June 11, 2021

Re: Carneros Fire Station 210, PW 20-27

Dear Prospective Bidders,

Addendum Number 1 is attached for the above-referenced project. This Addendum Number 1 forms a part of, and modifies, the original Carneros Fire Station 210, PW 20-27, bid package. All other requirements remain the same.

Thank you for your interest in this project. If you have any questions relating to this correspondence, please submit those questions in writing to Daniel Basore at Daniel.Basore@CountyofNapa.org.

Very truly yours,

STEVEN E. LEDERER
Director of Public Works

by: Daniel Basore, P.E.
Engineering Supervisor

Attachments

1. Addendum 1
2. Pre-Bid Meeting Minutes With Sign In Sheet
ADDENDUM NO. (#1)

TO: Daniel Basore  
FROM: Brian Leonard  
PROJECT: Carneros Volunteer Fire Station 210

This Addendum forms a part of the Contract Documents and modifies the original Bidding Documents dated as noted below. Acknowledge receipt of this addendum in the space provided on the Bid Form. Failure to do so may subject the Bidder to disqualification.

There are attachments to this Addendum. They are listed at the end of the Addendum.

CHANGES TO PROJECT MANUAL

Item 1: Specifications Cover Page – Revise last day for questions and bid due date.

Item 2: Notice to Contractors – Revise bid date and last day for questions

Item 3: Special Provisions Section A – General Conditions, Item 5 – Time of Completion revised

CHANGES TO DRAWINGS

Item 1: C-001 – Add Monument Protection Note to site plan. Add survey monuments to corners of site

Item 2: C-003 – Add survey monuments to corners of site. Add sheet note 5. Revise fence removal and replacement note at southwest property edge note, Fence now to remain.

Item 3: C-005A – Add survey monuments to corners of site. Add general note for survey monument protection. Revise location of swale at southwest property edge. Revise grades at southwest corner of hose drying rack paving.

Item 4: C-005B – Revise grades and notes at sections B and C at southwest property edge

Item 5: C-006 – Add survey monuments to corners of site. Add sheet note 3. Update swale location at southwest property line to match other sheets noted above.

RESPONSES TO BIDDERS QUESTIONS

1. Sheet S-001, Design Criteria, future solar is listed as 3 psf. Section 13 34 00.2.2.B.2.b.1 calls for the minimum collateral load to be 8 psf, please advise if this 8 psf includes the 3 psf for the future solar and any additional loading required for lighting & mechanical requirements.

   Answer: Yes, the 8 psf includes the 3 psf for future solar

2. What is the weight of UH-1? There is no weight listed on sheet MP-101.

   Answer: Approximate weight with supports and attachments is 125 lbs.

   3. Sheet S-501, schematic elevation 1 shows the tube framing requirements for the sectional steel doors, is this framing to be supplied by the MBM?
Answer: This item should be determined by the general contractor.

4. Sheet A-501, section A13 shows a 3/8” horizontal reveal for the insulated panel, this would only apply if the panels are running horizontally, the exterior elevations show the panels running vertically. Please advise which direction the wall panels are to be installed.

Answer: As noted on detail A13, the middle section of the detail is a plan view of the wall, therefore showing a vertical joint seam. All panels shall run vertically as shown and detailed.

5. Section 13 34 00.3.1.A.1: calls for non-shrink grout to be used, I see no grout called for on any of the drawings. Is grout required? If so please advise on the thickness.

Answer: Non-Shrink grout may be used under baseplates of structural members to account for construction tolerances and to erect steel true and plumb. As the structure is design/build by a metal building manufacturer, the grout thickness should be determined by the MBM building structure engineer.

6. The lead time to get metal building will likely be longer than usual, historically speaking. Can project time allowed, be something to the effect of “60 working days following receipt of metal building package onsite to complete?”

Answer: Section 5, Time of Completion of Special Provisions, SECTION A- GENERAL CONDITIONS was revised to accommodate the longer than usual lead time for the metal building.

7. Steel costs have been rising steadily for about a year. Can an allowance (or provision) be made a part of the Base Bid, wherein, if it can be shown and demonstrated that, an increase in cost has occurred between “bid date” and “release for production date” additional monies would be paid to contractor?

Answer: The Contractor shall factor in a potential increase in steel cost to their base bid price, no allowance or provision will be added.

8. Can you confirm that there are no fees required of contractor, for any agencies whether building, utility or other?

Answer: No fees are required by Contractor for the Encroachment Permit from Public Works or to the Planning and Building and Environmental Services Department. The Contractor is responsible for temporary power and water and all associated fees. The County is unaware of any additional fees that would be required.

9. Is staking to be “by contractor?” Include in Base Bid?

Answer: Yes, staking shall be by Contractor and included in Base Bid.

10. Is standby that is required by PG&E and AT&T (by their personnel), at no cost to contractor?

Answer: The County reached out to both PG&E and AT&T and was told the Contractor shall contact appropriate utilities through 811 service to determine if standby is necessary during construction and would be responsible for any associated fees for standby if applicable. AT&T approved the 4” conduit and pathway as shown on E-101. AT&T will not be providing any service at this phase.

11. Floor plan on A-121 shows 3/16": 12 slope-to-drain in all directions. Since this is a rectangle, that would not be possible. Is 3/16": 12 for the short dimension acceptable? Long dimension would be less.

Answer: Yes, however increase slope for the short dimension to 1/4:12, with less slope for the long direction

12. Is the (N) power pole shown on 5/E-101 by contractor? Is PG&E engineering finished and available for this?
Answer: Power pole by electrical contractor. Drawings have been coordinated with PG&E, and final engineering is still on-going by PG&E.

13. Bids may be handwritten in ink, is that correct? Form of Bid (3) on page P-4 implies that it must be typewritten or computer generated.

Answer: Bids can be handwritten in ink, typewritten or computer generator, if typewritten or computer generator changes and/or erasures must be initialed in ink.

14. Is traffic control anticipated on this project? Perhaps for sawcutting and paving up to the edge of “Old Sonoma Rd?”

Answer: Yes, traffic control is anticipated. Contractor is expected to plan and coordinate traffic control with the County of Napa.

15. Is water and power for construction to be provided by contractor?

Answer: Yes, water and power for construction shall be provided by the contractor. Note there is a water line and power pole/meter on site that may be used, however contractor shall be responsible for costs and coordination with the Carneros Resort for approval to use either. The County will provide Carneros Resort coordination information to the Contractor upon request.

16. Special Provisions B. 5. Indicate that submittals are due at pre-construction meeting. This would not appear to be doable…

Answer: Submittals are not due at pre-construction meeting. Submittal schedule is due within 35 days of the notice to proceed. Individual submittals shall be submitted in a timely manner to allow Architect and County reviews with time for potential re-submittals and to allow ample time for contractor to procure and install all materials to meet the construction schedule.

17. Can submittals be handled electronically, primarily in pdf format?

Answer: Yes, as noted in division 013000.1.7 all submittals shall be electronically submitted via PDF.

18. Will Admin. Req’s 01 30 00 1.2 7. “Resubmittals” be enforced for steel building back and forth submittal activity? If so, what are the hourly costs/fees for this? How many hours for a metal building/engineering calc’s re-review?

Answer: Due to the volume and complexity of the metal building submittal, a second and third submittal will be permitted however submittals shall be as complete as possible and resubmittals shall address all review comments. Should additional submittals for the metal building be required beyond 3, each additional metal building submittal will be charged at cost, approximately $1,400 per additional review. Blended/average Architect and Engineer billing rates shall be $175/hr. Other submittals are subject to division 013000.1.2.A.7 at this rate if beyond the maximum resubmittal amount.

19. Temp. Facilities 01 50 00 1.7 “barriers” calls for 8’ temp. fencing. Is 6’ temp fencing acceptable?

Answer: Yes. Contractor shall secure site as they see fit throughout construction via means and methods.

20. O1 50 00 1.10 describes a fairly extensive field office with furnishings… is this all in fact required? Is a converted storage bin with roll-up doors acceptable?

Answer: A field office with furnishings and amenities per 015000.1.10 is not required for this scale of project. Contractor shall provide their own storage and workspace as necessary to complete the project.
21. Metal edging is called for at edge of HMA/AC on C-004. What is this metal edge material?

Answer: Metal edging shall be typical 12’ landscape metal edging.

22. Is 4” water meter “by others?” Fees?

Answer: Water Meter to be supplied by Contractor and should be included in base bid under Item 3: Site Grading.

23. Who are the contacts that the County engaged during the feasibility study of this project, specific to the Metal Building consultants/subs that helped put together the bid docs for the county to create? It would be helpful to have those contacts to get timely turn around on pricing and to engage the same people the county engaged when creating the plans and specs.

Answer: We reached out to Soule Builders in Santa Rosa for guidance as well as basing details on a previously built similar metal building for Napa County Fire by Borga Steel buildings based out of Fowler, CA. Drawing details are only provided for general design intent and any metal building manufacturer may be utilized as long as the design criteria is met.

24. Will the project duration change from 100 Work days? The lead times on the Metal Buildings are pushed back to November of this year at the earliest or Quarter 1 of next year 2022. From June to November, is roughly 6 Months, that would be if the design was approved already.

Answer: Section 5, Time of Completion of Special Provisions, SECTION A- GENERAL CONDITIONS was revised to accommodate the longer than usual lead time for the metal building.

25. The Fire Sprinkler alternate is for the above ground system correct? We assume the base bid will include the underground site fire water terminated 5’ from the building?

Answer: Fire sprinkler alternative is for the building above ground fire protection system and includes related underground site fire water serving the building from the existing water line, new FDC and backflow device. Base bid shall only include new site fire hydrant and related underground fire water as noted.

26. Please provide a full list of OFCI items

Answer: There are currently no anticipated OFCI items.

27. We did not see a soils or geo report? Is there one available?

Answer: Yes, a Geotech report has been prepared and has been included in this addendum.

28. What is the status of the PG&E Application, has it been submitted? It is approved? Under review?

Answer: PG&E application has been submitted and accepted on 5/10. PG&E’s process, including estimating, design and construction is anticipated to be completed in late August.

ATTACHMENTS

- Specifications: Cover, Notice to Contractors, Special Provisions – Section A General Conditions Page 2
- Revised sheets C-001, C-003, C-005A, C-005B and C-006
- Miller Pacific Engineering Group Geotechnical Investigation dated 09/03/2020
- AT&T Commercial Specifications

*END OF ADDENDUM NO. (#1) *
NAPA COUNTY
DEPARTMENT OF PUBLIC WORKS
1195 THIRD STREET, ROOM 101
NAPA, CALIFORNIA  94559

SPECIFICATIONS
FOR
CARNEROS FIRE STATION 210
PW 20-27

NOTICE TO CONTRACTORS

PROPOSAL FORM
BONDS

CONTRACT FOR CONSTRUCTION

SPECIAL PROVISIONS
Section “A” – General Conditions
Section “B” – General Requirements
Section “C” – Technical Specifications

Contractor shall possess a Class ‘B’ License at the time of contract award.

MANDATORY PRE-BID MEETING: 10 AM, June 2, 2021
LAST DAY FOR QUESTIONS: 12 PM, June 16, 2021
BID DUE DATE: 11:30 AM, June 24, 2021

Approved
Juan S Arias  County Engineer RCE No. C63365
NAPA COUNTY
STATE OF CALIFORNIA

NOTICE TO CONTRACTORS

Proposals shall be submitted under sealed cover plainly marked as a proposal, and identifying the project to which the proposal relates and the date of the bid opening therefore. Proposals which are not properly marked will be rejected. Sealed proposals will be received at the office of the Clerk of the Board of Supervisors, Napa County Administration Building, 1195 Third Street, Room 310, Napa, California, until 11:30 A.M. on June 24, 2021 (no bids will be accepted after 11:30 A.M.) after which they will be opened and read under the social distancing protocol in enforcement at the time, for the construction in accordance with the Plans and Special Provisions thereto, to which special reference is made as follows:

Carneros Fire Station 210, PW 20-27

Engineer Estimate: $1,400,000

Due to the COVID-19 pandemic, physical attendance in the meeting room is not allowed at this time and all attendance by the public will be virtual through the link provided below.

Zoom Meeting link: https://countyofnapa.zoom.us/j/85730921793
To listen to bid opening by phone, dial: 1 (669) 900-6833
Zoom Meeting ID: 857 3092 1793

Bids are required for the entire work called for by the Plans and Specifications, and neither partial nor contingent bids will be considered.

Bidders are responsible for monitoring www.countyofnapa.org/1607/Current-Projects for addendums which may be issued up until 72 hours prior to bid opening. Complete sets of Contract Documents must be used in preparing Bids. The County does not assume responsibility for errors or misinterpretations resulting from the use of incomplete sets of Contract Documents.

Bid results of the three apparent lowest bidders with their subcontractor’s list will be on the County’s website www.countyofnapa.org/1607/Current-Projects by the business day after the bids are publicly opened and read.

The Plans and Specifications may be seen at the Napa County Department of Public Works, 1195 Third Street, Room 101 Napa, California. Plans, Special Provisions (excluding State Standard Specifications and other documents included by reference), Proposal Forms and Contract Forms may be obtained at said office by prospective bidders licensed by the State of California for the type of work involved or may be found electronically at www.countyofnapa.org/1607/Current-Projects.

Pursuant to 1771.1 of the Labor Code, a contractor or subcontractor shall not be qualified to bid on, be listed in a bid proposal, subject to the requirements of Section 4104 of the Public Contract
Code, or engage in the performance of any contract for public work, as defined in this chapter, unless currently registered and qualified to perform public work pursuant to Section 1725.5. It is not a violation of this section for an unregistered contractor to submit a bid that is authorized by Section 7029.1 of the Business and Professions Code or by Section 10164 or 20103.5 of the Public Contract Code, provided the contractor is registered to perform public work pursuant to Section 1725.5 at the time the contract is awarded.

Pursuant to Sections 1770, et. seq., of the California Labor Code, the contractor and all subcontractors shall pay not less than the prevailing rate of per diem wages as determined by the Director of the California Department of Industrial Relations. Copies of such prevailing rate of per diem wages are on file at the Napa County Department of Public Works where copies will be made available to any interested party on request. These rate determinations may also be found on the State of California Department of Industrial Relations’ website at: http://www.dir.ca.gov/dlsr/DPreWageDetermination.htm. Contractors and subcontractors shall also submit certified payroll records, employ apprentices, and comply with working hour conditions as required by the Labor Code.

No bid will be considered unless it is made on a blank form furnished with these bid specifications and is made in accordance with the provisions of the proposal requirements and conditions set forth under Section 2 of the 2018 Standard Specifications of the State California, Department of Transportation, except as modified by the Special Provisions.

The Contractor shall possess a Class B license at the time of the Contract award. A bid guarantee in the amount of 10% of the total bid shall accompany the bid.

The successful bidder shall be required to furnish a Performance Bond in an amount equal to 100% of the contract price and a Labor and Material Bond in an amount equal to 100% of the contract price with good and sufficient surety.

**PRE-BID MEETING:** A mandatory on-site meeting for contractors is scheduled for June 2, 2021, at 10:00 A.M. at 5260 Old Sonoma Road, Napa, CA 94559. If you plan to attend the pre-bid meeting, please contact Daniel Basore at Daniel.Basore@Countyofnapa.org by no later than 12 P.M. on June 1, 2021. As the parcel is currently vacant the address doesn’t take you directly to the site, a follow up e-mail with instructions will be sent to anyone who plans to attend the pre-bid meeting.

All questions must be e-mailed, or mailed by **12:00 P.M. on June 16, 2021** to Daniel Basore at Daniel.Basore@Countyofnapa.org, Napa County Public Works, 1195 Third St. Room 101, Napa, CA 94559.

The Board of Supervisors reserves the right to reject any or all bids. By order of the Board of Supervisors of the County of Napa, State of California made this May 18, 2021.
Transportation Building, Sacramento. Room 101, Administration Building, 1195 Third Street, Napa, California 94559.

State Highway Engineer. The County Engineer.

Standard Specifications. The 2018 edition of the Standard Specifications of the State of California, Department of Transportation. Any reference therein to the State of California or a State agency, office or officer shall be interpreted to refer to the County or its corresponding agency, office or officer acting under this contract.

4. **CONTRACT DOCUMENTS**

The Contract Documents shall include the Standard Specifications of the State of California, Department of Transportation, dated 2018, insofar as same may apply, the Special Provisions, the Notice to Contractors, the Proposal, the Contract (“C”) pages, the two contract bonds required herein, any supplemental agreements amending or extending the work, and pertinent portions of other documents included by reference thereto in the Special Provisions or the Contract pages.

5. **TIME OF COMPLETION**

Attention is directed to all of the provisions of Section 8, “Prosecution and Progress,” of the Standard Specifications and these Special Provisions. Due to the long lead-time in procuring Pre-Engineered Structures, the time of completion is as follows:

Site work:
The Contractor shall begin work upon receiving notice that the contract has been executed and approved and shall diligently prosecute the same completion of all work in the Plans and Specifications including but not limited to demolition, grading, concrete, landscaping, paving, underground utilities, and foundation not including the vertical construction of the Pre-Engineered Structure before the expiration of One hundred (100) working days from the start of work.

Pre-Engineered Structure:
The Contractor shall complete installation of the Pre-Engineered structure within fifty (50) working days following receipt of metal building.

No working days will be held against the contractor from completion of site work until receipt of the Pre-Engineered Structure.

6. **LIQUIDATED DAMAGES**

Attention is directed to the provisions of Section 8-1.10 of the Standard Specifications. The Contractor shall pay to County the sum of $3,000 per day for each and every calendar day delay in finishing the work in excess of the number of working days prescribed above and any extension of time granted.
NOTE: If this drawing is not 34"x22" it has been revised from its original size and the scales noted on drawing/details are no longer applicable.

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Consultant Architect of Record

SKA Project Number: 20705

CARNEROS VOLUNTEER FIRE STATION NO. 210
5260 OLD SONOMA RD. NAPA, CA 94559
NOTE: If this drawing is not 34"x22" it has been revised from its original size and the scales noted on drawing/details are no longer applicable.

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Consultant Architect of Record:
SKA Project Number: 20705

CARNEROS VOLUNTEER FIRE STATION NO. 210
5260 OLD SONOMA RD. NAPA, CA 94559

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FILE SHEET NUMBER:
C-006

SCALE 1" = 20'0"
GEOTECHNICAL INVESTIGATION
NEW CARNEROS FIRE STATION
APN 047-100-062
OLD SONOMA ROAD
NAPA, CALIFORNIA

September 3, 2020

Job No. 1114.448

Prepared For:
Napa County Public Works
Attn: Mr. Daniel Basore, PE
1195 Third Street
Napa, California 94559

CERTIFICATION

This document is an instrument of service, prepared by or under the direction of the undersigned professionals, in accordance with the current ordinary standard of care. The service specifically excludes the investigation of polychlorinated byphenols, radon, asbestos or any other hazardous materials. The document is for the sole use of the client and consultants on this project. No other use is authorized. If the project changes, or more than two years have passed since issuance of this report, the findings and recommendations must be updated.

MILLER PACIFIC ENGINEERING GROUP
(a California corporation)

REVIEWED BY

Monica Thornton
Project Engineer

Mike Morisoli
Geotechnical Engineer No. 2541
(Expires 12/31/20)
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APPENDIX A: SUBSURFACE EXPLORATION AND LABORATORY TESTING
1.0 INTRODUCTION

This report presents the results of our Geotechnical Investigation for the new Carneros Fire Station on Old Sonoma Road in southwest Napa. The project site is located just northeast of the intersection of Old Sonoma Road and Dealy Lane, as shown on the Site Location Map, Figure 1.

Our work was performed in accordance with our On-Call Agreement with Napa County and Task Order #18 dated July 22, 2020. The purpose of our investigation was to explore subsurface conditions within the proposed project area, and to develop design-level geotechnical recommendations and criteria for use in design and construction of the project. The scope of our services includes:

- Reviewing published geologic and geotechnical background information.
- Exploring subsurface conditions with three borings located within the general vicinity of the planned improvements.
- Laboratory testing to estimate pertinent engineering properties of the soils encountered during our subsurface exploration.
- Evaluating relevant geologic hazards including seismic shaking, liquefaction, settlement, and other hazards.
- Engineering analyses to develop geotechnical recommendations and design criteria related to building foundations, site grading, pavements, seismic design and other geotechnical-related items.
- Preparation of this Geotechnical Investigation report which summarizes the subsurface exploration and laboratory testing programs, evaluation of relevant geologic hazards, and geotechnical recommendations and design criteria.

Issuance of this report completes our initial phase of services. Subsequent phases of work should include geotechnical plan review and observation and testing of geotechnical-related work items during construction.

2.0 PROJECT DESCRIPTION

The project will generally include a new two-bay fire house with slab floor on a gently-sloping site. Other improvements at the site will include underground utilities, concrete and asphalt driving areas and a vehicle wash area. A future modular building for sleeping quarters is also planned on the south side of the firehouse at a later date. As shown on the Site Plan, Figure 2, the new firehouse will be constructed about 150 feet from Old Sonoma Road on the relatively narrow property
3.0 SITE CONDITIONS

3.1 Regional Geology

The site is located within the Coast Ranges geomorphic province of California. Topographically, the province is characterized by northwest-southeast trending mountain ranges of moderate relief, with intervening deep canyons or narrow stream valleys. The province is known for its active seismicity, high rainfall, and susceptibility to erosion and landslide development in steep terrain. Within the province there are occasional larger, alluvium-filled, basin-shaped valleys. These include the Santa Rosa Plain and Sonoma, Bennett, Napa, and Knights Valleys. Most of these valleys are associated with known or suspected active faults and have formed in part by past fault displacement and crustal folding.

The Franciscan Complex is the baserock of the province and it consists of a diverse assemblage of rock units, including sandstone, shale, greenstone (altered, submarine volcanic rocks), chert, and lesser amounts of conglomerate and metamorphic rocks. The Franciscan was deposited during the Jurassic-Cretaceous Period (65-190 million years ago). Of these rock types, the most prevalent is graywacke sandstone, which is massively bedded and has occasional shale interbeds. Masses of serpentinite of various dimensions are locally present. The serpentinite has been intruded and faulted into the Complex during long and ongoing tectonic processes. Overlying much of the Franciscan rock in Napa County are the Sonoma Volcanics. This rock sequence is the result of volcanism in the Pliocene Epoch (1.6 to 5 million years ago) that extends from Mt. St. Helena in the north to Vallejo in the south.

The project site is located within relatively level terrain, approximately three miles west of the Napa River, and three and a half miles north of San Pablo Bay. Regional geologic mapping by the California Geological Survey (CGS, 2002) indicates that the project site is underlain by the Great Valley Sequence which generally consists of sandstone, pebble conglomerate, siltstone, and shale. The site is also mapped near a contact with Alluvium and Huichica Formation, both of which generally consist of sand, gravel and clayey soils. A Regional Geologic Map and descriptions of the mapped geologic units are shown on Figure 3.

3.2 Seismicity

The project site is located within the seismically active San Francisco Bay Area and will therefore experience the effects of future earthquakes. Earthquakes are the product of the build-up and sudden release of strain along a “fault” or zone of weakness in the earth's crust. Stored energy may be released as soon as it is generated, or it may be accumulated and stored for long periods of time. Individual releases may be so small that they are detected only by sensitive instruments, or they may be violent enough to cause destruction over vast areas.

Faults are seldom single cracks in the earth's crust but are typically comprised of localized shear zones which link together to form larger fault zones. Within the Bay Area, faults are concentrated along the San Andreas Fault zone. The movement between rock formations along either side of a fault may be horizontal, vertical, or a combination and is radiated outward in the form of energy waves. The amplitude and frequency of earthquake ground motions partially depends on the material through which it is moving. The earthquake force is transmitted through hard rock in
short, rapid vibrations, while this energy becomes a long, high-amplitude motion when moving through soft ground materials, such as Bay Mud.

### 3.2.1 Regional Active Faults

The California Geological Survey (previously known as the California Division of Mines and Geology), defines a “Holocene-active fault” as one that has had surface displacement within Holocene time (the last 11,700 years). CGS has mapped various faults in the region as part of their Fault Activity Map of California (CGS, 2010). Many of these faults are shown in relation to the project site on the attached Active Fault Map, Figure 4. The nearest known Holocene-active faults are the West Napa and Rodgers Creek Faults. The West Napa Fault is located roughly 0.5 kilometers (1/4-mile) east of the site while the Rodgers Creek Fault is located approximately 13.0 kilometers (8.1 miles) to the southwest.\(^1\)

### 3.2.2 Historic Fault Activity

Numerous earthquakes have occurred in the region within historic times. The results of our USGS earthquake search catalogue indicates that at least nine earthquakes with a Richter Magnitude of 5.0 or larger have occurred within 100 kilometers (62 miles) of the site between 1900 and 2019. The approximate locations of these earthquakes are shown on the Historic Earthquake Map, Figure 5.

### 3.2.3 Probability of Future Earthquakes

The site will likely experience moderate to strong ground shaking from future earthquakes originating on any of several active faults in the San Francisco Bay region. The historical records do not directly indicate either the maximum credible earthquake or the probability of such a future event. To evaluate earthquake probabilities in California, the USGS has assembled a group of researchers into the “Working Group on California Earthquake Probabilities” (USGS 2003, 2008, 2013) to estimate the probabilities of earthquakes on active faults. These studies have been published cooperatively by the USGS, CGS, and Southern California Earthquake Center (SCEC) as the Uniform California Earthquake Rupture Forecast, Versions 1, 2, and 3. In these studies, potential seismic sources were analyzed considering fault geometry, geologic slip rates, geodetic strain rates, historic activity, micro-seismicity, and other factors to arrive at estimates of earthquakes of various magnitudes on a variety of faults in California.

Conclusions from the most recent UCERF3 and USGS indicate the highest probability of an earthquake with a magnitude greater than 6.7 originating on any of the active faults in the San Francisco Bay region by 2043 is assigned to the Hayward/Rodgers Creek Fault system. The Rodgers Creek Fault is located approximately 13.0 kilometers (8.1 miles) southwest of the site and is assigned a probability of 33 percent. The San Andreas Fault, located approximately 46.0 kilometers (28.5 miles) southwest of the site, is assigned a 22 percent probability of an earthquake with a magnitude greater than 6.7 by 2043. Additional studies by the USGS regarding the probability of large earthquakes in the Bay Area are ongoing. These current evaluations include data from additional active faults and updated geological data.

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\(^1\) Distances to faults estimated using Caltrans ARS Online (v2.3.09), accessed August 12, 2020 and Alquist Priolo Fault Maps.
3.3 **Surface Conditions**

As shown on Figure 2, the proposed site is a rectangular parcel on the southeast side of Old Sonoma Road in southwestern Napa County. The project area is in a rural area consisting of some vineyard, relatively widely-spaced residential homes, undeveloped land and the Carneros Resort which is located just south of the site. The immediate project area is largely undeveloped and is covered with grasses and occasional trees and shrubs, a small greenhouse and shed. Just before we explored subsurface conditions in July, 2020, a new water line was installed along the northeastern property line and a high-voltage PG&E line is also along the northeastern edge of the property. The ground surface is relatively flat in the development area with elevations ranging from about 142 to 146 feet.

3.4 **Field Exploration and Laboratory Testing**

We explored subsurface conditions within the proposed building on July 23, 2020 with three borings at the approximate locations shown on Figure 2. The borings were excavated using a truck-mounted drill rig to approximate depths ranging from 10 to 20 feet below the ground surface. The borings were logged by our Field Geologist and the samples obtained were examined in the field, sealed to prevent moisture loss and transported to our laboratory. We prepared boring logs based on soil descriptions in the field as well as visual examination and testing of the soil samples in our laboratory. The boring logs are presented in Appendix A and the holes were grouted with cement grout upon completion.

Laboratory testing of soil samples from the exploratory borings included determination of moisture content, dry density, unconfined compressive strength and corrosion testing. The results of the moisture content, dry density and unconfined compressive strength results are presented on the boring logs while the results of the corrosion test results are presented on Figure A-6. Our laboratory testing program is discussed in greater detail in Appendix A.

3.5 **Subsurface Conditions and Groundwater**

Our subsurface exploration generally confirms the mapped geologic conditions at the site. Based on our borings, the site is generally underlain by an approximately three-foot layer of medium dense clayey sand with gravel over clayey sand alluvium underlain by mudstone of the Great Valley Sequence at approximately fourteen feet below the ground surface.

Groundwater was not observed in our borings which were completed in late-July. Because the borings were backfilled within a few hours of excavation, a stabilized depth to groundwater may not have been observed. Groundwater elevations are expected to fluctuate seasonally, and higher groundwater levels will likely be present during periods of intense rainfall. For design purposes, groundwater will likely be very near the existing ground surface at some point during the design life of the building.
4.0 GEOLOGIC HAZARDS

This section summarizes our review of commonly considered geologic hazards and discusses their potential impacts on the planned improvements. The primary geologic hazards which could affect the proposed development include strong seismic ground shaking and uniform foundation support. Other geologic hazards are judged less than significant with regard to the proposed project. Geologic hazards, potential impacts and mitigation measures are discussed in further detail in the following sections.

4.1 Fault Surface Rupture

Under the Alquist-Priolo Earthquake Fault Zoning Act, the California Division of Mines and Geology (now known as the California Geological Survey) produced 1:24,000 scale maps showing known active and potentially active faults and defining zones within which special fault studies are required. The nearest known active fault to the site is the West Napa Fault located approximately 0.5 kilometers (1/4-mile) to the east. Based on the recently-revised (2018) map, the site is at least 1,000 feet west of the Alquist-Priolo Special Studies Zone. We therefore judge the potential for fault surface rupture in the development area to be low.

*Evaluation:* Less than significant.
*Mitigation:* No mitigation measures are required.

4.2 Seismic Shaking

The site will likely experience seismic ground shaking similar to other areas in the seismically active Bay Area. The intensity of ground shaking will depend on the characteristics of the causative fault, distance from the fault, the earthquake magnitude and duration, site specific geologic conditions, and other factors. Estimates of peak ground accelerations (PGA) are based on either deterministic or probabilistic methods.

Deterministic methods use empirical attenuation relations that provide approximate estimates of median peak ground accelerations. A summary of the active faults that could most significantly affect the planning area, their maximum credible magnitude, closest distance to the center of the planning area, and calculated peak ground accelerations are summarized in Table 1. The calculated accelerations should only be considered as reasonable estimates. Many factors (soil conditions, orientation to the fault, etc.) can influence the actual ground surface accelerations.
Table 1 – Estimated Peak Ground Accelerations for Active Faults

<table>
<thead>
<tr>
<th>Fault</th>
<th>Moment Magnitude for Characteristic Earthquake</th>
<th>Closest Estimated Distance (km)(^{(1)})</th>
<th>Median PGA (g)(^{(2)})</th>
<th>Median PGA +1 Std Dev (g)(^{(2)})</th>
</tr>
</thead>
<tbody>
<tr>
<td>West Napa</td>
<td>6.6</td>
<td>4.0</td>
<td>0.41</td>
<td>0.74</td>
</tr>
<tr>
<td>Rodgers Creek</td>
<td>7.3</td>
<td>13.0</td>
<td>0.27</td>
<td>0.48</td>
</tr>
<tr>
<td>Green Valley</td>
<td>6.8</td>
<td>16.0</td>
<td>0.19</td>
<td>0.35</td>
</tr>
<tr>
<td>Hayward</td>
<td>7.3</td>
<td>27.0</td>
<td>0.15</td>
<td>0.28</td>
</tr>
<tr>
<td>San Andreas</td>
<td>8.0</td>
<td>46.0</td>
<td>0.14</td>
<td>0.26</td>
</tr>
</tbody>
</table>

\(^{(1)}\) Distances to faults estimated using Caltrans ARS Online (v2.3.09), accessed August 13, 2020.

\(^{(2)}\) Abrahamson & Silva, Boore & Atkinson, Campbell & Bozorgnia, and Chiou & Youngs 2008 NGA models using \(V_s30 = 560\) m/s.

Ground shaking can result in structural failure and collapse of structures or cause non-structural building elements (such as light fixtures, shelves, cornices, etc.) to fall, presenting a hazard to building occupants and contents. Compliance with provisions of the most recent version of the California Building Code (2019 CBC) should result in structures that do not collapse in an earthquake. Damage may still occur and hazards associated with falling objects or non-structural building elements will remain.

The potential for strong seismic shaking at the project site is high. Due to the proximity and historic rate of activity, the West Napa Fault presents the highest potential for severe ground shaking. The significant adverse impact associated with strong seismic shaking is potential damage to structures and improvements.

**Evaluation:** Less than significant with mitigation.

**Mitigation:** Minimum mitigation includes design of new structures in accordance with the provisions of the 2019 California Building Code or subsequent codes in effect when final design occurs.

### 4.3 Liquefaction and Related Effects

Liquefaction refers to the sudden, temporary loss of soil strength during strong ground shaking. The strength loss occurs as a result of the build-up of excess pore water pressures and subsequent reduction of effective stress. While liquefaction most commonly occurs in saturated, loose, granular deposits, recent studies indicate that it can also occur in materials with relatively high fines content provided the fines exhibit lower plasticity. The effects of liquefaction can vary from cyclic softening resulting in limited strain potential to flow failure which cause large settlements and lateral ground movements. Lateral spreading refers to a specific type of liquefaction-induced ground failure characterized primarily by horizontal displacement of surficial soil layers as a consequence of liquefaction of a subsurface granular layer (Youd, 1995). Lateral spreads generally move down gentle slopes or slip toward a free face such as an incised river channel.
The borings indicate subsurface soils consist of medium dense to dense clayey sand soils underlain by Great Valley Sequence bedrock. Therefore, we judge the likelihood of damage to the proposed improvements due to liquefaction is low.

*Evaluation:* Less than significant.
*Mitigation:* No mitigation measures are required.

### 4.4 Seismic Densification

Seismic ground shaking can induce settlement in unsaturated, loose, granular soils. Settlement occurs as the loose soil particles rearrange into a denser configuration when subjected to seismic ground shaking. Varying degrees of settlement can occur throughout a deposit, resulting in differential settlement of structures founded on such deposits. Loose, granular soils were not encountered in our borings, so the risk of seismic densification impacting the new structure and other improvements is generally low.

*Evaluation:* Less than significant.
*Mitigation:* No mitigation measures are required.

### 4.5 Expansive Soil

Expansive soils will shrink and swell with seasonal or irrigation-induced fluctuations in moisture content and are capable of exerting significant expansion pressures on building foundations, retaining walls, interior floor slabs and exterior flatwork. Distress from expansive soil movement can include cracking of brittle wall coverings (stucco, plaster, drywall, etc.), racked door and/or window frames, uneven floors, and cracked slabs. Flatwork, pavements, and concrete slabs-on-grade are particularly vulnerable to distress due to their low bearing pressures.

Surficial soils at the project site are low to medium plasticity in nature. Therefore, the risk of expansive soil/bedrock at the project site is judged to be low.

*Evaluation:* Less than significant with mitigation.
*Mitigation:* No specific structural mitigation measures are required, although site grading and soil moistures should be consistent with the recommendations in Section 5.3.

### 4.6 Settlement

Significant settlement can occur when new loads are placed at sites due to consolidation of soft compressible clays (i.e., Bay Mud) or compression of loose soils. Soft compressible clay materials were not observed during our subsurface exploration. Therefore, settlement is considered a low hazard at the project site.

*Evaluation:* Less than significant.
*Mitigation:* No mitigation measures are required.
4.7  Erosion

Sandy soils on most slopes or clayey soils on steep slopes are susceptible to erosion when exposed to concentrated surface water flow. The potential for erosion is increased when established vegetation is disturbed or removed during normal construction activity.

The project area is relatively flat and portions of the site will be covered with new buildings, pavements, or concrete flatwork. Therefore, erosion is not considered to be a significant long-term geologic hazard. However, care should be taken during construction to prevent excess erosion when the soils are disturbed.

**Evaluation:** Less than significant with mitigation.

**Mitigation:** Mitigation measures include designing a site drainage system to collect surface water and discharging it into an appropriate location and/or bioswales. The project Civil Engineer or Architect is responsible for designing the site drainage system and an erosion control plan may need to be developed prior to construction.

4.8  Flooding

The project site is located at elevations ranging from about 142 to 146 feet above sea level and is not mapped within a FEMA 100-year flood zone (Federal Emergency Management Agency, 2016). Therefore, large scale flooding is not considered a significant hazard at the project site. The project Civil Engineer or Architect is responsible for site drainage and should evaluate localized flooding potential and provide appropriate mitigation.

**Evaluation:** Less than significant.

**Mitigation:** No mitigation measures are required.

4.9  Tsunami/Seiche

Seiche and tsunamis are short duration, earthquake-generated water waves in large enclosed bodies of water and the open ocean, respectively. The extent and severity of a seiche would be dependent upon ground motions and fault offset from nearby active faults. The site is located about 5.7 kilometers (3.5 miles) north of San Pablo Bay and is not located within an area mapped as potentially vulnerable to tsunami inundation (CGS, 2009). Therefore, seiche and tsunami are not considered geologic hazards at the site.

**Evaluation:** Less than significant.

**Mitigation:** No mitigation measures are required.
5.0 CONCLUSIONS AND PRELIMINARY RECOMMENDATIONS

Based on the results of our investigation, we conclude the site conditions are suitable for the proposed improvements. The primary geotechnical considerations for design and construction will include providing mitigation for strong seismic ground shaking and uniform foundation support. Additional discussion and recommendations addressing these, and other considerations are presented in the following sections.

5.1 Seismic Design

Minimum mitigation of ground shaking includes seismic design of new structures in conformance with the provisions of the most recent edition (2019) of the California Building Code. The magnitude and character of these ground motions will depend on the particular earthquake and the site response characteristics. Based on the interpreted subsurface conditions and close proximity of the West Napa Fault, we recommend the CBC coefficients and site values shown in Table 2 be used to calculate the design base shear of new improvements as applicable.

Table 2 – 2019 California Building Code Seismic Design Criteria

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Design Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Site Class</td>
<td>C</td>
</tr>
<tr>
<td>Site Latitude</td>
<td>38.2589°N</td>
</tr>
<tr>
<td>Site Longitude</td>
<td>-122.3358°W</td>
</tr>
<tr>
<td>Spectral Response (short), S_s</td>
<td>2.051 g</td>
</tr>
<tr>
<td>Spectral Response (1-sec), S_1</td>
<td>0.748 g</td>
</tr>
<tr>
<td>Site Coefficient, F_a</td>
<td>1.2</td>
</tr>
<tr>
<td>Site Coefficient, F_v</td>
<td>1.4</td>
</tr>
<tr>
<td>Spectral Response (Short), S_{MS}</td>
<td>2.461 g</td>
</tr>
<tr>
<td>Spectral Response (1 sec), S_{M1}</td>
<td>1.047 g</td>
</tr>
<tr>
<td>Design Spectral Response (short), S_{DS}</td>
<td>1.641 g</td>
</tr>
<tr>
<td>Design Spectral Response (1 sec), S_{D1}</td>
<td>0.698 g</td>
</tr>
<tr>
<td>MCEPGA PGA Adjusted, PGA_M</td>
<td>1.024 g</td>
</tr>
<tr>
<td>Seismic Design Category</td>
<td>D</td>
</tr>
</tbody>
</table>


5.2 Site Grading

Relatively thin cuts and fills may be needed to construct the building pad(s) and new driveways and parking areas. Site grading should conform to the following recommendations and criteria.
5.2.1 Site Preparation
Clear pavements, old foundations, over-sized debris, and organic material from areas to be graded. Debris, rocks larger than six inches, and vegetation are not suitable for structural fill and should be removed from the site or used in landscape areas. Existing foundations and utilities which are to be abandoned as part of the work should be removed from structural areas. Utilities could be abandoned in place provided cement grout completely fills any void in the utility.

Where fills or other structural improvements are planned, the subgrade surface should be scarified to a depth of eight inches, moisture conditioned to just above the optimum moisture content, and compacted to at least 90 percent relative compaction. Relative compaction refers to the in-place dry density of soil expressed as a percentage of the maximum dry density, as determined by ASTM D1557. Subgrade preparation should generally extend a minimum of five feet beyond the planned building envelope in all directions. The subgrade should also be firm and unyielding when proof-rolled with heavy, rubber-tired construction equipment. If soft, wet or otherwise unsuitable materials are encountered at subgrade elevation during construction, we will provide supplemental recommendations to address the specific condition.

5.2.2 Excavations
Based on our subsurface exploration, we anticipate site excavations will encounter medium dense clayey sand soils which can be excavated with “conventional” equipment, such as medium-size dozers and excavators. Temporary (steeper) cut slopes may be required during construction and, for planning purposes during dry conditions, these cut slopes may be designed for an OSHA Type “C” soil profile. The Contractor is responsible for site safety during construction, including implementing temporary cut slopes and the support of temporary excavations.

5.2.3 Fill Materials, Placement and Compaction
Fill materials should consist of non-expansive materials that are free of organic matter, have a Liquid Limit of less than 40 (ASTM D 4318), a Plasticity Index of less than 15 (ASTM D 4318), and a minimum R-value of 15 (California Test 301). The fill material should contain no more than 50 percent of particles passing a No. 200 sieve and should be well graded with a maximum particle size of four inches. Onsite soils should be suitable for use as fill provided there is no oversized particles or debris. Any imported fill material needs to be tested to determine its suitability.

Fill materials should be uniformly moisture conditioned to just above the optimum moisture content prior to compaction. Properly moisture conditioned fill materials should subsequently be placed in loose, horizontal lifts of eight-inches-thick or less and uniformly compacted to at least 90 percent relative compaction. Fill materials should be compacted to at least 92 percent relative compaction in areas where fill thicknesses exceed five feet. In hardscape areas subjected to vehicle loads, the upper 12 inches of fill or natural soil should be compacted to at least 95 percent relative compaction and a firm and unyielding condition. The maximum dry density and optimum moisture content of fill materials should be determined in accordance with ASTM D1557.
5.2.4 Wet Weather Construction

Wintertime site work is possible provided that weather conditions do not adversely impact the planned grading and proper erosion control measures are implemented. Extended periods of rainfall can lead to high soil moisture contents and soft and unstable conditions in near-surface soils. Such conditions can adversely impact site grading and construction of new foundations, pavements, flatwork, utilities and other improvements. Several alternatives that are typically implemented to mitigate wet weather construction include:

- Maintaining a dry site by covering the work area and any stockpiled materials with plastic sheeting or other impermeable membrane prior to the onset of rain.
- Treating the subgrade with lime when site work commences to “weatherproof” the site.
- Removing soft or unstable materials and replacing with drier fill. This alternative might also include the use of geotextiles to further stabilize soft areas and improve performance.

Once a construction schedule has been finalized, we can meet with the project team to further discuss potential mitigation strategies for wet weather construction, if needed.

5.3 Foundations

Based on our investigation, we judge the new firehouse and future living quarters may be supported on a shallow foundation system consisting of spread footings. The project Structural Engineer should design foundations utilizing the design criteria presented in Table 3.

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Design Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Minimum Footing Width$^1$</td>
<td>15 inches</td>
</tr>
<tr>
<td>Minimum Footing Depth$^2$</td>
<td>18 inches</td>
</tr>
<tr>
<td>Allowable Bearing Pressure$^3$</td>
<td>2,500 psf</td>
</tr>
<tr>
<td>Base Friction Coefficient</td>
<td>0.30</td>
</tr>
<tr>
<td>Lateral Passive Resistance$^4$</td>
<td>300 pcf</td>
</tr>
</tbody>
</table>

Notes:

1. Design shallow foundations to similar bearing pressures (i.e., size footing widths to maintain relatively uniform bearing loads).
2. Maintain minimum 10-feet horizontal confinement from the face of adjacent slopes at the bottom of footing elevation. Depth measured below lowest adjacent grade.
3. Dead load plus live load. May increase design values by 1/3 for total design loads including wind and seismic.
4. Equivalent fluid pressure, not to exceed 3,000 psf. Neglect upper six inches unless confined by concrete.
5.4 Concrete Slabs-on-Grade

Reinforced concrete slab-on-grade floors are judged to be appropriate for the new firehouse. The concrete slabs-on-grade may be poured monolithically with the foundations or separated with a cold joint at the Structural Engineer’s discretion. We recommend that interior concrete slabs have a minimum thickness of five inches and be reinforced with steel reinforcing bars (not mesh). Where heavy fire-truck loads will occur, a thicker slab section will be required and we anticipate it will be at least eight inches thick. For design of slabs subjected to fire-truck loading, a modulus of subgrade reaction of 120 pci should be appropriate for the on-site soils. The project Structural Engineer should specifically design the concrete slabs, including locations of crack control joints.

A four-inch layer of clean, free draining, ¾-inch angular gravel should be placed beneath interior concrete slabs to form a capillary moisture break. The gravel must be placed on a properly moisture conditioned and compacted subgrade that has been approved by the Geotechnical Engineer. A plastic membrane vapor barrier, 15 mils or thicker, should be placed over the free draining gravel. The vapor barrier should meet the ASTM E1745 Class A requirements and be installed per ASTM E1643. Eliminating the capillary moisture break and/or plastic vapor barrier may result in excess moisture intrusion through the floor slabs resulting in poor performance of floor coverings, mold growth, or other adverse conditions.

We note that over time, placing sand between the vapor barrier and concrete is becoming less common because of elevated interior moisture contents. If sand is used, it should be dry, and if it is not used, the slab should be carefully designed with a lower water-cement ratio since eliminating the sand can cause cracking or “curling” of the new concrete. For slabs that are not sensitive to moisture vapor, we recommend at least four inches of Class 2 Aggregate Base (Caltrans, 2015) compacted to at least 95 percent relative compaction.

5.5 Exterior Flatwork

Exterior concrete walkway slabs and other concrete slabs that are not subjected to vehicle loads should be a minimum of four-inches-thick and underlain with four inches or more of Class 2 Aggregate Base. The aggregate base should be moisture conditioned to near optimum and compacted to at least 95 percent relative compaction. The upper eight inches of subgrade on which aggregate base is placed should be prepared as previously discussed under Section 5.2. Where improved performance is desired (i.e., reduced risks of cracking or offsets due to seasonal movements), exterior slabs can be thickened to five inches and reinforced with steel reinforcing bars (not welded wire mesh). We recommend crack control joints no farther than six feet apart in both directions and that the reinforcing bars extend through the control joints.

For slabs subjected to heavy vehicle loads, such as the vehicle wash area in front of the building, we anticipate a slab thickness of at least eight inches with relatively heavy reinforcing. As noted above, slabs subjected to heavy vehicle loads should be specifically designed by the project Structural Engineer using a subgrade modulus of 120 pci. Exterior slabs subjected to heavy vehicle loads should also be placed on at least six inches of Class 2 Aggregate Base compacted to at least 95%.
5.6 Site Drainage

New grading could result in adverse drainage patterns causing water to pond around the buildings. Careful consideration should therefore be given to design of finished grades at the site. We recommend that the building areas be raised slightly and that the adjoining landscaped areas be sloped downward at least 0.25 feet for five feet (five percent) from the perimeter of building foundations. Where hard surfaces, such as concrete or asphalt adjoin foundations, slope these surfaces at least 0.10 feet in the first five feet (two percent).

Roof gutter downspouts may discharge onto the pavements but should not discharge onto landscaped areas immediately adjacent to the home. Provide area drains for landscape planters adjacent to buildings and collect downspout discharges into a tight pipe collection system that discharges well away from the building foundations. Site drainage should be discharged away from the building area and outlets should be designed to reduce erosion. Site drainage improvements should be connected into an established storm drainage system.

5.7 Underground Utilities/Potential Soil Corrosion

Excavations for utilities will be in medium stiff to medium dense clayey sand soils and may encounter groundwater at shallow depths if wintertime or early spring work is performed. Trench excavations having a depth of five feet or more must be excavated and shored in accordance with OSHA regulations. Bedding materials for utility pipes should be poorly graded sand with 90 to 100 percent of particles passing the No. 4 sieve and no more than five percent finer than the No. 200 sieve. Crushed rock or pea gravel may also be considered for pipe bedding. Provide the minimum bedding beneath the pipe in accordance with the manufacturer’s recommendation, typically three to six inches. Trench backfill may consist of on-site soils, moisture conditioned and placed in thin lifts and compacted to at least 90 percent. Use equipment and methods that are suitable for work in confined areas without damaging utility conduits.

As reported on Figure A-6, soils are not highly-corrosive at the project site, but uncoated steel pipes or other metallic structures will have a reduced lifespan so they should generally be avoided at the site.

5.8 Pavements

We have calculated pavement sections in accordance with Caltrans procedures for flexible pavement design (Caltrans Highway Design Manual, 2015). We assumed an R-value of 15 in calculating asphalt thicknesses which should be appropriate for the on-site surficial soils. We have provided a range of Traffic Indices from 4.0 to 7.0 depending on the expected traffic loads and a twenty-year pavement design life. In general, areas expected to experience loading from heavy vehicles should be designed using the higher Traffic Index, while parking areas and other lightly-loaded areas can utilize a thinner pavement section based on the lower Traffic Index. The recommended pavement sections are presented in Table 4.
Table 4 – Asphalt-Concrete Pavement Sections

<table>
<thead>
<tr>
<th>Traffic Index</th>
<th>Asphalt Concrete (inches)</th>
<th>Aggregate Base (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td>4.0</td>
<td>2.5</td>
<td>7.0</td>
</tr>
<tr>
<td>5.0</td>
<td>3.0</td>
<td>9.0</td>
</tr>
<tr>
<td>6.0</td>
<td>3.5</td>
<td>11.0</td>
</tr>
<tr>
<td>7.0</td>
<td>4.0</td>
<td>13.0</td>
</tr>
</tbody>
</table>

The Class 2 Aggregate Base should conform to the most recent version of Caltrans Standard Specifications and should be compacted to at least 95 percent relative compaction. Additionally, the aggregate base should be firm and unyielding under heavy, rubber-tired construction equipment. If heavier truck traffic or “superior” performance is desired, the thickness of the aggregate base and asphalt thickness may be increased.

6.0 SUPPLEMENTAL GEOTECHNICAL SERVICES

As project plans are nearing completion, we should review them to confirm that the intent of our geotechnical recommendations has been incorporated. We can also consult with project team to supplement or clarify geotechnical recommendations, if needed. During construction, we should be present intermittently to observe foundation excavations, retaining wall drainage and backfill, subgrade preparation and compaction, fill placement and compaction, and other geotechnical-related work items. The purpose of our observation and testing is to confirm that site conditions are as anticipated, to adjust our recommendations and design criteria if needed, and to confirm that the Contractor’s work is performed in accordance with the project plans and specifications.
7.0 LIST OF REFERENCES


Idriss, I.M. & Boulanger, R.W. “SPT-Based Liquefaction Triggering Procedures” Department of Civil and Environmental Engineering, College of Engineering, University of California at Davis, UCD/GCM-10/02, December 2010.


SITE LOCATION MAP

Carneros Fire Station
Napa, California

REFERENCE: Google Earth, 2020

SITE COORDINATES
LAT. 38.2589°
LON. -122.3358°

SITE LOCATION
N.T.S.

FILENAME: 1114.448 Standard Figures.dwg

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FILENAME: 1114.448 Standard Figures.dwg

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Project No. 1114.448
Date: 8/12/2020
Approximate location of boring completed by MPEG, 2020

**REGIONAL GEOLOGIC MAP**

- **Stream channel deposits (latest Holocene)** - Deposits in active, natural stream channels, consists of loose alluvial sand, gravel, and silt.

- **Alluvium, undivided (Holocene)** - Alluvium deposited on fans, terraces, or in basins, composed of sand, gravel, silt, and clay that are poorly sorted.

- **Alluvial fan deposits (Holocene)** - Alluvial fan sediment deposited by streams emanating from mountain drainages onto alluvial valleys, composed of moderately to poorly sorted sand, gravel, silt, and clay.

- **Alluvium, undivided (latest Pleistocene)** - Alluvial fan, stream terrace, basin, and channel deposits, composed of poorly to moderately sorted sand, silt, clay, and gravel.

- **Huichica Formation (early Pleistocene and Pliocene)** - Gravel, sand, reworked tuff, and clay.

- **Great Valley Sequence (early Cretaceous and late Jurassic)** - Sandstone, pebble conglomerate, siltstone, and shale.

DATA SOURCE:

ACTIVE FAULT MAP
Carneros Fire Station
Napa, California

SITE COORDINATES
LAT. 38.2589*
LON. -122.3358*

SCALE
0 12.5 25 50 MILES

72% probability of one or more $M \geq 6.7$ earthquakes from 2014 to 2043 in the San Francisco Bay Region
SITE COORDINATES
LAT. 38.2589°
LON. -122.3358°

DATA SOURCE:
APPENDIX A
SUBSURFACE EXPLORATION AND LABORATORY TESTING

A. SUBSURFACE EXPLORATION

We explored subsurface conditions near the proposed improvements on July 23, 2020 with three soil borings at the approximate locations shown on Figure 2. The borings were excavated to depths of ranging from about 9.9 to 20 feet below ground surface using truck-mounted drilling equipment. The subsurface conditions encountered during our exploration are summarized and presented on the Boring Logs, Figures A-3 through A-5. The depth to groundwater was noted during drilling and measured before backfilling the borings with cement grout.

“Undisturbed” samples were obtained from the soil borings using a three-inch diameter, split-barrel Modified California Sampler with 2.5 by six-inch tube liners or a Standard Penetration Test (SPT) Sampler. The samplers were driven by a 140-pound hammer at a 30-inch drop. The number of blows required to drive the samplers 18 inches was recorded and is reported on the boring logs as blows per foot for the last 12 inches of driving. The samples obtained were examined in the field, sealed to prevent moisture loss, and transported to our laboratory.

B. LABORATORY TESTING

We conducted laboratory tests on selected intact samples to classify soils and to estimate engineering properties. The following laboratory tests were conducted in general accordance with the ASTM standard test method cited:

- Laboratory Determination of Water (Moisture Content) of Soil, Rock, and Soil-Aggregate Mixtures, ASTM D 2216
- Density of Soil in Place by the Drive-Cylinder Method, ASTM D2937
- Unconfined Compressive Strength of Cohesive Soil, ASTM D2166
- pH in soil, EPA 9040
- Resistivity in Soil, SM 2510
- Anions in soil (sulfate and chloride), EPA 300

The moisture content, dry density and unconfined compression test results are shown on the exploratory boring logs, whereas the corrosion test results are shown on Figures A-6.

The exploratory boring logs, description of soils encountered, and the laboratory test data reflect conditions only at the location of the boring at the time they were excavated or retrieved. Conditions may differ at other locations and may change with the passage of time due to a variety of causes including natural weathering, climate and changes in surface and subsurface drainage.
<table>
<thead>
<tr>
<th>MAJOR DIVISIONS</th>
<th>SYMBOL</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLEAN GRAVEL</td>
<td>GW</td>
<td>Well-graded gravels or gravel-sand mixtures, little or no fines</td>
</tr>
<tr>
<td>Clean Gravel</td>
<td>GP</td>
<td>Poorly-graded gravels or gravel-sand mixtures, little or no fines</td>
</tr>
<tr>
<td>Gravel with fines</td>
<td>GM</td>
<td>Silty gravels, gravel-sand-silt mixtures</td>
</tr>
<tr>
<td>Clean Sand</td>
<td>GC</td>
<td>Clayey gravels, gravel-sand-clay mixtures</td>
</tr>
<tr>
<td>Sand with fines</td>
<td>SW</td>
<td>Well-graded sands or gravelly sands, little or no fines</td>
</tr>
<tr>
<td>Poorly-graded sand with fines</td>
<td>SP</td>
<td>Poorly-graded sands or gravelly sands, little or no fines</td>
</tr>
<tr>
<td>Silt with fines</td>
<td>SM</td>
<td>Silty sands, sand-silt mixtures</td>
</tr>
<tr>
<td>Clayey sands</td>
<td>SC</td>
<td>Clayey sands, sand-clay mixtures</td>
</tr>
<tr>
<td>Silt and Clay liquid limit &lt;50%</td>
<td>ML</td>
<td>Inorganic silts and very fine sands, rock flour, silty or clayey fine sands or clayey silts with slight plasticity</td>
</tr>
<tr>
<td>Organic silts and organic silt-clays of low plasticity</td>
<td>OL</td>
<td>Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays</td>
</tr>
<tr>
<td>Silt and Clay liquid limit &gt;50%</td>
<td>MH</td>
<td>Inorganic silts, micaceous or diatomaceous fine sands or silts, elastic silts</td>
</tr>
<tr>
<td>Organic clays of medium to high plasticity</td>
<td>CH</td>
<td>Inorganic clays of high plasticity, fat clays</td>
</tr>
<tr>
<td>Highly Organic Soils</td>
<td>PT</td>
<td>Peat, muck, and other highly organic soils</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>KEY TO BORING AND TEST PIT SYMBOLS</th>
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</table>

<table>
<thead>
<tr>
<th>CLASSIFICATION TESTS</th>
<th>STRENGTH TESTS</th>
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</thead>
<tbody>
<tr>
<td>PI PLASTICITY INDEX</td>
<td>UC LABORATORY UNCONFINED COMPRESSION</td>
</tr>
<tr>
<td>LL LIQUID LIMIT</td>
<td>TXCU CONSOLIDATED UNDRAINED TRIAXIAL</td>
</tr>
<tr>
<td>SA SIEVE ANALYSIS</td>
<td>TXUU UNCONSOLIDATED UNDRAINED TRIAXIAL</td>
</tr>
<tr>
<td>HYD HYDROMETER ANALYSIS</td>
<td>UC, CU, UU = 1/2 Deviator Stress</td>
</tr>
<tr>
<td>P200 PERCENT PASSING NO. 200 SIEVE</td>
<td>DS (2.0) DRAINED DIRECT SHEAR (NORMAL PRESSURE, ksf)</td>
</tr>
<tr>
<td>P4 PERCENT PASSING NO. 4 SIEVE</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>SAMPLER TYPE</th>
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<tbody>
<tr>
<td>HAND SAMPLER</td>
<td>ROCK CORE</td>
</tr>
<tr>
<td>DISTURBED OR BULK SAMPLE</td>
<td></td>
</tr>
</tbody>
</table>

| NOTE: | Test boring and test pit logs are an interpretation of conditions encountered at the excavation location during the time of exploration. Subsurface rock, soil or water conditions may vary in different locations within the project site and with the passage of time. Boundaries between differing soil or rock descriptions are approximate and may indicate a gradual transition. |

<table>
<thead>
<tr>
<th>SAMPLE DRIVING RESISTANCE</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Modified California and Standard Penetration Test samplers are driven 18 inches with a 140-pound hammer falling 30 inches per blow. Blows for the initial 6-inch drive seat the sampler. Blows for the final 12-inch drive are recorded onto the logs. Sampler refusal is defined as 50 blows during a 6-inch drive. Examples of blow records are as follows:</td>
<td></td>
</tr>
<tr>
<td>25 sampler driven 12 inches with 25 blows after initial 6-inch drive</td>
<td></td>
</tr>
<tr>
<td>85/7&quot; sampler driven 7 inches with 85 blows after initial 6-inch drive</td>
<td></td>
</tr>
<tr>
<td>50/3&quot; sampler driven 3 inches with 50 blows during initial 6-inch drive or beginning of final 12-inch drive</td>
<td></td>
</tr>
</tbody>
</table>
FRACTURING AND BEDDING

<table>
<thead>
<tr>
<th>Fracture Classification</th>
<th>Spacing</th>
<th>Bedding Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crushed</td>
<td>less than 3/4 inch</td>
<td>Laminated</td>
</tr>
<tr>
<td>Intensely fractured</td>
<td>3/4 to 2-1/2 inches</td>
<td>Very thinly bedded</td>
</tr>
<tr>
<td>Closely fractured</td>
<td>2-1/2 to 8 inches</td>
<td>Thinly bedded</td>
</tr>
<tr>
<td>Moderately fractured</td>
<td>8 to 24 inches</td>
<td>Medium bedded</td>
</tr>
<tr>
<td>Widely fractured</td>
<td>2 to 6 feet</td>
<td>Thickly bedded</td>
</tr>
<tr>
<td>Very widely fractured</td>
<td>greater than 6 feet</td>
<td>Very thickly bedded</td>
</tr>
</tbody>
</table>

HARDNESS

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Low</td>
<td>Carved or gouged with a knife</td>
</tr>
<tr>
<td>Moderate</td>
<td>Easily scratched with a knife, friable</td>
</tr>
<tr>
<td>Hard</td>
<td>Difficult to scratch, knife scratch leaves dust trace</td>
</tr>
<tr>
<td>Very hard</td>
<td>Rock scratches metal</td>
</tr>
</tbody>
</table>

STRENGTH

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Friable</td>
<td>Crumbles by rubbing with fingers</td>
</tr>
<tr>
<td>Weak</td>
<td>Crumbles under light hammer blows</td>
</tr>
<tr>
<td>Moderate</td>
<td>Indentations &lt;1/8 inch with moderate blow with pick end of rock hammer</td>
</tr>
<tr>
<td>Strong</td>
<td>Withstands few heavy hammer blows, yields large fragments</td>
</tr>
<tr>
<td>Very strong</td>
<td>Withstands many heavy hammer blows, yields dust, small fragments</td>
</tr>
</tbody>
</table>

WEATHERING

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Complete</td>
<td>Minerals decomposed to soil, but fabric and structure preserved</td>
</tr>
<tr>
<td>High</td>
<td>Rock decomposition, thorough discoloration, all fractures are extensively coated with clay, oxides or carbonates</td>
</tr>
<tr>
<td>Moderate</td>
<td>Fracture surfaces coated with weathering minerals, moderate or localized discoloration</td>
</tr>
<tr>
<td>Slight</td>
<td>A few stained fractures, slight discoloration, no mineral decomposition, no affect on cementation</td>
</tr>
<tr>
<td>Fresh</td>
<td>Rock unaffected by weathering, no change with depth, rings under hammer impact</td>
</tr>
</tbody>
</table>

NOTE: Test boring and test pit logs are an interpretation of conditions encountered at the location and time of exploration. Subsurface rock, soil and water conditions may differ in other locations and with the passage of time.
### BORING 1

**EQUIPMENT:** Truck-Mounted Mobile B53 with 6.0-inch Solid Flight Auger  
**DATE:** 7/23/2020  
**ELEVATION:** 146 - feet*  
*REFERENCE: Google Earth, 2020

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>SYMBOL (4)</th>
<th>DEPTH (feet)</th>
<th>BLOWS / FOOT (1)</th>
<th>DRY UNIT WEIGHT pcf (2)</th>
<th>MOISTURE CONTENT (%)</th>
<th>SHEAR STRENGTH psf (3)</th>
<th>OTHER TEST DATA</th>
<th>OTHER TEST DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.0</td>
<td>20</td>
<td>95</td>
<td>10.4</td>
<td>UC 3320</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clayey SAND with Gravel (SC)</td>
<td>Light-medium brown, dry to moist, medium dense, fine to coarse grained sand, ~20-25% low plasticity clay, ~10-15% angular gravels. [Fill]</td>
<td>1.0</td>
<td>20</td>
<td>108</td>
<td>16.1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clayey SAND (SC)</td>
<td>Medium brown, orange and gray, dry to moist, dense, fine to coarse grained sand, ~20-30% medium plasticity clay, occasional rounded gravel. [Alluvium]</td>
<td>2.0</td>
<td>53</td>
<td>100</td>
<td>19.5</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Grades to slight increased gravel content and greater coarse sand.</td>
<td>3.0</td>
<td>57/9&quot;</td>
<td>102</td>
<td>16.9</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bottom of boring at 9'-9&quot;. No groundwater encountered during drilling.</td>
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<td></td>
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<td></td>
</tr>
</tbody>
</table>

**NOTES:**  
(1) UNCORRECTED FIELD BLOW COUNTS  
(2) METRIC EQUIVALENT DRY UNIT WEIGHT kN/m³ = 0.1571 x DRY UNIT WEIGHT (pcf)  
(3) METRIC EQUIVALENT STRENGTH (kPa) = 0.0479 x STRENGTH (psf)  
(4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY  

Water level encountered during drilling  
Water level measured after drilling

---

**BORING LOG**  
Carneros Fire Station  
Napa, California

Project No. 1114.448  
Date: 8/12/2020
**BORING LOG**

Carneros Fire Station  
Napa, California  

<table>
<thead>
<tr>
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</thead>
<tbody>
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<tr>
<td>20</td>
<td>20</td>
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<td></td>
</tr>
</tbody>
</table>

### Clayey SAND with Gravel (SC)
Light-medium brown, dry to moist, medium dense, fine to coarse grained sand, ~20-30% low plasticity clay, ~10% small gravels. [Fill]

<table>
<thead>
<tr>
<th>BLOWS / FOOT (1)</th>
<th>DRY UNIT WEIGHT pcf (2)</th>
<th>MOISTURE CONTENT (%)</th>
<th>SHEAR STRENGTH psf (3)</th>
<th>OTHER TEST DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>22</td>
<td>105</td>
<td>10.6</td>
<td>UC 1450</td>
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<tr>
<td>19</td>
<td>101</td>
<td>12.2</td>
<td>UC 1830</td>
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<tr>
<td>30</td>
<td>97</td>
<td>25.6</td>
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<tr>
<td>35</td>
<td>99</td>
<td>24.5</td>
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<td></td>
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</tbody>
</table>

### Clayey SAND (SC)
Orange, red and brown, dry to moist, medium dense, fine to coarse grained subrounded sand, ~20-25% medium to high plasticity clay, ~5% subrounded gravels up to 1/2-inch diameter. [Alluvium]

<table>
<thead>
<tr>
<th>BLOWS / FOOT (1)</th>
<th>DRY UNIT WEIGHT pcf (2)</th>
<th>MOISTURE CONTENT (%)</th>
<th>SHEAR STRENGTH psf (3)</th>
<th>OTHER TEST DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>55</td>
<td>115</td>
<td>13.7</td>
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</tbody>
</table>

### Mudstone
Medium gray, brown, and orange, low to moderate hardness, moderate strength, moderate weathering. [Bedrock]

<table>
<thead>
<tr>
<th>BLOWS / FOOT (1)</th>
<th>DRY UNIT WEIGHT pcf (2)</th>
<th>MOISTURE CONTENT (%)</th>
<th>SHEAR STRENGTH psf (3)</th>
<th>OTHER TEST DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
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</tbody>
</table>

**NOTES:**
(1) UNCORRECTED FIELD BLOW COUNTS  
(2) METRIC EQUIVALENT DRY UNIT WEIGHT kN/m³ = 0.1571 x DRY UNIT WEIGHT (pcf)  
(3) METRIC EQUIVALENT STRENGTH (kPa) = 0.0479 x STRENGTH (psf)  
(4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

---

Water level encountered during drilling  
Water level measured after drilling

---

**BORING LOG**

Carneros Fire Station  
Napa, California  

504 Redwood Blvd.  
Suite 220  
Novato, CA 94947  
T 415 / 382-3444  
F 415 / 382-3450  
www.millerpac.com  

FILE NAME: 1114.448 BL.dwg  
A CALIFORNIA CORPORATION, 2020, ALL RIGHTS RESERVED  
Project No. 1114.448  
Date: 8/12/2020  

---

**A-4**  
FIGURE
**BORING 3**

**EQUIPMENT:** Truck-Mounted Mobile B-53 with 6.0-inch Solid Flight Auger  
**DATE:** 7/23/2020  
**ELEVATION:** 146 - feet*  
*REFERENCE: Google Earth, 2020

<table>
<thead>
<tr>
<th>SAMPLE</th>
<th>SYMBOL (4)</th>
<th>DEPTH (feet)</th>
<th>DEPTH (meters)</th>
<th>DRY UNIT WEIGHT (pcf)</th>
<th>MOISTURE CONTENT (%)</th>
<th>SHEAR STRENGTH psf (3)</th>
<th>OTHER TEST DATA</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
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<td>6.81</td>
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</tr>
</tbody>
</table>

**NOTES:**  
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(2) METRIC EQUIVALENT DRY UNIT WEIGHT kN/m³ = 0.1571 x DRY UNIT WEIGHT (pcf)  
(3) METRIC EQUIVALENT STRENGTH (kPa) = 0.0479 x STRENGTH (psf)  
(4) GRAPHIC SYMBOLS ARE ILLUSTRATIVE ONLY

---

**Clayey SAND with Gravel (SC)**  
Light-medium brown, dry to moist, medium dense, fine to coarse grained sand, ~20% low plasticity clay, ~10-15% angular gravels. [Fill]

**Clayey SAND (SC)**  
Medium brown, tan and orange, dry to moist, medium dense, fine to coarse grained sand, ~15-20% medium plasticity clay, 10-15% rounded gravel. [Alluvium]

**Bottom of boring at 10.5-ft. No groundwater encountered during drilling.**

---

*Water level encountered during drilling*  
*Water level measured after drilling*
## Corrosion Testing Results

### Carneros Fire Station
Napa, California

**Project No.** 1114.448  **Date:** 8/12/2020

<table>
<thead>
<tr>
<th>SAMPLE NUMBER</th>
<th>DESCRIPTION</th>
<th>SOIL pH</th>
<th>NOMINAL MIN RESISTIVITY ohm-cm</th>
<th>ELECTRICAL CONDUCTIVITY μmhos/cm</th>
<th>SULFATE SO4 (ppm)</th>
<th>CHLORIDE Cl (ppm)</th>
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</thead>
<tbody>
<tr>
<td>08421-1</td>
<td>CFS1/N Native Soil B1, B2, B3 @ 0.0-2.0' (composite)</td>
<td>8.25</td>
<td>1,000 [1000]</td>
<td></td>
<td>127.5</td>
<td>236</td>
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**Method Detection Limits**

<table>
<thead>
<tr>
<th>SAMPLE NUMBER</th>
<th>DESCRIPTION</th>
<th>SALINITY ECe dS/cm</th>
<th>SOLUBLE SULFIDES (S(CN)) ppm</th>
<th>CYANIDES (CN-) ppm</th>
<th>REDOX mV</th>
<th>PERCENT MOISTURE %</th>
</tr>
</thead>
</table>

**Comments**

Resistivity is right at 1,000 ohm-cm, i.e., very low; soil reaction (i.e., pH) is mildly alkaline; sulfate is low enough (@ <200 ppm), but chloride is mildly elevated (@ >100 ppm). The CalTrans (CT) times to perforation of galvanized steel and the full depth pitting times (following UHlg) for otherwise unprotected steel in this soil are determined based on the pertinent parameters [see table at left below]. Sulfate should not have any adverse impact on concrete, cement, mortar or grout; however, chloride might have some adverse impact on rebar or buried steel. Based on the tested parameters, a point range for this soil can be determined [see the table below on right]. Lime or mild cement treatment of this soil would not be of any benefit since soil pH is already above the lime line range. To improve metals longevity any more in this soil would require steel upgrading or other actions. At times, structural strength considerations may require heavier gauge steel than is used in the present examples such that perforation and pitting times can be beyond the specified life span. Where this is not the case, then cathodic protection along with coating or wrapping steel assets is one potential solution. Some of the other potential options include increased or specialized engineering fill, use of a polymer coating, or use of plastic, fiberglass or concrete assets. Based on these results, standard concrete mixes and rebar may not be suitable in this soil over the long term due to borderline resistivity and elevated chemistry, especially Cl, thus it may be prudent to upgrade construction materials (e.g. ASTM Type II Cement, heavier rebar, etc.).

<table>
<thead>
<tr>
<th>SAMPLE ID</th>
<th>CT 18 yrs</th>
<th>CT 12 yrs</th>
<th>2 mm (UHlg)</th>
<th>PARAMETER/ID</th>
<th>DBES1-CS/BB</th>
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<tbody>
<tr>
<td>BBE13-CS/BB treated</td>
<td>~25 yrs</td>
<td>~55 yrs</td>
<td>~17 yrs</td>
<td>pH</td>
<td>Ø</td>
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<td></td>
<td></td>
<td></td>
<td></td>
<td>Rs</td>
<td>5-10</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SO4</td>
<td>Ø</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Cl</td>
<td>Ø-3</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Redox</td>
<td>—</td>
</tr>
</tbody>
</table>

**WinNotes:** Methods are from following sources: extractions by Cal Trans protocols as per Cal Test 417 (SO4), 422 (Cl), and 532643 (pH & resistivity); SO4 by ASTM Vol. 4.08 & ASTM Vol. 11.01 (=EPA Methods of Chemical Analysis, or Standard Methods); pH - ASTM G 51; Spec. Cond. - ASTM D1125; resistivity - ASTM G187; redox - Pt probe/ISE; sulfate - extraction Title 22, detection ASTM D516 (=EPA 375.4); chloride - extraction Title 22, detection ASTM D512 (=EPA 325.3); sulfides - extraction by Title 22, and detection EPA 376.2 (= SMEWW 4590-S D); cyanides - extraction by Title 22, and detection by ASTM D4374 (=EPA 335.2).
AT&T will need the customer to order service, we don’t place cables under an order is made. 
Please call; (831) 332-1755
https://www.att.com/shop/unified/availability.html

Please note, that AT&T is only placing copper service drops into building, For fiber service please e-mail carrie.bosley@att.com

AT&T Fiber for Multifamily https://www.att.com/att/multifamily-property/

Underground Service Alert of Northern/Central California and Nevada: 8-1-1
http://usanorth811.org/

The local electric and gas company is PG&E (415-744-4619) P2S3@pge.com
The local CATV Company is Comcast / Cablecom Northbay.Bau@Cablecomllc.net
Please arrange to contact them for their timelines, billing, and engineering. AT&T does not coordinate nor bill PG&E or Comcast / Cablecom.

Place a minimum 4' x 8' x 1/2" fire-rated plywood backboard -
Place a 120V AC dedicated outlet on a dedicated 15Amp circuit breaker.
Single standard 3 prong 120V AC, 15Amp dedicated receptacle -
Place new #6 ground wire bonded to an MGN (except in CA) or UFER Ground terminated to a grounding bus bar -
Place 4" conduit with pull tape is required. Forward photos. Pg7642@att.com
Minimum 3' sweeping radius - no right angles - no more than three 90 degree turns without a pull box. Paths longer than 300' or with two or more 90-degree turns will require a pull box (PTS-3048). Forward photos. Pg7642@att.com

Examples of trees that can be planted around AT&T equipment http://www.safetree.net/

New Construction and Customer Room Ready video we shared with all of you earlier is now posted on our external AT&T Business You Tube link http://youtu.be/ZjVlva9lWkg

AT&T will only use cable or service wire issue by and for the use of AT&T. No other cables or service wire can be used before the demarcation point. AT&T will only attach to one customer provided pole with service wire.
Re: WILL SERVE LETTER IN NAPA COUNTY CALIFORNIA

This letter is being prepared as a “will serve” letter for property identified in Napa, CA. and is a requirement as part of Napa County’s approval process.

This is to inform you that the above mentioned parcel is located within the Napa Wire Center of AT&T’s service area.

We expect to be in the position to provide telephone service to applicants at the above listed parcel, upon request and in accordance with the requirements of and at rates and charges specified in our tariffs on file with the California Public Utilities Commission.

At this time, AT&T will not be able to provide the estimated cost per foot of installation and/or extension of services to the furthest lot in the subdivision.

The Developer or Applicant will be required to provide the underground supporting structure for separate service connection facilities on the property to be served.

This offer to provide service will terminate 24 months after the date of this letter unless both of the following first occur: 1) a service agreement is executed by the developer and AT&T; and 2) all charges, if required, are paid by the developer.

Thank you for your inquiry.

If you have any questions, please e-mail: pg7642@att.com

Sincerely,

Patrick C. Gorman
2020 Business Account Services and Support

AT&T Business help organizations accelerate their digital evolution through an integrated portfolio of technology solutions, including mobility, networking, Internet of Things, collaboration, cybersecurity, and cloud.

**Mobility Services**
End-to-end mobility solutions that enable agile business operations.

**Network Services**
VPN, Ethernet, High Bandwidth, SDN/NFV, Dedicated Internet, High Speed Internet, AT&T WiFi, Network Professional Services.

**Internet of Things (IoT)**
Vehicle Solutions, Asset Management, Smartcities, Professional Services.

**Cybersecurity Services**

**Voice and Collaboration**
Voice and VoIP Communications, Unified Communications, Video/Web/Audio Conferencing.

**Enterprise Mobility Management**
Control, maintain, and protect your mobile devices, applications, and services. Improve productivity. And meet your growing demand for anytime, anywhere access to information.

**Cloud**
Collocation Services, Cloud Networking, Content Delivery Network, Cloud Disaster Recovery, Virtual Data Center, Cloud Content Management.

**Direct TV**
DIRECTV is available nationwide, so you never have to settle for cable. And with 99% worry-free signal reliability (based on a Nationwide Study of representative cities), you can always give your customers what they love.

---

**Fiber Sales Executive**
Carrie Bosley
831-332-1755
CBO253@att.com

**Additional Support**
- **800-332-1321 - Priority Repair** – (24x7) Open trouble ticket and email your AM
- **800-891-1800 - Business Account Center** – Local service adds, moves, changes, and billing questions
- **888-613-6330 - Managed Internet Service Repair**
- **877-288-8362 - IP Flex Reach Technical Support**
- **866-288-7629 Mobility Care Center** – Wireless maintenance, upgrades and changes
AT&T Specifications

Trenching
Conduit
Boxes and Manholes
Aerial Entrance Masts
Service Cabinets
Bonding and Grounding

A Guide for California Developers of Commercial Property This guide consists of AT&T California specifications and diagrams for trenching, underground support structure, aerial installations, and other make ready work performed by developers and their agents as required by AT&T for installation of its copper communication facilities on commercial private property. Any deviation from the information provided in this document must be approved by the local AT&T Engineer.
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AT&T Planning and Design Requirements

The California Public Utility Commission Tariff Schedule A2 defines specific responsibilities for both the Developer and AT&T to establish telephone service to your project. AT&T must approve the final plan for service prior to the start of construction for the telephone facilities. In order for AT&T to begin engineering to serve your project you must provide the following:

1. Two (2) scaled copies of the site plan, floor plan and electrical/telephone site plan (E-1) drawings *(AT&T Engineer may request your plans on a Compact Disk in lieu of hard copies)*
2. Two (2) scaled copies of off-site improvement plans
3. Address, telephone number and Email address of Developer/Owner, General Contractor, Electrical Consultant, and Electrician
4. Assessor Parcel Number and address of project
5. Approved parcel map issued by the governing municipality
6. Power company trench layout

After receipt of these items, AT&T will return to you a red-lined CD or scaled copy of your plans indicating the trench route and substructure requirements and a Service Connection Agreement Letter. This letter must be signed and returned prior to any detailed engineering work by AT&T.

In order to best serve the telecommunication needs of you and your tenants, if available, please provide AT&T with the estimated number of voice, data, and facsimile lines for each commercial building. For advanced services, include estimated high speed data (T1) and fiber based services (DS3 and above).
General Construction Requirements

1. Contact AT&T at 707-666-4527 at least 2 days prior to construction to arrange a pre-construction meeting date.

2. Notify AT&T on 707-666-4527 at least 48 hours prior to trenching to ensure an AT&T Inspector will be on site, if required.

3. Verify the location of AT&T and all other utility substructures and buried facilities two (2) days prior to excavation.
   Call Underground Service Alert:
   811

4. Provide supervision and coordination between the various contractors working within the project in order to prevent damage to AT&T facilities. The developer is responsible for the cost of repairs, replacement or relocation made necessary by damage to the AT&T facilities by other work operations.

5. Construct trench and place substructures according to AT&T plans and specifications.

6. Request and get authorization for any design change from the AT&T engineer or AT&T inspector prior to implementing the change.

7. Provide “As Built” drawings with the footages to the AT&T engineer or AT&T inspector upon completion of the conduit system.

8. Call 707-666-4527 for inspection of building requirements at least 2 days prior to needing telephone service, including temporary alarm circuits.

9. AT&T facilities will not be placed until all developer requirements are completed to AT&T specification and meet AT&T approval.
Trenching

1. Minimum radial clearance must be 12” from all trench occupants except CATV (C.P.U.C. Order 128), unless there is a prior signed agreement with AT&T.

2. Bends, sweeps or grade changes that have a radius of 80’ or less or a grade change of 20% or more must be encased in 2500 psi concrete.

3. Minimum trench cover must meet the governing agency requirement and Cal P.U.C. GO 128.

4. All trench backfill material must be minimum Class B and compacted in accordance with governing agency specifications. Cover conduit with 12” of fine soil (import) before tamping.

5. Stake property corner for AT&T tie-in from the dedicated street or easement.

TELCO (AT&T) ONLY TRENCH

JOINT TRENCH

---

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Conduit

Conduit placed for AT&T must be for its exclusive use. AT&T will not occupy the same conduit with other utilities or foreign cable/communication systems. AT&T may refuse to occupy conduit that deviates from our plans and specifications. AT&T will specify the number and size of conduits for your project.

The developer is responsible for repairing or resolving any problems with the conduit they have installed that prevents AT&T from pulling its cable through the conduit using normal installation methods. All conduit sections must be rodded, cleared, and roped prior to AT&T pulling in cable. Mandrelling of conduit may be required.

If the job calls for AT&T to provide the conduit material to the job site, the developer or his/her agent must be on site to sign for the delivery.

Material Requirements

The supplier AT&T uses for PVC conduit, fittings and accessories is CantexI. Their main telephone number is 817-215-7000. They can also be contacted through their website at www.cantexinc.com. Suppliers/Distributors are listed on page 9.

1. Four inch (4") conduit must be type C PVC, white in color with “AT&T” logo.
   - Minimum sweep for 4” conduit is three (3) ft 90 degree radius.
   - Maximum of two (2) 90 degree bends
   - Three-eighth inch (3/8") minimum polypropylene pull rope or equivalent strength Polyester Woven Mule Tape must be installed in terminated conduit end to end. Leave a minimum of 3’ of secured rope in each box. Ropes must be one continuous length for each section and to the terminal room in the building (no tying or splicing of rope).

2. Two inch (2") conduit must be type DB 60 rigid plastic.
   - Minimum sweep for 2” conduit is two (2) ft 90 degree radius.
   - Maximum of two (2) 90 degree bends
   - Three-sixteenth inch (3/16”) minimum polypropylene pull rope or equivalent strength Polyester Woven Mule Tape must be installed in terminated conduit end to end.
   - Leave a minimum of 3’ of secured rope in each box. Ropes must be one continuous length for each section and to the terminal room in the building (no tying or splicing of rope).

3. Rigid plastic or steel conduit must be used in floor slabs.

4. Condulets, plumber’s fittings, water and gas pipes are NOT ACCEPTABLE.

5. Aerial installations require a 2” steel conduit and approved weather head fitting. See diagrams on pages 18 and 19.
Installation Requirements

1. Minimum trench coverage is detailed on page 5.

2. Service conduit (2” or 4”) must be terminated above distribution conduits (4”) in the box to prevent water flowing from the box and down service conduit toward the building. Boxes must be ordered with the appropriate number of knockouts or terminators to accommodate the conduits.

3. Wall to wall measurements of terminated conduit between boxes and to the terminal room in the building is required (use Logan’s line, Tru Tape®, mule or steel tape). Lengths must be included in the “As-Builts” and a copy provided to AT&T prior to installation of AT&T’s cable.

4. Conduit in multiple duct designs must be installed using AT&T approved spacers.

5. Concrete encase (2500 psi) all bends with less than 80’ radius.

6. A maximum of two (2) 90 degree bends per section may be installed unless otherwise approved by AT&T. Pull boxes may be required. Straight 20’ lengths may be used on 90 degree bends with a radius greater than 40’. Factory bends are required for all other bends.

7. Underground entrance conduit in a building must terminate 2” above the floor. The terminal room should be planned so that AT&T’s entrance cable WILL NOT EXCEED 50’ beyond the point where it enters the building.

8. Rope all conduits (see material requirements on page 6). Use a temporary universal plug to keep conduit free of debris. Cap all stubbed conduit.

Boxes and Manholes

Material Specifications

All pull boxes, splice boxes and manholes placed by the developer that will be owned and maintained by the property owner must be approved for use by AT&T. The developer may purchase from any manufacturer that meets AT&T’s specifications for boxes and manholes, and must include the appropriate racking, sump, bolt down cover, and pulling eyes. Boxes and manholes owned by the property owner must have a generic telephone emblem on the lid. The use of AT&T’s name or logo is not permitted on a property owner’s boxes and manholes.

1. The manufacturer AT&T uses for plastic or polymer boxes is NewBasis. Boxes installed for AT&T use that are 30” x 60” or smaller must be plastic or polymer. The main number for New Basis is 951-787-0600. They can also be contacted through their website at www.newbasis.com.
2. The manufacturer AT&T uses for concrete boxes and manholes is Utility Vault (Oldcastle) for (LA south) and Teichert Precast for (Bakersfield north). Contact information for Utility Vault’s and Teichert Precast Products Sacramento 916-386-6174 or Stockton 209-464-7697 distribution centers is posted on their website at: http://www.oldcastleprecast.com     http://www.teichert.com/att.cfm

3. The distributor for PVC conduit, fittings and accessories is SAF-T-CO. Their main number is 714-547-9975. They can also be Contacted through their website at www.saftco.com

Conduit Suppliers

<table>
<thead>
<tr>
<th>Southern California</th>
<th>Northern California</th>
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<tr>
<td>Saf-t-co</td>
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<td>Wedco</td>
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<td>Northern Valley Distributing</td>
</tr>
<tr>
<td></td>
<td>Graybar</td>
</tr>
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</table>

Installation Specifications for Boxes

1. All boxes must be placed in areas outside of vehicular traffic. The AT&T engineer will specify the size and location of boxes. Manholes will be specified in areas that are exposed to vehicular traffic.

2. Placement of boxes and manholes must allow for the final grade of new sidewalk and parkways.

3. A minimum of six inches (6") of compacted sand, graded level is required under all pull boxes (hand holes) and splice boxes. Six inches (6") of gravel, drain rock or base rock is required for manholes. The floor must be level and free of debris.

4. Conduit must terminate at the end wall or side wall in a terminator or knockout as specified by the AT&T Engineer. Entry through the bottom of a box or the middle of a side wall is not acceptable.

5. All conduits entering knockouts in a plastic or polymer box must be cut within one inch (1") flush with the inside of the wall and sealed. All joints must be mortared and all unused ports and openings sealed. Use cement mortar, water plug cement or other approved prepared mortars.

6. Service conduits must be terminated above the main distribution conduits.
7. **AT&T’s engineer will specify** where Ground Beds are to be placed. (see pages 13-16 for specifications)

**Installation Specifications for Manholes**

1. Conduits must be terminated in the manufactured terminators only. Main conduits must be placed in lower terminators first. From each terminator, a minimum of 5’ of straight conduit is required (no bends). Manholes are not to be cored without prior AT&T approval.

2. Steps and ladder must face oncoming traffic. Steps: First step 6”- 17” from grade to step (C). All other steps 12” separation from each other (D). All steps must be concreted in place and extended 6” from MH wall.

3. Cover from grade to MH roof must be a minimum of 24” and a maximum of 60”, unless otherwise indicated by the AT&T engineer.

4. Neck of MH (extension) must be painted with white latex paint after joints are mortared.

5. Floor of MH must be level.

**MANHOLE DIAGRAM**
Service Cabinets, Bonding and Grounding

All service cabinet, bonding, and grounding requirements must meet the National Electrical Code. The list of requirements below provides the minimum specifications accepted by AT&T.

- 20 Gauge Steel Weatherproof Listed Cabinet. The cabinet must be listed by a Nationally Recognized Testing Laboratory, such as UL, and must meet the following UL 50 Standard for Safety Criteria:
  - Number 3 R for Exterior Use
  - Protection Against Corrosion
  - Overlap Requirements
- Cabinet size specified by AT&T Engineer
- Equipped With ¾” Plywood Backboard
- Allow 3’ Minimum Clearance In Front Of Cabinet

Grounding Options For AT&T Facilities Are Listed In Order of AT&T Preference:

1. #6 copper ground wire to Electrical Power Service Grounding Electrode, Service Grounding Electrode Conductor or Service Panel
2. #6 copper ground wire to a Concrete-Encased Electrode meeting the requirements of the NEC (UFER Ground)
3. #6 copper ground wire to a Ground Ring meeting the requirements of the NEC or to the metal frame of the building which is effectively grounded.

NOTE: If the building does not have any electrical power service, connect a #6 copper ground wire to a driven ground rod that is a minimum ½ inch diameter and 8 ft. long. The rod must be installed at least 1’ to 2’ from the outside wall. This is a TEMPORARY arrangement. When power becomes available, a #6 AWG bond must be installed between the electrical power grounding means and the ground rod.
SERVICE CABINET DIAGRAM

LISTED 20 GAUGE STEEL WEATHERPROOF CABINET

CABINET SIZE SPECIFIED BY AT&T*

POWER

TELEPHONE

CATV

UFER Ground

NUMBER AND SIZE OF CONDUITS WILL BE SPECIFIED BY AT&T**

2" SCHEDULE 40 - MIN. RADIUS BEND 24"
4" SCHEDULE 40 - MIN. RADIUS BEND 36"

* CABINET SIZE H= W= D=

** CONDUIT SIZE = Number =

NOTE: Grounding source options are Electrical Power Service Grounding Electrode, Service Grounding Electrode Conductor or Service Panel, UFER, or ground ring. See Details on page 10.
GROUND BEDS AT POLE

CONNECTION TO GROUND ROD

BARE #6 SOLID GROUND WIRE

8' GROUND ROD

APPROVED CONNECTOR

LOWEST TELCO STRAND

LOOP #6 AWG BARE COPPER GROUND WIRE THRU THE CLAMPS AT EACH GROUND ROD - DO NOT CUT WIRE. ROUTE WIRE FROM CLOSEST ROD UP THE POLE TO THE LOWEST TELCO MESSENGER. COIL 5 FEET OF WIRE AT THE TELCO MESSENGER. INSTALL WOOD MOLDING OVER WIRE FROM GROUND LINE TO 3" BELOW THE LOWEST TELCO MESSENGER. SECURE TO POLE AT 36" (MAX.) INTERVALS AND AT A MAXIMUM OF 3" FROM EITHER END OF EACH SECTION OF MOLDING. USE BRASS CLAMP ONLY TO BOND WIRE TO RODS.

DO NOT ALLOW BARE WIRE TO CONTACT METAL REFLECTIVE STRIPS ON POLES. REMOVE AND REPLACE STRIPS OVER THE MOLDING OR CUT AND REATTACH STRIPS TO THE SIDES OF THE MOLDING

GROUND LINE

12" MINIMUM COVER OVER ANY HORIZONTAL SECTION OF GROUND WIRE

24"-36"

8' MIN.

8' MIN.

12" MIN. TO TOP OF ROD (TYPICAL)

POSTIONING GROUND BEDS AT POLE

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GROUNDBEDS IN IMPROVED AREAS

TO REDUCE THE COST IMPACT WHEN PLACING NEW GROUND BEdS IN IMPROVED AREAS, POSITION THE FIRST GROUND ROD 24'-36" FROM THE POLE THEN, WHERE STREET RIGHTS-OF-WAY OR EASEMENTS ALLOW, ROUTE THE GROUND WIRE BEHIND THE SIDEWALK, PARALLEL TO THE POLE LINE. MAINTAIN ALL SPACING REQUIREMENTS FOR THE SECOND AND THIRD GROUND RODS. THIS MAY ALSO HAVE THE BENEFIT OF PREVENTING DAMAGE TO THE GROUND BED DURING POLE REPLACEMENTS. THIS APPLIES TO BOTH DEAD-END AND IN-LINE POLES IN IMPROVED AREAS.

GROUNDBEDS IN UNIMPROVED AREAS

TO HELP PREVENT DAMAGE TO A GROUND BED DURING FUTURE POLE REPLACEMENTS IN UNIMPROVED AREAS, POSITION THE FIRST GROUND ROD 24'-36" FROM THE POLE AT A 45-DEGREE ANGLE TO THE POLE LINE THEN, ROUTE THE GROUND WIRE PARALLEL TO THE POLE LINE. MAINTAIN ALL SPACING REQUIREMENTS BETWEEN ALL GROUND RODS. THIS APPLIES TO BOTH DEAD-END AND IN-LINE POLES IN UNIMPROVED AREAS.
GROUND BEDS AT SPLICE BOX

TWO DAYS BEFORE YOU DIG
CALL U.S.A. TOLL FREE 811

FIRST GROUND ROD TO BE PLACED NO CLOSER THAN 24" AND NO FURTHER THAN 36" TO/FROM ANY SURFACE OF THE POLE. SECOND AND THIRD GROUND RODS ARE TO BE SEPARATED BY AT LEAST 8 FEET FROM EACH OTHER AND FROM THE FIRST GROUND ROD. THE TOP OF EACH GROUND ROD IS TO BE AT LEAST 12" BELOW FINAL GRADE AT THE ROD LOCATION. USE 5/8" DIAMETER, COPPER CLAD, STEEL GROUND ROD - 96" LONG.

LOOP #6 AWG BARE SOLID COPPER GROUND WIRE THRU THE CLAMPS AT EACH GROUND ROD - DO NOT CUT WIRE. ROUTE WIRE FROM CLOSEST ROD INSIDE SB, WRAPPING THE SB ONE TIME, MAKING AN APPEARANCE ON 2 OPPOSITE WALLS OF THE SB.

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POSTIONING GROUND BEDS AT SPLICE BOXES

GROUND BEDS IN IMPROVED AREAS

TO REDUCE THE COST IMPACT WHEN PLACING NEW GROUND BEDS IN IMPROVED AREAS, POSITION THE FIRST GROUND ROD 24" - 36" FROM THE SB THEN, WHERE STREET RIGHTS-OF-WAY OR EASEMENTS ALLOW, ROUTE THE GROUND WIRE BEHIND THE SIDEWALK, PARALLEL TO THE SIDEWALK. MAINTAIN ALL SPACING REQUIREMENTS FOR THE SECOND AND THIRD GROUND RODS. THIS MAY ALSO HAVE THE BENEFIT OF PREVENTING DAMAGE TO THE GROUND BED DURING CABLE REPLACEMENTS.

GROUND BEDS IN UNIMPROVED AREAS

TO HELP PREVENT DAMAGE TO A GROUND BED DURING FUTURE CABLE REPLACEMENTS IN UNIMPROVED AREAS, POSITION THE FIRST GROUND ROD 24" - 36" FROM THE SB AT A 45-DEGREE ANGLE TO THE TRENCH LINE THEN, ROUTE THE GROUND WIRE PARALLEL TO THE TRENCH LINE. MAINTAIN ALL SPACING REQUIREMENTS BETWEEN ALL GROUND RODS.
BACKBOARD DIAGRAM

OVERHEAD LIGHT
Minimum 500 lux (50 footcandles)
8.5 ft. AFF level

4' X 8' X ¾" PLYWOOD coated with FIRE RETARDANT PAINT

# 6 AWG CONNECTED TO APPROVED GROUND

ENTRANCE CONDUITS STUBBED 2" ABOVE FLOOR AT LEFT EDGE OF BACKBOARD
Number And Size of Conduits Will Be Specified By AT&T *

36" CLEAR WORK SPACE

6'6"

110 VOLT/AC DOUBLE DUPLEX

*CONDUIT SIZE = 1-4"

NOTE: Grounding source options are Electrical Power Service Grounding Electrode, Service Grounding Electrode Conductor or Service Panel, UFER, or ground ring. See page 10 for Details.
AERIAL INSTALLATION DIAGRAM (To Exterior Wall)

NOTES:
1. Slack span from pole to mast not to exceed 100’
2. Masts over 36” require 1” steel supports secured to roof with lag screw
3. Attach mast to studding with pipe straps
4. Steel conduit must be grounded
5. Minimum distance from Power is 12” per Cal P.U.C. GO 95
6. Minimum 36” clearance in front of telephone cabinet
7. Cabinet must be equipped with plywood backboard

*CABINET SIZE H=36” W=36” D=12”
AERIAL INSTALLATION DIAGRAM (To Interior Wall)

1. Slack span from pole to mast not to exceed 100’
2. Masts over 36” require 1” steel supports secured to roof with lag screw
3. Attach mast to studding with pipe straps
4. Steel conduit must be grounded
5. Minimum distance from Power is 12” per Cal P.U.C. GO 95
6. Minimum 36” clearance in front of telephone backboard

© 2012 AT&T Communications Inc.
LARGE CUT DUE TO INSTALLATION OF BOX – SAND BACKFILL WITH 1 CAP OF NATIVE SOIL

PG & E SPLICE BOX

20’ FOR 4” DUCT
30’ FOR 6” DUCT

20’ FOR 4” DUCT
30’ FOR 6” DUCT

TYPICAL SPLICE BOX EXCAVATION: SIZE VARIES
TYPICAL RISER POLE DETAIL

POLE STRAP

6" MIN
12" MAX ABOVE FINAL GRADE FINAL GRADE

3' RADIUS 4" CONDUIT
2' RADIUS 2" CONDUIT

* VARIES

ALL RISER CONDUIT TO BE SCHEDULE 80 CONCRETE ENCASE RISER BENDS.

PLEASE PLACE GROUND BED

AT&T California
17"x30"x24"
AT&T SPLICE BOX
TRAFFIC RATED DRAG OFF COVER
AT&T OIN: 100070129

ORDER WITH COVER THAT SAYS:
TELEPHONE or AT&T

ACCESS COVER
BOLT DOWN/DRAG OFF SINGLE LEAF
INCIDENTAL TRAFFIC RATED
NON-SLIP FINISH

GALVANIZED ANGLE FRAME
EXPOSED CAST-IN STYLE
AT&T NAME PLATE

UPPER SECTION

LOWER SECTION
WITH RACKING

8 HOLE CABLE RACK
(2 LOCATIONS)

6"x6" THIN WALL
KNOCKOUT
(4 LOCATIONS)

MATERIAL LIST

<table>
<thead>
<tr>
<th>DESCRIPTION</th>
<th>WEIGHT (LBS)</th>
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<tbody>
<tr>
<td>17&quot;x30&quot;x18&quot; LOWER SECTION - AT&amp;T</td>
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<td>17&quot;x30&quot;x6&quot; UPPER SECTION</td>
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<tr>
<td>BOLT DOWN/DRAG OFF ALL GRIP STEEL COVER - AT&amp;T</td>
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JENSEN PRECAST EST.1968

Jensen Precast reserves the right to make changes to product design and/or dimensions without notice. Please contact Jensen Precast whenever necessary for confirmation or advice on product design.
24"x36" (Nominal) Painted, Slip-Not, Cast In, H-20 Traffic Rated Frame And Cover

2ea. 12-Hole Racks

Interchangeable Joint With Mastic Sealant

Riser Weight:
300 Lbs.

Base Weight:
1,150 Lbs.

Drawing May Not Conform To The Most Current Specification

SCALE: Not To Scale
ORDER WITH COVER THAT SAYS:

TELEPHONE or AT&T

ACCESS COVER
BOLT DOWN/DRAG OFF
SINGLE LEAF
TRAFFIC RATED (NON-IMPACT)
NON-SLIP COVER FINISH

GALVANIZED ANGLE FRAME
EXPOSED CAST-IN STYLE
AT&T NAME PLATE

UPPER SECTION

Ø3/4" BLIND LIFT HOLE

2'-8" 1/2"

8 HOLE CABLE RACK
(2 LOCATIONS)

LOWER SECTION
WITH RACKING

4.35"/4.5" STEPPED DUCT TERMINATOR
(8 LOCATIONS)

6" x 6" THIN WALL
KNOCK OUT
(4 LOCATIONS)

ALWAYS ORDER WITH FOUR(4) CABLE RACKS AND
BOLT THE RACKS TO INSIDE SPLICe BOX WALLS

MATERIAL LIST

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<thead>
<tr>
<th>DESCRIPTION</th>
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<td>BOLT DOWN/DRAG OFF NON-SLIP STEEL COVER - TRAFFIC</td>
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Jensen Precast reserves the right to make changes to product design and/or dimensions without notice. Please contact Jensen Precast whenever necessary for confirmation or advice on product design.
2'-6"x4'-0"x3'-0"
AT&T SPLICE BOX
TRAFFIC RATED DRAG OFF COVER
AT&T OIN: OTA

ALWAYS ORDER WITH COVER THAT SAYS "TELEPHONE" OR "AT&T".

BOLT DOWN/DRAG OFF
DOUBLE LEAF
INCIDENTAL
TRAFFIC RATED COVER
NON-SLIP FINISH

GALVANIZED ANGLE FRAME
EXPOSED CAST-IN STYLE
WITH AT&T NAMEPLATE

ALWAYS ORDER WITH FOUR(4) CABLE RACKS AND
MAKE SURE TO BOLT THE RACKS TO THE WALLS.

4.35"/4.5" STEPPED
DUCT TERMINATOR
(8 LOCATIONS)

LOWER SECTION

ORDER FROM:
WWW.JENSENPRECAST.COM

<table>
<thead>
<tr>
<th>MATERIAL LIST</th>
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<td>COVERS</td>
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</table>

Jensen Precast reserves the right to make changes to product design and/or dimensions without notice. Please contact Jensen Precast whenever necessary for confirmation or advice on product design.
The busbar on our backboard should be a small ground busbar:

![Busbar Image]

Not to be confused with PG&E’s busbar.

If they have the #6 ground wire to the backboard for AT&T only, then we don’t need the busbar.

Please forward a photo to pg7642@att.com

Thank you

Pat Gorman

AT&T OSP Engineer - Napa & Cordelia

AT&T General Business Office 800 750 2355

To view our services:

https://www.att.com/shop/unified/availability.html
BN24268W-UL Low Voltage Enclosure

**Exterior Surface Mounted Enclosure**

**Specification:** BN24268W-UL Low Voltage Enclosure

*Exterior Surface Mounted Enclosure*

- 24" Wide x 26" Tall x 8" Deep
- Weight: 53 lbs.

This enclosure is made of 16-gauge zinc-coated fabricated steel with a hinged door. Both are powder coated with a tan finish. This surface mounted service box is fully enclosed. The door is embossed with the word “Communication”. It also includes a 3/4" plywood backboard for easy mounting of low-voltage utility equipment, and a 4-position #4-14 wire ground bar is mounted inside. The BN24268W-UL is UL listed (UL1863) and designed to NEMA 3R Specifications. The reinforced hinged door fastens with a standard 7/16" can or socket wrench.

This enclosure is nailed or screwed to an existing surface. This enclosure includes 2 bottom knockouts 7/8" to 2-1/2" (for 3/4" to 2" conduit) and 10 bottom knockouts 7/8" to 1-3/4" (for 3/4" to 2" conduit). This enclosure also includes 2 “J-Hooks” for ease of mounting. This exterior surface mounted enclosure is specifically designed to house communication / utility/security/home audio-video wiring demarcation devices.

CONTRACTOR:

PLACE SMALL 4 SCREW GROUND BUS WITH #6AWG GREEN WIRE TO UFER GROUND OR COPPER GROUND ROD
**48”x48”x9” Exterior Telephone Cabinet – Example**

**BN48489W-UL Low Voltage Enclosure**

*Exterior Surface Mounted Enclosure*

**Specification: BN48489W-UL Low Voltage Enclosure**

*Exterior Surface Mounted Enclosure*

48" Wide x 48" Tall x 9" Deep Weight: 190 lbs.

This enclosure is made of 14-gauge zinc-coated fabricated steel with a hinged door. Both are powder coated with a tan finish. This surface mounted service box is fully enclosed. The door is embossed with the word “Communication”. It also includes a 3/4” plywood backboard for easy mounting of low-voltage utility equipment and a 4-position #4-14 wire ground bar mounted inside. The BN48489W-UL is UL listed (UL1869) and designed to NEMA 3R Specifications. The reinforced hinged double doors fastens with a standard 7/16” cam or socket wrench.

This enclosure is nailed or screwed to and existing surface. This enclosure includes 2 bottom knockouts 2-1/2” to 4-1/2” (for 2” to 3” conduit) and 10 bottom knockouts 1-3/8” to 1-3/4” (for 1” to 1-1/2” conduit). This enclosure also includes 2 "J-Hooks" for ease of mounting. This exterior surface mounted enclosure is specifically designed to house communication/utility/security/home audio-video wiring demarcation points.

This enclosure is also available with a splice chamber; please order: BN48489WS-UL
9.1. Depth of Working Space (D)

NEC 110.26(a)(1) states "The depth of the working space in the direction of live parts shall not be less than that specified in Table 110.26(A)(1). Distances shall be measured from the exposed live parts or from the enclosure or opening if the live parts are enclosed." AT&T equipment would fall under condition two of the table (Power has exposed parts, AT&T has a grounded cabinet.)

Electrical doors must also be allowed to swing open 90 degrees. So if the power cabinet has large doors, that may increase the required depth between our equipment.

Figure 31: Depth of Working Space

<table>
<thead>
<tr>
<th>Nominal Voltage to Ground</th>
<th>Minimum Clear Distance</th>
</tr>
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<tbody>
<tr>
<td></td>
<td>Condition 1</td>
</tr>
<tr>
<td>0–150</td>
<td>914 mm (3 ft)</td>
</tr>
<tr>
<td>151–600</td>
<td>914 mm (3 ft)</td>
</tr>
</tbody>
</table>

Note: Where the conditions are as follows:
Condition 1 — Exposed live parts on one side of the working space and no live or grounded parts on the other side of the working space, or exposed live parts on both sides of the working space that are effectively guarded by insulating materials.
Condition 2 — Exposed live parts on one side of the working space and grounded parts on the other side of the working space. Concrete, brick, or tile walls shall be considered as grounded.
Condition 3 — Exposed live parts on both sides of the working space.

Space would increase to 3.5 feet for 151-600 Volts
**E-Z Pull® EMT**
- Hot galvanized steel using patented inline Flo-Coat® process for long lasting exterior protection
- E-Z Pull interior coating provides a smooth raceway for fast, easier wire-pulling
- Excellent mechanical protection for conductors
- Ductility for faster and easier bending
- Optimal EMI shielding characteristics
- Listed to Underwriters Laboratories Safety Standard UL 797
- Manufactured in accordance with ANSI C80.3
- Available in sizes 1/2 (16) · 4 (103)

**True Color™ EMT**
- All the benefits of E-Z Pull EMT
- Instant identification of multiple circuits
- Fire Alarm® Red EMT
- Healthcare Green EMT
- Data Com Blue EMT
- Available in 8 colors
- Available in sizes 1/2 (16) · 4 (103)

---

**True Color™ Applications**

**Black EMT**
- Blends in dark colored areas

**Fire Alarm® EMT**
- Emergency circuits
- Fire alarm and Security systems

**Orange EMT**
- Construction/research areas
- Fiber optic systems
- Auto repair/maintenance

**Yellow EMT**
- High voltage wiring
- Caution areas
- Special equipment

**Green EMT**
- Hospital and healthcare areas
- Nurse call stations
- Critical circuits

**Blue EMT**
- Low voltage wiring
- Data com/video
- Network security

**Purple EMT**
- Specialty wiring systems
- Security systems

**White EMT**
- Blends in light colored areas

**Silver EMT**
- Standard Use
- Contemporary architecture

---

**Project Information**

Company Name: ________________________________
Address: ______________________________________
City: __________________________ State & Zip: ______
Phone: __________________________
Project Name: ________________________________
City: __________________________ State: __________

www.alliedeg.com
FEATURES & SPECIFICATIONS

Manufactured for Long Life
Allied Tube & Conduit® EMT is precision manufactured from high grade mild strip steel for exceptional durability and long-lasting life. Allied EMT is hot galvanized using a patented inline Flo-Coat® process. This process combines zinc, a conversion coating, and a clear organic polymer topcoat to form a triple layer of protection against corrosion and abrasion.

E-Z Pull® EMT combines strength with ductility, providing easy bending, cutting and joining while resisting flattening, kinking and splitting. Available in sizes 1/2 (16) - 4 (103).

Codes & Standards Compliance
Allied EMT is listed to Underwriters Laboratories Safety Standard UL 797 and meets ANSI C80.3. These standards have been adopted as federal specifications in lieu of WWC 563. EMT is recognized as an equipment grounding conductor by NEC Section 250-118. Documentation for compliance with NEC Article 250 is also available in the GEMI (Grounding and Electro-Magnetic Interference) analysis software and related research studies found at the www.alliedeg.com website.

Installation of EMT shall be in accordance with the National Electrical Code and the UL listing information. Allied EMT is listed in category FJMX, Master bundles conform to NEMA Standard RN2.

Specification Data
To specify Allied EMT, include the following: Electrical Metallic Tubing shall be equal to that manufactured by Allied Tube & Conduit Corporation. EMT shall be hot galvanized steel O.D. with an organic corrosion resistant I.D. coating, and shall be listed to UL Safety Standard 797 and manufactured in accordance with ANSI C80.3.

Electrical Metallic Tubing (EMT) and True Color™ EMT
Listed to Underwriters Laboratories Safety Standard UL 797 Manufactured in accordance with ANSI C80.3

<table>
<thead>
<tr>
<th>Trade Size</th>
<th>Metric Designator</th>
<th>Outside Diameter</th>
<th>Nominal Wall Thickness</th>
<th>Approximate Weight Per 100 Ft. (30.5M)</th>
<th>Red and Galvanized Master Bundle Quantity</th>
<th>True Color** Bundle Qty</th>
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<td>7000</td>
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<td>3000</td>
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<td>0.083</td>
<td>349</td>
<td>2030</td>
<td>3000</td>
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<td>4</td>
<td>103</td>
<td>4.500</td>
<td>0.083</td>
<td>393</td>
<td>2030</td>
<td>3000</td>
</tr>
</tbody>
</table>

*Outside diameter tolerances: +/-0.005 in.(13mm) for trade sizes 1/2 (16mm) through 2 (63mm);
+/-.010 in. (25mm) for trade sizes 2-1/2 (63mm);
+/-.015 in. (38mm) for trade size 3 (78mm);
+/-.020 in. (51mm) for trade sizes 3-1/2 (91mm) and 4 (103mm).

*Blue trade size 1 master bundle size: 3000 ft / 915 m
**Other Color Trade Sizes 2 - 4 are available thru special order
NOTE: Length = 10 ft. (3.05m) with a tolerance of +/- .25 in. (6.35 mm)

NOTE: Special orders are non-cancelable, non-returnable and non-refundable

16100 S. Lathrop Ave., Harvey, IL 60426
Phone / 708.339.1610 • Toll-Free / 800.882.5543
www.alliedeg.com
Electrical Metallic Tubing (EMT) Elbows

**EMT 90° Elbows**

Listed to Underwriters Laboratories Safety Standard UL 797
Manufactured in accordance with ANSI C80.3

<table>
<thead>
<tr>
<th>Trade Size</th>
<th>Metric Designator</th>
<th>Radius (A) 1</th>
<th>Offset (B) 2</th>
<th>Straight (D) 1</th>
<th>Approximate Weight Per 100 Pieces</th>
<th>Standard Package</th>
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</table>

1 Minimum requirement as per UL Standard
2 Dimensions and weights are approximate
Sizes 2-1/2 (63) and larger shipped in palleled cartons or bulk.
Also available in the following Degrees (60°, 45°, 30°, 22-1/2°, 15° & 11-1/4°)

**EMT 45° Elbows**

Listed to Underwriters Laboratories Safety Standard UL 797
Manufactured in accordance with ANSI C80.3

<table>
<thead>
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<th>Metric Designator</th>
<th>Radius (A) 1</th>
<th>Offset (B) 2</th>
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<td>983</td>
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</tbody>
</table>

1 Minimum requirement as per UL Standard
2 Dimensions and weights are approximate
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16100 S. Lathrop Ave., Harvey, IL 60426
Phone / 708.339.1610 • Toll-Free / 800.882.5543
www.allieddeg.com
## Electrical Metallic Tubing (EMT) Elbows

### EMT Large Radius 90° Elbows

Listed to Underwriters Laboratories Safety Standard UL 797
Manufactured in accordance with ANSI C80.3

<table>
<thead>
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<th>Trade Size</th>
<th>Metric Designator</th>
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<th>Straight (D)</th>
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*For information only, not a requirement as per UL Standard

Sizes 2 1/2 (63) and larger shipped in palletized cartons or bulk.
Also available in the following Degrees (60°, 45°, 30°, 22-1/2°, 15° & 11-1/4°)

Chart continued on the next page

NOTE: Special orders are non-cancelable, non-returnable and non-refundable

16100 S. Lathrop Ave., Harvey, IL 60426
Phone / 708.339.1610 • Toll-Free / 800.882.5543
www.allieddeg.com
## Electrical Metallic Tubing (EMT) Elbows

### EMT Large Radius 90° Elbows (continued)

Listed to Underwriters Laboratories Safety Standard UL 797
Manufactured in accordance with ANSI C80.3

![Diagram of EMT elbow]

<table>
<thead>
<tr>
<th>Trade Size</th>
<th>Metric Designator</th>
<th>Radius (A)</th>
<th>Offset (B)</th>
<th>Straight (D)</th>
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*For information only, not a requirement as per UL Standard
Sizes 2-1/2 (63) and larger shipped in palletized cartons or bulk.
Also available in the following Degrees (60°, 45°, 30°, 22-1/2°, 15° & 11-1/4°)

NOTE: Special orders are non-cancelable, non-returnable and non-refundable
NEC 110.26(b)(2) states "The width of the working space in front of the electrical equipment shall be the width of the equipment or 762 mm (30 in.), whichever is greater. In all cases, the work space shall permit at least a 90 degree opening of moveable doors or hinged panels." There are a few key items in this regulation.

1. The width of the working space is "in front" of the electrical equipment. Not to the side of it.
2. The thirty inch space in front of smaller than 30 inch installations does not have to be centered. (See gray and blue examples in diagram below.)
3. The thirty inch space can overlap in front of other equipment. (see gray, blue and red examples in diagram below.)

**Figure 32: Width of Working Space**

![Diagram of working space with dimensions and angles.]
**Electrical Space**

*The space equal to the width and depth of the equipment and extending from the fl**
**ipment or to the structural ceiling, whichever is lower, shall be dedicated to the ele**
**trical space. Two different views of the dedicated electrical space. AT&T cannot pla*
NEC 110.26(a)(3) states "The work space shall be clear and extend from the grade, floor, or platform to a height of 2.0 m (6.5 feet) or the height of the equipment, whichever is greater."

**Figure 33: Height of Work Space**
AT&T Dedicated Internet

Your business uses the Internet for many critical operations – electronic commerce, e-mail, remote access, productivity and much more. With AT&T Dedicated Internet, you get high speed, dedicated Internet access with the features you need to stay connected to your customers, business partners and employees. AT&T Dedicated Internet is no ordinary Internet connection. You can get reliability you can count on with associated service level agreements, optimal performance, scalability and business security features from one of the world’s leading service providers.

High Speed Internet Access and Options That Fit Your Business
AT&T Dedicated Internet provides a dedicated symmetrical Internet connection, with extensive reach throughout the United States (including Puerto Rico and U.S. Virgin Islands) for your business, 24 hours a day. You can select our completely AT&T Managed Solution, or choose to manage components of your Internet access solution yourself by providing your own equipment. Either way, we proactively monitor your Internet access around the clock and provide enhanced features to help protect your critical business applications.

Features and options include:
- Speeds: 1.5 Mbps – 1 Tbps*
- Access Types: Ethernet and Private Line
- Standard Features Include: Network Monitoring and Maintenance, Primary and Secondary IP Addresses, Packet Filtering, Flexible Billing Arrangements, Electronic Servicing Capabilities
- Options: AT&T Provided and Managed Router, SDN (Software Defined Networking) enabled capability to reduce provisioning time, VoIP, Class of Service, Security Solutions, Managed Redundancy, Hosting, Co-Location and Cloud Services

End-to-End Management As You Need It
More than just an Internet connection, AT&T Dedicated Internet is your complete solution: offering symmetric access, guaranteed provisioning and around the clock technical support. You will experience the quality and performance you need to conduct business over the Internet with confidence.

Potential Benefits
- Your connection to the Internet is dedicated, not shared with other businesses, and provides a symmetrical connection (equal upload and download speeds) to support critical business applications
- Reliability you can count on backed by industry-leading Service Level Agreements that provide service availability of 100%, data delivery of 99.95%, and US network roundtrip latency of 37ms
- 24x7x365 technical support and proactive monitoring assure continuous end-to-end availability of your dedicated Internet access connection

Features
- Equipment Options: AT&T Provided and Managed Equipment (router, modem) or Customer Provided
- Extensive reach in the United States including Puerto Rico and U.S. Virgin Islands
- E-Servicing – BusinessDirect® portal, access to customer care website, e-bill, e-maintenance, usage reporting and e-servicing tools
- Optional security management including firewall and better protection against Internet viruses and attacks
- IPv6 enabled

*Some speeds may not be available in all areas.

For more information contact an AT&T Representative or visit www.att.com/adi

**AT&T U-verse® High Speed Internet – Business Edition**
Provides you super fast Internet access over fiber with the features you need to stay connected to your customers, business partners, suppliers and employees.

- Speeds up to 1Gbps downstream and upstream at an affordable price
- Reliability you can count on – optimal performance, scalability and great security features
- High capacity to support multiple employees that need simultaneous Internet access
- The ability to support a Wi-Fi network for your employees or your customers.

**Bundle and Save**
Combine AT&T U-verse® High Speed Internet – Business Edition with:

- Local and long distance voice services
- A comprehensive set of wireless solutions on the nation’s most reliable 4G LTE network†
- AT&T Tech Support 360™ (including Backup & Go service)
- DIRECTV® for Business
- AT&T Website Solutions™
- With All for Less from AT&T, choose only the products that you need without paying for those you don’t. The more you have, the more you save.

**Voice Over IP Services**
Great sound quality and high reliability, delivered by the next-generation business phone solution is available with AT&T U-verse® Voice. You can even use your existing analog office phones. Take advantage of many standard calling features, plus enhanced functionality not available on traditional landline phones to boost productivity. A self-service website helps you conveniently manage your calling features, call preferences, voicemail and more. (limited availability at this time).

**Reliability in the Network**
AT&T is a leading Tier 1 Internet Service Provider with a high performing IP network and some of the most aggressive Broadband service level agreements (SLAs) in the industry. AT&T Broadband SLAs include install intervals, repair intervals, network availability, network latency and packet loss.

AT&T U-verse High Speed Internet – Business Edition is no ordinary Internet connection. Businesses can expect reliability, optimal performance, scalability and great security features from one of the world’s leading service providers.
AT&T Business Fiber - U-verse® High Speed Internet

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<th>Package</th>
<th>Speed Down</th>
<th>Speed Up</th>
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<tr>
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<td>Up to 25Mbps</td>
<td>Up to 5Mbps</td>
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<td>AT&amp;T U-verse Internet 25s</td>
<td>Up to 25Mbps</td>
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<td>Up to 50Mbps</td>
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For more information about AT&T Business Fiber service, contact your AT&T Representative, visit us at http://www.att.com/fiberreadybuilding.

Name: Carrie Bosley
Phone: 831-332-1755       Email: cb2853@att.com

Important Information
*Businesses providing Wi-Fi for their customers should consult their IT professional or AT&T Tech Support 360.
†Reliability claim based on third party data regarding nationwide carriers’ 4G LTE. LTE is a trademark of ETSI.
Wireless data designed with your business essential applications and budget in mind.

Wireless Broadband from AT&T can give your company’s connectivity the boost it needs to handle today’s digital business:

- Get the additional bandwidth you need to run your most important programs, including point-of-sale, electronic time clocks and cloud based applications.
- Get connectivity up and running fast when wireline options aren’t available.
- Create a diverse and more efficient network connection using cellular.

- Prioritize business-critical applications over lower priority traffic on the AT&T owned domestic 4G LTE and 5G Evolution networks with AT&T Dynamic Traffic Management-Enterprise.*

* Feature usage with a 4G LTE device is limited to the AT&T-owned domestic 4G LTE network; feature usage with a 5G Evolution device is limited to the AT&T-owned domestic 5G Evolution network.

Select the option that best suites your business needs.

With 4 plan options to choose from and a flat monthly rate how will you put AT&T Wireless Broadband to work for you?

<table>
<thead>
<tr>
<th>Data throughput speed¹</th>
<th>8Mbps</th>
<th>12Mbps</th>
<th>50Mbps**</th>
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<td>Unlimited⁴</td>
<td>Unlimited⁵</td>
<td>Unlimited⁶</td>
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<td>$125</td>
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<td>10GB Included</td>
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¹Speeds are not guaranteed and subject to network availability.
²Requires a wireless router with a Category 11 or higher modem and AT&T 5G Evolution network coverage.
³AT&T Wireless Broadband is not intended for use with streaming video, streaming audio, web hosting and public or guest Wi-Fi.
⁴After 50GB of data usage, AT&T may slow speeds.
⁵After 75GB of data usage, AT&T may slow speeds.
⁶After 125GB of data usage, AT&T may slow speeds.
⁷After 175GB of data usage, AT&T may slow speeds.
⁸Must be active & enrolled in AT&T AutoPay. Discount starts in 1 to 2 bill cycles.
AT&T Wireless Broadband Plans

AT&T Wireless Broadband Plans: Prices are for service only. Eligibility: Available only to business and government Customers with a qualified AT&T wireless service agreement and only for their Corporate Responsibility User (“CRU”) lines of service. For full service terms and conditions of service, see applicable wireless service agreement, including w/out limitation the Additional Service- and Equipment-Related Terms found at att.com/abs-addtl-terms (“Business Agreement”). Eligible Devices: Plans may only be used for a CRU line with a qualified data-only wireless router located in a fixed location using machine-to-machine business applications needing wireless data communication between the router and Customer’s business data network. Each qualified device activated with an AT&T Wireless Broadband plan must have a primary place of use (“PPU”) within AT&T’s owned and operated 4G LTE or 5G Evolution wireless network coverage area within the U.S., Puerto Rico and U.S. Virgin Islands (“Domestic Coverage Area”). Unlimited Data: Plans do not include roaming. Tiered Data Speeds: Data speeds for each plan are maximum data speeds; actual speeds may be slower, particularly after a usage threshold has been met. 100Mbps and 50Mbps tier peak data speed not available in all AT&T 4G/LTE coverage areas and requires 5G Evolution capable device. Data Restrictions: After a data usage threshold on a line has been met in a given month, AT&T may slow the data on that line during periods of network congestion for the remainder of that billing cycle. The thresholds are 175GB for the 100Mbps plan, 125GB for the 50Mbps plan, 75GB for the 15Mbps plan and 50 GB for the 8Mbps plan. See att.com/broadbandinfo for details on AT&T network management policies. AT&T Wireless Broadband is not intended for use with streaming video, or streaming audio, web hosting or public/guest Wi-Fi.

AT&T Dynamic Traffic Management—Enterprise: Feature uses quality of service (“QoS”) network technology to give Customer a differentiated (i.e., enhanced versus “best effort”) network experience for Business Application/data traffic originated on and traversing entirely over the AT&T-owned domestic 4G LTE & 5G Evolution domestic network resources or preemption. Device Requirements: Each line must have a AT&T Wireless Broadband plan and an applicable 4G LTE/5G Evolution-compatible device provisioned with a Business Application used for transport of data to Customer’s data center. Business Application: Applications that are used for the transmission of Customer’s data to and from its authorized CRU lines. 4G LTE/5G Evolution-enabled Equipment, including routers, (each a “Business Application”). Business Applications may include, without limitation, video conferencing, push-to-talk, dispatch, command and control, telematics, and monitoring applications used by Customer’s authorized CRU lines. A T&T DYNAMIC TRAFFIC MANAGEMENT—ENTERPRISE: Feature uses quality of service (“QoS”) network technology to give Customer a differentiated (i.e., enhanced versus "best effort") network experience for Business Application/data traffic originated on and traversing entirely over the AT&T-owned domestic 4G LTE & 5G Evolution domestic network resources or preemption. Device Requirements: Each line must have a AT&T Wireless Broadband plan and an applicable 4G LTE/5G Evolution-compatible device provisioned with a Business Application used for transport of data to Customer’s data center. Business Application: Applications that are used for the transmission of Customer’s data to and from its authorized CRU lines. 4G LTE/5G Evolution-enabled Equipment, including routers, (each a “Business Application”). Business Applications may include, without limitation, video conferencing, push-to-talk, dispatch, command and control, telematics, and monitoring applications used by Customer’s authorized CRU lines. Usage Limitation: Each line may use AT&T Dynamic Traffic Management up to 50GB of data with the 100Mbps plan, 30GB of data with the 50Mbps plan and 10GB of data per month on the 15Mbps and 8Mbps plans. After Data Allowance is exhausted, all CRU traffic will be handled on a “best-effort” basis until the beginning of the next billing cycle. Limitations: Feature is available only within the DCA and only for data traffic originated on and traversing over the AT&T-owned domestic 4G LTE network or 5G Evolution network or both, depending on your device. Feature does not prioritize Customer’s Business Application data traffic over all other data traffic, as other data traffic may receive a similar or higher quality of service. AT&T Dynamic Traffic Management—Enterprise may not be used with applications primarily intended for use by consumers, including but not limited to, (a) mobile video transmission applications, (b) applications that transmit data to and receive data from all or substantially all Internet endpoints, and (c) video streaming applications. Additional terms and conditions for AT&T Dynamic Traffic Management—Enterprise are set forth at www.att.com/abs-addtl-terms, as may be modified by AT&T from time to time. Termination or Suspension: AT&T reserves the right to terminate, suspend or restrict the feature if use is inconsistent with its intended use or the Business Agreement.

GENERAL WIRELESS SERVICE TERMS: Subject to the applicable Business Agreement. Service is not for resale. Activation/Upgrade Fee: $45 per CRU line. Deposit may apply. Credit approval may be required. Other Monthly Charges: Apply per line and may include taxes, federal/state universal service charges, a Regulatory Cost Recovery Charge (up to $150), a gross receipts surcharge, an Administrative Fee, and other governmental assessments (including w/out limitation a Property Tax Assessment surcharge of $0.20 – $0.45 applied per CRU’s assigned number), which are not government-required charges. Pricing, fees, promotions, options, restrictions and terms subject to change and may be modified, discontinued or terminated at any time upon thirty (30) days’ written notice. Coverage: Coverage map shows high level approximation of areas included in and out of plan. For the most current coverage info for your area, check att.com/coverageviewer and att.com/5GEvolution or contact an AT&T representative. Coverage may include areas served by unaffiliated carriers.

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Building Recommendations

Outside Building

• Each living unit will be served by AT&T provided fiber optic cable placed between the building entrance location for Telco facilities (typically on the outside of the building or in a riser closet) and the Central Wiring Panel located inside the living unit.
• Other providers’ services may require one UL Listed, Tri or Quad Shield RG-6 coaxial cable placed between the building entrance location for Cable Television (CATV) (typically on the outside of the building or in a riser closet), and the Central Wiring Panel located inside the living unit. AT&T does not require the placement of coaxial cable as our MDU-FTPP voice, data, and IPTV video services transport over CAT-5e Universal Twisted Pair inside the living unit. 
• At the building entrance locations for AT&T and CATV, the AT&T fiber and other provider’s coaxial stub-outs must be at least 4 feet apart.
• For the purpose of bonding the AT&T facilities and CATV, it is recommended that the building entrance locations for AT&T fiber and CATV be located within 10 feet of the power meters.

Inside Wiring

• Follow the ANSI/TIA/EIA-570-B residential wiring standard and the ANSI/TIA/EIA 568-A standard for data wiring terminations.
• Inside wiring to the outlet locations should all originate from a Central Wiring Panel (CWP).
• Utilize a star (Hub and Spoke) topology.
• Utilize UL Listed CAT-5e UTP 4 pair and Tri or Quad Shield RG-6 coaxial cable throughout the premises.
• All CAT-5e UTP or CAT-3 UTP customer premise wiring for the living units should be terminated inside the Central Wiring Panel on AT&T approved modules.
• For Coax connections; compression-type connectors are required.
• Do not Daisy-Chain or Loop the jacks together in a Series or Ring topology.
• AT&T recommends that all jacks within the living unit be wired as multi-media outlet locations with two (2) UL Listed CAT-5e 4 pair cables and one Tri or Quad Shield RG-6 Coax cable.
• AT&T Residential Gateway device is typically installed at an AT&T subscriber desired location within living unit and not installed inside the Central Wiring Panel.

Power Requirements

• Provide one standard duplex 110V AC non-switched, grounded electrical outlet within 5 feet of the Central Wiring Panel.
• When a vented panel of 42” or greater is used, the standard duplex 110V AC non-switched, grounded electrical outlet may be installed inside the Central Wiring Panel’s optional power outlet integration slot.

Minimum Cabling Requirements:

• Voice and DATA: UL Listed CAT-5e UTP 4 pair
• Video: UL Listed CAT-5e UTP 4 pair and Tri or Quad Shield RG-6 Coax
• Tri or Quad Shield RG-6 Coax cable should have at least 80% braid coverage, a bonded inside foil, and a copper-clad steel center conductor.

Contact your AT&T Connected Communities representative today.

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MDU - Fiber to the Premise Network Configuration

AT&T Fiber Building Entrance and other Provider Coaxial Stub-out should be at least four (4) feet apart

Central Wiring Panel (CWP) Inside Living Unit

Features:
• Designed for optional 110V power outlet integration
• Space for Voice, Data & Video terminations

AT&T Provides:
• Fiber to the Living Unit
• Optical Network Terminal (ONT)
• Power Supply Unit (PSU)

Depending on the size of the CWP used in the living unit, devices may be installed inside the panel or directly on the wall’s surface.

AT&T ONT

Non-switched 110V AC outlet

CWP and the AT&T ONT/PSU devices must be installed in close proximity to one another

MDU FTR ACC-AT&T0004
• For NFPA: Aligns expectations of all affected stakeholders: AHJs, alarm companies, voice providers, consumers and businesses
• For AHJs: Eliminates the need to evaluate voice technologies and develop own policies; creates clear accountability
• For alarm companies: Provides clear system design criteria that is uniform across all markets
• For voice providers: Provides clear expectations of what is required for fire alarm monitoring
• For customers: Provides cost saving from voice competition, eliminate additional costs and delays for design workarounds and further approvals, eliminate finger-pointing by alarm and voice providers.

FAQs
• Isn't 24-hour standby power required since NFPA requires it, and "POTS" lines provide it? No. NFPA has allowed 8-hour standby power for voice lines since the 1980s, when telcos began using 8 hour batteries in the remote terminal equipment that provides dialtone to homes and commercial buildings. Today, over 50% of all telco lines, nationally, are provided from these remote terminals.
• Is UL listing required for voice equipment attached to alarm equipment? Yes. NFPA 72 requires that both communications and fire alarm equipment "be UL listed for its purpose". On-premises voice equipment is UL listed under Telecommunications (UL® 60950). Fire alarm equipment is UL listed under Fire Alarm Systems (UL® 864).
• How can AHJs or alarm companies confirm that a voice provider meets these requirements? These parties may contact the voice provider to confirm the service conforms to all NFPA requirements.

For further information, see:
http://www.nfpa.org/faq.asp?categoryID=925
http://www.nfpa.org/displayContent.asp?categoryID=182
http://en.wikipedia.org/wiki/Managed_Facilities-based_Voice_Network

NFPA 72 is available from:
www.nfpa.org

NFPA 72 Model for MFVN Compliance

SUMMARY OF NEW NFPA 72® NATIONAL REQUIREMENTS FOR TELEPHONE LINES

Managed Facilities-based Voice Networks and the National Fire Code – A Summary of New Rules Approving the Use of Non-Traditional Telephone Lines For Fire Alarm Monitoring

CableLabs® has been actively collaborating with NFPA since 2005 to address this important issue.

For further information, please email: alarm-issues@cablelabs.com

CableLabs®
...Revolutionizing Cable Technology®
858 Coal Creek Circle | Louisville, CO 80027
303.661.9100 | www.cablelabs.com
Summary of New Rules

- NFPA 72 now explicitly approves the use of alternative voice technologies (such as VoIP) and providers (such as cable) for fire alarm monitoring.
- All providers, including traditional telephone companies, must meet the same performance requirements.
- All qualified voice providers are considered equivalent for the purposes of NFPA 72.
- 2010 guidance should be adopted by AHJs as soon as practical, since previous editions are silent as to the use of alternative voice technologies for the carriage of alarm signals.

The following table summarizes the requirements found in NFPA 72 2010.

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<td>Product Examples</td>
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NFPA 72 MFVN Requirements

- Managed Facilities-based: • • • • No
- Functional equivalence to traditional PSTN line: • • • • No
- Proactive management: • • • • No
- Loop start telephone circuit: • • • • •
- 8 hour standby power for voice equipment providing dialtone: • • O • • No
- 24 hours standby power at the “central office”: • • • • No
- Safeguards to protect from unauthorized access: • • O • • No
- Notification to have alarm system re-tested: 0 0 0 0 0
- Professional installation ensuring line seizure: • • • • No
- Disaster recovery plans: • • • • No

- Indicates conformance to new NFPA requirements
- Indicates needs AHJ verification

Background

This information sheet summarizes the requirements for telephone lines recently adopted in NFPA 72 - 2010 Edition (The National Fire Alarm and Signaling Code). NFPA 72 now explicitly allows the use of non-traditional telephone lines and providers. In recent years, NFPA and local AHJs (Authorities Having Jurisdiction) recognized that new technologies, such as VoIP, were increasingly being used to connect to fire alarms. Though competitive voice communication alternatives for telephone service provided many benefits for consumers and businesses, their suitability for fire alarm monitoring needed to be evaluated and new policies developed.

Key concerns were:
- Clear accountability for the reliability of the voice service
- Ability for the alarm panel to "seize" the phone line
- Preservation of the standard PSTN telephone line interface
- Guaranteed carriage of alarm signals across the network
- Operation during power outages and disasters

As NFPA investigated this issue, it became clear that what is important is not the physical characteristics of the communications technology, such as the copper wires, but the qualities and necessary characteristics of the communications technology so as to meet the key concerns. The code needed to accommodate ongoing future voice technology upgrades by both new and existing providers (e.g., telcos upgrading to VoIP). Therefore, the new code does not directly address specific voice communication technologies, but rather contains performance requirements for voice communications technology and providers.

The primary performance requirement is that the voice communication provider own and operate the physical network facilities end-to-end, i.e., from the PSTN interconnection point to the fire alarm system, or DACT (Digital Alarm Communicator Transmitter).

NFPA calls this a managed facilities-based voice network, or MFVN. Only voice services provided by MFVNs are allowed under the code. Internet based voice services do not use MFVNs, so are not allowed. Traditional copper based phone services use MFVNs, so would continue to be allowed.

The existing NFPA-defined practices on how telephone lines shall be connected to fire alarm systems remain unchanged. Once a MFVN line meets NFPA requirements, it can be used anywhere the code refers to "telephone line".

With this update, NFPA 72 now contains guidance that local authorities can use to address the use of new voice communications technology in their jurisdiction by both existing and new providers. NFPA recommends that all new alarm system installations follow this guidance, even if the local jurisdiction has not yet adopted the 2010 code as earlier
PUBLIC WORKS MARK UPS

PLEASE NOTE THAT THERE IS EXISTING AT&T BURIED, CONDUIT, POLES, AND JOINT POLES IN THE SCOPE OF YOUR PROJECT. PLEASE SURVEY IN AT&T PEDESTAL, POLES, SPICE BOXES, AND EQUIPMENT. DRAWING IS NOT TO SCALE.

AT&T ASSUMES NO RESPONSIBILITY FOR THE ACCURACY OF THE SUBSTRUCTURE INFORMATION HEREL PROVIDED. THE USER ASSUMES RESPONSIBILITY FOR VERIFYING SUBSTRUCTURE LOCATIONS BEFORE EXCAVATING AND AGREES TO DEFEND ALL LIABILITY FOR DAMAGE TO TELEPHONE FACILITIES AS A RESULT OF SUCH EXCAVATION. CALL UNDERGROUND SERVICE ALERT ON 811 TWO (2) DAYS BEFORE DIGGING IN PROXIMITY TO TELEPHONE PLANT.

AT&T INSPECTOR: 48 HRS. NOTICE.
SHOULD YOU POT HOLE. PLEASE CALL U.S.-A TO ID THE AT&T CABLES.

AT&T NEW MARKING STANDARDS

ATT/D DISTRIBUTION CABLE
ATT/T TRANSMISSION CABLE (LONG DISTANCE)
ATT/TCG TRANSMISSION CABLE (LONG DISTANCE)
ATT/T FD TRANSMISSION CABLE (LONG DISTANCE)
FIBER OPTIC
ATT/D FD DISTRIBUTION CABLE FIBER OPTIC

AT&T MH: (UNDERGROUND) 20"X10"X10"H
AT&T FIBER (ABOVE GROUND)
SAI (ABOVE GROUND)
AT&T FIBER (ABOVE GROUND)
AT&T REPATER (ABOVE GROUND)
AT&T SPCLING POINT IN THE CABLES AERAL OR U/G
AT&T SPCLIE BOX: 3"X5"X3"D (UNDERGROUND)

SAFETY NOTES:
NO G.O. 95 VIOLATIONS OBSERVED
CAUTION: HIGH VOLTAGE
CAUTION: CHECK POLE CONDITION BEFORE CLIMBING
CAUTION: FAST ROAD

PUBLIC WORKS MARK-UP

NO EST. NO E-MAIL PG7642@ATT.COM
NG/EST NO: 1 DESIGN

PROPRIETARY INFORMATION
Not for disclosure outside AT&T without written authorization
PRE-BID MEETING AGENDA
Carneros Fire Station 210
PW 20-27

Location: 5260 Old Sonoma Road, Napa, CA 94559

Time: 10:00 AM – Wednesday June 2, 2021

I. Introductions

II. Meeting Attendees:

COUNTY Personnel: Phone:
Public Works
Daniel Basore (Project Manager) (O) 707-259-8328
Nate Galambos (Engineering Manager) (O) 707-259-8371

Contractor

See attached, please review and confirm your attendance was not missed and that your designation as a prime or sub is correct. Please also verify contact information is correct. Any corrections will be resent to the entire group.

III. Project Overview
Work generally consist of, but is not limited to, all labor and materials for the site preparation and construction of a new 1,860 square foot pre-engineering steel volunteer fire station building, site paving, sidewalks, asphalt parking, and driveway approach on a currently undeveloped lot. Construction consists of all labor and materials as indicated in Contract Documents.

IV. Schedule
  o Last Day for Questions June 11, 2021 @ 12 PM
  o Bid Opening Date June 17, 2021 @ 11:30 AM
  o Contract to be awarded: June 22, 2021
  o Pre-Con Meeting: Week of June 21-25.
  o Anticipated start date/schedule: June 28, 2021
  o Anticipated completion date: November 19, 2021 (100 Working Days)

*Dates above are tentative and subject to change at the discretion of the County.
V. **Items of Note**

- PG&E 12 KV line, ATT line – not known conflicts but Contractor responsible for potholing and verify depth and location prior to construction. PG&E to be on stand by when working in 10 feet of line.
- Coordination with Carneros Resort on Water and Sewer connection. Open communication as much advanced notice as possible on schedule, disruptions, etc.
- There are 9 bid alternatives make sure you clearly understand all of the alternatives and bid accordingly, please asking clarifying questions if needed.

VI. **Communication**

All questions must be e-mailed, or mailed by 12:00 PM on June 11th, 2020 to Daniel Basore at Daniel.Basore@Countyofnapa.org, Napa County Public Works, 1195 Third St. Room 101, Napa, CA 94559.

VII. **Questions**

Open the meeting to questions, please follow up in writing via mail or e-mail for the inquiry to be considered formal and valid. All received questions and County answers will be released with the addendum.

Great questions and suggestions were brought up during the meeting please submit in writing so they can be formally responded to the entire group. Thank you all for your interest in the project, please reach out with any and all questions.
### Pre-Bid Meeting Sign In

#### 6/2/2021

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<th>Prime</th>
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<td>Agbayani Construction Corporation</td>
<td>Cesar Tomas</td>
<td>2150 Paragon Drive</td>
<td>San Jose</td>
<td>CA</td>
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<tr>
<td>Atlas Peak Construction</td>
<td>Danny McClean</td>
<td>P.O. Box 2840</td>
<td>Napa</td>
<td>CA</td>
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<td>Buhler Commercial</td>
<td>Alan Sau</td>
<td>400 Brannan Street, Ste. 204</td>
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**PW 20-27 Carneros Fire Station 210**  
**Engineer's Estimate: $1,400,000**  
**Meeting Date: 06/2/2021**  

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<td>1122 Holmes Ave</td>
<td>Napa</td>
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<td>carlos @vinocontracting.com</td>
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<td>Western Builders</td>
<td>Sean MacRae</td>
<td>1400 North Dutton Ave #19</td>
<td>Santa Rosa</td>
<td>CA</td>
<td>707-542-3213</td>
<td>707-542-6285</td>
<td><a href="mailto:smacrae@westernbuilders.info">smacrae@westernbuilders.info</a></td>
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<tr>
<td>S&amp;H Construction, Inc.</td>
<td>Maria Jarcia</td>
<td>P.O. Box 6310</td>
<td>Chico</td>
<td>CA</td>
<td>530-899-1104</td>
<td>530-899-2683</td>
<td><a href="mailto:carolyn@schrederandbrandt.com">carolyn@schrederandbrandt.com</a></td>
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<tr>
<td>Schreder &amp; Brandt Inc.</td>
<td>Carolyn Atkinson</td>
<td>P.O. Box 6310</td>
<td>Chico</td>
<td>CA</td>
<td>530-899-1104</td>
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<td><a href="mailto:carolyn@schrederandbrandt.com">carolyn@schrederandbrandt.com</a></td>
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<td><a href="mailto:carolyn@schrederandbrandt.com">carolyn@schrederandbrandt.com</a></td>
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<td>Evra Construction Inc.</td>
<td>Yefim Ostrovski</td>
<td>100 N Hill Dr #45</td>
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<tr>
<td>EMAIL: <a href="mailto:evracon@sbcglobal.net">evracon@sbcglobal.net</a></td>
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<td>CWS Construction</td>
<td>Chris Slack</td>
<td>42 Digital Drive</td>
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<tr>
<td>EMAIL: <a href="mailto:Charliejr.cws@gmail.com">Charliejr.cws@gmail.com</a></td>
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<td>ART's Construction</td>
<td>Art K.</td>
<td>5525 W Decatur Ave</td>
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<tr>
<td>EMAIL: <a href="mailto:Arsenk.acc@gmail.com">Arsenk.acc@gmail.com</a></td>
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<td>MH Building, Inc.</td>
<td>Myke Holloran</td>
<td>68 Coombs Street, Suite 04</td>
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<tr>
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<td>PHONE #</td>
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<tr>
<td>EMAIL: <a href="mailto:MHbuilding@comcast.net">MHbuilding@comcast.net</a></td>
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<tr>
<td>Tradewinds Mechanical</td>
<td>Ben Gonzalez</td>
<td>499 Edison Ct. Ste. C</td>
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<td>PHONE #</td>
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<tr>
<td>EMAIL: <a href="mailto:Ben.Gonzaleez@tradewindsmech.com">Ben.Gonzaleez@tradewindsmech.com</a></td>
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