdiction.

From: Debbie Lynn Dillon-Adams
To: CentralCoast@Coastal
Subject: Public Comment on November 2019 Wednesday agenda items 32a-c- Appeal Nos. A-3-MCO-19-0039, -0041, -0042 (Emerson Development Group, Inc., Carmel)
Date: Friday, November 08, 2019 5:07:16 PM

Subject: Public Comment on November 2019 Wednesday agenda items 32a-c- Appeal Nos. A-3-MCO-19-0039, -0041, -0042 (Emerson Development Group, Inc., Carmel)

Dear California Coastal Commissioners,

We support the Staff Report prepared for your consideration of Appeal Nos. A-3-MCO-19-0039, -0041, -0042 .

We, The Dillon Family, have had houses on Carmel Point in Monterey County since 1946. We would be pleased for you to consider the historic, cultural and aesthetic nature of the questions raised in this appeal.
We share the concern of the community that the area near the sea and Carmel River should follow the Monterey Area Use Plan and implement procedures to honor sites and the rocks and soils of traditional communities that have lived here.

I was unable to send an email through the CCC agenda button link.

Thank you for your consideration of this important matter.

Deborah Dillon-Adams
26340 Scenic Road , Carmel, Monterey County, California 93923

Alliance *of* Monterey Area Preservationists

November 6, 2019

California Coastal Commission
Central Coast District Office
725 Front Street, Suite 300
Santa Cruz CA 95060

RE: Appeals No. A-3-MCO-19-0039, 0041, 0042, November 13th

Commissioners,

The board of the Alliance of Monterey Preservationists (AMAP) strongly supports your staff's recommendations regarding these three properties. As the report states, not only is Carmel Point recognized as an area of high archaeological sensitivity (CA-MNT-17), but these construction sites are within an area of recorded cultural resources, including human remains. Protection of 9,000-year-old archaeological resources is of utmost importance.

Excavation of livable basements at Carmel Point is not typical or necessary. Construction of single-family residences can still occur while minimizing impacts to the cultural resources by minimal grading and appropriate archaeological and cultural monitoring.

Your decision will provide a great opportunity to encourage appropriate future development in known sites of high archaeological sensitivity. After recent violations of grading without proper monitoring in this neighborhood, two Monterey County Supervisors have requested that county staff review ordinances to assure that Native American archaeological sites are being protected. Your staff's recommended modifications to these three Coastal Development Permits make it clear that one of our nation's oldest areas of known archeological resources should be protected and that mitigation measures cannot simply be ignored.

AMAP urges you to support your staff's recommendations and those of OCEN and uphold the appeal of Save Carmel Point Cultural Resources.

Thank you,

Mimi Sheridan
Mimi Sheridan, President
mimisheridan@msn.com

Letter received for each appeal.

From: Chris Campbell
To: CentralCoast@Coastal
Subject: Public Comment on November 2019 Agenda Item Wednesday falsec - Appeal No. A-3-MCO-19-0042 (Emerson Development Group, Inc., Carmel)
Date: Friday, November 08, 2019 7:18:52 AM

Please accept the staff report on this important issue and approve this project WITHOUT the basement..

Thank you,

Chris Campbell
P.O. Box 1175
Carmel, CA 93921
(831) 626-8833

From:	Ann Elliot Artz
To:	CentralCoast@Coastal
Subject:	Public Comment on November 2019 Agenda Item Wednesday falsea - Appeal No. A-3-MCO-19-0039 (Emerson Development Group, Inc., Carmel)
Date:	Thursday, November 07, 2019 11:15:50 PM

Dear Commission Staff,

I STRONGLY support the staff recommendation to NOT allow basements on the large lots in review on the Carmel Point. The Carmel Point holds very special history that would be permanently disrupted.
Additionally, the proposed homes are grossly out of scale with the current homes and lots sizes which thus eradicating the intimate feel of the Carmel Point. My mother and I are longtime residents of the Carmel Point.

Thank you for your thoughtful attention,

Ann

peace

Ann Elliot Artz
annelliotartz.com

The local and historic
Esselen Tribe of Monterey County
(Protecting sacred sites since 1856)
P. 0. Box 95, Carmel Valley, CA, 93924

Our Mission Statement:

To preserve and to protect our cultural heritage and ancestral sacred sites, namely of the Esselen, Rumsen, Chalone, Sureño and Guatcharrone people, which includes but is not limited to the villages of Achasta, Chalon, Echilat, Ensen, Excelen, Esslenajan, Ixchenta, Jojopan, Kuchen, Pachepas, Sargenta-Ruc, and Soccoronda, located within sacred pre-historic and historic tribal lands of Monterey County, California.

Mike Watson
California Coastal Commission
Central Coast district Office
725 Front Street, Ste. 300
Santa Cruz, California 95060
November 8, 2019

Dear Mr. Watson,

We, the Esselen Tribe of Monterey County (ETMC) write in response to the Coastal development permit (CDP) applications approved by the Monterey County Board of Supervisors on April 23, 2019 (application numbers PLN170611 (26307 Isabella Avenue), PLN170612 (26338 Valley View Avenue), and PLN170613 (26346 Valley View Avenue).

First, the ETMC is not a proponent of development. We seek to protect our sacred sites and have always worked toward that end for a century since our earliest founders. We are not responding as a proponent of the projects. We are responding because for too long we have been left out of the consultation process. Monterey County has consulted with only one tribe, Ohlone/Costanoan-Esselen Nation (OCEN) for the past 9 years. The Esselen people were the first inhabitants of the Monterey Region. For the coastal area from Pebble Beach down the coast, OCEN is not the tribe of record. The 2010 General Plan update identified OCEN as the tribe of record only in the interior section of MOCO, not the coast.

Moreover, there are many tribes in Monterey County, as listed below. OCEN does not have exclusive claim over the Monterey Coast. Sole sourcing to a specific non-federally recognized tribal community is counter to the purpose of the Native American Heritage Commission's role of assigning MLD's, contrary to consultation with all parties under AB52 (now included within CEQA), and ignores the eight other descendant groups who are listed for the county, provided below on the last page.

ETMC had been excluded from consultation until recently. The Salinan tribes in south Monterey County were also excluded, in some cases denied the rights to repatriate their own ancestors because OCEN was given preference as the only tribe to be consulted even though the South County is Salinan, not Esselen or Costanoan. OCEN has demanded that artifacts be turned over to them.

Therefore, we have deep concerns about the disposition of our ancestral burials and the artifacts recovered from sites that are being turned over exclusively to OCEN. This is not in accordance with CEQA. Artifacts are to remain in the public domain at a public research facility.

The local and historic
Esselen Tribe of Monterey County
(Protecting sacred sites since 1856)
P. 0. Box 95, Carmel Valley, CA, 93924

It is against archaeological ethics and the law to give recovered artifacts to one tribe or one person. Artifacts are to be curated at a permanent curatorial facility, unless otherwise required by law.

According to the Office of Historic Preservation (1993):

> *Archeological collections and their associated records that are created by compliance with state environmental laws, regulations, and guidelines must be housed at qualified repositories that have capability to ensure adequate permanent storage, security, and ready access to qualified users.*
>
> *A Qualified Repository is: A facility such as a museum, archeological center, laboratory, or storage facility managed by a university; college; museum; other educational or scientific institution; a federal, state, tribal, or local government agency; or private institution (e.g., corporation or association) that can provide professional, systematic, and accountable curatorial services on a permanent basis in accordance with the guidelines provided under "Criteria for Qualified Repositories" (below). This requirement may be satisfied if the repository has a management plan to develop or obtain the necessary professional expertise (http://ohp.parks.ca.gov/pages/1054/files/guide93.pdf).*

Local examples are the Pacific Grove Natural History Museum and the Monterey County Historical Society's vault.

1) First paragraph of Staff Recommendations:

The Carmel Point neighborhood is an area of high archaeological sensitivity, and the three project sites are located within the boundaries of a known and recorded cultural resource area (i.e., an expansive shell midden and habitation site that encompasses a large swath of Carmel Point and contains both prehistoric materials and human remains).

Response:
There is shell midden on some parcels on Carmel Point but not all. Four different, qualified, local professional cultural resource firms independently conducted archaeological surveys on the three properties in question. Each firm included subsurface testing; no shell midden or any organic material such as bones, were encountered on these three parcels, 26307 Isabella Avenue, 26338 Valley View Avenue, and 26346 Valley View Avenue. A few minute fragments of abalone shell were noted on one parcel; however, this does not define a shell midden.

There was some worry by staff and the appellant about finding a site at greater depth and the fourth archaeological testing included deep core borings on each parcel. Ground penetrating radar was also conducted with the same results; as the three previous studies, they did not encounter shell or bone.

2. *The Appellant further contends that project mitigations do not and cannot remedy the inconsistencies of the projects with the LCP with respect to protection of archaeological resources, and that they are not meaningful or effective.*

Four highly regarded professional cultural resources management firms who independently tested these three parcels disagree with the Appellant's contention. Two additional studies by PaleoWest demonstrate that the projects are in line with the regulatory contexts.

The Appellant is introducing a native consultant to qualify the archaeology conducted, which is not a peer review.

> 3. *Finally, the Appellant contends that the approved projects will ultimately lead to construction-related impacts to public access along the shoreline.*

None of these three parcels is on the shoreline; therefore, there is no public access to the shoreline to be impacted.

> 4. *LCP archaeological resource protection policies, including those that require applying siting and design techniques intended to avoid impacts to archaeological resources if possible, and minimize them where that is not feasible.*

To repeat, the four different qualified cultural resources firms independently tested the three properties and found no impacts to archaeological resources on these three parcels

> *7. Further, prior to construction, a surface level archaeological reconnaissance by an Ohlone/Costanoan-Esselen Nation (OCEN) representative will be required to help determine whether significant cultural materials are present at the surficial level and, if so, construction will not commence until a plan for their protection is approved and implemented. Similarly, OCEN monitors would also be required during all subsequent ground disturbing activities to ensure cultural resource protection otherwise, and would guide further archaeological work on the site.*

This is perhaps the most troublesome portion of the complaint.

One of the major issues that has been ongoing in this case is the fact that OCEN has been the only Native American affiliation that has been utilized as Native American monitors by Monterey County for quite some time now. There are other Native American tribes, that are required to be consulted, as provided by the law passed that was the State Bill 18 and Assembly Bill 52 and is now part of CEQA.

The Esselen Tribe of Monterey County asked for consultation with Monterey County for years. During one of the planning commission's public hearings on this project, it was pointed out on the overhead screen that the formal permit document said that OCEN would always be the only group to provide Native American monitors in Monterey County. This was addressed at one of the Planning Commission Meetings when the Commissioners, led by Chairman Keith Vandever, clearly removed the language that all projects had to use only OCEN monitors, that delegated OCEN as the ONLY Native American group to be consulted and awarded contracts in Monterey County in which large sums of money would be paid by property owners seeking to build or remodel their home. That situation was not only a monopoly on costs paid by property owners, with no choice about what their

fees would be. This also denied Esselen and Ohlone people who are members of the Esselen Tribe of Monterey County, and other Costanoan groups who live right here in Monterey County who have been involved in protecting archaeology sites here in Monterey County for a century, a voice as to the disposition of their sacred sites and ancestral remains.

> Page 16 and 17:
> *The Monterey Bay region is represented by the Ohlone/Costanoan-Esselen Nation (OCEN), which is comprised of over 600 enrolled tribal members of Esselen, Carmeleno, Monterey Band, Rumsen, Chalon, Soledad Mission, San Carlos Mission (Carmel) and/or Costanoan Mission Indian descent. The County consulted with the OCEN and met and discussed the project with a tribal representative on October 10, 2017.*

CEQA requires that when a project is proposed the Native American Heritage Commission is contacted and the NAHC provides a list of tribes in the area who are ALL required to be contacted by the project proponent, usually the contractor or architect. OCEN is NOT the only tribe. The language that OCEN was to be the sole and final arbiter of the consultation process was struck from the record during proceedings that day by the Monterey County Planning Commissioners.

The ancient site on the coastline of Carmel Point, CA-MNT-17C has been dated to 9,200 YBP. There were no Costanoan (Ohlone) people in Monterey County until approximately 2,200 Years Before Present; therefore, this site on Carmel Point it is not exclusively a Costanoan /Ohlone site. The first people to inhabit that site were the Esselen (Moratto 1984, Milliken 1990, Breschini 2004, 65-66).

Thank you for the opportunity to respond.

Sincerely and Respectfully,

Tom Little Bear Nason

Tom Little Bear Nason
Tribal Chairperson
Esselen Tribe of Monterey County
tribalchairman@esselentribe.org
(831) 214-5645

The local and historic
Esselen Tribe of Monterey County
(Protecting sacred sites since 1856)

Native American Heritage Commission Native American Contact List Monterey County

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Letter received for each appeal.

TOM MEANEY | ARCHITECT

California Coastal Commission

Nov 8, 2019

725 Front St

Santa Cruz, Ca

Dear Commission members,

I have some thoughts on the item regarding basements on Carmel point and beyond.

This item has been reviewed by the local experts and has been approved by the planning commission and the board of supervisors. This was following public input and the expert analysis of a local archaeologist. The current system works in regarding the determination of potential impacts to potential archaeological sites in the area. The expert local archeologist has determined the potential impact is very low and that observation during grading would address the rare chance of an archeological discovery.

I have designed several homes in the area with basements and there were no archeological discoveries during the construction process and there was a monitor on site to observe grading. There is a system in place and it works.

Additionally, eliminating basements in this area will have absolutely no impact on ground disturbance. Any new home requires the top six feet of soil to be removed and then recompacted per the soil engineer. A basement would go about four feet below that. Any potential archaeological discovery would be within the top six feet in any case, so digging a few feet deeper would not create any additional impacts.

Everyone is interested in protecting our archeological sites and artifacts. The area around these projects on Carmel point have been determined by an archeological expert to be an area of very low value. In any event, grading will be closely monitored in the slim chance that something is discovered. It makes no sense to me to eliminate basements when that will not reduce any potential impact, however remote. The existing system works and does not need to be modified.

Respectfully,

Tom Meaney, Architect

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Mike Watson
California Coastal Commission
Central Coast district Office
725 Front Street, Ste. 300
Santa Cruz, California 95060
November 8, 2019

Dear Mr. Watson,

I write in response to the Coastal development permit (CDP) applications approved by the Monterey County Board of Supervisors on April 23, 2019 (application numbers PLN170611 (26307 Isabella Avenue), PLN170612 (26338 Valley View Avenue), and PLN170613 (26346 Valley View Avenue).

I first would like to stress that I am not a proponent of development. I simply wish to state the facts of this case as I have been involved since the beginning, both with the tribes I have volunteered for over the last 20 years, and as one of the archaeological consultants on this project.

1) First paragraph of Staff Recommendations:

The Carmel Point neighborhood is an area of high archaeological sensitivity, and the three project sites are located within the boundaries of a known and recorded cultural resource area (i.e., an expansive shell midden and habitation site that encompasses a large swath of Carmel Point and contains both prehistoric materials and human remains).

Response:
There is shell midden on some parcels on Carmel Point but not all. Four different, qualified, local professional cultural resource firms independently conducted archaeological surveys on the three properties in question. Each firm included subsurface testing; no shell midden or any organic material such as bones, were encountered on these three parcels, 26307 Isabella Avenue, 26338 Valley View Avenue, and 26346 Valley View Avenue. A few minute fragments of abalone shell were noted on one parcel; however, this does not define a shell midden. All four firms agreed that the project not be delayed for archaeological reasons and recommended monitoring.

There was some worry by staff and the appellant about finding a site at greater depth and the fourth archaeological testing included deep core borings on each parcel. They also conducted ground penetrating radar with the same results; as the three previous studies, they did not encounter shell midden or artifacts or bone.

> 2. *The Appellant further contends that project mitigations do not and cannot remedy the inconsistencies of the projects with the LCP with respect to protection of archaeological resources, and that they are not meaningful or effective.*

Four highly regarded professional cultural resources management firms who independently tested these three parcels disagree with the Appellant's contention. Two additional studies by PaleoWest demonstrate that the projects are in line with the regulatory contexts. The Appellant is not an archaeologist and surely their claim should not overrule four professional firms.

The Appellant seeks to introduct a native consultant to qualify the archaeology conducted; that is not a peer review.

> 3. *Finally, the Appellant contends that the approved projects will ultimately lead to construction-related impacts to public access along the shoreline.*

None of these three parcels is on the shoreline; therefore, there is no public access to the shoreline to be impacted.

> 4. *LCP archaeological resource protection policies, including those that require applying siting and design techniques intended to avoid impacts to archaeological resources if possible, and minimize them where that is not feasible.*

To repeat, the four different qualified cultural resources firms independently tested the three properties and found no impacts to archaeological resources on these three parcels (Albion environmental, Archaeological Consulting, Susan Morley, and PaleoWest). By its very nature archaeological excavation is a destructive process. When a site is studied it can be destroyed which is why we utilize very small testing methods such as 4 inch auger holes. That is what four archaeological firms did, as well as ground penetrating radar and deep borings, and found no shell midden on these three parcels.

> *7. Further, prior to construction, a surface level archaeological reconnaissance by an Ohlone/Costanoan-Esselen Nation (OCEN) representative will be required to help determine whether significant cultural materials are present at the surficial level and, if so, construction will not commence until a plan for their protection is approved and implemented. Similarly, OCEN monitors would also be required during all subsequent ground disturbing activities to ensure cultural resource protection otherwise, and would guide further archaeological work on the site.*

This is perhaps the most troublesome portion of the complaint. The Appellant is introducing a native consultant to qualify the archaeology; this is not a peer review. It is also incredibly biased.

One of the major issues that has been ongoing in this case is the fact that OCEN has been the only Native American affiliation that has been utilized as Native American monitors by Monterey County for years. There are other Native American tribes, that are required to be consulted, as provided by the law passed that was the State Bill 18 and Assembly Bill 52 and is now part of CEQA.

During one of the planning commission's public hearings on this project, it was pointed out on the overhead screen that the formal permit document said that OCEN would always be the only group to provide Native American monitors for the project, as they had for years. Many peoppe testified that this was an unfair, discriminatory practice. It was finally addressed at one of the Planning Commission Meetings on this project when the Commissioners, led by Chairman Keith Vandever, clearly removed the language that all projects had to use OCEN monitors, that delegated OCEN as the ONLY Native American group to be consulted and awarded contracts in Monterey County. Monitoring often involves large sums of money paid by property owners seeking to build or remodel their home. That situation was not only a monopoly on costs paid by property owners, with no choice about what their fees would be, this also denied Esselen and Ohlone people who are members of the Esselen Tribe of Monterey County, and other Costanoan groups who live right here in Monterey County who have been involved in protecting archaeology sites here in Monterey County for a century, a voice as to the disposition of their sacred sites and ancestral remains.

> Page 16 and 17--*The Monterey Bay region is represented by the Ohlone/Costanoan-Esselen Nation (OCEN), which is comprised of over 600 enrolled tribal members of Esselen, Carmeleno, Monterey Band, Rumsen, Chalon, Soledad Mission, San Carlos Mission (Carmel) and/or Costanoan Mission Indian descent. The County consulted with the OCEN and met and discussed the project with a tribal representative on October 10, 2017.*

This is not exactly true--the Monterey Bay region has eight legal Native American Tribes. The ETMC has hundreds of members, as well. They originate from the same villages. CEQA requires that when a project is proposed the Native American Heritage Commission is contacted and the NAHC provides a list of tribes in the area who are ALL required to be contacted by the project proponent, usually the contractor or architect. OCEN is NOT the only tribe. The language that OCEN was to be the sole and final arbiter of the consultation process was struck from the record during proceedings that day by the Monterey County Planning Commissioners.

Sole sourcing to a specific non-federally recognized tribal community is counter to the purpose of the Native American Heritage Commission's role of assigning MLD's, etc., contrary to consultation with all parties under AB52, and ignores the eight other descendant groups who are listed for the county.

Beach down the coast, OCEN is not the tribe of record. The 2010 General Plan update identified OCEN as the tribe of record only in the interior section of MOCO, not the coast.

The ancient site on the coastline of Carmel Point, CA-MNT-17C has been dated to 9,200 YBP. There were no Costanoan (Ohlone) people in Monterey County until approximately 2,200 Years Before Present; therefore, this site on Carmel Point it is not exclusively a Costanoan /Ohlone site. The first people to inhabit that site were the Esselen (Moratto 1984, Milliken 1990, Breschini 2004, 65-66).

I seek to protect cultural resources and have always worked toward that end since I began my practice working for Native American Tribes in the San Francisco Bay Area before moving to Pacific Grove and began lecturing at CSUMB. I am responding because for too long other tribes in Monterey County have been left out of the consultation process. Monterey County has consulted with only one tribe, Ohlone/Costanoan-Esselen Nation for the past 9 years (although this has very recently been changed).

Sole sourcing to a specific non-federally recognized tribal community is counter to the purpose of the Native American Heritage Commission's role of assigning MLD's, contrary to consultation with all parties under AB52 (now included within CEQA), and ignores the eight other descendant groups who are listed for the county.

ETMC had been excluded from consultation until recently. The Salinan tribes in south Monterey County were also excluded, in some cases denied the rights to repatriate their own ancestors because OCEN was given preference as the only tribe to be consulted even though the South County is Salinan, not Esselen or Costanoan. OCEN has demanded that artifacts be turned over to them.

Therefore, they have deep concerns about the disposition of their ancestral burials and the artifacts recovered from sites that are being turned over exclusively to OCEN. This is not in accordance with CEQA. Artifacts are to remain in the public domain at a public research facility.

It is against archaeological ethics and the law to give recovered artifacts to one tribe or one person. Artifacts are to be curated at a permanent curatorial facility, unless otherwise required by law.

According to the Office of Historic Preservation (1993):

> *Archeological collections and their associated records that are created by compliance with state environmental laws, regulations, and guidelines must be housed at qualified repositories that have capability to ensure adequate permanent storage, security, and ready access to qualified users.*
>
> *A Qualified Repository is: A facility such as a museum, archeological center, laboratory, or storage facility managed by a university; college; museum; other educational or*

scientific institution; a federal, state, tribal, or local government agency; or private institution (e.g., corporation or association) that can provide professional, systematic, and accountable curatorial services on a permanent basis in accordance with the guidelines provided under "Criteria for Qualified Repositories" (below). This requirement may be satisfied if the repository has a management plan to develop or obtain the necessary professional expertise (http://ohp.parks.ca.gov/pages/1054/files/guide93.pdf).

Local examples are the Pacific Grove Natural History Museum and the Monterey County Historical Society's vault.

2) First paragraph of Staff Recommendations:

The Carmel Point neighborhood is an area of high archaeological sensitivity, and the three project sites are located within the boundaries of a known and recorded cultural resource area (i.e., an expansive shell midden and habitation site that encompasses a large swath of Carmel Point and contains both prehistoric materials and human remains).

Response:
There is shell midden on some parcels on Carmel Point but not all. Four different, qualified, local professional cultural resource firms independently conducted archaeological surveys on the three properties in question. Each firm included subsurface testing; no shell midden or any organic material such as bones, were encountered on these three parcels, 26307 Isabella Avenue, 26338 Valley View Avenue, and 26346 Valley View Avenue. A few minute fragments of abalone shell were noted on one parcel; however, this does not define a shell midden.

There was some worry by staff and the appellant about finding a site at greater depth and the fourth archaeological testing included deep core borings on each parcel. Ground penetrating radar was also conducted with the same results; as the three previous studies, they did not encounter shell or bone.

2. *The Appellant further contends that project mitigations do not and cannot remedy the inconsistencies of the projects with the LCP with respect to protection of archaeological resources, and that they are not meaningful or effective.*

Four highly regarded professional cultural resources management firms who independently tested these three parcels disagree with the Appellant's contention. Two additional studies by PaleoWest demonstrate that the projects are in line with the regulatory contexts.

The Appellant is introducing a native consultant to qualify the archaeology conducted, which is not a peer review.

3. *Finally, the Appellant contends that the approved projects will ultimately lead to construction-related impacts to public access along the shoreline.*

None of these three parcels is on the shoreline; therefore, there is no public access to the shoreline to be impacted.

> 4. *LCP archaeological resource protection policies, including those that require applying siting and design techniques intended to avoid impacts to archaeological resources if possible, and minimize them where that is not feasible.*

To repeat, the four different qualified cultural resources firms independently tested the three properties and found no impacts to archaeological resources on these three parcels

> *7. Further, prior to construction, a surface level archaeological reconnaissance by an Ohlone/Costanoan-Esselen Nation (OCEN) representative will be required to help determine whether significant cultural materials are present at the surficial level and, if so, construction will not commence until a plan for their protection is approved and implemented. Similarly, OCEN monitors would also be required during all subsequent ground disturbing activities to ensure cultural resource protection otherwise, and would guide further archaeological work on the site.*

One of the major issues that has been ongoing in this case is the fact that OCEN has been the only Native American affiliation that has been utilized as Native American monitors by Monterey County for quite some time now. This marginalizes and discriminates against the other Monterey County tribes. Native American tribes are all required to be consulted, as provided by the law passed that was the State Bill 18 and Assembly Bill 52 and is now part of CEQA.

The Esselen Tribe of Monterey County asked for consultation with Monterey County for years. During one of the planning commission's public hearings on this project, it was pointed out on the overhead screen that the formal permit document said that OCEN would always be the only group to provide Native American monitors in Monterey County. This was addressed at one of the Planning Commission Meetings when the Commissioners, led by Chairman Keith Vandever, clearly removed the language that all projects had to use OCEN monitors, that delegated OCEN as the ONLY Native American group to be consulted and awarded contracts in Monterey County in which large sums of money would be paid by property owners seeking to build or remodel their home. That situation was not only a monopoly on costs paid by property owners, with no choice about what their fees would be. This also denied Esselen and Ohlone people who are members of the Esselen Tribe of Monterey County, and other Costanoan groups who live right here in Monterey County who have been involved in protecting archaeology sites here in Monterey County for a century, a voice as to the disposition of their sacred sites and ancestral remains.

> Page 16 and 17--*The Monterey Bay region is represented by the Ohlone/Costanoan-Esselen Nation (OCEN), which is comprised of over 600 enrolled tribal members of Esselen, Carmeleno, Monterey Band, Rumsen, Chalon, Soledad Mission, San Carlos Mission*

(Carmel) and/or Costanoan Mission Indian descent. The County consulted with the OCEN and met and discussed the project with a tribal representative on October 10, 2017.

CEQA requires that when a project is proposed the Native American Heritage Commission is contacted and the NAHC provides a list of tribes in the area who are ALL required to be contacted by the project proponent, usually the contractor or architect. OCEN is NOT the only tribe. The language that OCEN was to be the sole and final arbiter of the consultation process was struck from the record during proceedings that day by the Monterey County Planning Commissioners.

Thank you for the opportunity to provide input on this important case.

Most sincerely and respectfully,

Susan Morley, MA., RPA

Native American Heritage Commission Native American Contact List Monterey County

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From:	Richard Posthuma
To:	CentralCoast@Coastal
Subject:	Basements @ Carmel Point
Date:	Saturday, November 09, 2019 10:14:05 AM

Dear Commissioners,

We support the staff recommendations to deny basements.

Thank you,

Richard and Joan Posthuma

Nancy Runyon
1195 Hoffman Avenue
Monterey, CA 93940

November 7, 2019

California Coastal Commission

Re: Appeals No. A-3-MCO-19-0039, 0041, 0042; Save Carmel Point Cultural Resources

Dear Chair Bochco and Commissioners,

I strongly **support your staff's recommendations** that find these **appeals raise substantial issues** with respect to the county's LCP. Please take jurisdiction over the CDP's for these three projects and only approve them with the terms and conditions that your staff recommends to protect the cultural resources that are known to be found in the Carmel Point Neighborhood (CA-MNT-17).

Monterey County Supervisors approved these tree projects with conditions for monitoring, hoping for the best outcome. **Subsequent violations** of grading without required monitoring in this neighborhood **and earlier violations by the owners of these projects** have alerted two Supervisors to recently request that Monterey County Resource Management Agency staff review their ordinances to assure that cultural resources are truly being protected. The original county staff reports prepared for these projects recommended **approval without the basements as the best option**. Unfortunately, this option was not chosen by the Monterey County Planning Commission or Supervisors upon appeal, despite pleas from Preservationists, Native Americans and Carmel Point neighbors.

Basements, even of small size, are not necessary or typical in the California Coastal climate. The risk to known Native American sites in this location is far too great to allow excavation for livable, unnecessary basements. Homes of compatible size with their neighbors should be enough and bring plenty of profit. **Respect** for 9,000 year old archaeological resources, including Native American remains, is not too much to ask.

Please support your staff's recommendations and only approve CDP's for these 3 lots with elimination of the substantial basements and subsurface development, to protect cultural resources in this known area of high archaeological significance along our beautiful coast.

Thank you,

Nancy Runyon

From:	Skydog X
To:	CentralCoast@Coastal
Subject:	Support for Staff Report - November 2019 Wednesday agenda items 32a-c- Appeal Nos. A-3-MCO-19-0039, -0041, -0042 (Emerson Development Group, Inc., Carmel)
Date:	Saturday, November 09, 2019 7:58:01 AM

Dear Commissioners:

I am writing in support of the staff report for this agenda item. Monterey County must be held to their own policies and be consistent with their LCP. Basements should not be allowed in these highly sensitive archaeological sites. When the LCP and Monterey County polices say "minimize" it should not just be lip service.

All building sites have constraints, and when a developer purchases a property they are well aware of these constraints. Some sites have drainage issues, topography issues, utility issues, or biological issues. This site has archaeological issues. It is sensitive in the highest regard. The site can easily be fully developed without a basement. Please do not let the County repeat the mistake that they have made for other large basements on Carmel Point. A clear message needs to be sent to the County that efforts to mitigate environmental impacts must be well thought out, sincere, and effective.

Please uphold the staff report and condition your approval of this project consistent with the staff report and all LCP policies.

Thank you,

Owen Thomas
Carmel Point resident

Letter received for each appeal.

From:	Brenna Wheelis
To:	CentralCoast@Coastal
Subject:	Re: Public Comment on November 2019 Agenda Item Wednesday falseb - Appeal No. A-3-MCO-19-0041 (Emerson Development Group, Inc., Carmel)
Date:	Friday, November 08, 2019 4:43:42 PM

I am writing in support of this project. The archaeological testing, both phase I and II, for this project determined there is a less than significant impact to potential resources present. In fact, the multiple sub-surface tests conducted on the project, to the vertical extent of potential effect, determined there are no midden soils or cultural constituents that would constitute intact archaeological or tribal cultural resources. The fact that the Appellant is alleging the archaeological process is insufficient and meaningless, yet was somehow not in compliance with the Monterey County Local Use Program and Land Use Plan is contradictive and false. The mere fact that Phase I and Phase II testing were performed demonstrates how the project is in fact in compliance with the LUP and California Environmental Quality Act section 15064.5 outlining the treatment of cultural resources. Indeed, the applicant went above and beyond the required testing for this site to satisfy the needs of the Appellant by conducting additional ground penetrating radar and geoprobe boring tests of the site, exhausting all available methods, in good faith, to maintain their permit compliance with the County.

Requiring additional archaeological pedestrian surveys of the properties by a non-archaeologist is also outside the regulatory context of both CEQA and the County LUP. Only a qualified archaeologist on the approved Monterey County list, or a member of the Register of Professional Archaeologists are able to determine the significance of materials on a project. Doubting the science and credentials of professionals who have already assessed the potential adverse effects of this project on cultural is not an appeal worthy argument when six scientific studies have indicated otherwise. The absence of evidence is not admissible evidence. In fact, the data show there are no cultural constituents present on the site that would qualify under CEQA as a resource. The Appellants attempt to halt a project based on the archaeology, without regard to the conclusions of the four firms that have conducted six professional studies on the project is a page out of a climate deniers playbook.

This appeal process is less of a public benefit and more frivolous in nature. It is driven by a desire to restore Ohlone Costanoan Esselen Nation (OCEN) in the language of the Mitigated Negative Declaration as the only tribal entity with a consulting voice for this and future projects along the Carmel coastline. In fact, on December 5, 2019, Esselen Tribe of Monterey County brought to the attention of the Monterey County Planning Commission that the Resource Management Agency was in violation of their obligation under AB 52 and SB 18 to consult with ALL indigenous persons listed by the Native American Heritage Commission (NAHC) who have ancestral ties to the project area.

The Resource Management Agency admitted during the December 5th hearing that they were only consulting with the OCEN tribe for this and other projects. In fact, they declared OCEN was the only tribe in Monterey County. The consultation process guides lead agencies to request a consultation list from the NAHC for EVERY project. Their ignorance was corrected by the County Counsel who moved to strike the language that determined projects must be monitored by an OCEN approved member, changing it to state that the tribal monitor must have ancestral ties to the area and be on affiliated with a group listed by the NAHC. The Appellant is once again incorrectly asserting OCEN is the only tribe in Monterey County, thereby denying agency to the remaining indigenous persons and tribal groups listed by the NAHC as having cultural affiliation with the area. It is not the Appellants, or anyone's right to determine the ethnic and cultural identity of any group, nor is it a Coastal Commission interest to continue to marginalize our local indigenous population, or assign labels to who is a legitimate tribe in the eyes of the state and who is not. Those designations have already been determined by the tribal groups themselves, and the California Native American Heritage Commission.

This project should be allowed to proceed as originally approved by the Monterey County Planning Commission and the Monterey County Board of Supervisors without additional condition.