



**A R C H I T E C T**

1177 Idaho Street, Suite 200A, Redlands, CA 92374 (909) 307-0146

# City of Rialto Public Works

## STRUCTURAL ASSESSMENT FOR 335 W. RIALTO AVE





**A R C H I T E C T**

1177 Idaho Street, Suite 200A, Redlands, CA 92374 (909) 307-0146

August 12, 2025

Department of Building & Safety  
City of Rialto  
3900 Main Street  
Rialto, CA 92501

RE: Structural Report for Public Works Building Fire Damage Restoration Project,  
335 West Rialto Avenue

To Whom It May Concern,

The referenced project is for the reconstruction of the existing building due to a fire which caused extensive damage to the roof framing in the center truss framed part of the building. We have attached the approved plans for the reconstruction for your reference. The reconstruction is for the replacement of the roof along with whatever alterations are required to the support structure to complete the roof system support. There are also interior layout alterations which require demolition of some walls, relocation of others and added walls as required. Along with the redesign there are also some adjustments to the exterior openings. This involves sizing some down, relocating others and adding some as required for the new layout. All of the proposed bearing conditions for the reconstruction are in the same bearing locations that we had observed as we inspected the building for the completion of the construction documents.

The construction has started for the project. As part of the initial work the interior finishes have been demolished in preparation for the new framing and ultimate completion of the construction. The demolition has exposed framing issues, especially in the bearing walls, which the contractor brought up to the City representative. We provided onsite inspections to determine the current conditions and possible solutions for the situation. The intention was to detail what would be necessary for repair, supplementary framing or replacement of the framing as required. The inspection found many issues including notched studs, discontinuous framing and water and insect damage, some of which are extensive. We were working on the solutions to these items including possible framing and detailing information for the contractor to know how to proceed with the reconstruction. The scope of those issues are included in the commentary below as we comment on each wall line.

It was determined that a meeting with the Building Department was necessary due to the extent of the issues. The idea was to prepare them for the forthcoming revisions and confirm any issues that they may have. They did express concerns about the underlying construction, foundations, of the existing building. The indication was that additional observation, inspection, and potential testing would be required to confirm the extent of possible upgrades and repairs to the foundations, many of which are potentially outside of the current construction scope of work. I also understand that any insurance monies required for the repairs have already been determined so any additional work will have a cost impact on the City.

In this report we will discuss the areas of concern and our findings based on our observations, inspections and testing as provided. This will include analysis of those conditions. Once all concerns have been discussed we will provide conclusions based on these to give directions for the ongoing repairs.

The first item of concern expressed by the building department regards the existing foundations supporting the building. In our design, which was for replacement of the fire damaged framing and finishes, we had looked at the current locations of the existing bearing. This included the existing exterior footings and miscellaneous interior bearing locations. Many of these are located at the original building's perimeter walls and then the subsequent additions and expansions that had occurred over the years of the building's existence. The building layout made it fairly easy to tell where these demising lines occurred. Since the new loading of the roof would be at the same locations and the loads very similar it appeared that the existing foundations should be sufficient for the replacement loads.

The Building Department expressed concern that the existence and construction of footings should be reviewed and confirmed so that there would be no hidden deficiencies. With the in mind there was a testing company retained to do ground penetrating radar surveys of the footing locations to determine the existence of the footings and whether there is evident reinforcing in those footings. The indication was that the radar could provide evidence of density transitions such as those from concrete to dirt. Also, and most importantly, whether there is existing reinforcing in any of the locations. There were ten locations where the testing was performed, which coordinate with the locations where bearing or lateral loads were designed to be applied. The report, which is attached, casts doubt on the existence of current Code compliant footings. The only additional method of determining the construction of the existing footings and foundations would be destructive including excavation and if footings are found the attempted exposure of any potential reinforcing. Based on the information from the testing report this may be redundant.

Regarding the roof structure there are three areas of existing conditions. The first of these is the area west of Line C-C. This area is what could be assumed as part of the original building and consists of post and beam construction. The beams are 6x with 6 x 6 posts at the ends and the middle. There are framed infill walls at the exterior and some interior locations which could be considered to be the lateral resisting elements. The post and beam system are in good condition and could be considered to be sufficient for the referenced area.

The next area between Line C-C and Line F-F is being replaced with a new truss roof system due to damage from the fire. The last area is the Community Room area from Line F-F to Line G-G. This was an addition to the original building which is conventionally framed and supported by two beams which span east to west dividing the room into thirds. The main issue with this roof is the beam installation. First, the beams are located below the ceiling framing which puts them around 7' above the floor. There is also an issue with the support of the beams at their ends. There is no post at the ends of each beam but minimally some 2-x framing nominally supporting them. There are also no positive connections to the supports.

The next concerns to be discussed will be in regard to the support framing for the replacement roof to be installed. Now that the existing wall framing has been exposed by the removal of the finished material, we are able to observe the condition of those walls and other support framing. This has revealed a wide variety of deficiencies in much of the support framing. Our discussion of these items will be systematically discussed by proceeding from west to east from Lines B-B to H-H as referenced on the attached plan of the building. Then we will proceed from north to south for the east to west directional walls. I have listed the picture numbers at the end of each section to coordinate with the attached picture package.

**Line B-B** The north end of the wall has two sets of double plates framed into the wall framing system. One appears to be at roughly the height of a possible framed ceiling. The other double plates are only braced at the posts and one perpendicular wall location, so there is a concern for a possible hinge connection weakness. The southerly portion has one intermediate set of double plates. This would appear to be at the same height as the other double plates which could be at the height of a possible framed ceiling or provide bracing to the roof framing. The southerly portion also has some unconventionally infill framed window openings, which could be corrected. There are some upgrades required by the current construction documents, including sill anchorage. Photos 1 to 4.

**Line B1-B1** This location is typical for the post and beam construction. The posts are not installed in a column base or other hardware but have the stem wall or footing concrete poured around them. This does not provide for any weather, pest, or deterioration protection. The southerly posts are also twisted at this location and at Line C-C. There is a north-south partition wall which is to remain. It has bracing to the roof system on the southerly side, but the north side needs to have bracing installed to roof system. Photos 5 and 6.

**Line C-C** There is the same issue with the posts' connection to the foundation. There need to be new connections from the beam to the post at the north wall and the post-to-beam for the beam in the center. There is a mixture of older and new studs in the middle section of the wall which will have to be furred if used as is. There is a double wall section on the south which sandwiches an electrical panel. The Easterly section attaches to nothing on the top so it will have to be corrected to match the bottom of the trusses. This area also has some unconventional construction for the

headers which will need to be corrected. The wall at the roof framing transition will need to extend as a demising transition between the different roof framing conditions. At the sandwiched wall there is a recess in the slab which will require correction to make the slab transition flat. I am not sure that the west section of the wall is necessarily required, if it is it needs to be braced to the roof structure. Photos 7 to 12 and 70 to 72.

Line C1-C1 Wall is part of the existing restroom construction, tied with the existing ceiling joists at 8' and cripple wall above to go to new roof trusses. Photos 13 and 14.

Line D-D Southerly section of wall has been removed with it and the rest of the wall extends to the bottom of the existing new trusses. Wall construction will need shear wall upgrades. Verify that the existing plumbing has been abandoned and removed. The existing masonry veneer could stay but will probably interfere with the framing and any upgrades. Photos 15 and 16.

Line D1-D1 All of the north-south walls including Line D1-D1 up to Line E-E are set to be demolished for the new floor layout. This includes both those on the north and on the south of the building. Photos 17 and 18.

Line E-E The northerly wall needs to have upgrades for shear wall requirements. The southerly stud is about a foot short of the bottom of the new trusses. They will have to be replaced to run to the bottom of the new drag truss for shear transfer. Walls will need upgrade for the proposed shear walls for lateral resistance. Photos 19 to 21.

Line E1-E1 The northerly walls between Line E-E and Line F-F are for restrooms, many of which are moving. They currently are at 8' height, which is fine for these types of partitions with ceiling joists above. There probably will be replacement of a lot of the ceiling framing with the revised wall layouts. The southerly walls will all need to be replaced with the installation of the new trusses. Photo 21.

Line F-F The southerly part of the demising/shear wall is a hodgepodge of framing with limited consistency of the stud framing. This continues for the wall above the ceiling to the roof. The northerly section of the wall has all been cut for plumbing. The support for the roof support beams is nonexistent. The whole wall will need reframing or at least some type of supplement. Photos 24 to 26 and Photos 29 and 29.

Line G-G The wall is framed to 8' and appears to be in acceptable condition. Again, there is a lack of sufficient support for the roof support beams. Photo 3

Line 1-1 C to D The wall is supported on a curb with a framed section at the top. It looks like there is a section of exterior studs behind the framed section which supports the exterior finish. This has not been exposed so the full condition of the wall is unknown. The posts for supporting the roof are embedded in the stem wall so a solution for

the proper attachment needs to be determined. Photos 57 to 63.

- Line 1-1 D to E      The walls are supported on the slab and a stem wall at various locations. There is an intermediate beam in the wall at about 8' above the floor with cripple fill to the bottom of the trusses. This creates somewhat of a hinge condition. The westerly end of this near Line D-D it is different with full height studs, but with a crazy conglomeration of multiple plates. These multiple plates area is also not level, which is also true at other locations along the wall. There is also some visible termite damage. It should also be noted that the windows will also be removing and are changing size which adds to the alteration of the wall. Photos 42 to 46.
- Line 1-1 E to F      The walls sit on the slab and studs continue full height, there are a few locations where there is what may have been headers interrupting the continuity. For almost the entire wall section the bottom of the stud are cut up to about 2 1/2" leaving almost nothing for load support. The wall will need to be at least supplemented or potentially fully replaced. Photos 34 to 40.
- Line 1-1 F to G      The wall is hidden by block veneer, so condition is unknown. Photos 27 and 33.
- Line 1.5 B1 to C      The beam to post needs to have positive connection at both ends Photos 64 and 65.
- Line 2-2 C to D1      The current wall is to the bottom of the trusses. There are beams proposed to be provided for intermediate truss support. Photos 51 and 52.
- Line 2-2 D1 to E      The potential interior bearing is moved to the south. These walls are full height to the stud bottom. There is a section though at the easterly end of the wall the is a form of truss for the upper 2'+/- it forms a type of hinge condition but also looks as if it is sagging. Some of the studs have been notched for utilities and may need supplementing or replacement. Photo 50.
- Line 2-2 E to F      The wall is at truss height in good condition with a long header over openings in about the middle. The westerly end is all compromised by the plumbing installation. It would need to be supplemented or replaced. Photos 47 to 49.
- Line 2-2 F to G      Wall has an 8' plate in relatively decent shape except the area over the westerly window has water damage. Photo 32.
- Line 3-3              Wall plate height is 8' and the walls all have large openings which will be reframed for new opening. These walls will have to be brought up to meet truss height. Photo 53.

- Line 4-4 C to D      This wall is already removed since the building is being widened for consistent truss installation.
- Line 4-4 D to E      Wall plate height is 8' and the walls all have large openings which will be reframed for the new openings. These walls will have to be brought up to meet truss height. Photos 54 to 56.
- Line 4-4 B to C      The wall is infilled in the post and beam framing. The studs do not go to full height because they are broken by a double plate about 18" from the top. These will have to be checked to see if the double plates are sufficient for the lateral loads on the wall. Photos 66 to 68.

In conclusion, the completed demolition has exposed many deficiencies in the walls needing to be corrected as the construction progresses. There is significant work to be done on the original exterior bearing walls, to the extent that much of the exterior walls would be easier to demolish rather than repairing. The same is also true in a lesser way for the interior bearing and shear walls, and other interior walls that are to remain as the project is designed at this time. The extent of this put into question whether most of the walls in the repair area between Lines C-C and D-D will actually be replaced. This I assume is not included in the current contract for construction. This then becomes part of the tradeoff for whatever construction changes are required.

Between Lines B-B and C-C the roof construction and walls seem to be sufficient for their continued use. There are some items for framing repairs and replacement but overall are in usable condition. The inclusion of the community room area to the east between Lines F-F and G-G also needs to be considered. The roof support beams and some of the walls need to be considered for replacement and/or repair. If included, in the construction there will need to be a scope of work determined for that area. Also, a decision needs to be made on whether we maintain the current plate height of 8' or consider raising to match the rest of the building.

The other part of all of this is the footing and foundations for the project. The testing procedure for the foundation has revealed that there is a lack of verifiable footings. This creates an issue for the structural support of the exterior and interior bearing walls, and shear walls and is a critical part of the decision making for how this project will be moving forward. The slab itself seems to be in relatively good condition and could remain in place as required. There would be some patching and leveling required prior to the installation of the flooring.

Considering the above information there are some basic options for moving forward. We have provided documentation for these which include plans, scope of work and cost estimates. The scope of these is for construction that varies from the current approved construction documents.

Option 1 is centered around the requirement for replacement of the bearing and shear wall footings. The first action for this would be to verify that the new trusses can fully span the entire structure. If the trusses can span the entire building, then we would need to supplement or replace the exterior footings along the perimeter except where the new foundation is currently being proposed. This would eliminate the need for the interior bearing footings, beams, and walls. There would still need to be foundations installed for the interior north-south shear walls. If the trusses cannot span the building, then the interior bearing footings, beams and walls will need to be installed along with the exterior footings, I would not think this will be necessary. These options will allow for some of the interior features such as restrooms and other interior walls and features to be maintained. After consideration we consider that the Community Room area should be included in the construction. This will result in the replacement of all of the bearing and shear walls which were not included to be replaced in the existing construction documents. The other interior walls are already new or being replaced as indicated in the existing construction documents. The one concern with keeping the existing slab is the condition of the current under slab utilities. Refer to Option 1 Foundation Plan and Framing Plan and Option 1 - Cost estimate.

Option 2 would be to demolish and construct the entire building as a new structure which would allow you to redesign to meet your needs and desires rather than adjusting those to fit within what is currently existing. Refer to Option 2 - Cost estimate.

With respect to final recommendations that may be determined by what funds the city is willing and able to allocate to this project. Marcon (current contractor) project bid for construction was \$3,179,019.25 + \$1,484,634.25 (Option 1 proposed for seismic upgrades to the existing structure) = \$4,663,653.50. Per Option 2 the estimated cost to demolish and construct a new building is approximately \$7,994,905.28 which is almost double the cost of doing the repair to the existing building proposed in Option 1. We are not sure what amount has already been paid to the contractor at this point, but any funds not expended could be reallocated to Option 2 to construct a new facility. The obvious advantage to constructing an entirely new facility is that all components would be designed and built to the current codes and would allow you to redesign to meet your needs and desires rather than adjusting those to fit within what is currently existing. The disadvantages to constructing a new facility is the cost and time associated with the new construction which would also include new construction documents, plan review and approval. If you proceed with Option 2, I am assuming that the project would also need to be rebid.

I hope this answers all your questions, if not please contact me.

Sincerely,

Steven Paul Murray  
Architect C-11170  
(951) 316-0575





PICTURE 1



PICTURE 2



PICTURE 3



PICTURE 4



PICTURE 5



PICTURE 6



PICTURE 7



PICTURE 8



PICTURE 9



PICTURE 10



PICTURE 11



PICTURE 12



PICTURE 13



PICTURE 14



PICTURE 15



PICTURE 16



PICTURE 17



PICTURE 18



PICTURE 19



PICTURE 20



PICTURE 21



PICTURE 22



PICTURE 23



PICTURE 24



PICTURE 25



PICTURE 26



PICTURE 27



PICTURE 28



PICTURE 29



PICTURE 30



PICTURE 31



PICTURE 32



PICTURE 33



PICTURE 34



PICTURE 35



PICTURE 36



PICTURE 37



PICTURE 38



PICTURE 39



PICTURE 40



PICTURE 41



PICTURE 42



PICTURE 43



PICTURE 44



PICTURE 45



PICTURE 46



PICTURE 47



PICTURE 48



PICTURE 49



PICTURE 50



PICTURE 51



PICTURE 52



PICTURE 53



PICTURE 54



PICTURE 55



PICTURE 56



PICTURE 57



PICTURE 58



PICTURE 59



PICTURE 60



PICTURE 61



PICTURE 62



PICTURE 63



PICTURE 64



PICTURE 65



PICTURE 66



PICTURE 67



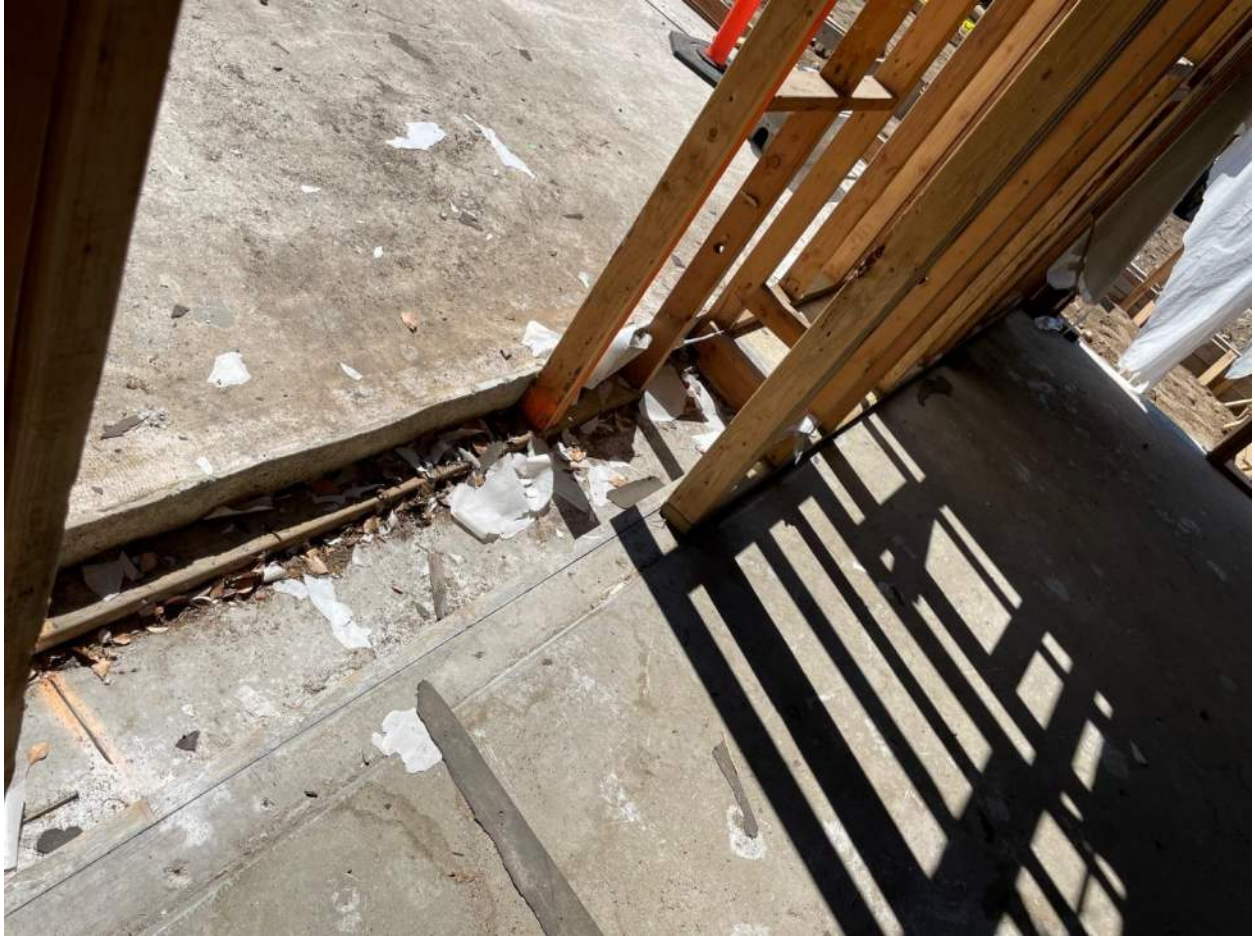
PICTURE 68



PICTURE 69



PICTURE 70



PICTURE 71



PICTURE 72



PICTURE 73



PICTURE 74



# ATLAS

## **GEOPHYSICAL EVALUATION** **CITY OF RIALTO PUBLIC WORKS REBAR SCANNING (GPR)**

Rialto, California

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June 9, 2025



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June 9, 2025

Atlas No. 20916

MS. KATHY OSWALT  
**MILLER ARCHITECTS**  
1177 IDAHO STREET, SUITE 200  
REDLANDS, CA 92374

**Subject: Geophysical Evaluation  
City of Rialto Public Works Rebar Scanning (GPR)  
Rialto, California**

Dear Ms. Oswalt:

In accordance with your authorization, Atlas Technical Consultants is pleased to submit this data report pertaining to our geophysical evaluation for a portion of the property located at 335 West Rialto Ave. in Rialto, California. The purpose of our evaluation was to delineate the presence of detectable rebar and to determine the presence of foundation footings at locations specified at the project site. Our services were conducted on May 28, 2025. This report presents the study methodology, equipment used, analysis, and results from our study.

We appreciate the opportunity to be of service on this project. Should you have any questions related to this report, please contact the undersigned at your convenience.

Respectfully submitted,  
**Atlas Technical Consultants LLC**

Samson Lozano  
Project Geophysicist

SL:GDW:CTA:ds

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Project Geophysicist



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## FIGURES

Figure 1	Site Location Map
Figure 2	Site Map
Figure 3a to 3b	Site Photographs
Figure 4a to 4c	Interior Footing Location Profiles
Figure 4d to 4g	Exterior Footing Location Profiles



## 1. INTRODUCTION

In accordance with your authorization, Atlas is pleased to submit this data report pertaining to our geophysical evaluation for a portion of the property located at 335 West Rialto Ave. in Rialto, California (Figure 1). The purpose of our evaluation was to delineate the presence of detectable rebar and to determine the presence of foundation footings at locations specified at the project site. Our services were conducted on May 28, 2025. This report presents the study methodology, equipment used, analysis, and results from our study.

## 2. SCOPE OF SERVICES

Our scope of services included:

- Performance of GPR geophysical evaluation at 10 locations within the subject property.
- Compilation and analysis of the collected data.
- Preparation of this illustrated report presenting our findings, conclusions, and recommendations.

## 3. SITE DESCRIPTION

The site property is a structure, formerly an office belonging to a lumber yard, and is located at 335 West Rialto Avenue in Rialto, California (Figure 1). Specifically, our study areas consisted of ten locations: six inside the structure and four outside. These areas were chosen to investigate the presence of rebar associated with concrete foundation footings. The four exterior locations consisted of excavated boxes adjacent to the base of the structure. These boxes were each approximately 4 feet by 4 feet in area and 4 feet in depth. Boxes 1 and 2 are located on the south side of the structure while Boxes 3 and 4 are located on the north side. The locations of our investigations were chosen by a representative from your office as depicted in Figure 2. Figure 3 depicts the general site conditions in the site property, and Figures 4a to 4g depict the results of our study.

## 4. GEOPHYSICAL INSTRUMENTATION AND APPLICATIONS

Our ground penetrating radar (GPR) evaluations were conducted using a GSSI StructureScan Mini XT 2.7 (GHz) antenna (for the exterior footing locations) and a GSSI 900 (MHz) Monostatic Antenna (for the interior footing locations).

The ground-penetrating radar (GPR) operates by transmitting electromagnetic (EM) energy into the ground through a surface-mounted transmitting antenna. As the energy propagates into the subsurface, it is partially reflected to a receiving antenna at interfaces where there is a contrast in electrical properties. These reflected signals are recorded continuously as the antenna is moved across the ground surface, producing a time-based radar profile of the subsurface. The amplitude of the reflected energy is proportional to the magnitude of the electrical contrast at each

subsurface boundary. The velocity of EM wave propagation varies with the material properties of the ground. When these velocities are known- or reasonably estimated based on soil conductivity, dielectric constant, or lithologic conditions- the recorded two-way travel times can be converted to estimated depths. GPR penetration depth and image resolution are influenced primarily by the electrical conductivity and dielectric properties of the subsurface materials. In general, low-conductivity materials such as dry sand or gravel allow for deeper penetration and clearer imaging, whereas high-conductivity soils (e.g., moist clays) can significantly attenuate the signal, limiting both the depth and resolution.

## 5. STUDY METHODOLOGY

For the interior footing locations, GPR traverses utilizing the 900 MHz antenna were conducted along north-south and west-east profiles spaced approximately 1 to 2 feet across the areas. The locations dimensions varied due to site conditions, such as the presence of wooden frames and support beams. Boxes 1 and 2 are 8ft x 3ft and box 3 is 12ft x 3ft (Figure 3a). Box 4 is 10ft x 6ft, box 5 is 8ft x 3ft and box 6 is 8ft x 5ft (Figure 3b).

For the exterior footing locations, GPR traverses utilizing the 2 GHZ antenna were likewise conducted along north-south and west-east profiles spaced approximately 1 to 2 feet across the areas. Each box maintained similar dimensions except for box 2, which still possessed remnant pavement beneath the topsoil layer.

## 6. RESULTS, CONCLUSIONS, AND RECOMMENDATIONS

As previously discussed, the primary purpose of our evaluation was to delineate the presence of detectable rebar and to determine the presence of foundation footings at locations specified at the project site.

The results of the GPR evaluations for the interior footing locations are presented in Figures 4a through 4c. The profiles reveal the presence of subsurface anomalies within each scan area, with depths of approximately 21 inches

These anomalies are generally layered in appearance and exhibit high reflectivity (represented by pink/white colors). Notable exceptions include profile 2 from box 1 and profile 9 from box 5 (Figures 4a and 4c), which display parabolic reflections. These may correspond to linear metallic elements such as rebar or smaller diameter utilities. However, these features were discontinuous and did not extend the full length of the respective scan boxes, suggesting they may also represent isolated cobbles or pebbles beneath the slab. Profile 7 from box 4 and profile 11 from box 6 show raised and depressed reflective layers, respectively. These features may indicate areas where concrete was added or removed, possibly during previous modifications.

Overall, the layered anomalies may represent the interface between the concrete slab and the underlying native soil, suggested by the contrast in dielectric properties between the two

materials. However, the data does not conclusively indicate the presence of continuous or isolated footing foundations at the scanned locations.

The results of the GPR evaluations for the exterior footing locations are presented in Figures 4d through 4g. The data are inconclusive with respect to the presence of rebar or layered concrete footing structures. The GPR profiles generally exhibited chaotic signal responses, characterized by irregular crenulated layering, likely associated with coarse, poorly sorted native soils.

Parabolic anomalies, observed in profile 4 (box 1) and profile 6 (box 4), may correspond to buried cobbles or pebbles, consistent with materials visually identified in excavated soil piles adjacent to the scan areas. One notable layered structure is observed in profiles 15 and 16 from box 4 (Figure 4g), dipping towards the footprint of the building and increases with depth from the west to the east. This structure is not observed in Box 3 and may be an isolated structure, likely associated with remnant concrete or a clay-rich layer within the soil. Unlike the interior profiles, no well-defined, layered anomalous structures were identified in the exterior scan areas that would typically be indicative of concrete footings or subsurface structural elements.

An additional unknown structure is visible in boxes 3 and 4 (Figure 3d), appearing as a linear, east-west trending continuous pipe approximately 10 inches in diameter, oriented parallel to the building footprint. This structure is located below the bottom of the concrete slab, with a layer of soil in between, and may correspond to an unidentified pipe or utility line. From field evaluations, there is no evidence that this is part of the slab or foundation.

## 7. LIMITATIONS

The field evaluation and geophysical analyses presented in this report have been conducted in general accordance with current practice and the standard of care exercised by consultants performing similar tasks in the project area. No warranty, express or implied, is made regarding the conclusions and opinions presented in this report. There is no evaluation detailed enough to reveal every subsurface condition. Variations may exist, and conditions not observed or described in this report may be present. Uncertainties relative to subsurface conditions can be reduced through additional subsurface evaluation or exploration. Additional subsurface evaluations can be performed upon request.

This document is intended to be used only in its entirety. No portion of the document, by itself, is designed to completely represent any aspect of the project described herein. Atlas should be contacted if the reader requires additional information or has questions regarding the content, interpretations presented, or completeness of this document. This report is intended exclusively for use by the client. Any use or reuse of this report by parties other than the client is undertaken at said parties' sole risk.



City Of Rialto Public Works GPR Evaluation  
Rialto, California

Project No.: 20916  
Date: 06/25

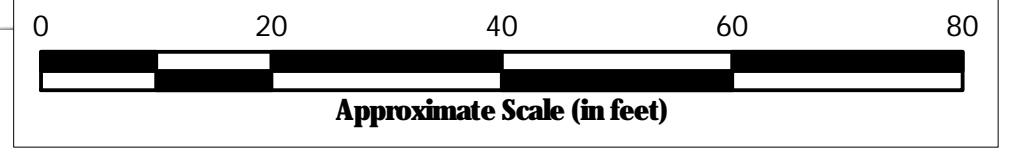
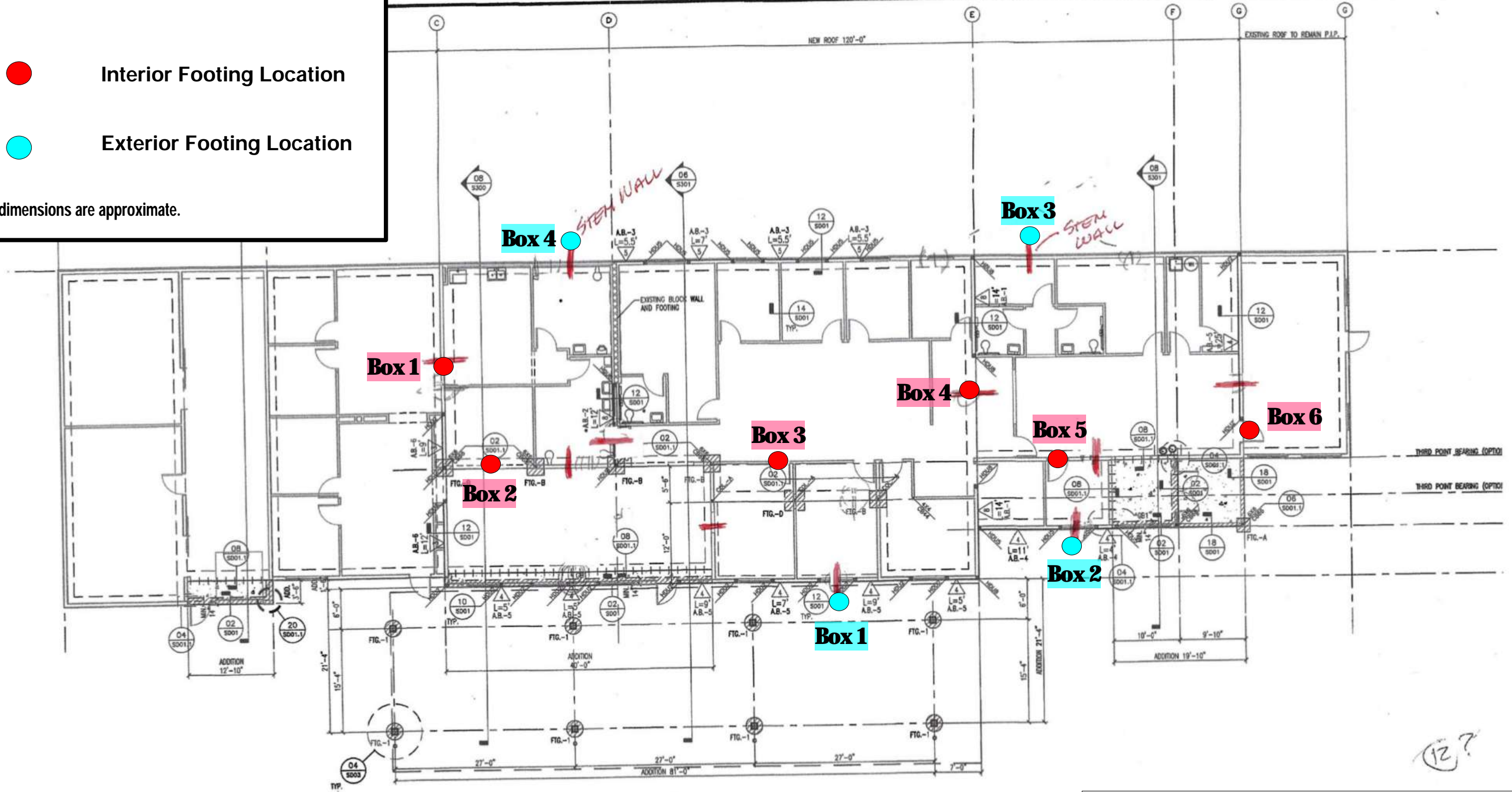
Figure  
1

**SITE LOCATION MAP**

# LEGEND

- Interior Footing Location
- Exterior Footing Location

\* All dimensions are approximate.



DRAWN BY: Samson L. | REVIEWED BY: CTA



City Of Rialto Public Works GPR Evaluation  
Rialto, California

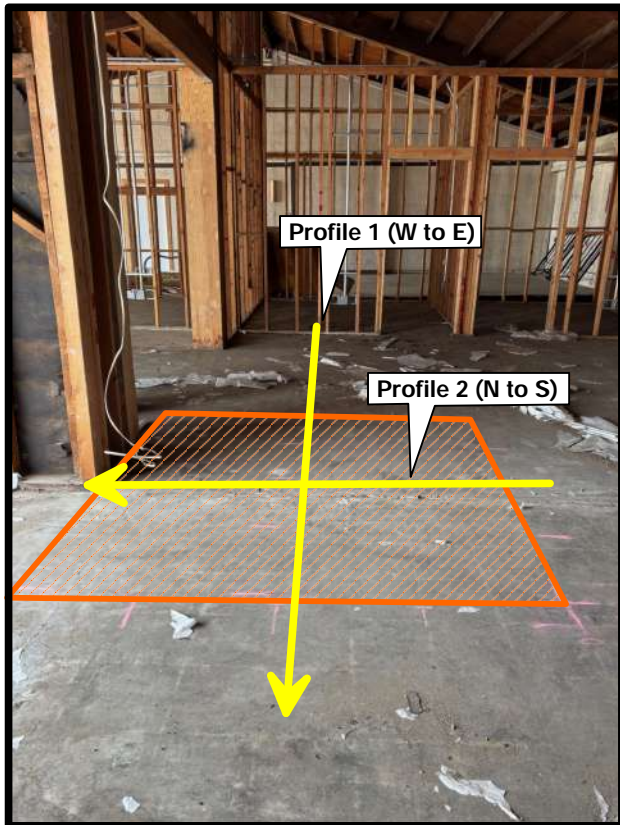
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Date: 06/25

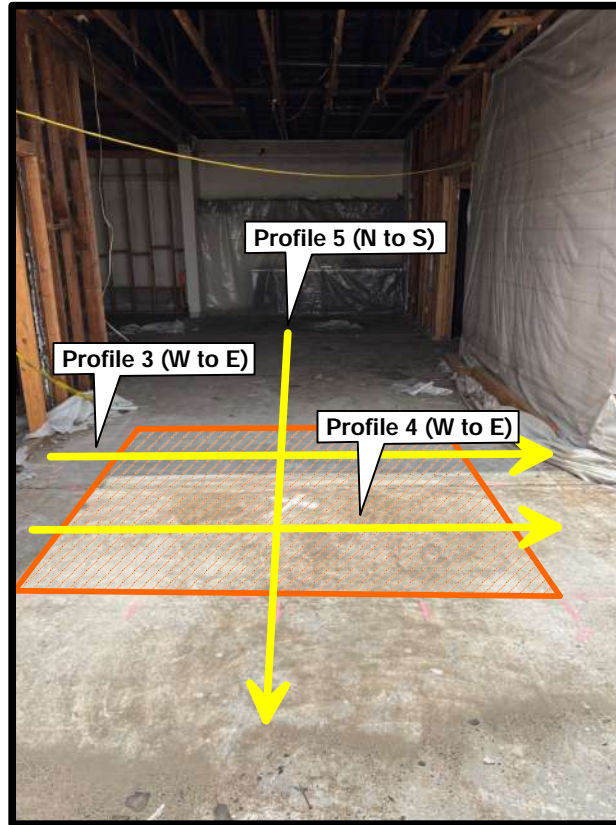
Figure  
2

SITE MAP

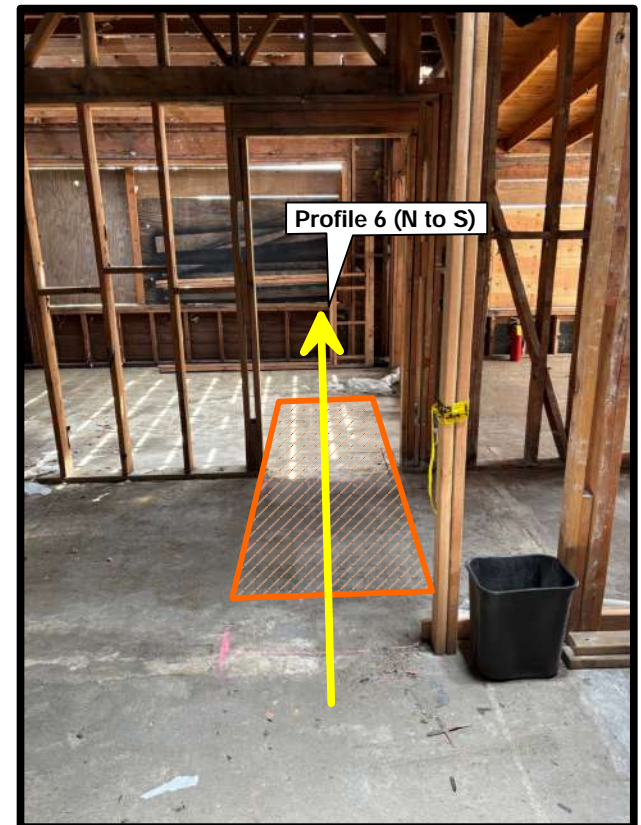
**Interior Box 1  
View to the West**




**Interior Box 2  
View to the North**




**Interior Box 3  
View to the South**



**LEGEND**

 GPR Profile Traverse

 Footing Location Scan Area

\* All dimensions are approximate.

DRAWN BY: Samson L.

REVIEWED BY: CTA

Project No.: 20916

Figure  
3a

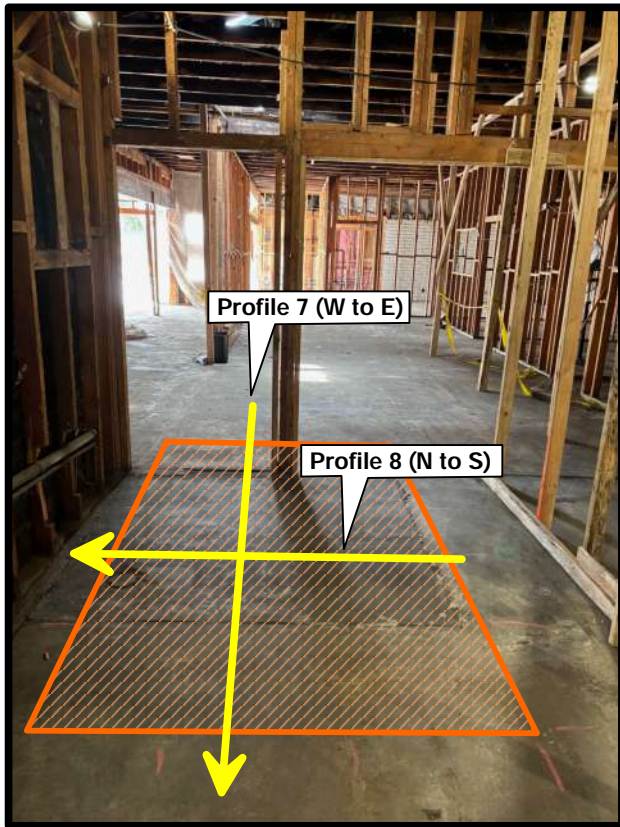
**SITE PHOTOGRAPHS  
Interior Footing Locations  
Box 1 to 3**



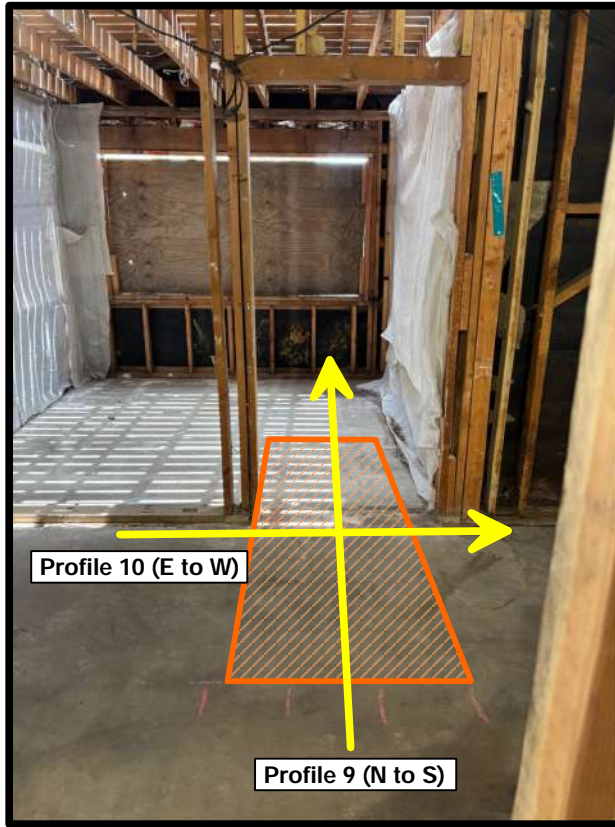
City Of Rialto Public Works GPR Evaluation  
Rialto, California

Date: 06/25

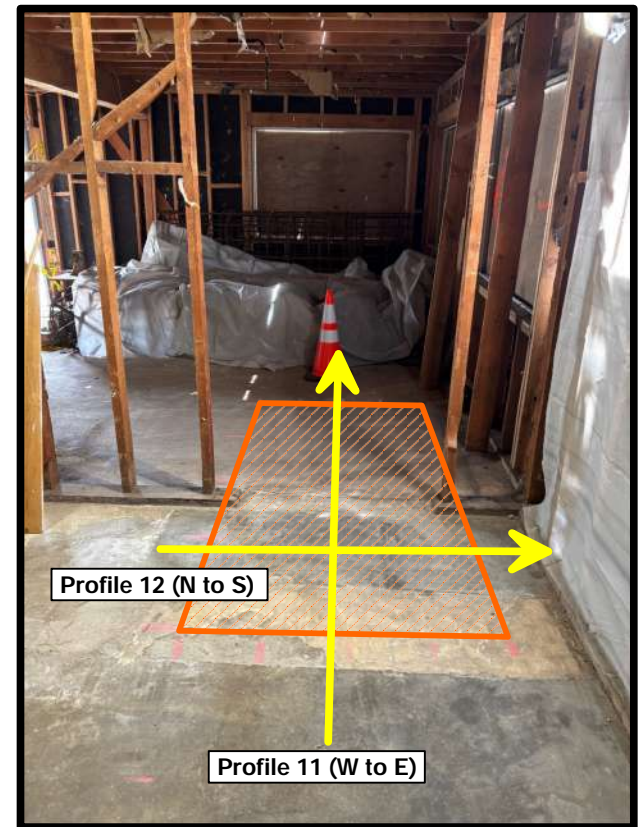
**Interior Box 4  
View to the West**




**Interior Box 5  
View to the South**




**Interior Box 6  
View to the East**



**LEGEND**

 GPR Profile Traverse

 Footing Location Scan Area

\* All dimensions are approximate.

DRAWN BY: Samson L.

REVIEWED BY: CTA

Project No.: 20916

Figure  
3b

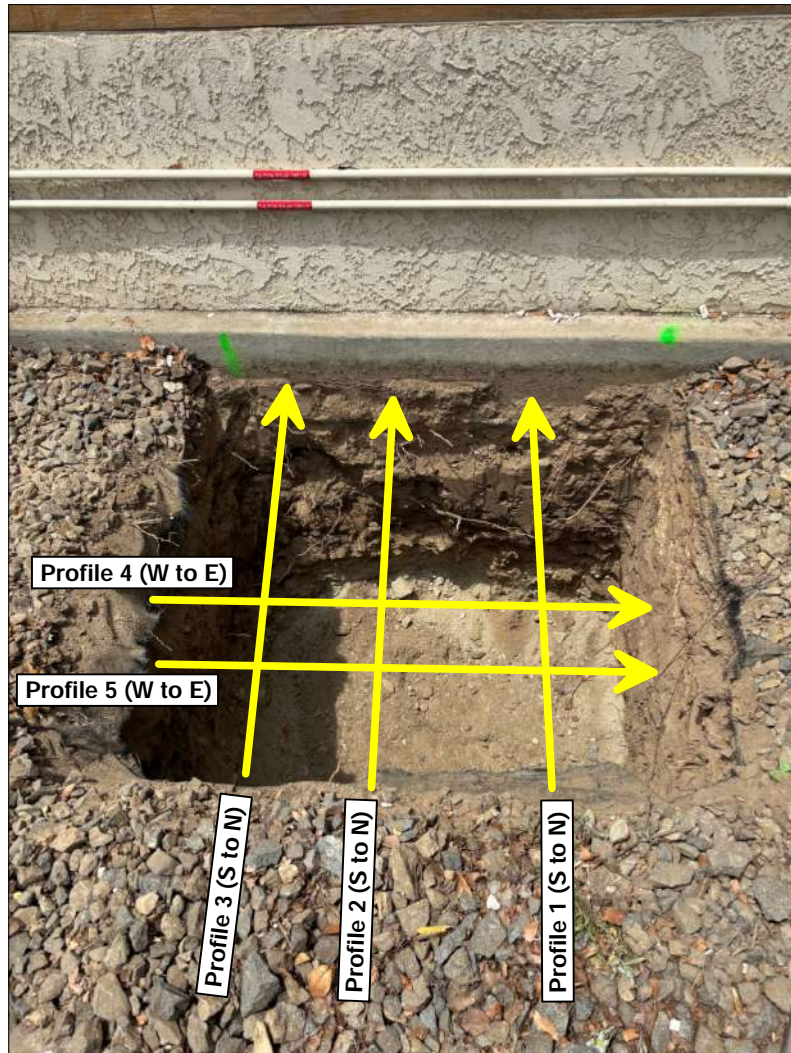
**SITE PHOTOGRAPHS  
Interior Footing Locations  
Box 4 to 6**



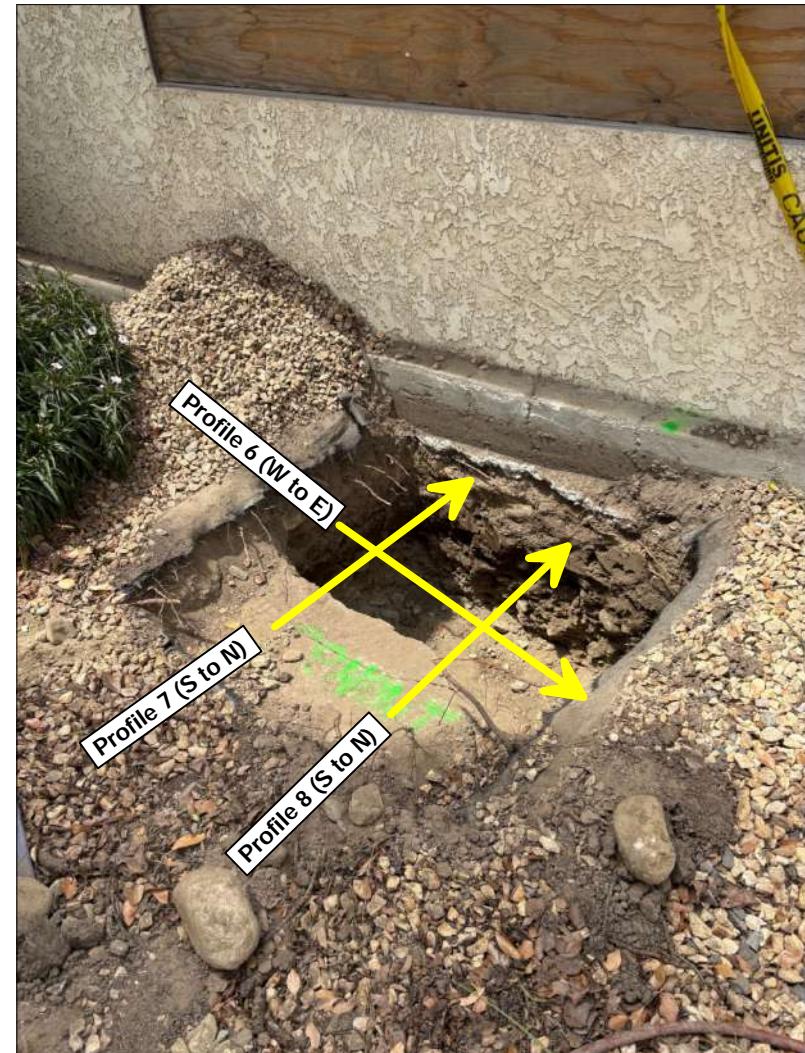
City Of Rialto Public Works GPR Evaluation  
Rialto, California

Date: 06/25

## Exterior Footing Location Box 1



## Exterior Footing Location Box 2



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REVIEWED BY: CTA

Project No.: 20916

Figure  
3c

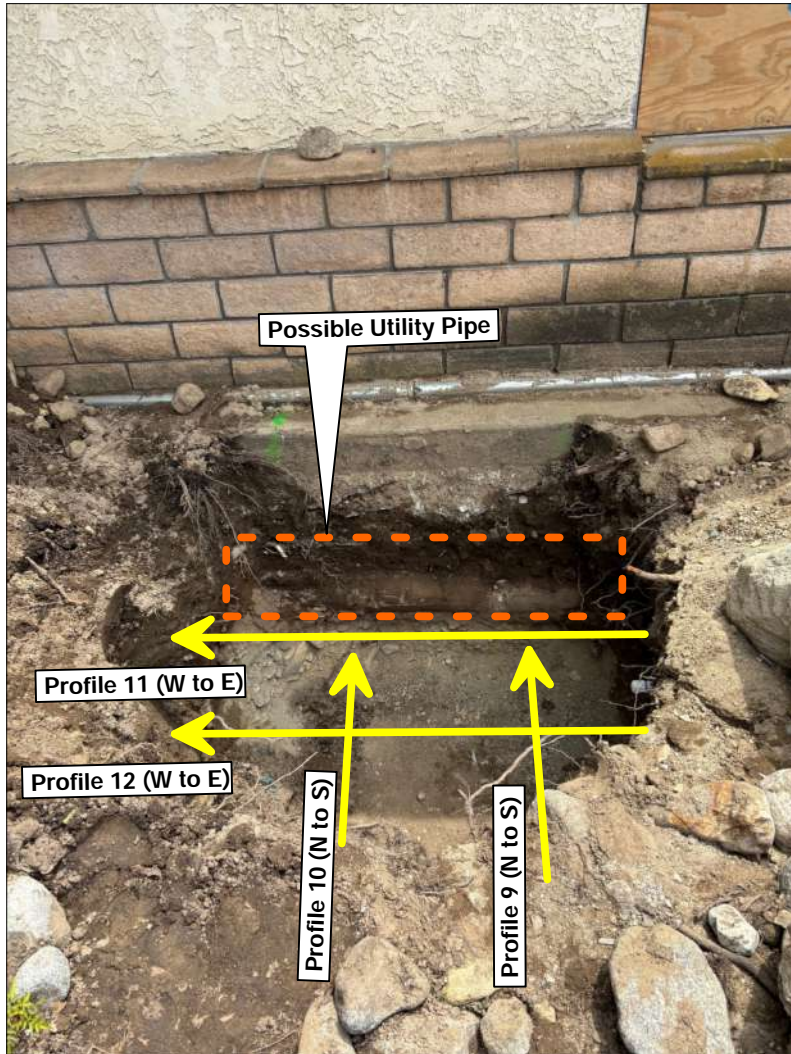
**SITE PHOTOGRAPHS**  
Exterior Footing Locations  
Box 1 & 2



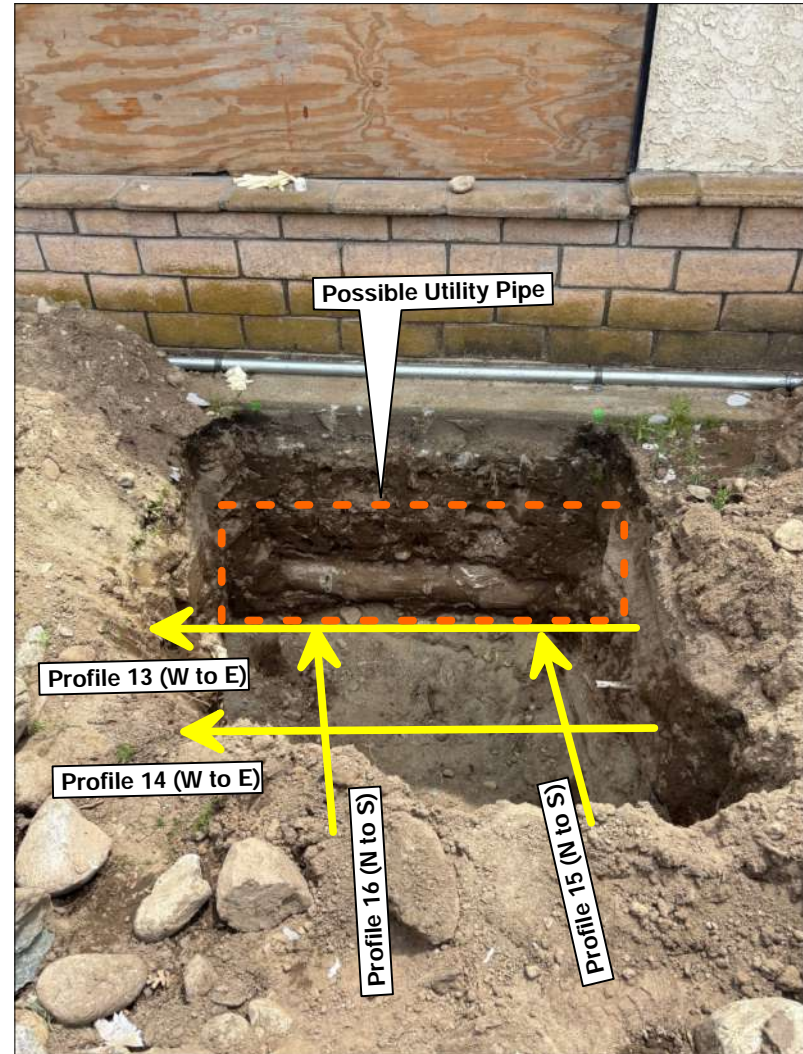
City Of Rialto Public Works GPR Evaluation  
Rialto, California

Date: 06/25

## Exterior Footing Location Box 3



## Exterior Footing Location Box 4



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Project No.: 20916

Figure  
3d

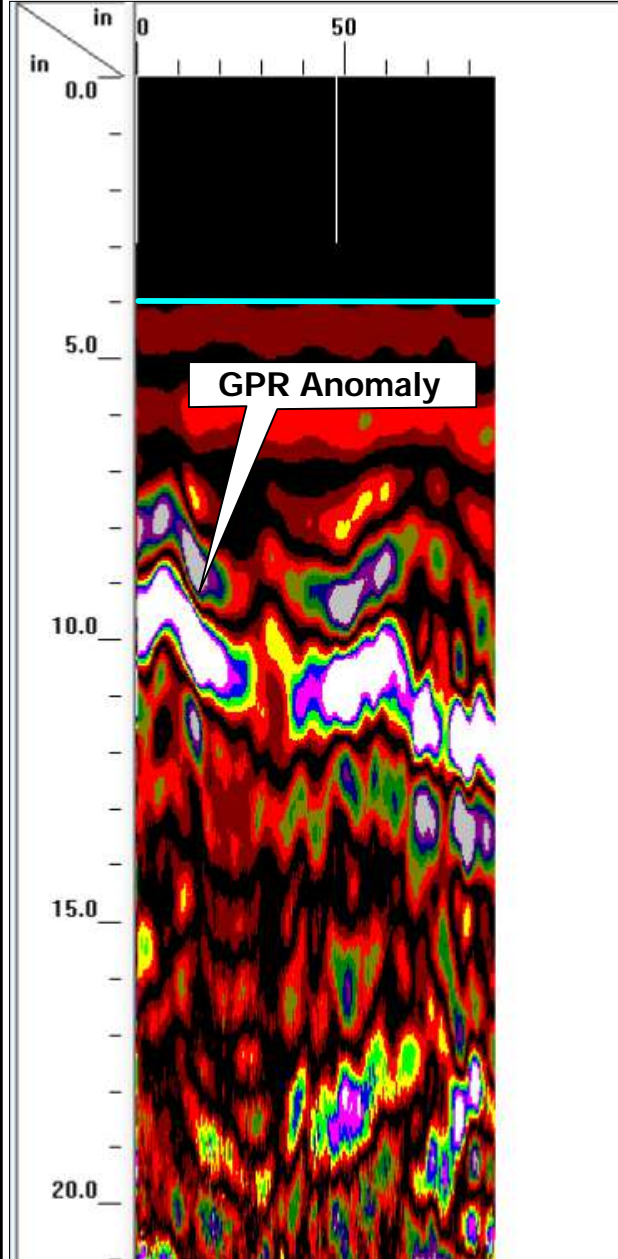
**SITE PHOTOGRAPHS**  
Exterior Footing Locations  
Box 3 & 4



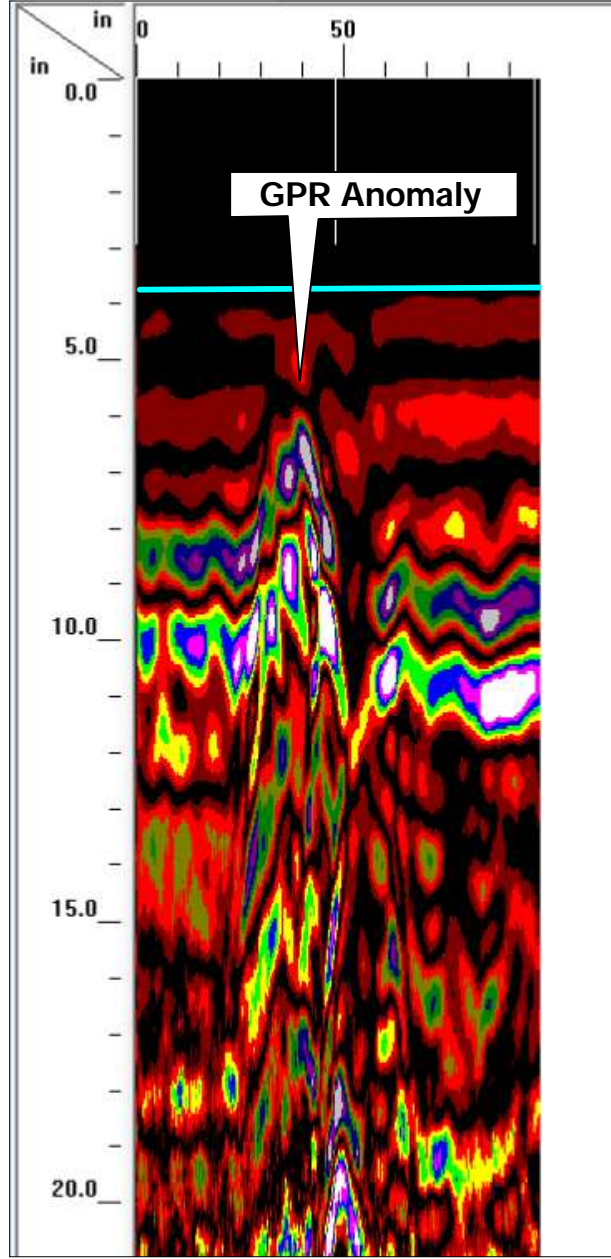
City Of Rialto Public Works GPR Evaluation  
Rialto, California

Date: 06/25

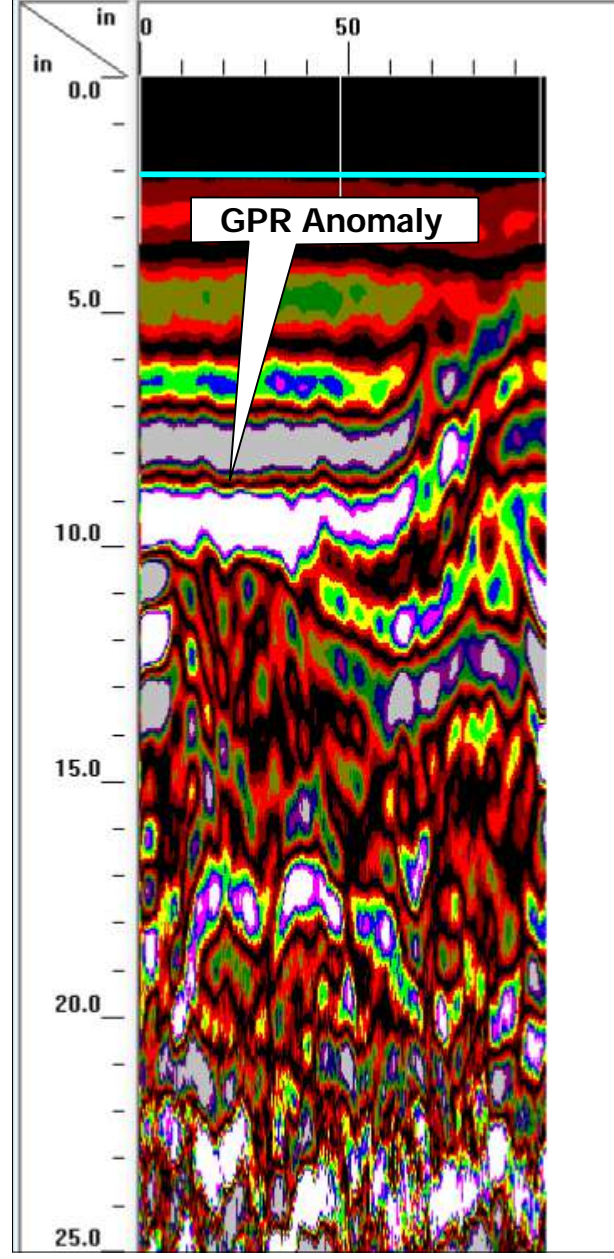
**Box 1  
Profile 1 (W to E)**



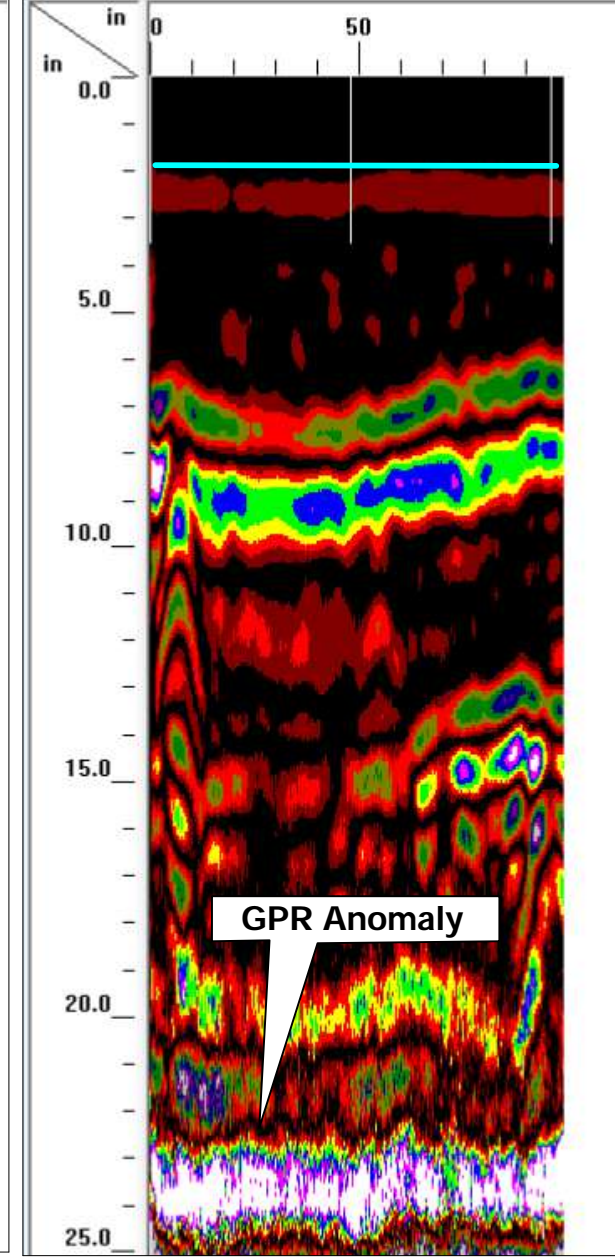
**Box 1  
Profile 2 (N to S)**



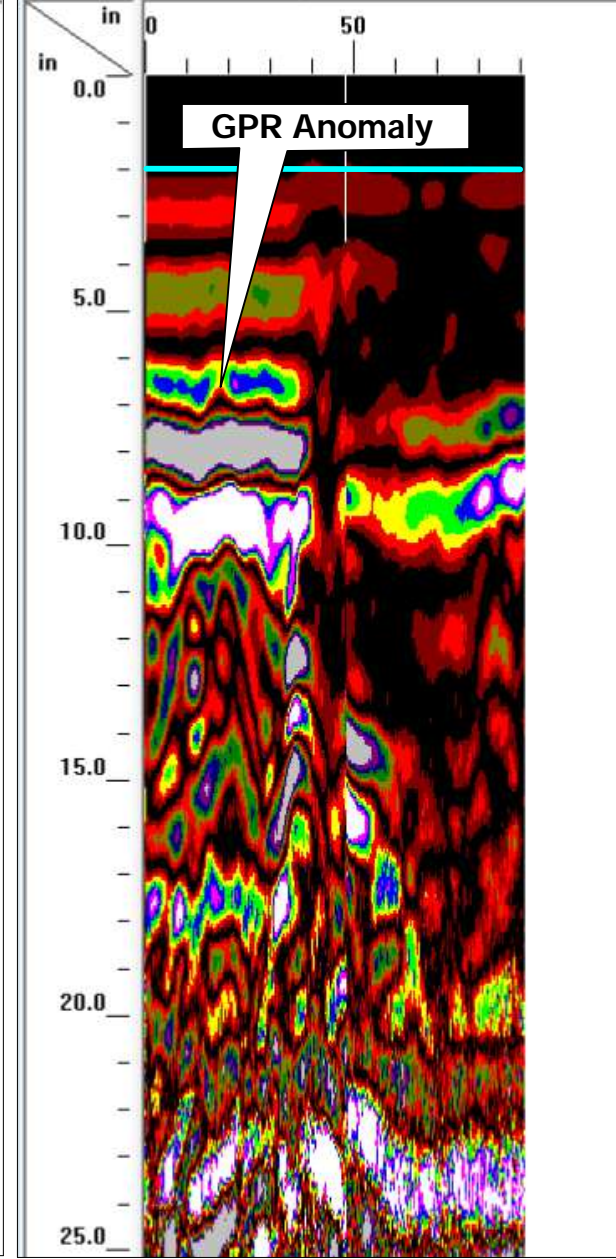
**Box 2  
Profile 3 (W to E)**



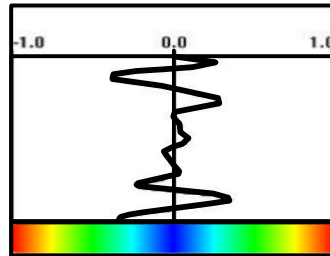
**Box 2  
Profile 4 (W to E)**



**Box 2  
Profile 5 (N to S)**



GPR Data Scale  
(Amplitude of Waveform)



Vertical Exaggeration Ratio: 10.00

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City of Rialto Public Works GPR Evaluation  
Rialto, California

Project No.: 20916

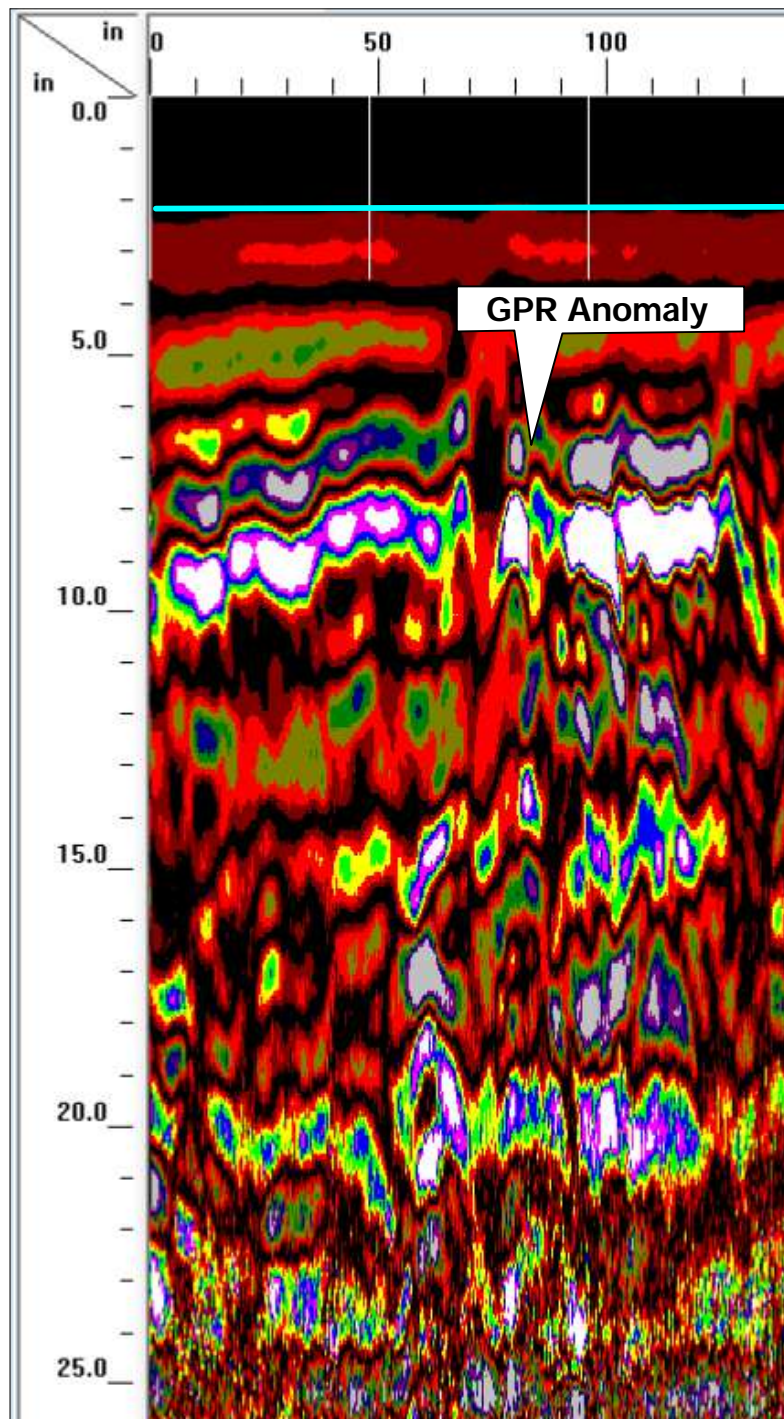
Date: 06/25

Figure  
4a

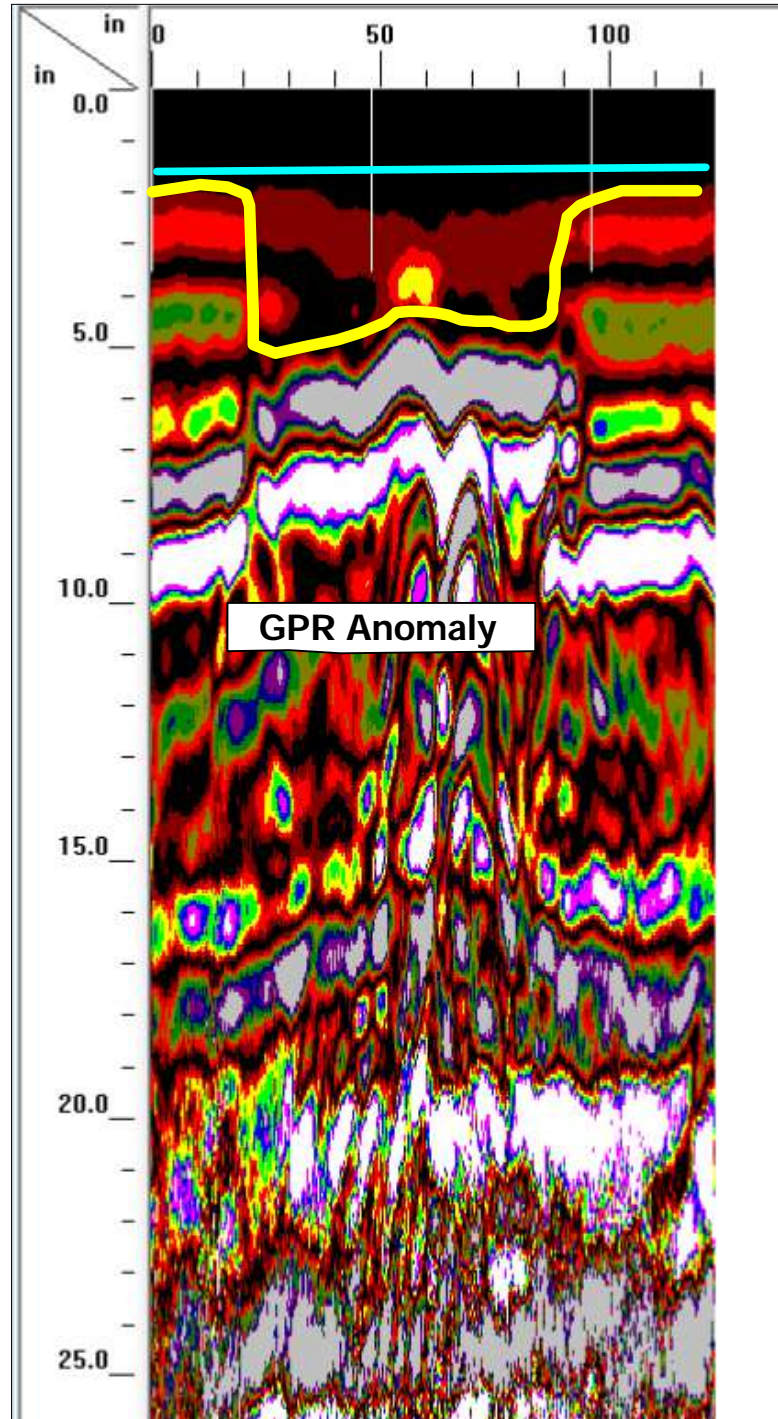
Interior Footing Locations  
Profiles (Box 1 & Box 2)



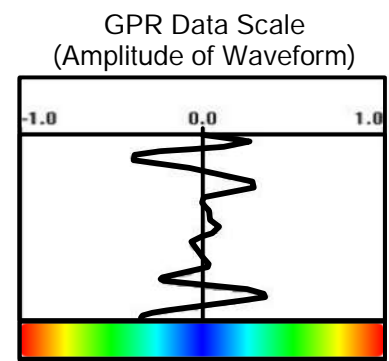
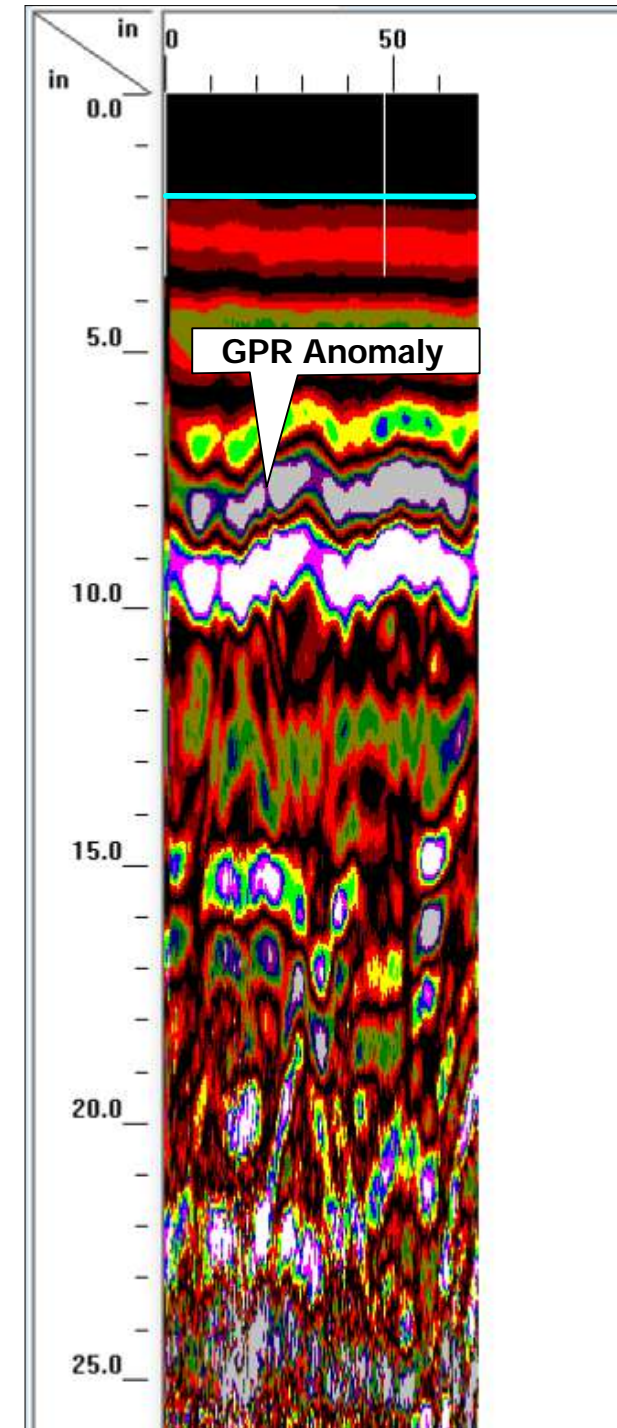
**Box 3**  
Profile 6 (N to S)



**Box 4**  
Profile 7 (W to E)



**Box 4**  
Profile 8 (N to S)



Vertical Exaggeration Ratio: 10.00

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City of Rialto Public Works GPR Evaluation  
Rialto, California

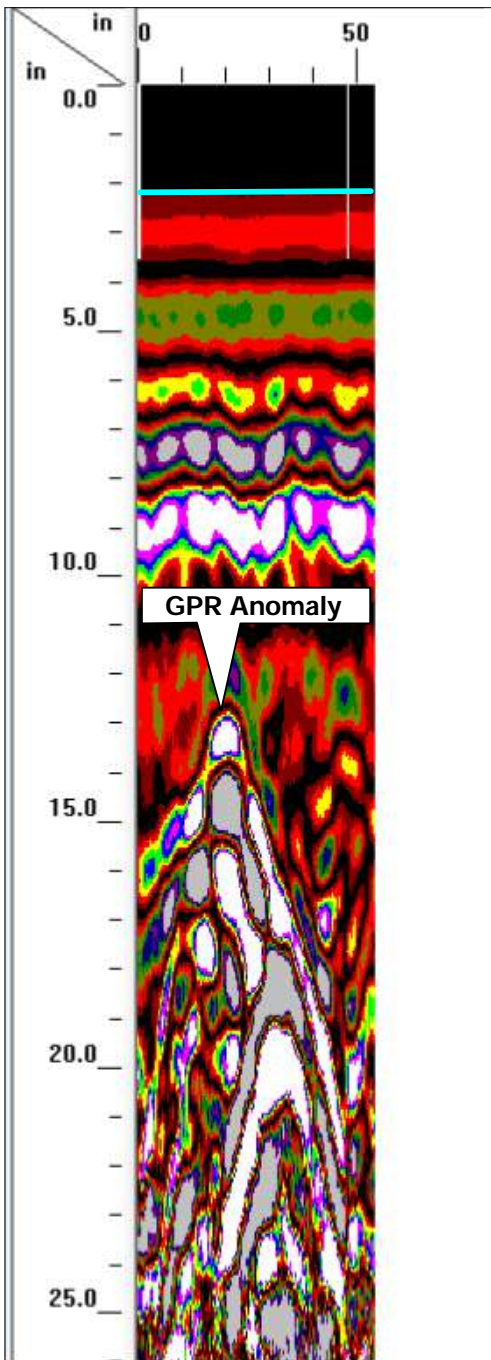
Project No.: 20916

Date: 06/25

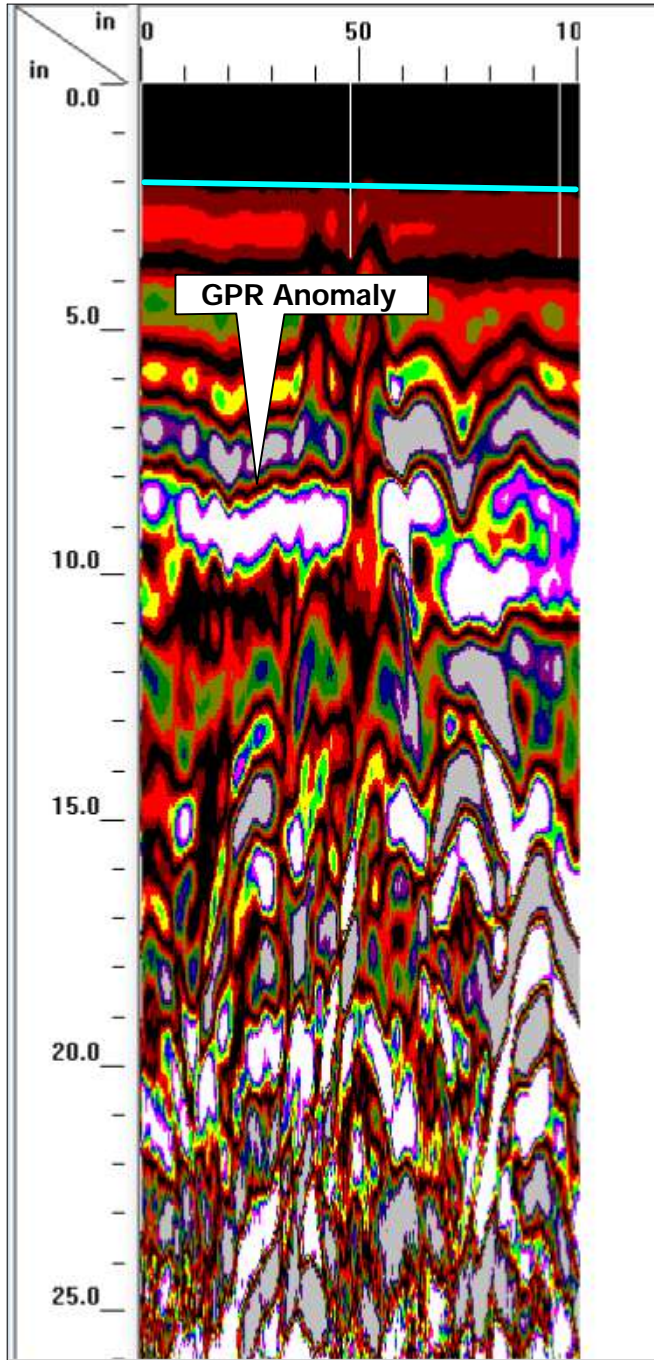
Figure  
4b

Interior Footing Locations  
Profiles (Box 3 & Box 4)

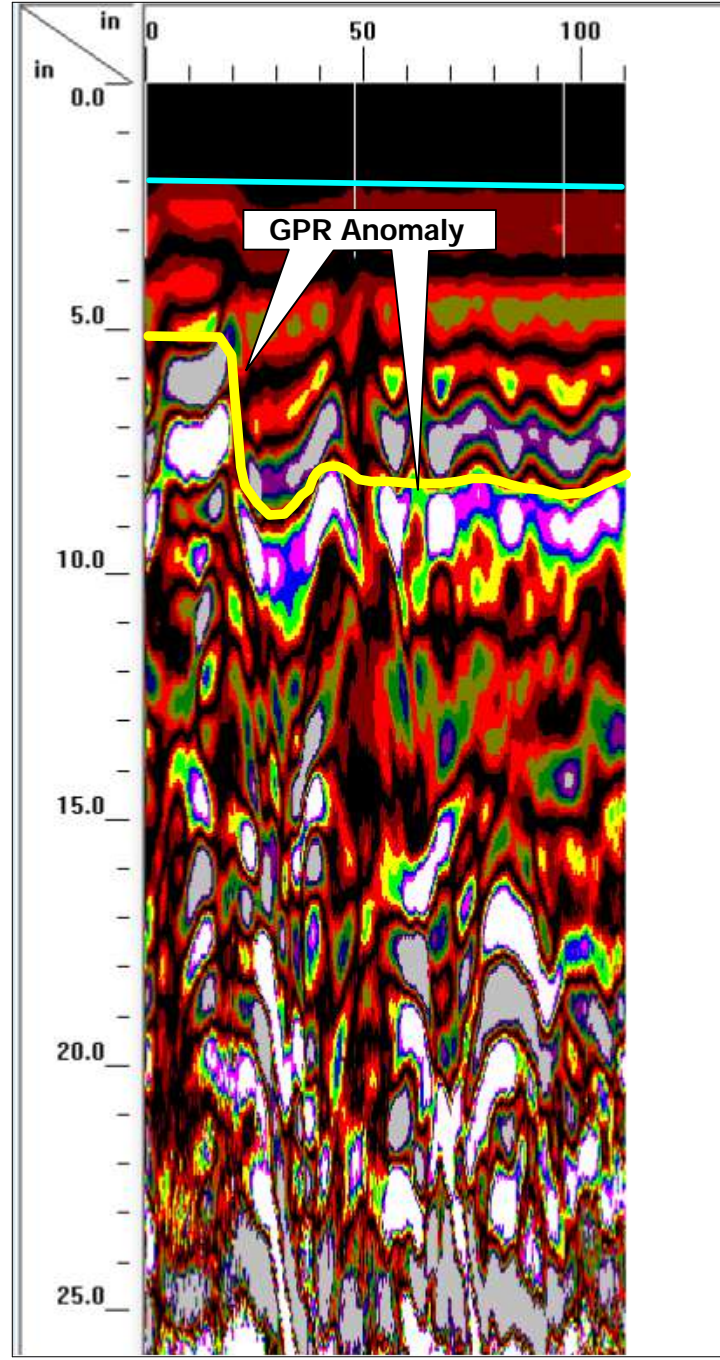
**Box 5  
Profile 9 (E to W)**



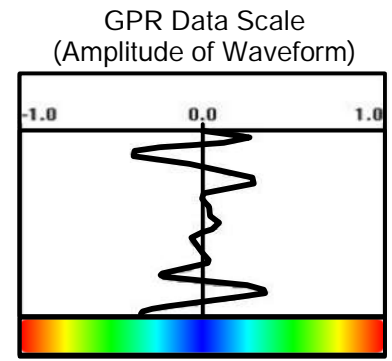
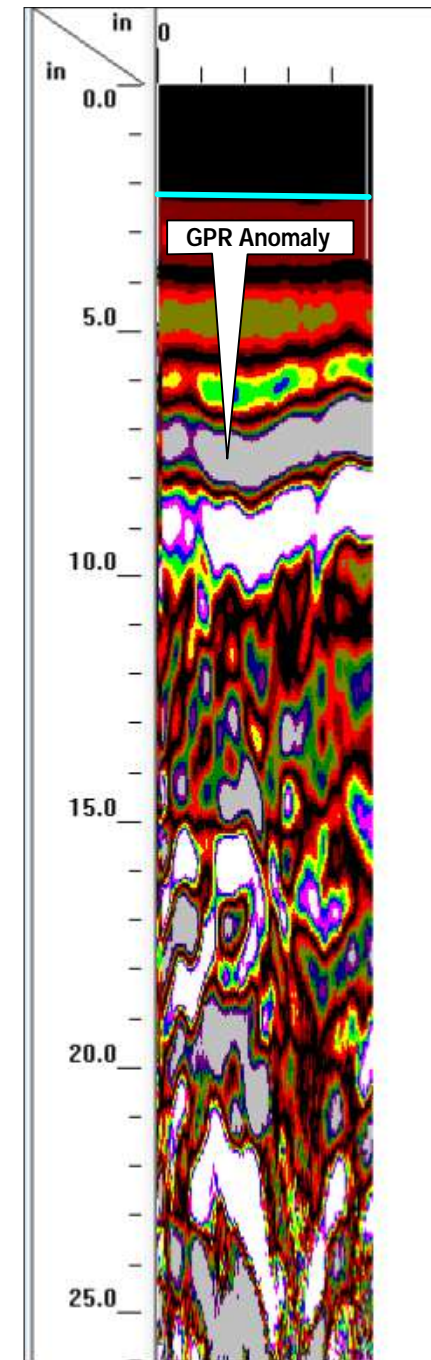
**Box 5  
Profile 10 (N to S)**



**Box 6  
Profile 11 (W to E)**



**Box 6  
Profile 12 (N to S)**



Vertical Exaggeration Ratio: 10.00

DRAWN BY: Samson L. | REVIEWED BY: CTA



City of Rialto Public Works GPR Evaluation  
Rialto, California

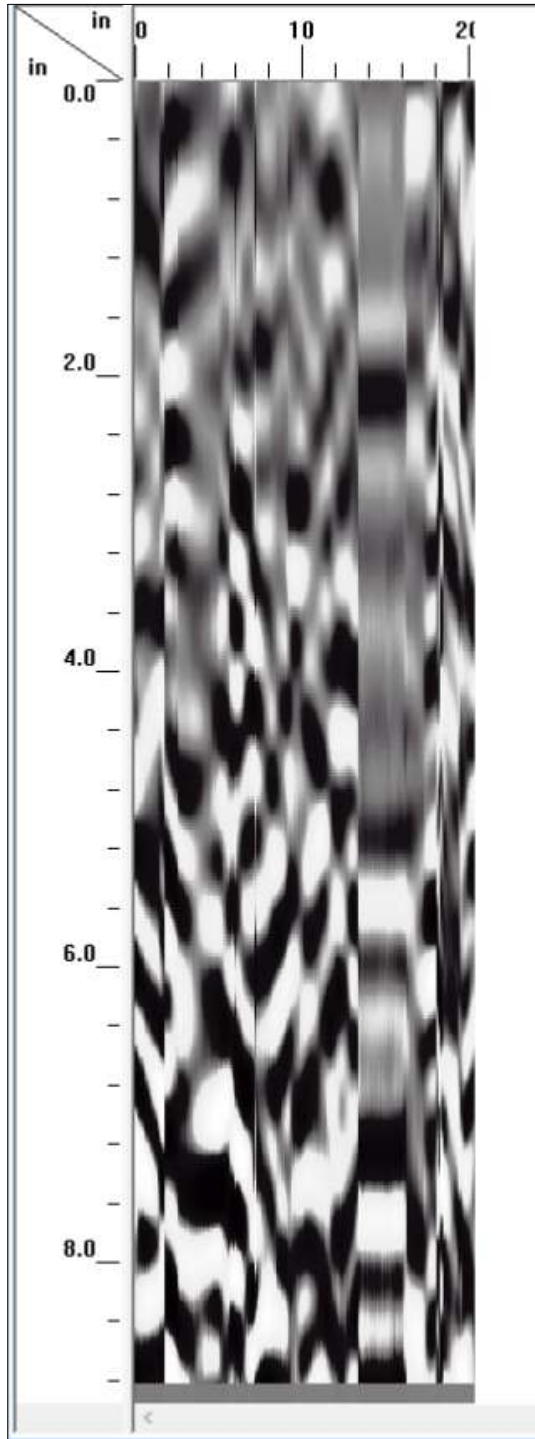
Project No.: 20916

Date: 06/25

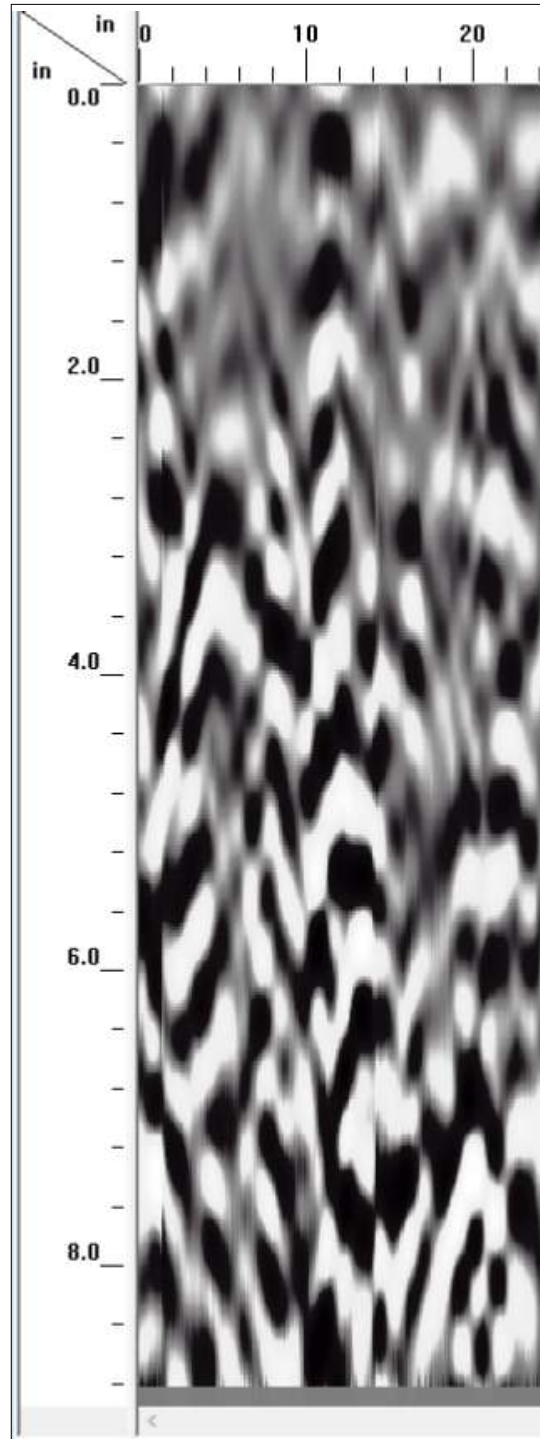
Figure  
4c

Interior Footing Locations  
Profiles (Box 5 & Box 6)

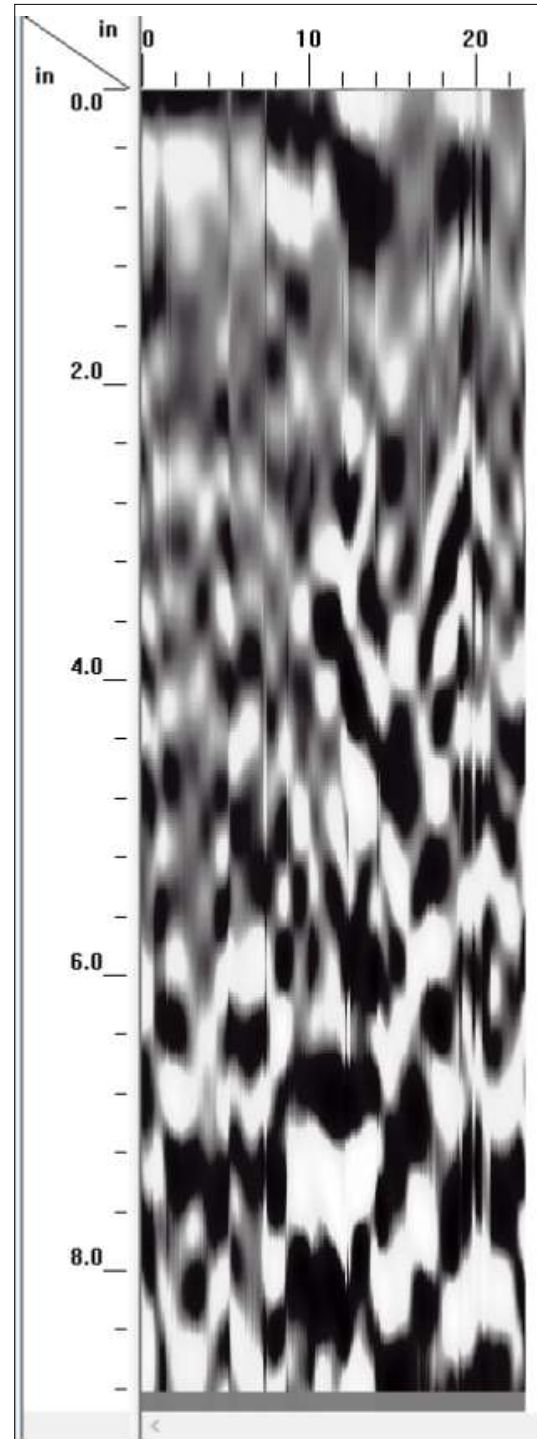
**Profile 1 (S to N)**



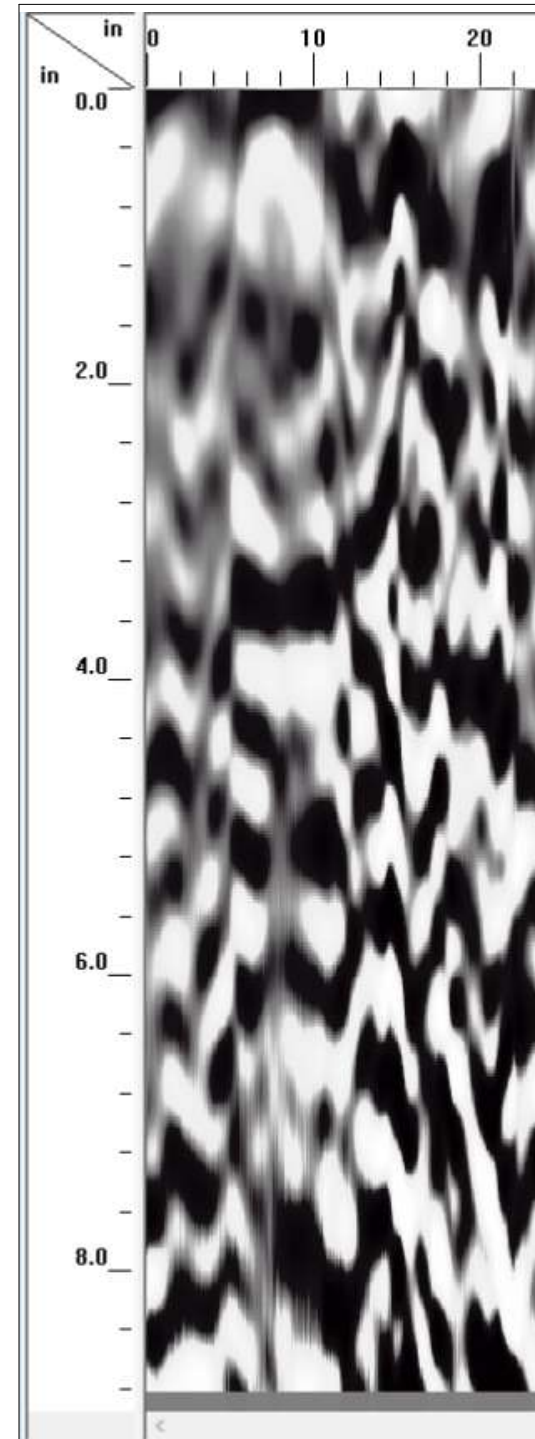
**Profile 2 (S to N)**



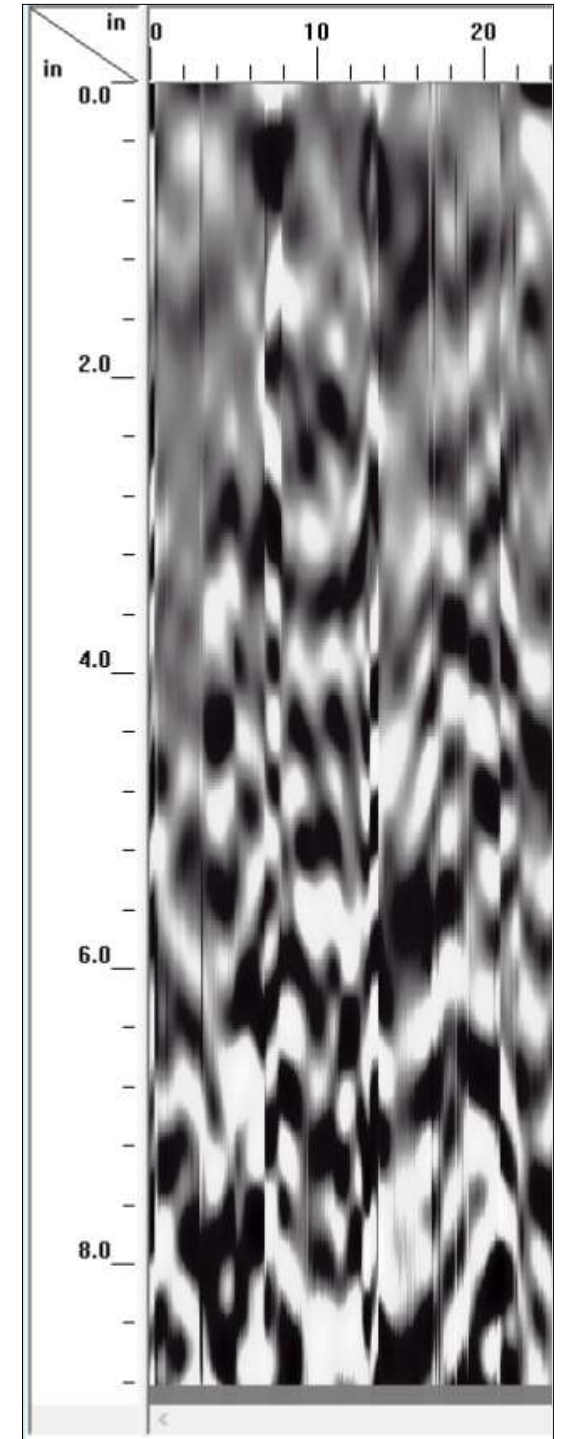
**Profile 3 (S to N)**



**Profile 4 (W to E)**



**Profile 5 (W to E)**



**Vertical Exaggeration Ratio: 5.00**

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City of Rialto Public Works GPR Evaluation  
Rialto, California

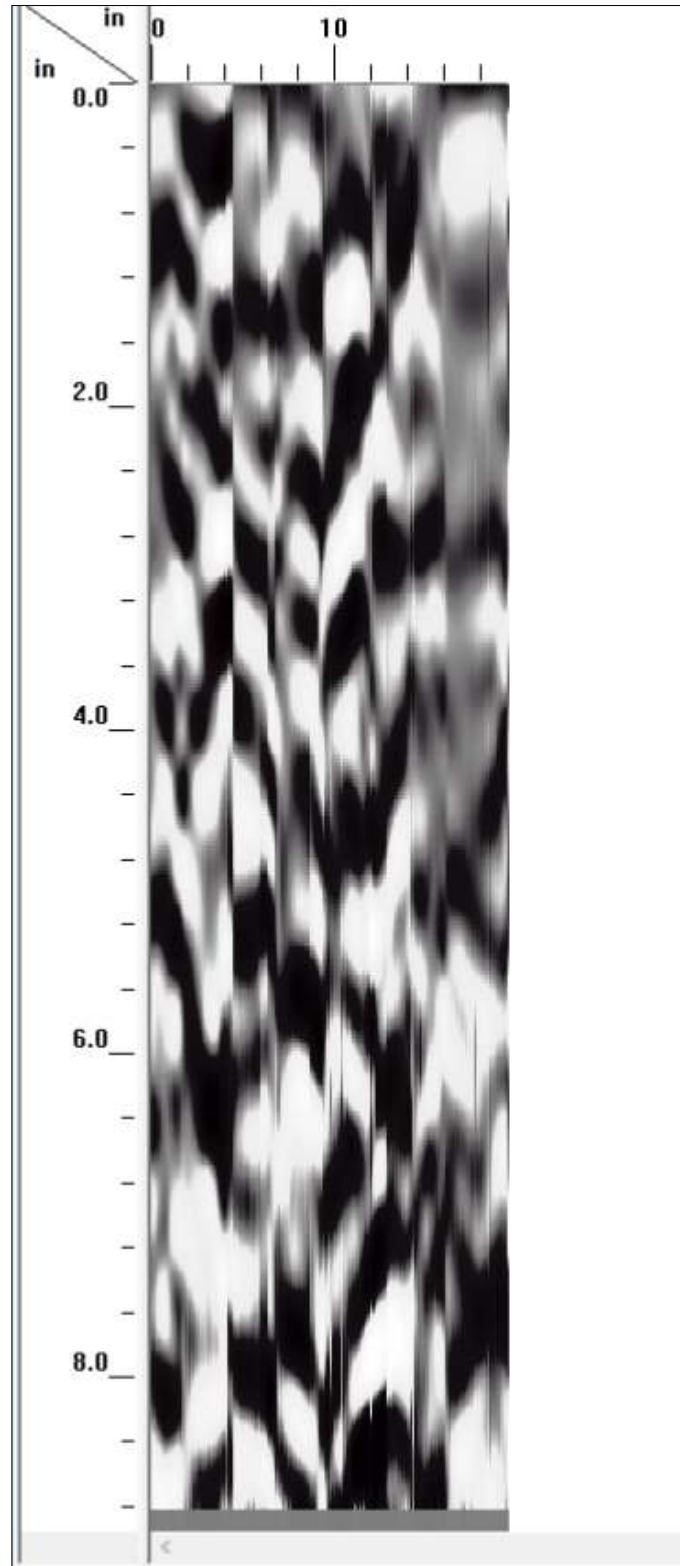
Project No.: 20916

Date: 06/25

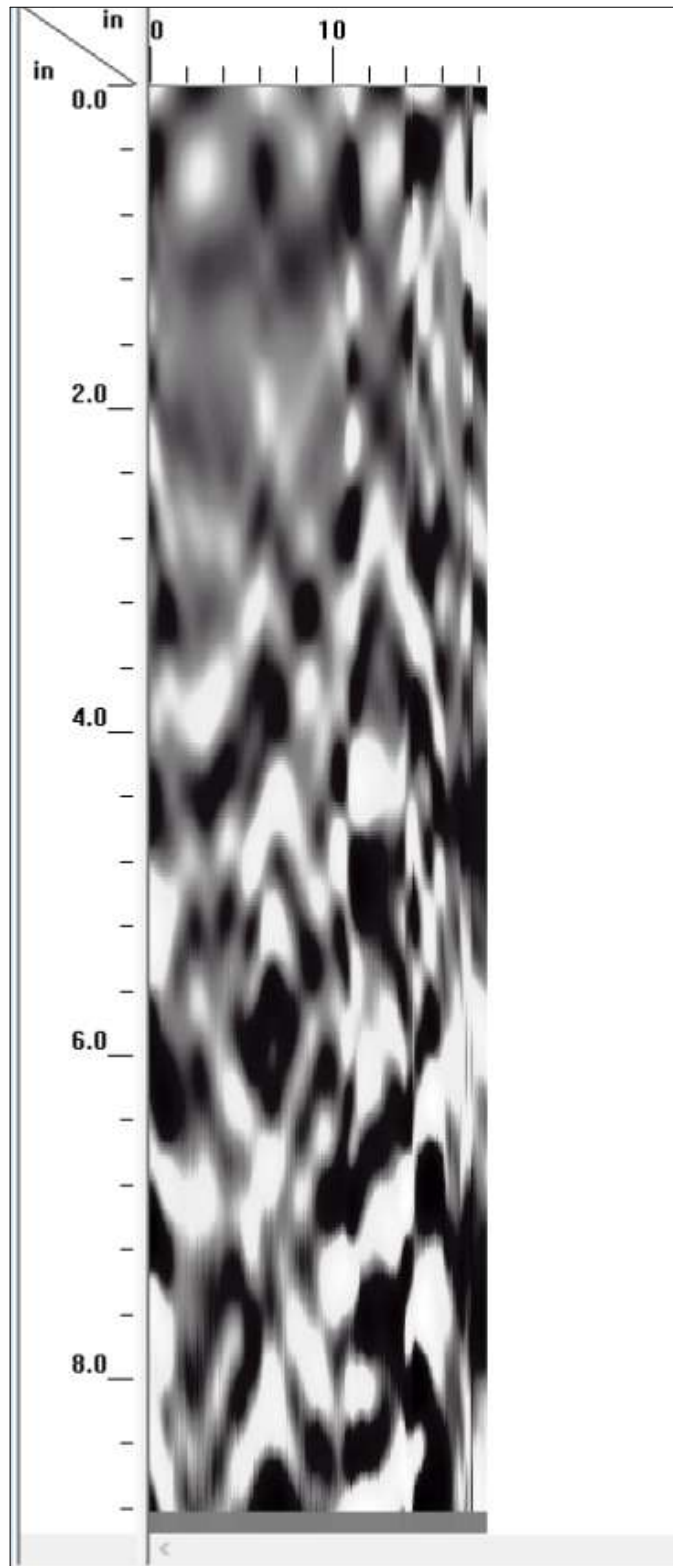
Figure  
4d

Exterior Footing Locations  
Profiles (Box 1)

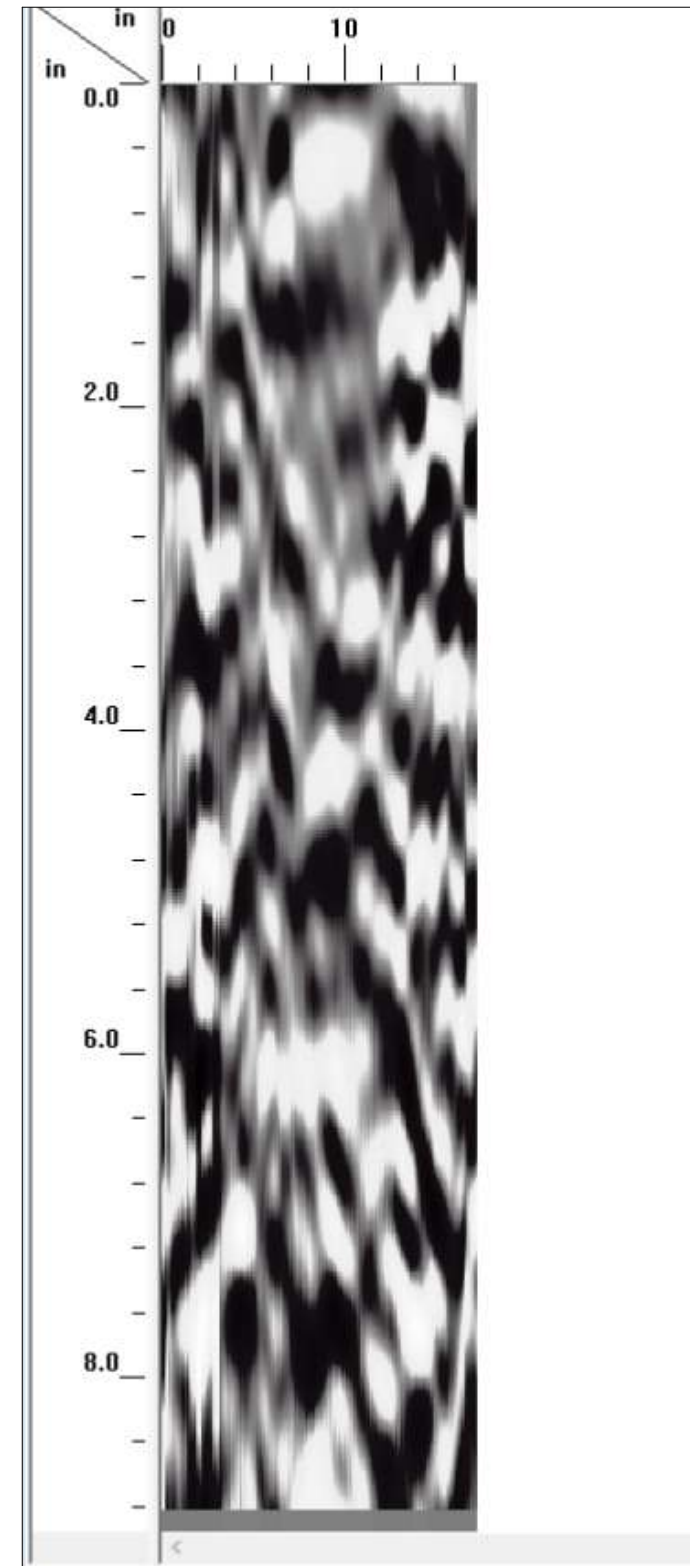
### Profile 6 (W to E)



### Profile 7 (S to N)



### Profile 8 (S to N)



Vertical Exaggeration Ratio: 5.00

DRAWN BY: Samson L. | REVIEWED BY: CTA

City of Rialto Public Works GPR Evaluation  
Rialto, California

Project No.: 20916

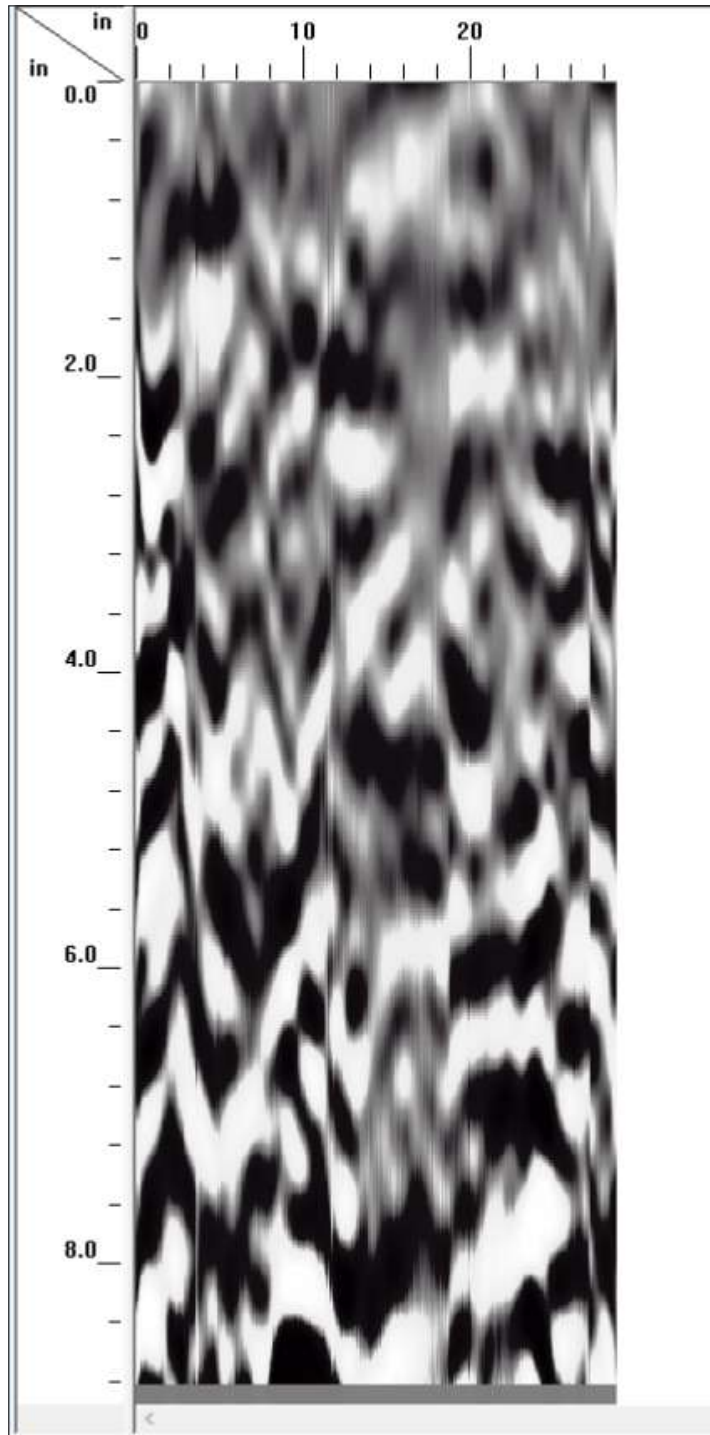
Date: 06/25

Figure  
4e

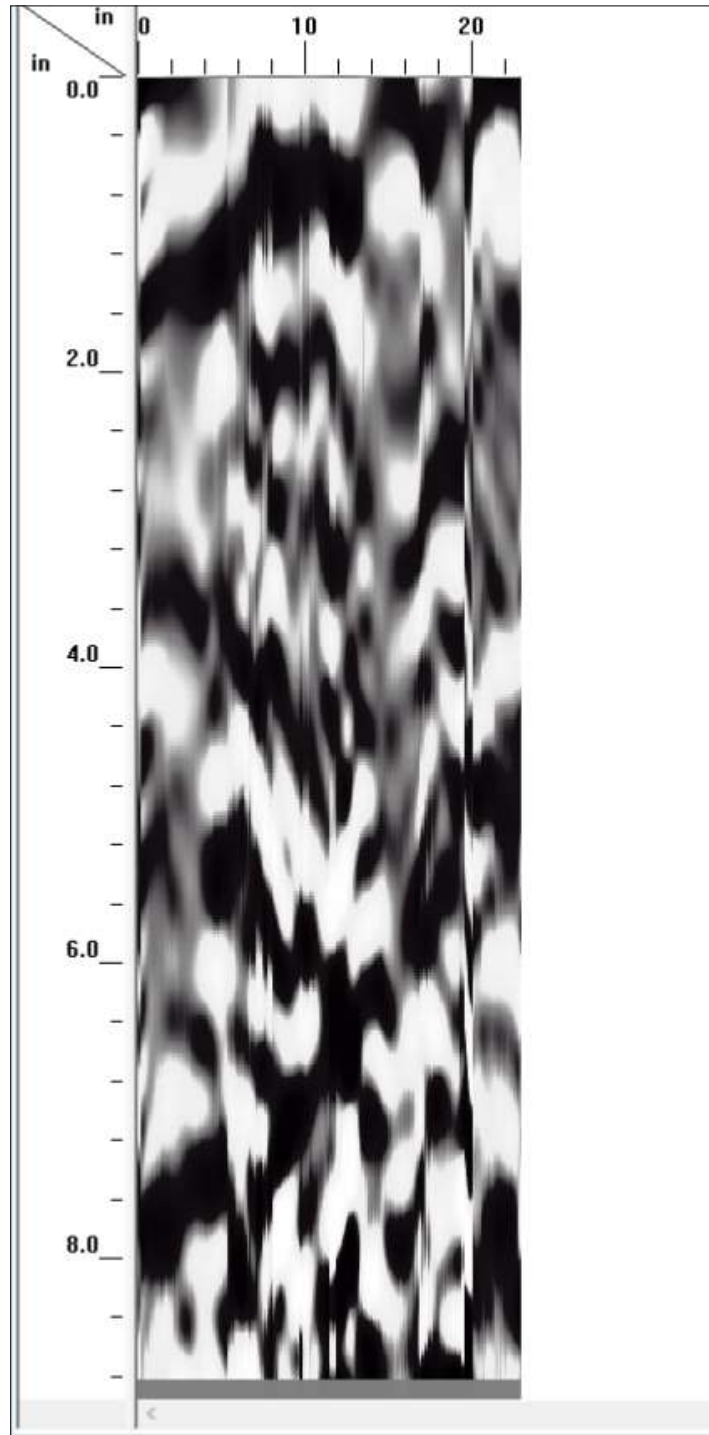
Exterior Footing Locations  
Profiles (Box 2)



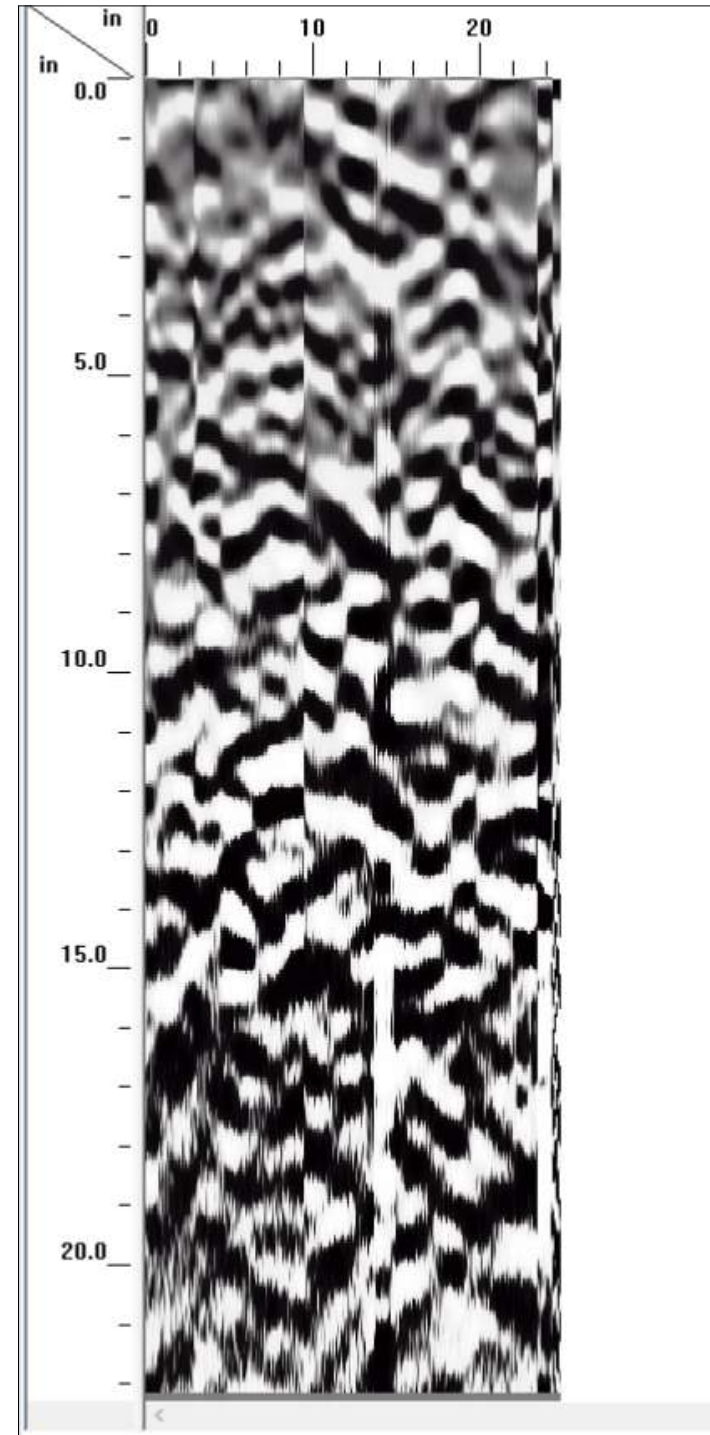
### Profile 9 (N to S)



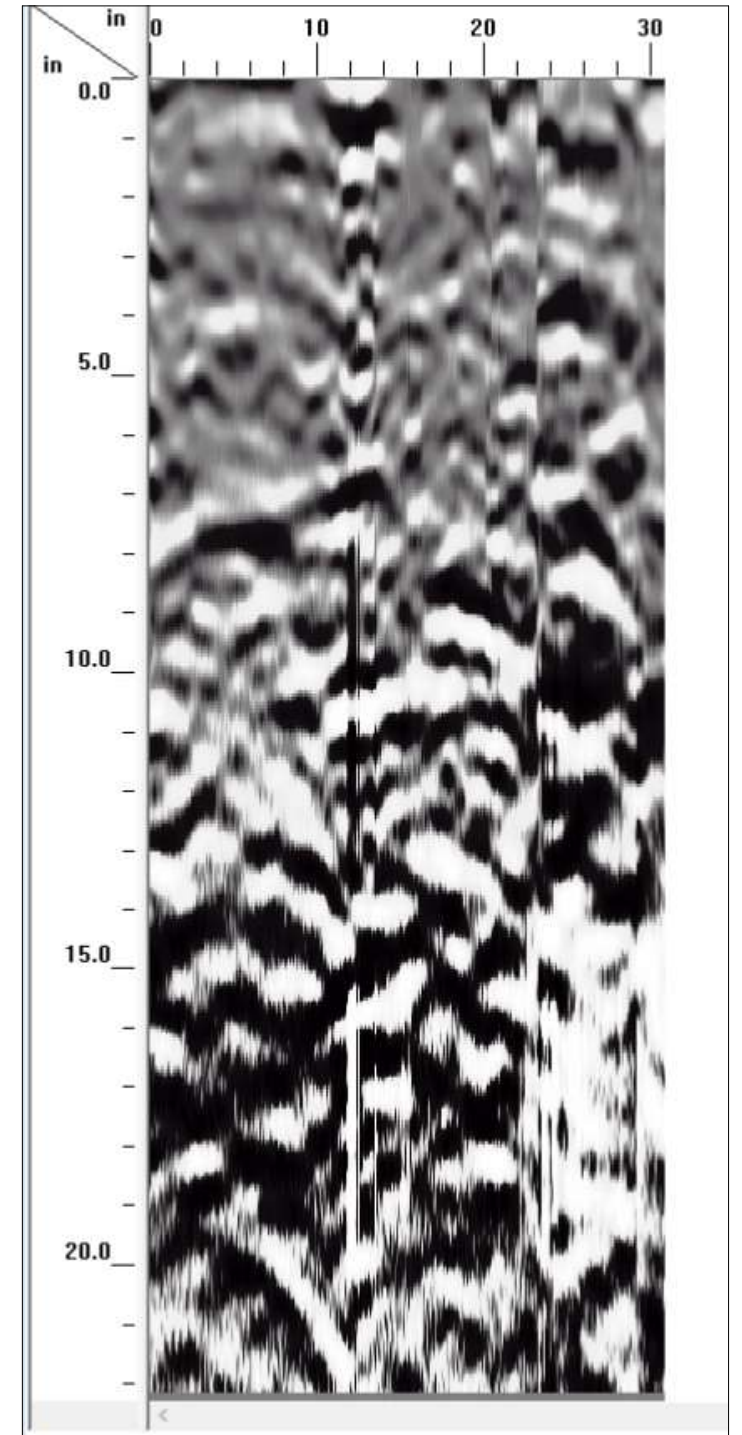
### Profile 10 (N to S)



### Profile 11 (W to E)



### Profile 12 (W to E)



Vertical Exaggeration Ratio: 5.00

DRAWN BY: Samson L. | REVIEWED BY: CTA

City of Rialto Public Works GPR Evaluation  
Rialto, California

Project No.: 20916

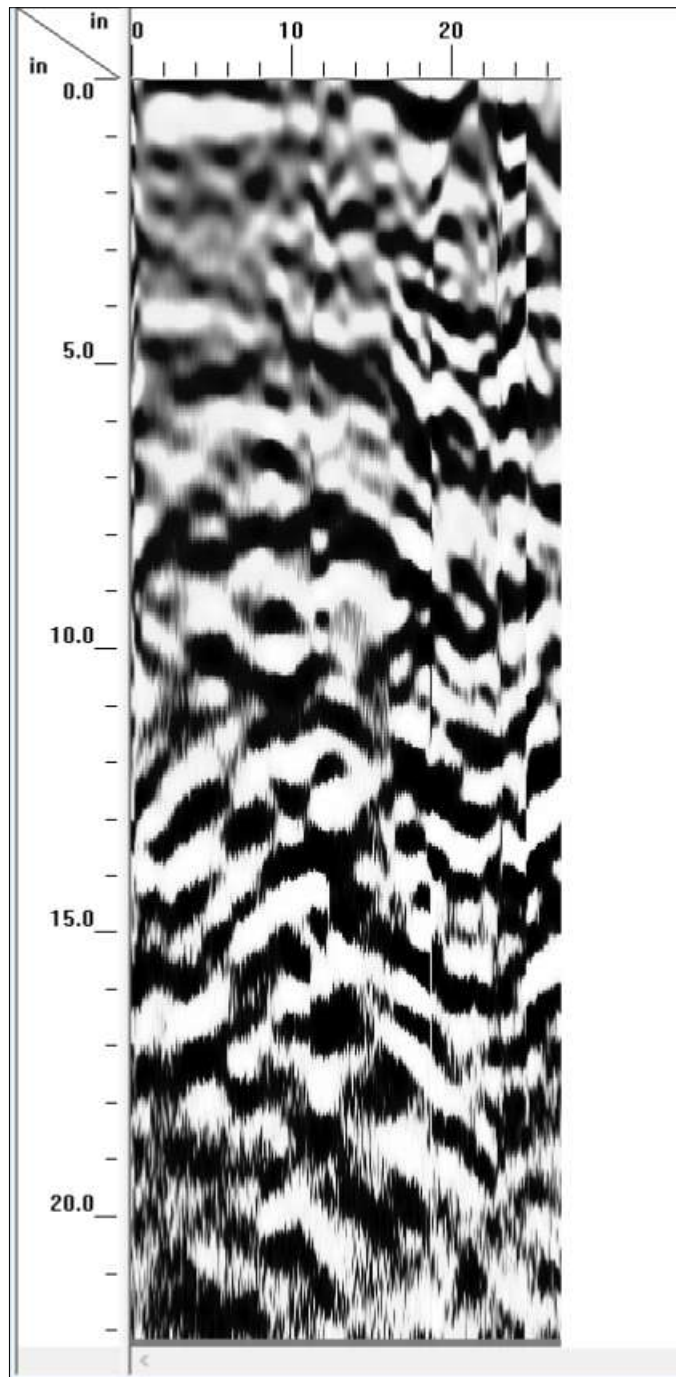
Date: 06/25

Figure  
4f

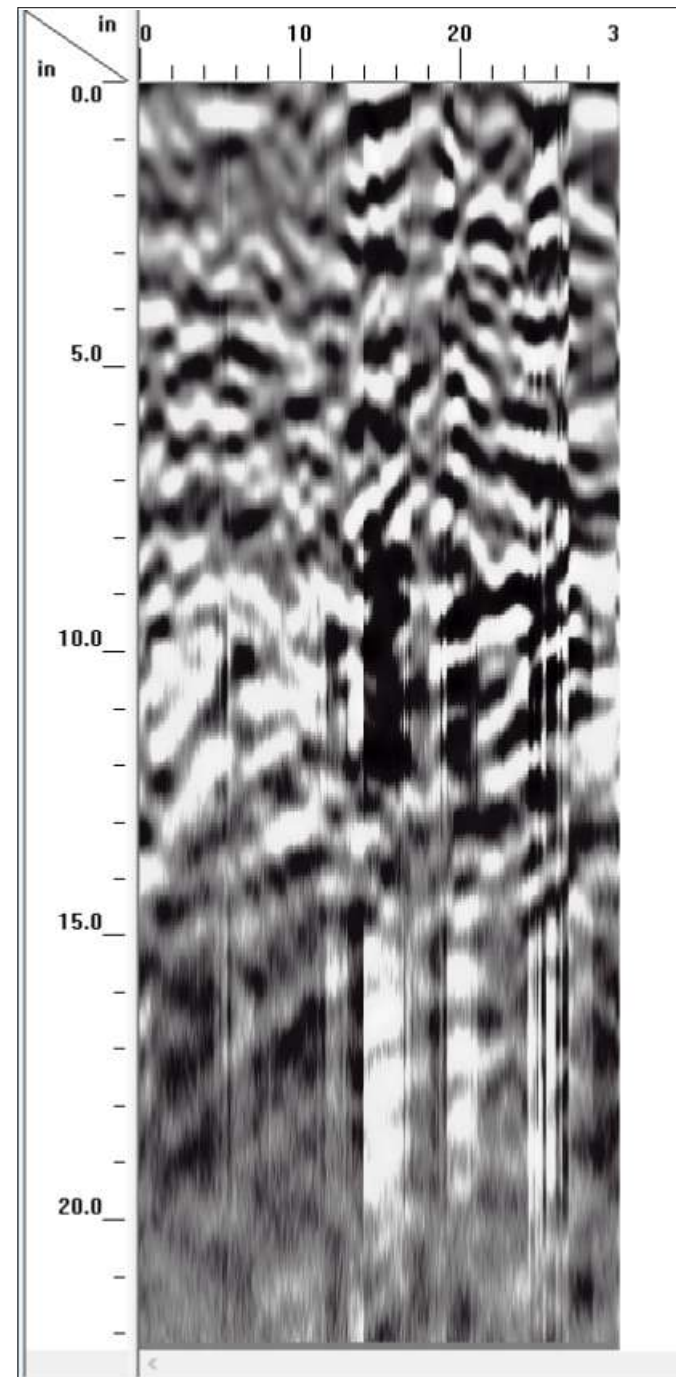
Exterior Footing Locations  
Profiles (Box 3)



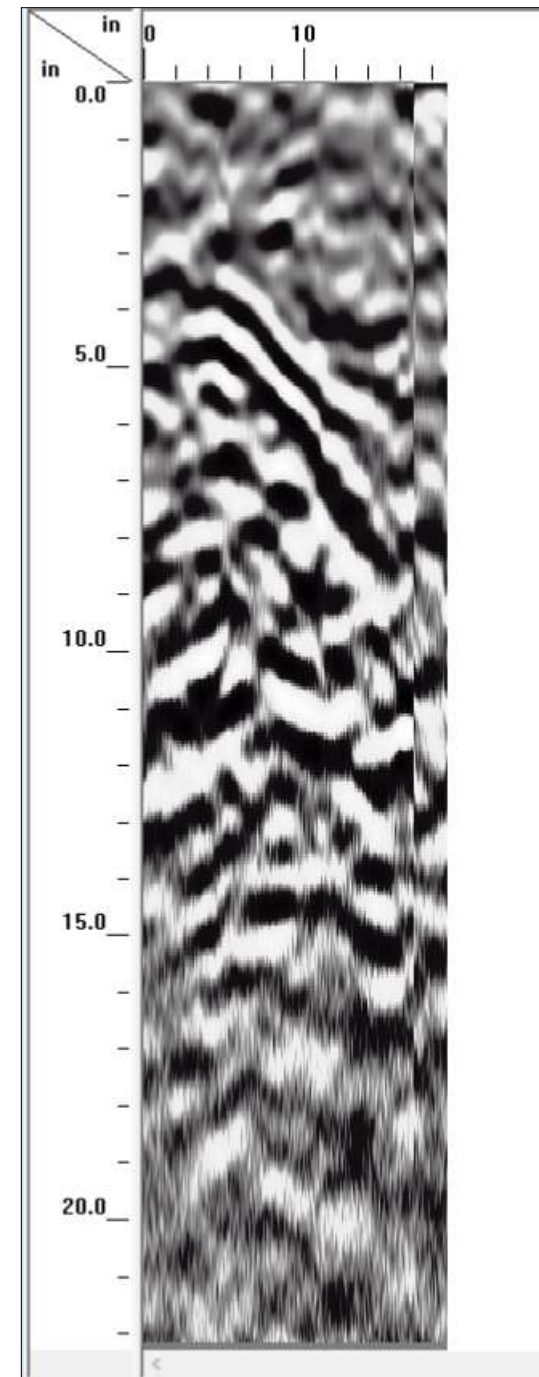
**Profile 13 (W to E)**



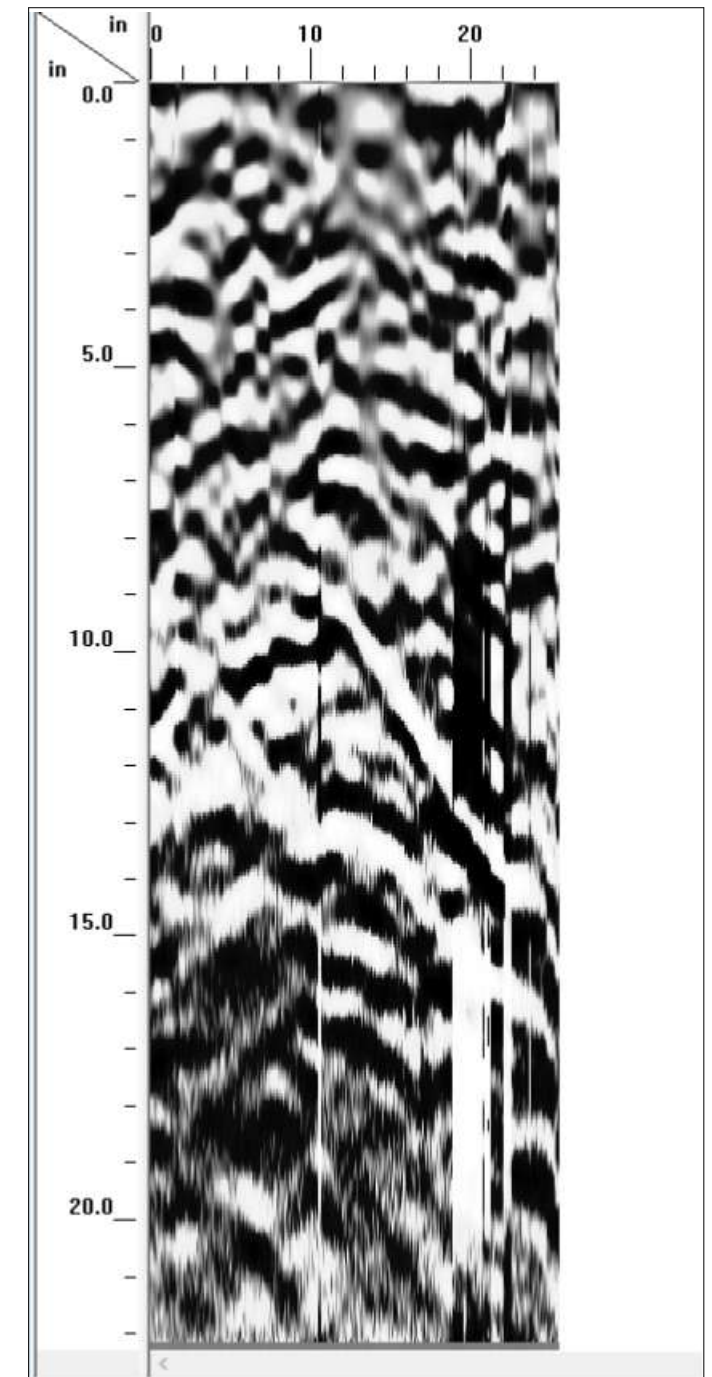
**Profile 14 (W to E)**



**Profile 15 (N to S)**



**Profile 16 (N to S)**



Vertical Exaggeration Ratio: 5.00

DRAWN BY: Samson L. | REVIEWED BY: CTA



City of Rialto Public Works GPR Evaluation  
Rialto, California

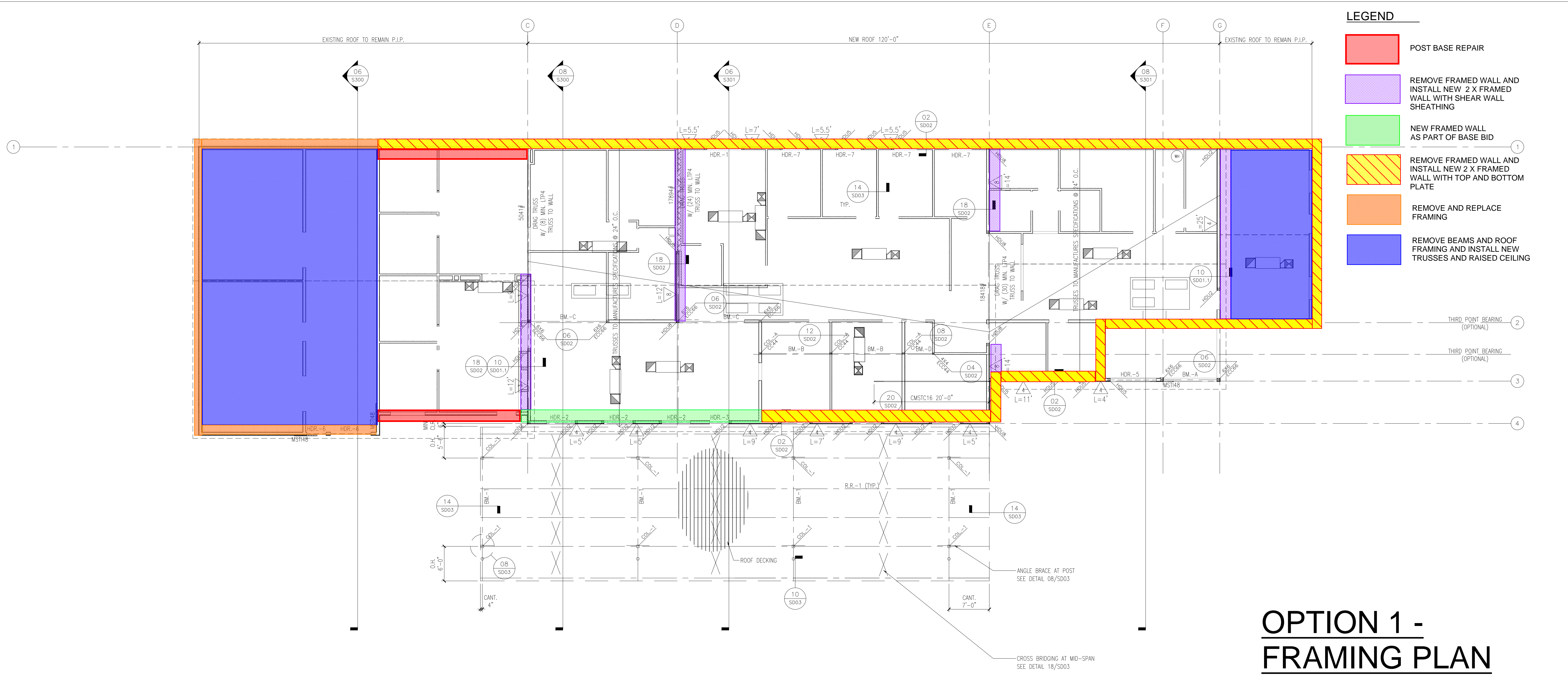
Project No.: 20916

Date: 06/25

Figure  
4g

Outdoor Footing Locations  
Profiles (Box 4)





- LEGEND**
- POST BASE REPAIR
  - REMOVE FRAMED WALL AND INSTALL NEW 2 X FRAMED WALL WITH SHEAR WALL SHEATHING
  - NEW FRAMED WALL AS PART OF BASE BID
  - REMOVE FRAMED WALL AND INSTALL NEW 2 X FRAMED WALL WITH TOP AND BOTTOM PLATE
  - REMOVE AND REPLACE FRAMING
  - REMOVE BEAMS AND ROOF FRAMING AND INSTALL NEW TRUSSES AND RAISED CEILING

# OPTION 1 - FRAMING PLAN

FRAMING PLAN 1/8" 03

**NOTE**  
TRUSS MANUFACTURERS TO DESIGN ALL NEW TRUSSED FOR 300# MISCELLANEOUS LOAD AT WORST CONDITION LOCATION.  
ROOF TRUSSES DEFERRED DESIGN AND CALCULATIONS BY MANUFACTURERS SHALL BE REVIEWED AND APPROVED BY PROJECT STRUCTURAL DESIGNER PRIOR TO SUBMITTAL TO CITY FOR APPROVAL.

**ROOF SHEETING**  
3/8" MIN. CDX PLYWOOD OR OSB INDEX 24/0  
W/ 10d NAILS @ 6" O.C. E.N. & 10d NAILS @ 12" O.C. F.N. (BLOCK ALL EDGES)

**TOP PLATES**  
(2) - 2x6 MIN. TOP PLATES  
W/ (22) - 16d NAILS MIN. BETWEEN SPLICES  
SEE DETAIL 10/SD02

**COLUMN**  
COL-1 HHS 6X8X3/8" COLUMN  
W/ 14"x7"x3/8" THICK STEEL TOP PLATE PROVIDE (4) - 5/8" BOLT  
COL-A 3 1/2" X 5 1/4" PARALLAM

**ROOF RAFTERS**  
R.R.-1 "McElroy" ZEE 12X3 12GA. PURLIN @ 5'-0" O.C.

**ROOF DECKING**  
"MCELROY" 26GA MULTI-RIB ROOF DECKING

- BEAM**  
BM.-1 W8X15  
BM.-A 6X10  
BM.-B 3 1/2" X 11 3/8" PARALLAM  
BM.-C 3 1/2" X 14" PARALLAM  
BM.-D 4X8
- HEADER**  
HDR.-1 6X8  
HDR.-2 6X6  
HDR.-3 6X6  
HDR.-4 6X6  
HDR.-5 6X10  
HDR.-6 6X8  
HDR.-7 6X6



UNDERGROUND SERVICE ALERT  
CALL-TOLL FREE  
1-800-227-2600  
TWO WORKING DAYS BEFORE YOU DIG

MARK	REVISIONS	APPR.	DATE

DESIGNED BY: \_\_\_\_\_ DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_

SEAL-DESIGN ENGINEER  
**GARY W. MILLER**  
No. C14635  
REN. 9-30-23  
STATE OF CALIFORNIA

PREPARED UNDER THE SUPERVISION OF:  
*Gary W. Miller*  
ARCHITECT NAME LICENSE # C14635 EXP. 9-30-25 DATE 2-6-2024

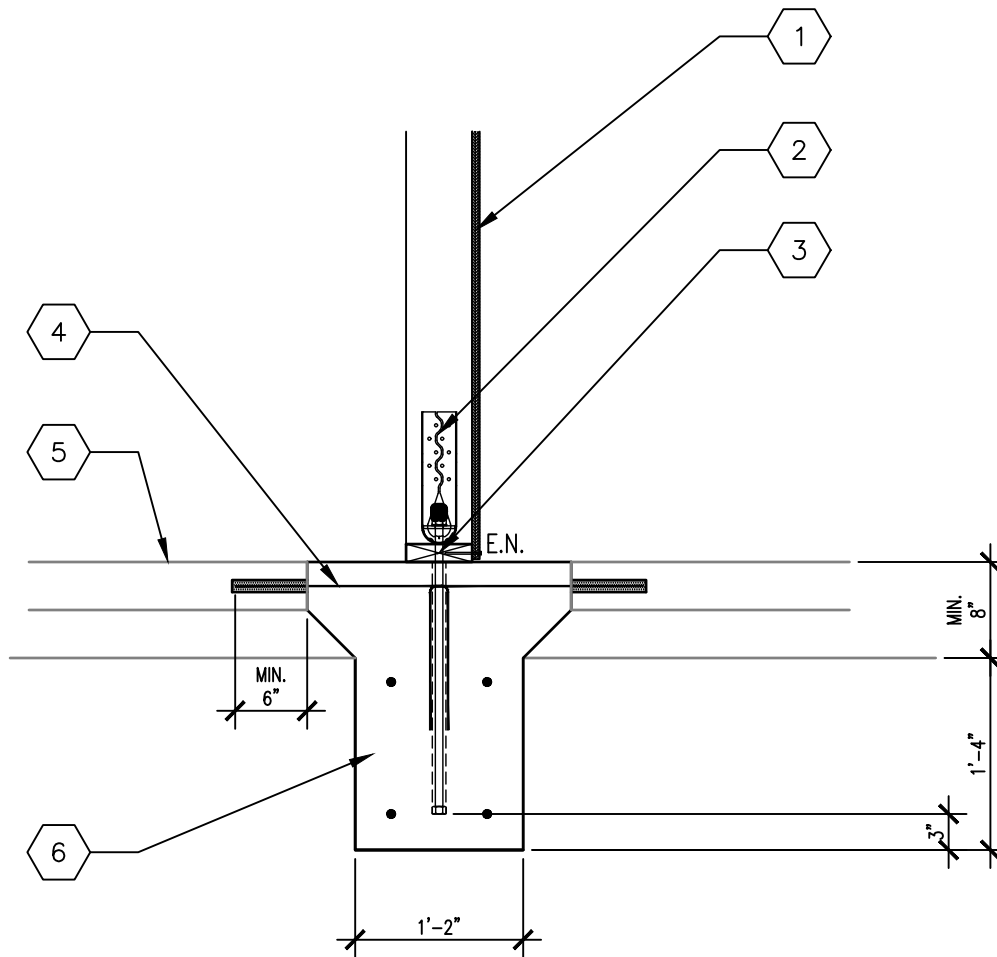
APPROVED BY:  
*[Signature]*  
CITY ENGINEER, RCE 64663 DATE 2/6/2024

**MILLER**  
architecture  
interiors  
planning

1177 Idaho Street, Suite 200  
Redlands, CA 92374  
Phone: (909) 335-7400  
Fax: (909) 335-7299  
info@miller-aip.com

CITY OF RIALTO  
ENGINEERING SERVICES  
FIRE DAMAGE RESTORATION PROJECT  
335 WEST RIALTO AVENUE  
PROJECT # 220201

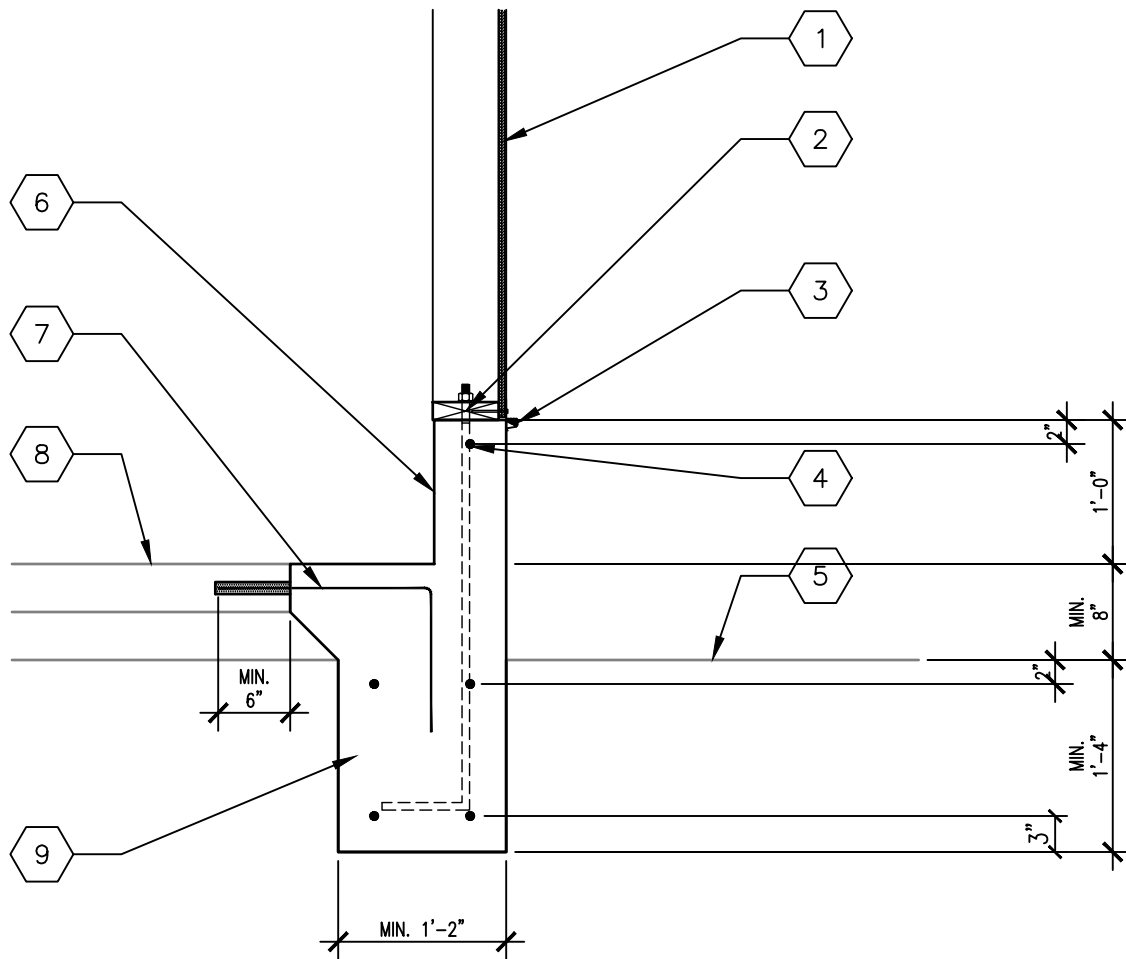
S101  
31  
OF 70 SHEETS



1. SHEAR WALL PANEL PER FRAMING PLAN OVER 6X6 NO.2 MIN. STUD AT ENDS
2. "SIMPSON" HDU HOLD DOWN – REFER TO FOUNDATION PLAN  
CONNECT 6X6 TO SSTB ANCHOR BOLT
3. 2X OR 3X D.F.P.T. SILL PLATE WITH "SIMPSON" SSTB20 ANCHOR BOLT  
CONNECT HOLD DOWN TO CONCRETE
4. #4 DOWEL @ 16" O.C. W/ "SIMPSON" SET EPOXY (ICC ESR 2508) 6" MIN. EMBED TYP.
7. EXISTING CONCRETE SLAB
8. 1'-2" WIDE X 1'-4" DEEP CONCRETE FOOTING W/ (2) - #4 REBAR TOP AND BOTTOM MINIMUM  
– PER FOUNDATION PLAN

NOTE:

1. SAW CUT AND REMOVE EXISTING CONCRETE SLAB AND FOOTING



1. SHEAR WALL PANEL PER FRAMING PLAN OVER 2X6 NO.2 MIN. STUDS @ 16" O.C.
2. 2X OR 3X D.F.P.T. SILL PLATE W/ #4 VERTICAL REBAR @ 24" O.C. WITH 3"SQ. X .229" MIN. THICK PLATE WASHER
3. SHEET METAL WEEP SCREEN AT BASE
4. #4 CONTINUOUS REBAR
5. NATURAL GRADE
6. 6" THICK CONCRETE STEM WALL
7. #4 DOWEL @ 16" O.C. W/ "SIMPSON" SET EPOXY (ICC ESR 2508) 6" MIN. EMBED TYP.
8. EXISTING CONCRETE SLAB
9. 1'-2" WIDE X 1'-4" DEEP CONCRETE FOOTING W/ (2) - #4 REBAR TOP AND BOTTOM MINIMUM  
- PER FOUNDATION PLAN

NOTE:

1. SAW CUT AND REMOVE EXISTING CONCRETE SLAB AND FOOTING

## Rialto Public Works Administration Building

### Seismic Upgrade - Option 1

Preliminary Cost Estimate

8/12/2025

CATEGORY	DESCRIPTION OF WORK	UNIT COST	UNIT	QUANTITY	ESTIMATED COSTS
<b>Building</b>	Replace 2 x 4 framed shear wall w/plywood sheathing (9'-0" H)	300.00	LF	192	57,600.00
	Sawcut and remove 2'-0" section of concrete slab to accommodate new footing doweled into the existing slab for new shear wall.	60.00	LF	115	6,900.00
	Misc. Structural repairs - repair column base and posts	50,000.00	LS	1	50,000.00
	Insulation	2.50	SF	3,278	8,195.00
	Replace beams	7,500.00	EA	2	15,000.00
	Replace support post	400.00	EA	8	3,200.00
	Install top of wall bracing	45.00	LF	90	4,050.00
	Concrete slab for storage area converted to office space	12.00	SF	1,550	18,600.00
	HVAC and ductwork for storage area converted to office space	45.00	SF	1,550	69,750.00
	Electrical upgrades to storage area converted to office space	70.00	SF	1,550	108,500.00
<b>Building subtotal</b>					<b>341,795.00</b>
<b>Exterior</b>	Replace roof trusses	11.00	SF	2,060	22,660.00
	Plywood roof sheathing	5.00	SF	2,060	10,300.00
	Sawcut and remove 2'-0" section of concrete slab to accommodate new footing doweled into the existing slab.	50.00	LF	412	20,600.00
	2 x 6 insulated framed wall top and bottom plate w/gyp. brd int. and stucco exterior (11'-0" H)	450.00	LF	412	185,400.00
	CMU wainscot	30.00	LF	225	6,750.00
	Modifications to utility lines adjacent to the north side of building	65,000.00	LS	1	65,000.00
<b>Exterior subtotal</b>					<b>310,710.00</b>
<b>General</b>	Building Demolition / Dump fees	120,000.00	LS	1	120,000.00
	Mobilization / Demobilization / Clean-up	30,000.00	LS	1	30,000.00
<b>General subtotal</b>					<b>150,000.00</b>
<b>CONTRACTOR</b>	Overhead and Profit	10.00%			80,250.50
	Prevailing Wage factor	35.00%			280,876.75
	General Conditions	2.00%			16,050.10
	Insurance	1.00%			8,025.05
	Bonding	1.50%			12,037.58
	Estimated Architectural / Engineering	12.00%			96,300.60
	Contingency	25.00%			200,626.25
<b>Total Construction</b>					<b>1,484,634.25</b>

**Rialto Public Works Administration Building**

**New Structure- Option 2**

Preliminary Cost Estimate

8/12/2025

CATEGORY	DESCRIPTION OF WORK	UNIT COST	UNIT	QUANTITY	ESTIMATED COSTS
<b>Building</b>	New building, foundation and footing	500.00	LF	7,134	3,567,000.00
	Remove and replace storage area and breezeway and install new building, foundation and footing to create office space	500.00	LF	1,550	775,000.00
	Modifications to utility lines adjacent to the north side of building	65,000.00	LS	1	65,000.00
	Electrical upgrades	65,000.00	LS	1	65,000.00
	Overexcavation, compaction and grading	12.00	SF	8,684	104,208.00
	Building subtotal				4,576,208.00
<b>General</b>	Building Demolition / Dump fees	200,000.00	LS	1	200,000.00
	Mobilization / Demobilization / Clean-up	40,000.00	LS	1	40,000.00
	General subtotal				240,000.00
<b>CONTRACTOR</b>	Overhead and Profit	10.00%			481,620.80
	Prevailing Wage factor	35.00%			1,685,672.80
	General Conditions	2.00%			96,324.16
	Insurance	1.00%			48,162.08
	Bonding	1.50%			72,243.12
	Estimated Architectural / Engineering	12.00%			385,296.64
	Contingency	10.00%			481,620.80
	Total Construction				7,994,905.28