

FORM APPROVED COUNTY COUNSEL  
 BY: Gregory P. Priamos DATE: 3/15/16  
 Departmental Conference

**SUBMITTAL TO THE BOARD OF SUPERVISORS  
 COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**

165



**FROM:** Economic Development Agency

**SUBMITTAL DATE:**  
 March 17, 2016

**SUBJECT:** Department of Public Social Services, Desert Hot Springs - Approval of Riverside County Information Technology Plans and Specifications, District 5, [\$0]

**RECOMMENDED MOTION:** That the Board of Supervisors:

1. Find that the use of particular materials or products that are components of the Desert Hot Springs Project, specifically the voice, data, and video communications cabling systems, and the data voice-over internet protocol systems, are to be designated by specific brand or trade name to ensure the security and function of the unique elements of design which are only available from one manufacturer and to match other products or elements already in use throughout the county, as authorized by Public Contract Code Section 3400 (c), and direct staff to set forth this finding in the invitation to bidders for the project;
2. Approve the plans and specifications for the information technology cabling and infrastructure portion of the project and authorize the Clerk of the Board to advertise for bids;

(Continued)

*[Signature]*

Robert Field  
 Assistant County Executive Officer/EDA

By: Susan von Zabern  
 Susan von Zabern, Director  
 Department of Public Social Services

FINANCIAL DATA	Current Fiscal Year:	Next Fiscal Year:	Total Cost:	Ongoing Cost:	POLICY/CONSENT (per Exec. Office)
COST	\$ 0	\$ 0	\$ 0	\$ 0	Consent <input type="checkbox"/> Policy <input checked="" type="checkbox"/>
NET COUNTY COST	\$ 0	\$ 0	\$ 0	\$ 0	

**SOURCE OF FUNDS:** N/A

Budget Adjustment: No

For Fiscal Year: 2016/17-2026/27

**C.E.O. RECOMMENDATION:**

APPROVE

BY: Rohini Dasika  
 Rohini Dasika

County Executive Office Signature

**MINUTES OF THE BOARD OF SUPERVISORS**

- A-30
- Positions Added
- 4/5 Vote
- Change Order

Prev. Agn. Ref.: 3-25 of 8/18/15; 3-33 of 9/09/14 | District: 5 | Agenda Number:

3-15

# **SUBMITTAL TO THE BOARD OF SUPERVISORS, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**

Economic Development Agency

**FORM 11:** Department of Public Social Services, Desert Hot Springs - Approval of Riverside County Information Technology Plans and Specifications, District 5, [\$0]

**DATE:** March 17, 2016

**PAGE:** 2 of 3

## **RECOMMENDED MOTION:** (Continued)

3. Upon completion of the bid process, authorize the County Chief Information Officer to submit the contract for award of the bid, to the lowest responsive and responsible bidder, to the Chairman of the Board, and authorize the Chairman to execute the agreement on behalf of the Board; provided that, if any of the following occur, the award will be submitted to the Board for action: there is a bid protest, the lowest bid exceeds the estimated construction budget, the low bidder is disqualified, two or more bids are the same and are the lowest, or a bidder requests relief from its bid due to an error; and
4. Authorize the County Chief Information Officer, or designee, to administer the contract in accordance with applicable Board policies.

## **BACKGROUND:**

### **Summary**

On May 14, 2013, the County of Riverside entered into a 10 year lease with Pierson Professional Plaza, LP, for a 38,084 square foot build to suit office for use by the Department of Public Social Services (DPSS). Due to delays in obtaining required development approvals, the construction timeline was amended and delays in delivery were approved by the Board of Supervisors (Board) on September 9, 2014 and on August 18, 2015.

Construction of the new facility is underway and is anticipated to be completed September 30, 2016. As part of the construction process, Riverside County Information Technology (RCIT) will be installing the necessary phone, data cabling, infrastructure and equipment which requires installation of specific IT data cabling and voice-over internet protocol systems to tie into the county's IT network under a separate contract. Because of this, particular materials and products have been specified by brand name to match other products or elements already in use throughout the county.

The plans and specifications are now complete for the RCIT portion of the project and are ready to bid. In order to keep the project moving forward and meet project schedule commitments, staff recommends the Board to authorize the County Chief Information Officer, or designee, to determine award of the project in accordance with Board Policy B-11, and authorize the Chairman of the Board to execute the agreement on behalf of the Board, provided that the lowest bid falls within the allotted project budget amount of \$383,890 for the RCIT portion of the project.

### **Impact on Citizens and Businesses**

After completion of this long-term effort, with expected occupancy in October 2016, DPSS will have one full-service facility providing all temporary assistance programs, including CalWORKS, Food Stamps, and Medi-Cal, as well as Welfare to Work (GAIN) services to facilitate individuals and families to become self-sufficient.

### **Additional Fiscal Information**

(Commences on Page 3)

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Economic Development Agency

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**PAGE:** 3 of 3

**Additional Fiscal Information:**

The approved RCIT portion of the project is \$383,890. There is no cost associated with this particular action, however, the overall project cost has been approved and will be funded by 58.3% Federal, 39.2% State, and 2.5% County DPSS Budget, thus no additional net county costs will be incurred and no department budget adjustment is required at this time.

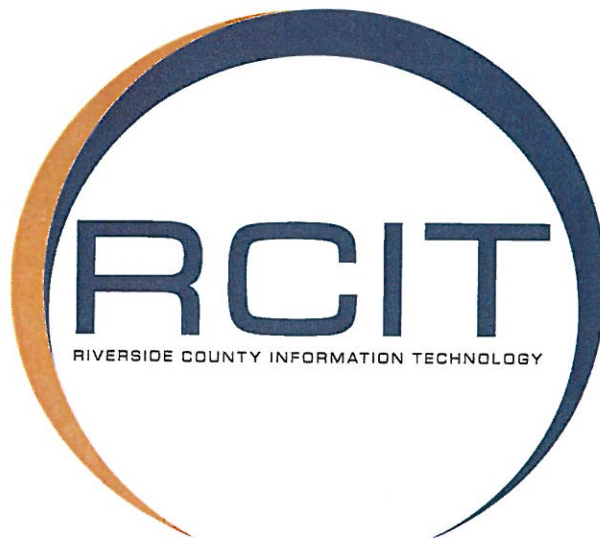
Attachment:

Specifications for the Desert Hot Springs DPSS Project

# NOTICE INVITING BIDS

## RIVERSIDE COUNTY INFORMATION TECHNOLOGY DPSS – DESERT HOT SPRINGS STRUCTURED CABLING AND AV PROJECT

65753 Pierson Blvd.  
Desert Hot Springs, CA 92240



FORM APPROVED COUNTY COUNSEL  
BY: Marsha L. Victor 3/10/16  
MARSHA L. VICTOR DATE



**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

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**Bid Submission Address:**

4080 Lemon Street  
Riverside, CA 92501

**Request for Bids**

Bid Issue Date: 3/29/16  
Job Walk Date: 4/11/16 at 2:00PM  
Bid Closing Date: 4/21/16  
on or before 1:30 P.M. Pacific Time

**Return bid to address above:**

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**PUBLIC WORKS  
NOTICE INVITING BIDS**

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1. The **COUNTY OF RIVERSIDE**, herein called County, invites sealed bids for:  
Riverside County Information Technology DPSS Desert Hot Springs Structured Cabling and AV Project

The Contractor shall furnish all labor, materials, parts, equipment, tools, supervision, services, transportation, waste disposal, facilities and other required items necessary to complete the following work in strict accordance with all of the Contract Documents:

SITE: DPSS Desert Hot Springs  
65753 Pierson Blvd.  
Desert Hot Springs, CA 92240

ESTIMATED PROJECT COST: \$ 380,000

- 
2. **CONTRACT DOCUMENTS** - Each bid shall be in accordance with all of the Contract Documents.
- a. **DRAWINGS:** The following drawings and plans are applicable to this project and made part of the Contract Documents:
- Drawings: Contract Documents including Attachment A General Information, and Documents A through J are available free of charge from RCIT, 2050 E. La Cadena Drive – Ste. L, Riverside. Contact Gary Schwalbe at 951-686-8828.**
- The drawings will not be distributed at the mandatory bidder’s conference.**
- b. **GENERAL CONDITIONS:** The General Conditions applicable to the work are included in this RFB as Attachment B.
- c. **COUNTY WEBSITE:** Addenda and other information related to the RFB are available at [www.rivcoeda.org/AboutEDA/ProposalsQuotations/tabid/467/Default.aspx](http://www.rivcoeda.org/AboutEDA/ProposalsQuotations/tabid/467/Default.aspx)
3. **LICENSE REQUIRED** - The following license is required for this project: **C-7 Low Voltage \*See additional qualifying requirements in Section 3.2 Required Experience and Certifications of the General Information document.**
4. Any contact with County personnel regarding this procurement, other than Carl Gronning of RCIT identified in this RFB, may result in disqualification of your bid.

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

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**5. TIMELINES -**

1. <b>Release of Request for Bids:</b>	<b>Date: <u>March 29, 2016</u></b>
2. <b>Mandatory Bidder Conference:</b> Attendees more than five minutes late will not be allowed to attend. Bids will not be accepted from bidders that did not attend the mandatory bidder conference.  Carl Gronning can be reached at (951) 830-9114 in the event any issues arise the day of the bidder's conference.	<b>Date: <u>April 11, 2016</u></b> <b>Time: <u>2:00 PM</u></b> Location: 3450 14 <sup>th</sup> Street, 3 <sup>rd</sup> Floor. Riverside, CA 92501 *Meet on the 3 <sup>rd</sup> Floor in the Temecula Conference Room
3. <b>Deadline For Submission Of Questions:</b> Email: <a href="mailto:Carl.Gronning@rivcoit.org">Carl.Gronning@rivcoit.org</a> (E-mail preferred) It is the responsibility of the bidder to confirm transmission of correspondence.	<b>Date: <u>April 15, 2016</u></b> <b>Time: No later than <u>2:00 PM</u></b> Must be in the form of an Email
4. <b>Deadline For Bids:</b>	<b>Date: <u>April 21, 2016</u></b> on or before 1:30 PM Pacific time.

6. **BID SUBMITTAL** - All bids must be submitted on the four page Bid Form (pages 5 through 8). Bids must be received, by hand delivery or mail, by the Clerk of the Board located on the 1<sup>st</sup> floor of the County Administrative Center, 4080 Lemon Street, Riverside, CA 92501, no later than the Bid Closing Deadline of **1:30 PM on 4/21/16** to be thereafter on said date and at said location publicly opened and read aloud. The Bidder assumes sole responsibility for timely receipt of its Bid. Under no circumstances will a bid be accepted after the closing date and time.

- a. Additional submission requirements for this project:
  - i. Current certificate - Berk-Tek – Oasis Integrator
  - ii. Current certificate - Leviton – PNI (Premier Network Installer) Installer
  - iii. Document B Contractors Bid Spreadsheet completed to show price breakdown of material and labor. (Excel Format will be emailed to those bidders attending the mandatory bidders conference)
  - iv. If substitute product is offered, information for acceptance of substitution **MUST BE** submitted **PRIOR** to bid closing date for review.
- b. Bids submitted without the complete submittal items as requested will be considered non-responsive. **NO EXCEPTIONS.**

**BIDS SHALL BE DELIVERED TO:**

**COUNTY OF RIVERSIDE CLERK OF THE BOARD  
COUNTY ADMINISTRATIVE CENTER  
4080 Lemon Street, 1<sup>st</sup> Floor  
Riverside, CA 92501**

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

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**Return bid to address above:**

**7. PREVAILING WAGES AND LABOR CODE REQUIREMENTS –**

This is a public works project subject to compliance monitoring and enforcement by the California Department of Industrial Relations. The awarded bidder shall comply with all applicable provisions of the California State Labor Code regarding prevailing wages, Department of Industrial Relations Division of Apprenticeship Standards Labor and other requirements, including but not limited to Labor Code Sections 1771.4, 1773.1, 1774, 1775 and 1776.

The most recent determination of general prevailing rates of per diem wages applicable to the work, and for holiday and overtime work, including employer payments for health and welfare, pension, vacation, and similar purposes; can be obtained at the California State Department of Industrial Relations, 464 West Fourth St., San Bernardino.

The awarded bidder shall post job site notices as prescribed by regulation. Contractor or subcontractor shall furnish records specified in Labor Code Section 1776 to the Labor Commissioner.

Pursuant to Labor Code Section 1771.1, any contractor submitting a bid, or subcontractor listed on the Bid Form, must be currently registered with the Department of Industrial Relations and qualified to perform public work pursuant to Labor Code Section 1725.5. No contractor or subcontractor will be awarded without proof of current D.I.R. registration.

8. The awarded bidder must hold the **required** California license, in good standing with the Contractor State License Board, at the time of submitting its bid and continuously thereafter until project completion. A subcontractor may possess the required license only if allowed by applicable law. Licensure statements are made under penalty of perjury.
9. The awarded bidder will be required to furnish performance and payment bonds and insurance documents in accordance with the requirements stated in this RFB.

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

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**INSTRUCTIONS TO BIDDERS**

1. **CONTRACTOR REGISTRATION** – The awarded bidder shall register all of its current information with the County’s online database at [www.purchasing.co.riverside.ca.us](http://www.purchasing.co.riverside.ca.us), including W-9 and IRS 147C forms; or update its information if already registered. It is suggested that all bidders register in the County database so their information will be available for future consideration.
2. **PRICES/NOTATIONS** - All prices/notations must be typewritten or written in ink. No erasures permitted. Mistakes shall be crossed out, corrections made adjacent and initialed by person signing document. Each item shall be bid separately. All signatures must be by an authorized representative of bidder.
3. **PRICING/TERMS/TAX** - All pricing shall be bid F.O.B. destination, including applicable tax, permits, and licenses as applicable to this project. The County pays California sales tax and is exempt from Federal excise tax. The Contractor shall pay all taxes related to the work. In the event of an extension error, the unit price shall prevail.
4. **ADDENDA TO RFB** - The County reserves the right to issue such addenda to the RFB as it may desire at any time prior to the time for receiving bids. The number and date of each addendum shall be listed on each bid in the space provided.
5. **COUNTY RESERVATION OF RIGHTS** - The County reserves the right to reject any or all bids, to waive any discrepancy, technicality or informalities in a bid or in the bidding process, and to make the award in any manner determined by the County to be most advantageous to the County.
6. **WITHDRAWAL OF BID** - A bid may be withdrawn only prior to the bid closing date and time. No bidder may withdraw or modify its bid for a period of sixty (60) calendar days after the bid closing date.
7. **INTERPRETATION OF THE BID DOCUMENTS** - Discrepancies in and omissions from any of the Contract Documents, questions as to their meaning or uncertainties that might cause disputes, shall immediately be brought to the attention of the County by the bidder. Any interpretation of the terms of the Contract Documents will be made only by written addenda issued by the County and available at [www.rivcoeda.org/AboutEDA/ProposalsQuotations/tabid/467/Default.aspx](http://www.rivcoeda.org/AboutEDA/ProposalsQuotations/tabid/467/Default.aspx) . The County will not be responsible for any other explanations or interpretations.
8. **ADDITIONAL INFORMATION** – Prior to award, the County reserves the right to require additional information from a bidder, including but not limited to information regarding the bidder’s financial responsibility or other information the County determines is necessary to ascertain whether the bid is in fact the lowest responsible and responsive bid submitted
9. **AWARD OF CONTRACT** - The bid shall be awarded upon issuance of an executed contract, which shall include the Contract Documents by reference or attachment.

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

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**BID FORM**

Page 1 of 4

The bidder, having carefully examined the proposed site and all of the Contract Documents, proposes and agrees to furnish all tools, equipment, services, apparatus, facilities, transportation, labor and materials necessary to complete the project as outlined in this RFB in strict conformity with all of the Contract Documents.

The bidder acknowledges receipt of the following addenda:

Addendum No. \_\_\_\_\_ Date: \_\_\_\_\_  
Addendum No. \_\_\_\_\_ Date: \_\_\_\_\_  
Addendum No. \_\_\_\_\_ Date: \_\_\_\_\_

**BID SUMMARY**

<b>Item Description</b>	<b>Total Amount</b>
1. Station Cabling	\$ _____
2. Paging System	\$ _____
3. A/V System	\$ _____
4. Wireless System	\$ _____
5. Special Services Cabling	\$ _____
6. Copper Backbone	\$ _____
7. Fiber Backbone	\$ _____
8. Telecom Rooms	\$ _____
9. Grounding	\$ _____
10. PDU / UPS	\$ _____
11. Miscellaneous	\$ _____
12. Rental Equipment	\$ _____
Allowance A1 for Unforeseen Corrections to the Structured Cabling System	\$ <u>20,000.00</u>

**BASE BID**

The undersigned agrees to perform all work required for this project for the sum of: \$ \_\_\_\_\_  
(List sum of items 1 through 12 as shown on Document B Contractors Bid Spreadsheet, PLUS Allowance A1)

These prices include all applicable taxes, permits, licenses, insurance and bond costs, and all other costs incidental or related to the work. Change order requests **WILL NOT** exceed 10% above base bid.

The following percentage information must also be provided for the Base Bid (though it will not be used in awarding the contract):

Labor: \_\_\_\_\_% Materials: \_\_\_\_\_% Other: \_\_\_\_\_% All three must total 100%.

**PAYMENT TERMS**

Check one:

\_\_\_\_\_ Lump sum payment at project completion      \_\_\_\_\_ Progress payments (as stated in General Conditions)

If prompt payment discount offered (for example, 1% Net 15) please describe: \_\_\_\_\_

LIQUIDATED DAMAGES - It is agreed that time is of the essence for completion of this work. Therefore, the parties agree the awarded bidder (Contractor) shall pay to the County, as fixed and liquidated damages, and not as penalty, a dollar sum in the amount of **\$500.00** per day for each calendar day beyond the allowed time stated in the Contract Documents after which the work is completed.

TIME FOR COMPLETION - The work shall be commenced within ten (10) calendar days after receipt of an executed contract from the County and shall be completed within sixty (60) calendar days following the date specified in County's written order.



**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

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**BID FORM**

Page 3 of 4

**AWARD OF CONTRACT**

The bidder understands that a contract is formed upon the acceptance of its bid by the County. The bidder agrees it will promptly execute and deliver to County the Agreement together with the required Payment and Performance Bonds and insurance documents.

**BID GUARANTEE**

The enclosed certified or cashier's check or bid bond on the provided form, made payable to the County in the amount of ten percent (10%) of the total bid, is hereby given as a guarantee that the bidder will execute and deliver the Agreement and required bonds if awarded the contract. In the event that the bidder fails or refuses to execute and deliver said documents, such check or bond is to be charged with the costs of the damages experienced by the County as a result of such failure or refusal.

Name of Bidder: \_\_\_\_\_

Type of Organization: \_\_\_\_\_

Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Address of Bidder: \_\_\_\_\_

Telephone No.: \_\_\_\_\_ Email: \_\_\_\_\_

Contractor's License No.: \_\_\_\_\_ Classification: \_\_\_\_\_ Expires: \_\_\_\_\_

DIR Registration No.: \_\_\_\_\_

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

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**BID FORM**

Page 4 of 4

**TO BE SUBMITTED WITH BID  
NON-COLLUSION DECLARATION**

\_(Public Contract Code Section 7106)

The undersigned declares:

I am the \_\_\_\_\_ of \_\_\_\_\_, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder.

All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted its bid price of any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct and that this declaration is executed on \_\_\_\_\_ [date], at \_\_\_\_\_ [city], \_\_\_\_\_ [State].

\_\_\_\_\_  
[Signature of Declarant]

\_\_\_\_\_  
[Printed Name of Person Signing]

\_\_\_\_\_  
[Name of Bidder]

\_\_\_\_\_  
[Office or Title]



**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

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**BID BOND**

Page 1 of 2

(Public Work – Public Contract Code Section 20129 (a))

WHEREAS, The undersigned \_\_\_\_\_ (“Principal”) is herewith submitting to the County of Riverside (“County”) a Bid dated \_\_\_\_\_ 2016, in the amount of \_\_\_\_\_ (\$ \_\_\_\_\_)

for the award by County to Principal of a contract (“Contract”) for the following: **Riverside County Information**

**Technology DPSS Desert Hot Springs Structured Cabling and AV Project**

WHEREAS, Principal is obligated as a condition of said Bid to submit security pursuant to Public Contract Code Section 20129 (a) in the amount of ten percent (10%) of the Bid Amount, which security may be in the form of a Bid Bond issued by an admitted surety insurer pursuant to Code of Civil Procedure Section 995.120 (“Admitted Surety”);

NOW THEREFORE, the Principal and \_\_\_\_\_ (“Surety”), an Admitted Surety, are held and firmly bound unto the County in the penal sum of \_\_\_\_\_ (\$ \_\_\_\_\_) for the payment of which sum in lawful money of the United States, well and truly to be made, we, Principal and Surety, bind ourselves, our executors, administrators, successors, heirs and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that if Principal is awarded the Contract upon such Bid and thereafter within the period of time specified in County’s bidding documents governing the bidding process applicable to such Bid (“Bidding Documents”) enters into the Contract with County on the terms and conditions required by the Bidding Documents and furnishes the performance and payment bonds, evidence of insurance and other documents that Principal is required to submit under the terms of the Bidding Documents, then this obligation shall be null and void; otherwise, it shall remain in full force and effect and the sum guaranteed by this bond shall, at the option of County, be forfeited to County to pay all losses and damages suffered by County as a result thereof and permitted by applicable law, including, without limitation, the difference between the Bid Amount and amount for which the County may legally contract with another party to perform the Work (if such latter amount be greater than the Bid Amount), costs of publication, and all other losses and damages suffered by County (including, without limitation, those associated with delay to the Project); provided, however, that Surety’s liability shall not exceed the penal amount of this bond.

Surety, for value received, hereby agrees that no change, extension of time, alteration or addition to the terms of the Contract or the Bidding Documents, or to the work to be performed thereunder, nor any withdrawal of the Bid in a manner not permitted by the requirements of the Bidding Documents shall in any way impair or affect Surety’s obligation under this bond, and Surety does hereby waive notice of any such changes, extensions of time, alterations or additions.

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

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**BID BOND**

Page 2 of 2

In the event any legal proceeding or arbitration is brought upon this bond by County and judgment or award is entered in favor of County as the prevailing party, Surety shall pay all costs and attorney's fees incurred by the County.

IN WITNESS WHEREOF the undersigned parties have executed this instrument under their several seals this day of \_\_\_\_\_, 2016, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

**Affix Seal if Corporation**

\_\_\_\_\_  
**(Firm Name – Principal)**

\_\_\_\_\_  
**(Business Address)**

By \_\_\_\_\_  
**(Original Signature)**

\_\_\_\_\_  
**(Title)**

\_\_\_\_\_  
**(Corporation Name – Surety)**

**Affix Corporate Seal**

\_\_\_\_\_  
**(Business Address)**

By \_\_\_\_\_  
**(Original Signature)**  
**ATTORNEY-IN-FACT**

**Note: Notary acknowledgment for Surety's signature and Surety's Power of Attorney must be included or attached**

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

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**AGREEMENT**

Page 1 of 2

THIS AGREEMENT, entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2016, by and between \_\_\_\_\_, hereinafter called the "Contractor," and the County of Riverside, hereinafter called "County."

The parties mutually agree as follows:

**CONTRACT DOCUMENTS:** The complete contract includes all of the Contract Documents which are intended to be complimentary.

The Contract Documents include: Notice Inviting Bids; Instructions to Bidders; Bid Form; the Request for Bids ("RFB"), including Attachment A and Attachment B, any addenda or other documents attached to or incorporated into the RFB; this Agreement; all project bonds; all applicable plans, specifications and drawings; and approved change orders.

**STATEMENT OF WORK:** The Contractor agrees to furnish all labor, materials, parts, equipment, tools, supervision, services, transportation, waste disposal, facilities and other required items necessary to complete the Riverside County Information Technology DPSS Desert Hot Springs Structured Cabling and AV Project, in strict accordance with all of the Contract Documents.

**TIME FOR COMPLETION:** The work shall be commenced on a date to be specified in a written order from the County and shall be completed within **sixty (60) calendar days** following the date specified in County's written order, unless otherwise specified in writing and accepted by the County Project Manager.

**COMPENSATION TO BE PAID TO CONTRACTOR:** The County agrees to pay and the Contractor agrees to accept in full consideration for the performance of all the work the sum of;

\_\_\_\_\_ \$(\_\_\_\_\_).

Pursuant to Labor Code Section 1861, the Contractor gives the following certification: "I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for worker's compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of work of this contract."

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

**Bid Submission Address:**

4080 Lemon Street  
Riverside, CA 92501

**Request for Bids**

Bid Issue Date: 3/29/16  
Job Walk Date: 4/11/16 at 2:00PM  
Bid Closing Date: 4/21/16  
on or before 1:30 P.M. Pacific Time

**Return bid to address above:**

**AGREEMENT FORM**

Page 2 of 2

Contractor's legal type of organization: \_\_\_\_\_

List names of all persons who have authority to bind the Contractor:

\_\_\_\_\_

\_\_\_\_\_

**AGREED:**

Firm Name:			
Address:			
Contractor's License No.		Expires:	
DIR Registration No:			
Signature:	Date:		
Name and Title:			

COUNTY OF RIVERSIDE

Signature: \_\_\_\_\_

Name and Title: \_\_\_\_\_

Date: \_\_\_\_\_

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

**Bid Submission Address:**

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Riverside, CA 92501

**Request for Bids**

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**Return bid to address above:**

**PAYMENT BOND**

Page 1 of 2

(Public Work - Civil Code Sections 9550 et seq.)

WHEREAS, the County of Riverside ("County") on \_\_\_\_\_, 2016, has awarded the Construction Contract ("Contract") to the undersigned \_\_\_\_\_, as Principal ("Principal") to perform the work ("Work") for the following project; Riverside County Information Technology DPSS Desert Hot Springs Structured Cabling and AV Project.

WHEREAS, said Principal is required by the Contract and/or by Division 3, Part IV, Title XV, Chapter 7 (commencing at Section 9550) of the California Civil Code to furnish a payment bond in connection with the Contract;

NOW THEREFORE, we, the Principal and \_\_\_\_\_ ("Surety"), an admitted surety insurer pursuant to Code of Civil Procedure, Section 995.120, are held and firmly bound unto County in the penal sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_), this amount being not less than one hundred percent (100%) of the total sum payable by County under the Contract at the time the Contract is awarded by County to the Principal, lawful money of the United States of America, for the payment of which sum well and truly to be made, we, Principal and Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if Principal, its heirs, executors, administrators, successors, or assigns approved by County, or its subcontractors, of any contracting tier, shall fail to pay any person or persons named in California Civil Code, Section 9554, then Surety will pay for the same, in or to an amount not exceeding the penal amount hereinabove set forth, and also will pay to the prevailing party if suit is brought upon this bond, reasonable attorney's fees as provided in California Civil Code, Section 9564.

Surety, for value received, agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the Work to be performed thereunder, nor any rescission or attempted rescission of the Contract or this bond, nor any conditions precedent or subsequent in the bond or Contract attempting to limit the right of recovery of any claimant otherwise entitled to recover under the Contract or this bond shall in any way impair or affect Surety's obligation under this bond, and Surety does hereby waive notice of any such changes, extensions of time, alterations or additions.

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

**Bid Submission Address:**

4080 Lemon Street  
Riverside, CA 92501

**Request for Bids**

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Job Walk Date: 4/11/16 at 2:00PM  
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on or before 1:30 P.M. Pacific Time

**Return bid to address above:**

**PAYMENT BOND**

Page 2 of 2

Surety is not released from liability to those for whose benefit this bond has been given, by reason of any breach of the Contract by County or Principal.

Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, joint and severally, or against any one or more of them or against less than all of them, without impairing County's rights against the others.

**Affix Seal if Corporation**

\_\_\_\_\_  
**(Firm Name – Principal)**

\_\_\_\_\_

\_\_\_\_\_  
**(Business Address)**

**By**  
\_\_\_\_\_  
**(Original Signature)**

\_\_\_\_\_  
**(Title)**

\_\_\_\_\_  
**(Corporation Name – Surety)**

**Affix Corporate Seal**

\_\_\_\_\_

\_\_\_\_\_  
**(Business Address)**

**By**  
\_\_\_\_\_  
**(Signature – Attached Notary's Acknowledgment)**

\_\_\_\_\_  
**ATTORNEY-IN-FACT**  
**(Title-Attach Power of Attorney)**

Note: Notary acknowledgment of signatures of Bidder and Surety, and Surety's Power of Attorney, must be included or attached.

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

**Bid Submission Address:**

4080 Lemon Street  
Riverside, CA 92501

**Request for Bids**

Bid Issue Date: 3/29/16  
Job Walk Date: 4/11/16 at 2:00PM  
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on or before 1:30 P.M. Pacific Time

**Return bid to address above:**

**PERFORMANCE BOND**

Page 1 of 3

(Public Work – Public Contract Code Section 20129 (b))

WHEREAS, the County of Riverside ("County") on \_\_\_\_\_, 2016, has awarded the Construction Contract ("Contract") to the undersigned \_\_\_\_\_, as Principal ("Principal") to perform the work ("Work") for the following project; Riverside County Information Technology DPSS Desert Hot Springs Structured Cabling and AV Project, which Contract is by this reference hereby incorporated herein and made a part hereof;

WHEREAS, said Principal is required by the Contract and/or by California Public Contract Code, Section 20129 (b) to furnish a performance bond for the faithful performance of the Contract;

NOW THEREFORE, we, the Principal and \_\_\_\_\_ ("Surety"), an admitted surety insurer pursuant to Code of Civil Procedure, Section 995.120, are held and firmly bound unto County in the penal sum of \_\_\_\_\_

Dollars (\$\_\_\_\_\_), this amount being not less than one hundred percent (100%) of the total sum payable by County under the Contract at the time the Contract is awarded by County to the Principal, lawful money of the United States of America, for the payment of which sum well and truly to be made, we, Principal and Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH that if Principal, its heirs, executors, administrators, successors or assigns approved by County, shall in all things stand to and abide by and well and truly keep and perform all the undertakings, terms, covenants, conditions and agreements in the Contract, including, without limitation, all obligations during the original term and any extensions thereof as may be granted by County, with or without notice to Surety thereof (including, without limitation, the obligation for Principal to pay liquidated damages), all obligations during the period of any warranties and guarantees required under the Contract and all other obligations otherwise arising under the terms of the Contract (such as, but not limited to, obligations of indemnification), all within the time and in the manner therein designated in all respects according to their true intent and meaning, then this obligation shall become null and void; otherwise, it shall be and remain in full force and effect.

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

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**Bid Submission Address:**

4080 Lemon Street  
Riverside, CA 92501

**Request for Bids**

Bid Issue Date: 3/29/16  
Job Walk Date: 4/11/16 at 2:00PM  
Bid Closing Date: 4/21/16  
on or before 1:30 P.M. Pacific Time

**Return bid to address above:**

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**PERFORMANCE BOND**

Page 2 of 3

Whenever Principal shall be, and is declared by County to be, in default under the Contract, the Surety shall promptly either remedy the default, or, if the Contract is terminated by County or the Principal's performance of the Work is discontinued, Surety shall promptly complete the Contract through its agents or independent contractors, subject to acceptance of such agents or independent contractors by County as hereinafter set forth, in accordance with its terms and conditions and to pay and perform all obligations of Principal under the Contract (including, without limitation, all obligations with respect to payment of liquidated damages) less the "Balance of the Contract Price" (as hereinafter defined); subject to the penal amount of this bond as set forth above. The term "Balance of the Contract Price," as used in this paragraph, shall mean the total amount payable to Principal by County under the Contract and any modifications thereto, less the amount previously paid by County to the Principal and less amounts that County is authorized to withhold under the terms of the Contract.

If County determines that completion of the Contract by Surety or its agents or independent contractors must be performed by a lowest responsible bidder selected pursuant to a competitive bidding process, then Surety shall comply with such processes in accordance with the requirements of County and applicable laws. Unless otherwise approved by County, in the exercise of its sole and absolute discretion, Surety shall not utilize Principal in completing performance of the Work.

No right of action shall accrue on this bond to or for the use of any person or entity other than County or its successors or assigns.

In the event any legal proceeding or arbitration is brought upon this bond by County and judgment or award is entered in favor of County as the prevailing party, Surety shall pay all costs and attorney's fees incurred by the County.

Correspondence or claims relating to this bond shall be sent to Surety at the address set forth below.

Surety, for value received, agrees that no change, extension of time, alteration or addition to the terms of the Contract, or to the work to be performed thereunder, shall in any way impair or affect Surety's obligation under this bond, and Surety does hereby waive notice of any such changes, extensions of time, alterations or additions.

Surety's obligations hereunder are independent of the obligations of any other surety for the performance of the Contract, and suit may be brought against Surety and such other sureties, joint and severally, or against any one or more of them or against less than all of them, without impairing County's rights against the others.



**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

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Riverside, CA 92501

**Request for Bids**

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on or before 1:30 P.M. Pacific Time

**Return bid to address above:**

**PERFORMANCE BOND**

Page 3 of 3

**Affix Seal if Corporation**

\_\_\_\_\_  
**(Firm Name – Principal)**

\_\_\_\_\_

\_\_\_\_\_  
**(Business Address)**

**By**  
\_\_\_\_\_  
**(Original Signature)**

\_\_\_\_\_  
**(Title)**

\_\_\_\_\_  
**(Corporation Name – Surety)**

**Affix Corporate Seal**

\_\_\_\_\_

\_\_\_\_\_  
**(Business Address)**

**By**  
\_\_\_\_\_  
**(Signature – Attached Notary's Acknowledgment)**

\_\_\_\_\_  
**ATTORNEY-IN-FACT**  
**(Title-Attach Power of Attorney)**

Note: Notary acknowledgment of signatures of Bidder and Surety, and Surety's Power of Attorney, must be included or attached.

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

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Riverside, CA 92501

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on or before 1:30 P.M. Pacific Time

**Return bid to address above:**

---

**ATTACHMENT A**

Riverside County Information Technology DPSS Desert Hot Springs Structured Cabling and AV Project  
65753 Pierson Blvd., Desert Hot Springs, CA 92240

See the attached noted as Attachment A for General Information, Special Instructions, Project Overview,  
Detailed Scope of Work and Documents A through J

**CONTRACTOR'S REQUIREMENTS:**

- a. Certified Payroll is required on this project.
- b. Contractor shall comply with all Federal, State and Local, rules and regulations that in any manner affect the work. Special attention is called, but not limited to, the Local environmental ordinances. Ignorance on the part of the bidder will in no way relieve him/her from responsibility of compliance with all said laws, ordinances, rules and regulations.
- c. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. Pursuant to Labor Code section 1771.1, any contractor bidding, or subcontractor to be listed on a bid proposal subject to Public Contract Code section 4104, must be currently registered with the Department of Industrial Relations, pursuant to Labor Code Section 1725.5. No contractor or subcontractor may be awarded without proof of current registration, to perform public works.

**QUALITY ASSURANCE:**

- a. The Contractor shall use an adequate number of skilled workmen who are thoroughly trained and experienced in the necessary craft and who are completely familiar with the specified requirements and the methods needed for proper performance of all work contained in these specifications.
- b. Upon County request, the Contractor shall provide evidence of a minimum of five (5) years' experience performing this type of work.

**SCHEDULING:**

- a. Work to be performed during regular business hours.
- b. The Contractor is advised that certain inconveniences may be encountered. Complete cooperation between the Contractor and the County Project Manager and onsite Project Manager will be necessary to expedite the work with the least amount of interference or delay.
- c. The awarded Contractor is to provide the Project Manager with daily schedule of activities so that the necessary arrangements and precautions can be made in the construction areas.
- d. Upon Notice to Proceed, the project shall be completed within sixty (60) calendar days, unless otherwise specified in writing and accepted by the County Project Manager. It is understood that the contractor may need to return post furniture installation to finalize those connections which will not be counted against the 60 calendar day completion.

**COUNTY OF RIVERSIDE  
PUBLIC WORKS**

---

**Bid Submission Address:**

4080 Lemon Street  
Riverside, CA 92501

**Request for Bids**

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on or before 1:30 P.M. Pacific Time

**Return bid to address above:**

---

**ATTACHMENT B**

The General Conditions applicable to the work are noted as Attachment B consisting of 122 pages and attached hereto.

ATTACHMENT A

# RIVERSIDE COUNTY INFORMATION TECHNOLOGY

## DPSS – Desert Hot Springs Structured Cabling and AV Project

65753 Pierson Blvd., Desert Hot Springs, CA 92240



**1. Documents included in this Package:**

- 1.1. **General Information, Special Instructions, Project Overview, and Detailed Scope of Work**
- 1.2. **Document A: Material List**
- 1.3. **Document B: Contractor Bid Spreadsheet.**
- 1.4. **Document C: Project Schedule**
- 1.5. **Document D: Cabling Infrastructure Supplemental Installation Instructions**
- 1.6. **Document E: Cable Test Certification**
- 1.7. **Document F: Floor Plan**
- 1.8. **Document G:TR1.A**
- 1.9. **Document H: EXTRON AV Diagram**
- 1.10. **Document I: DHS AV Room Diagram**
- 1.11. **Document J: TR1A Rack Elevations**

**2. General Information:**

- 2.1. The Contractor shall furnish all travel, parts, labor, materials, rentals, equipment, on-site material storage container, disposal, transportation and supervision necessary to install telecommunications cabling and AV infrastructure in strict accordance with the details listed in this document and drawings prepared by Riverside County Information Technology Communications Bureau (RCIT).

**3. Special Instructions:**

**3.1. Codes, Standards and Ordinance**

- 3.1.1. All work shall conform to the latest issue and addenda of the National Electrical Code, the Building Code, all local codes, standards and ordinances, as applicable.
  - 3.1.1.1. ANSI/TIA/EIA-455-B, Standard Test Procedures for Fiber Optic Cables and Transducers, Sensors, Connecting and Terminating Devices, and other Fiber Optic Components.
  - 3.1.1.2. ANSI/TIA-492.AAAC-B, Detail Specification for 850-nm Laser-Optimized, 50um Core Diameter/125um Cladding Diameter Class 1a Graded-index Multimode Optical Fibers (OM3/OM4).
  - 3.1.1.3. ANSI TIA-492.CAAB, Detail Specification for Class Iva Dispersion-Unshifted Single-Mode Optical Fibers with Low Water Peak.
  - 3.1.1.4. ANSI/TIA-526-7, Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant - OFSTP-7.
  - 3.1.1.5. ANSI/TIA-526-14-A, Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant - OFSTP-14.
  - 3.1.1.6. ANSI/TIA-568-C.0, Generic Telecommunications Cabling for Customer Premises.
  - 3.1.1.7. ANSI/TIA-568-C.1, Commercial Building Telecommunications Cabling Standard.
  - 3.1.1.8. ANSI/TIA-568-C.2, Balanced Twisted Pair Telecommunications Cabling and Components Standards.
  - 3.1.1.9. ANSI/TIA-568-C.3, Optical Fiber Cabling Components Standard.
  - 3.1.1.10. ANSI/TIA-568-C.4, Broadband Coaxial Cabling Components Standard.
  - 3.1.1.11. ANSI/TIA-569-D, Commercial Building Standard for Telecommunication Pathways and Spaces.
  - 3.1.1.12. ANSI/TIA-598-C, Optical Fiber Cable Color Coding.
  - 3.1.1.13. ANSI/TIA-606-B, Administration Standard for Commercial Telecommunications.
  - 3.1.1.14. ANSI/TIA-607-B, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises.
  - 3.1.1.15. ANSI/TIA-758-B, Customer-Owned Outside Plant Telecommunications Infrastructure Standard.
  - 3.1.1.16. ANSI/TIA-862-A, Building Automation Systems Cabling Standard.
  - 3.1.1.17. ANSI/TIA-942-A, Telecommunications Infrastructure Standard for Data Centers.
  - 3.1.1.18. ANSI/TIA TSB-140: Additional Guidelines for Field-Testing, Loss and Polarity of Optical Fiber Cabling Systems.
  - 3.1.1.19. NFPA 70 – National Electrical Code (NEC).
  - 3.1.1.20. BICSI Information Transport Systems Installation Methods Manual
  - 3.1.1.21. BICSI Telecommunications Distribution Methods Manual, (TDMM)

- 3.1.2. Telecommunications contractor shall have read the above documents and shall be familiar with the requirements that pertain to RCIT installations. The documents may be obtained from:
  - 3.1.2.1. Global Engineering Documents, 15 Inverness Way East, Englewood, CO, 80112, 800-854-7179, <http://global.ihs.com>
  - 3.1.2.2. BICSI, 8610 Hidden River Parkway, Tampa, FL, 33637, 800-242-7405, [www.bicsi.org](http://www.bicsi.org)
- 3.1.3. Methodologies outlined in the latest edition of the BICSI Information Transport Systems Installation Methods Manual and BICSI Telecommunications Distribution Methods Manual shall also be used during all installation activities. Should conflicts exist with the foregoing, the authority having jurisdiction for enforcement shall have responsibility for making interpretation on codes related issues, and RCIT on standards related issues.
- 3.1.4. If this document or any of the documents listed in this RFP are in conflict, then the more stringent requirement shall prevail. All documents listed are believed to be the most current releases of the documents. Bidder has the responsibility to determine and adhere to the most recent release when developing the proposal for installation.
- 3.1.5. This document does not replace any code, either partially or wholly. Bidder must be aware of local codes that may impact any project.

### **3.2. Required Experience and Certifications**

- 3.2.1. Bidder and/or their subcontractor shall hold current and valid C7 license as required by state law to perform such work as described herein within the State of California.
- 3.2.2. The structured cabling system shall be installed and registered by a Berk-Tek OASIS Certified Integrator or Leviton Preferred Network Installer (PNI).
- 3.2.3. Bidder shall provide a Project Manager (PM) who shall act as a single point of contact for all activities regarding installations. The PM shall be required to make decisions regarding the scope of the work and any changes required by the work. The PM shall be responsible for all aspects of the work and shall have the authority to make immediate decisions regarding implementation or changes to the work.
- 3.2.4. Bidder shall provide an on-site Lead person responsible for on-site job management. On-site Lead shall be required to attend site construction meetings throughout the duration of the installation.
- 3.2.5. All Contractor personnel performing work associated with this project shall wear shirts and/or badges clearly identifying their company.

### **3.3. Materials**

- 3.3.1. Bidder may only offer substitute items prior to submission of their bid, where the part(s) is identified and it can be demonstrated that the substitute meets or exceeds the performance of the part listed. Not typical or average performance values will be accepted. The Contractor shall supply the following information with each substitute requested:
  - 3.3.1.1. Name of manufacturer
  - 3.3.1.2. Part Number
  - 3.3.1.3. Product Data Sheet
  - 3.3.1.4. Third party performance comparison verification (only applicable for cabling system components)
  - 3.3.1.5. Product performance comparison
  - 3.3.1.6. Unit cost
  - 3.3.1.7. Manufacturer lead time
- 3.3.2. If any part, which has been agreed upon in this bid, becomes unavailable during the life of the contract, RCIT shall select a replacement item and negotiate the price with the contractor. This part shall then become the standard during the life of the contract.
- 3.3.3. During the installation of any project, substitutions shall only be allowed for the reason of unavailability of the agreed upon part. RCIT shall be notified and provided the following information:
  - 3.3.3.1. Part in question
  - 3.3.3.2. Construction start date
  - 3.3.3.3. Date of contractor P.O. to authorized distributor
  - 3.3.3.4. Delay expected
  - 3.3.3.5. Substitution suggested with supporting product data sheet
  - 3.3.3.6. Cost differences, if any.
- 3.3.4. It shall be the sole responsibility of RCIT to accept or reject the substitution.

### **3.4. WARRANTIES:**

- 3.4.1.** The structured cabling system shall provide a warranty guaranteeing installed channel performance above the ANSI/TIA 568-C requirements for Cat 6 or ISO 11801 requirements for Class E.
  - 3.4.1.1. This warranty shall cover passive telecommunications infrastructure copper and optical fiber connectivity and cabling products and performance for a minimum period of Limited Lifetime from date of installation registration, and will support any existing or future applications designed to operate over a 250 MHz horizontal channel as defined in the current ANSI/TIA-568-C standards.
  - 3.4.1.2. Installation practices shall follow the installation guidelines and procedures specified in the manufacturer certified integrator/installer programs and the current ANSI/TIA standards.
  - 3.4.1.3. Acceptable manufacturer solution for the copper and optical fiber infrastructure is a Berk-Tek Leviton Technologies or RCIT Pre-Approved Equal.
  - 3.4.1.4. The structured cabling system shall be installed and registered by a Berk-Tek OASIS Certified Integrator or Leviton Preferred Network Installer (PNI).
  - 3.4.1.5. Provide closeout documentation in accordance with the manufacturer warranty requirements to comply for acceptance of warranty. Documentation shall be submitted to the manufacturer including, but not limited to:
    - 3.4.1.5.1. Manufacturer warranty application form.
    - 3.4.1.5.2. Compliance of the proper network test equipment and permanent link adapters.
    - 3.4.1.5.3. Electronic test results per cable port and a summary report of all test results.
    - 3.4.1.5.4. All documentation shall be issued electronically on a CD-ROM, FTP site or via email.
  - 3.4.1.6. Provide the manufacturer warranty application registration number to RCIT.
- 3.4.2.** The System components must be new, unused, current edition and in original packing material.
  - 3.4.2.1. Approved products shall be listed on the most recent version of the applicable manufacturer's data sheets.
- 3.4.3.** Horizontal channels shall be completed with factory-terminated copper and/or fiber optic patch cords in order to be eligible for the applicable manufacturer Warranty with channel performance guarantees.
- 3.4.4.** Unless otherwise specified, unconditionally guarantee in writing, the materials, equipment, and workmanship for a period of not less than one (1) year from date of Project Closeout letter issued by the RCIT project manager. Acceptance shall be deemed as beneficial use by RCIT.
- 3.4.5.** Manufacturer Limited Lifetime Warranty shall be Berk-Tek Leviton Technologies or RCIT pre-approved equal.

### **3.5. Inspection, Acceptance, and Title**

- 3.5.1.** If the materials or services supplied to RCIT are found to be defective or do not conform to the specifications, RCIT reserves the right to cancel the contract upon written notice to Bidder and return products at Bidder's expense, based upon the terms of the Contract.
- 3.5.2.** Bidder shall not close up any ceiling tiles until RCIT has been contacted and given the opportunity to inspect the installation. Should Bidder close up the work prior to giving RCIT the option to inspect the work, Bidder shall uncover the work for inspection by RCIT at no cost to RCIT, and then recover the work according to the specification contained herein.
- 3.5.3.** Bidder shall notify RCIT when the work is ready for inspection. RCIT shall inspect the work within forty eight (48) hours after receipt of notification from Bidder.
- 3.5.4.** RCIT reserves the right to conduct, at RCIT's expense, using Contractor equipment and labor, a random re-test of up to 5 percent of the cable plant to confirm documented results. Any failing cabling shall be re-tested and restored to a passing condition. In the event the cable plant fails during re-test, the entire cable plant shall be retested and restored to a passing condition at no additional cost to RCIT. If the cable still fails, the cable shall be replaced at no charge to RCIT.
- 3.5.5.** Acceptance shall be subject to completion of all work, successful post-installation testing, which yields 100 percent PASS rating, and receipt of full documentation.
- 3.5.6.** RCIT shall inspect the completed installation prior to acceptance to ensure the installation was completed in compliance with all guidelines and directives as outlined in this document.
- 3.5.7.** RCIT shall provide prints, as required, in electronic format (VISIO 2010 or AutoCAD 2014). Bidder shall provide "As built" documentation in the same format as received within five (5) working days after completing the job. These drawings shall include WAO locations, label numbers, pathways, firestop system locations, backbone cables, pair counts, TR locations, etc.

- 3.5.8. Bidder shall provide within five (5) working days at the conclusion of the project:
  - 3.5.8.1. Warranty documents for equipment.
  - 3.5.8.2. Data cabling certification test result printouts and electronic media.
  - 3.5.8.3. Cable records and cross-connect sheets.
  - 3.5.8.4. Current Test Equipment Certification Report.
  - 3.5.8.5. Provide one (1) copy of items 1,2 & 3 above in a 1.5" binder with the following items:
    - 3.5.8.5.1. Binder cover sheet
    - 3.5.8.5.2. Divider tabs
    - 3.5.8.5.3. RCDD Project signoff document

## 4. **Project Overview:**

- 4.1. The general scope of this project includes the installation of all Telecommunications cabling infrastructure in a single-story 38,000 square-foot building located at 65753 Pierson Blvd. Desert Hot Springs, CA 92240. The project shall consist of the provision, installation, termination, testing and documentation of a complete fully functional structure Category 6 horizontal cabling system, ISP copper backbone cabling. It also includes provisions and installation of cabling for paging and wireless access points, and AV cabling and equipment.
- 4.2. **The project will in general include the following:**
  - 4.2.1. Build out of one (1) Telecommunication Rooms to include, but not limited to: The provision of racks, horizontal cable termination equipment, ladder rack, and support structure above ceiling. Vertical and horizontal cable management and bonding.
  - 4.2.2. Installation of new Category 6 horizontal cabling to approximately (369) Work Area Outlets; using 2 or 4 Cat 6 cables per location.
  - 4.2.3. Installation of one (1) 100-pair copper backbone cable from Telecom Room 1A to the MPOE.
  - 4.2.4. Installation of Special Service cabling.
  - 4.2.5. Installation of conduit through fire-rated walls and subsequent fire-rating reinstatement in accordance with current code requirements.
  - 4.2.6. Installation of approximately (98) ceiling mounted speakers and paging system.
  - 4.2.7. Installation of new Category 6 horizontal cabling to approximately (24) Wireless Outlets; using 1 Cat 6 cable per location.
  - 4.2.8. Installation and programming of a complete AV system able to combine and control two adjoining rooms individually or together.
  - 4.2.9. Building AV Cart work area outlets in (5) conference rooms.
  - 4.2.10. Install (8) ceiling mount projector locations.
  - 4.2.11. Installation of (3) TV locations.

## 5. **Detailed Scope of Work:**

- 5.1. **Station Cabling:**
  - 5.1.1. **Wall Phones:**
    - 5.1.1.1. Provide labor and material to cable and install one white BerkTek LANmark 1000 category 6 cable at 8 new wall-phone Work Area Outlets (WAO).
      - 5.1.1.1.1. Terminate both ends using white Leviton eXtreme category 6 inserts.
      - 5.1.1.1.2. At the WAO, use a one port Leviton stainless steel face plate with phone studs.
      - 5.1.1.1.3. In the Telecom Room, the eXtreme inserts will be housed QuickPort patch panel dedicated to wall phones (i.e. provide the 24 port panel).
  - 5.1.2. **Dual Data**
    - 5.1.2.1. Provide labor and material to cable and install two white BerkTek LANmark 1000 category 6 cables at 290 dual WAO locations.
      - 5.1.2.1.1. Terminate the cables at the WAO using Leviton eXtreme category 6 inserts. The first data cable (data "A") will terminate on an orange jack and the second data cable (data "B") will terminate on a green jack.
      - 5.1.2.1.2. At the WAO, use white 2-port faceplates for hard wall and ceiling locations, black 2-port faceplates for systems furniture locations and 106 frames from floor mounted locations.
      - 5.1.2.1.3. In the telecommunications room, all Standard work area outlet cables shall terminate on a Leviton eXtreme Category 6, 110 style high density patch panels,



wired in accordance with the T568B pin configuration standard in their respective "A" & "B" Rows.

### **5.1.3. Quad Data:**

- 5.1.3.1. Provide labor and material to cable and install four white BerkTek LANmark 1000 category 6 cables at 105 quad WAO locations.
  - 5.1.3.1.1. Each quad WAO will carry two location numbers; i.e. 1A-001 A&B and 1A-002 A&B.
  - 5.1.3.1.2. Terminate the cables at the WAO using Leviton eXtreme category 6 inserts. Terminate both data "A" cables using orange jacks, and both data "B" cables with green jacks.
  - 5.1.3.1.3. At the WAO, use white 4-port faceplates for hard wall and ceiling locations, black 4-port faceplates for systems furniture locations and 106 frames from floor mounted locations.
  - 5.1.3.1.4. In the telecommunications room, all Standard work area outlet cables shall terminate on a Leviton eXtreme Category 6, 110 style high density patch panels, wired in accordance with the T568B pin configuration standard in their respective "A" & "B" Rows.

### **5.1.4. Security:**

- 5.1.4.1. Provide labor and material to cable and install four white BerkTek LANmark 1000 category 6 cables at 4 Security WAO locations.
  - 5.1.4.1.1. Terminate the cables at the WAO using yellow Leviton eXtreme category 6 inserts on both ends.
  - 5.1.4.1.2. At the WAO, use white 4-port faceplates for hard wall terminations.
  - 5.1.4.1.3. In the Telecom Room, the eXtreme inserts will be housed QuickPort patch panel dedicated to Special Services (i.e. provide the 24 port panel).

### **5.1.5. Horizontal Patch Panels**

- 5.1.5.1. Data A and B WAO – Provide and install 22 Leviton 48 port category 6 patch panels.
- 5.1.5.2. Wall Phone WAO – Provide and install 1 Leviton 24 port QuickPort patch panel kit.
- 5.1.5.3. Security WAO – Provide and install 1 Leviton 48 port QuickPort patch panel kit.

### **5.1.6. Patch Cords:**

- 5.1.6.1. Deliver the following quantities of patch cords to the site:
  - 5.1.6.1.1. 450 - 1' white category 6 patch cord
  - 5.1.6.1.2. 25 - 2' white category 6 patch cord
  - 5.1.6.1.3. 25 - 3' white category 6 patch cord
  - 5.1.6.1.4. 25 - 5' white category 6 patch cord
  - 5.1.6.1.5. 350 – 9' white category 6 patch cord
  - 5.1.6.1.6. 450 - 1' green category 6 patch cord
  - 5.1.6.1.7. 25 - 2' green category 6 patch cord
  - 5.1.6.1.8. 25 - 3' green category 6 patch cord

## **5.2. Paging System:**

### **5.2.1. Zone Paging Equipment**

- 5.2.1.1. Provide and install zone paging unit and amplifier consisting of:
  - 5.2.1.1.1. 1 Bogen PCM 2000 Central Processing Unit (CPU) module.
  - 5.2.1.1.2. 1 Bogen PCM 2000 Telephone Interface Module (TIM).
  - 5.2.1.1.3. 2 Bogen PCM 2000 Zone Paging Module (ZPM).
  - 5.2.1.1.4. 1 Bogen 12V power supplies
  - 5.2.1.1.5. 1 Bogen 250 watt amplifier

### **5.2.2. Speaker Installation**

- 5.2.2.1. Provide and install 98 Bogen SM4T speakers and SMTB Tile Bridges.
  - 5.2.2.1.1. Set all taps to .5 watts and volume adjustment knobs to half (5 of 10).

- 5.2.2.2. Provide and install 1 Bogen S810T725PG8WVK speaker and RE84 ceiling enclosures in each of the lobby public restrooms. (Total of 2 speakers).
- 5.2.2.3. Provide and install 2 Atlas outdoor horn speakers.
  - 5.2.2.3.1. Set all taps to .5 watts and volume adjustment knobs to half (5 of 10).
- 5.2.2.4. Provide and install 2 Bogen 5 watt outdoor rated paging horns on the front of the building facing the parking lot.
  - 5.2.2.4.1. Set all taps to 2.5 watts and volume adjustment knobs to half (5 of 10).
- 5.2.2.5. Provide and install 2 Atlas volume controls in the lobby, behind the receptionist.
  - 5.2.2.5.1. One unit will control the paging volume of the lobby speakers and the second will control the outdoor horns.
- 5.2.2.6. Test all paging speakers and zones for proper operation and sound levels; adjust as required by DPSS and RCIT.

**5.2.3. Paging Cable**

- 5.2.3.1. Provide and install 1 pair, 18 AWG speaker cable as needed to connect all paging speakers.
  - 5.2.3.1.1. Typically zone one is lobby, public restrooms and front paging horns, zone two is conference rooms, training rooms, zone three is staff areas, zone 4 is Special Investigative Unit. See floor plan for actual speaker placement and associated paging zones.
  - 5.2.3.1.2. Each zone can be connected to multiple speaker 'leg's'. No individual leg shall have more than 10 speakers connected to it.
  - 5.2.3.1.3. Utilize Allen Bradley mini terminal blocks, din rail and side jumper for termination and connecting of speaker cables in the telecom rooms.

**5.2.4. Tone Generator Installation**

- 5.2.4.1. Provide and install 1 Bogen Multi Tone Generator and power supply.
  - 5.2.4.1.1. Connect the tone generator to the override port of the existing PCM2000 zone paging system using a 6 conductor line cord.
  - 5.2.4.1.2. IE Alarms will provide you with two contact closures to serve as the trigger for the tone generator and the PCM2000 override port.
  - 5.2.4.1.3. Your quote is to include all labor and material needed to connect to and test the tone generator for proper functionality using the contact closures provided.

**5.3. A/V System:**

**5.3.1. AV Cart Work Area Outlet:**

- 5.3.1.1. Provide and install one white Berk-Tek LANmark 1000 category 6 cable, one 50' HDMI and one 50' VGA cable from the overhead projectors to the electrician supplied FSR wall box in 6 conference rooms.
  - 5.3.1.1.1. In all instances, the AV Cart WAO will be located next to a dual data WAO.
  - 5.3.1.1.2. Terminate the category 6 cable using beige Leviton eXtreme category 6 inserts at both ends.
  - 5.3.1.1.3. House the ivory category 6 insert in the same faceplate as the existing WAO but provide and install a 4-port faceplate and matching blank inserts as necessary.
  - 5.3.1.1.4. Terminate the HDMI and VGA cables using a stainless steel faceplate containing a HDMI F/F coupler and a VGA F/F coupler both at the FSR box location and at the projector.
  - 5.3.1.1.5. Install 2 single gang box eliminators (Caddie MPLS / MP1) per projector location to facilitate faceplate placement.

**5.3.2. Ceiling Mounted Projector Installation**

- 5.3.2.1. Provide and install the following for seven (7) conference rooms:
  - 5.3.2.1.1. Seven (7) Chief RPAU Universal Projector Ceiling Mount
  - 5.3.2.1.2. Seven (7) CMA003 3" (76.2 mm) Extension Column
  - 5.3.2.1.3. Seven (7) CMA440 weight Suspended Ceiling Kit
  - 5.3.2.1.4. Provide labor only to install and focus the (7) DPSS provided Panasonic PT-FW430 series projectors.

### **5.3.3. TV Work Area Outlet**

- 5.3.3.1. Provide and install four shielded yellow LANmark - 6 FTP Riser Category 6 F/UTP cables at each of 3 TV locations (total of 12 cables).
  - 5.3.3.1.1. At each WAO, two of the cables will homerun to the telecom room and the other two cables will homerun to the DVD player; located near the front receptionist.
  - 5.3.3.1.2. Terminate all ends of all cables using Leviton Atlas beige shielded category 6 inserts.
  - 5.3.3.1.3. At the WAO, provide white 4-port faceplates for hard wall locations.
  - 5.3.3.1.4. At the DVD player, provide one white VeriGO Zero-U QuickPort panel.
  - 5.3.3.1.5. In the telecom room, the eXtreme inserts will be housed in the Special Services patch panel.

### **5.3.4. HDMI Equipment:**

- 5.3.4.1. Provide and install 1 - HDMI 1 to 4 splitter.
- 5.3.4.2. Provide and install 3 HDMI 1.3 over category 6 extenders at the TV / DVD locations.
- 5.3.4.3. DPSS will provide and install the DVD / BluRay player and up to 3 televisions. Your quote is to include all labor and material needed to connect to and test for proper functionality between the DVD / BluRay and all TVs.

### **5.3.5. Patch Cords:**

- 5.3.5.1. Provide and install 7 – Cable Exchange 3' white category 6 patch cords; one at each of the overhead projectors.
- 5.3.5.2. Provide and install 7 - Cable Exchange 2' M/M HDMI cables; one at each of the overhead projectors.
- 5.3.5.3. Provide and install 7 - Cable Exchange 2' M/M VGA cables; one at each of the overhead projectors.
- 5.3.5.4. Provide and install 3 - Cable Exchange 3' yellow shielded category 6 patch cords; one per Geffen extender.
- 5.3.5.5. Provide and install 3 - Cable Exchange 9' yellow shielded category 6 patch cords; one per Geffen extender.
- 5.3.5.6. Provide and install 3 - Cable Exchange 3' M/M HDMI cables; used to interconnect the DVD and Geffen extender.
- 5.3.5.7. Provide and install 3 - Cable Exchange 6' M/M HDMI cables; used to connect the TVs and extenders.

### **5.3.6. Cart Buildout**

- 5.3.6.1. Provide and install material needed to build a cabling whip for 2 DPSS provided AV Carts. Each whip will be 22 to 23 feet in length and will consist of Category 6 patch cords, HDMI cable, VGA cable, and power cord.
  - 5.3.6.1.1. All of the carts will be provided by DPSS and will come preassembled.
  - 5.3.6.1.2. Provide labor and materials to dress and route cables within the cart as needed; including but not limited to hardware, tie wraps, Velcro ties and buttons / saddles.
  - 5.3.6.1.3. The whip will be held together using Nleco Products 1.25" black mesh.
  - 5.3.6.1.4. Provide and install a total of 3 – 25 foot Yellow category 6 patch cords per cart.
    - 5.3.6.1.4.1. Remove the RJ45 ends closest to the cart and terminate the cables using Leviton eXtreme category 6 inserts. The first data cable (data "A") will terminate on a range jack, the second data cable (data "B") will terminate on a green jack and the third data cable will be terminated using a beige jack.
  - 5.3.6.1.5. House the jacks in a flush mounted white 4-port faceplate using the cutout provided on top of the cart. Install blank inserts matching the faceplate color in all unoccupied faceplate ports.
  - 5.3.6.1.6. Provide and install 1 - 25' HDMI and 1 – 25' VGA cable per cart.
  - 5.3.6.1.7. In a cutout provided on top of the cart, terminate the HDMI and VGA cables using one stainless steel faceplate containing a HDMI F/F coupler and a VGA F/F coupler.
  - 5.3.6.1.8. Provide and install 1 – Tripp Lite power strip with 25' cord per cart.

- 5.3.6.1.9. Provide and install 1 – Stage Ninja Cord Winders on the side of each cart for storing of cable whip.
- 5.3.6.1.10. Provide and deliver to the site, 2 – 10' USB extender cables.

#### **5.4. Wireless System:**

##### **5.4.1. Wireless AP Work Area Outlet:**

- 5.4.1.1. Provide and install one white Berk-Tek LANmark 10G2 category 6A cable at 24 WAO's.
  - 5.4.1.1.1. Terminate both ends of the cable using blue Leviton eXtreme Cat 6A insert.
  - 5.4.1.1.2. At the WAO, use a white two port QuickPort surface mount box and QuickPort in ceiling bracket with clip placed above the ceiling.
  - 5.4.1.1.3. In the telecom room, the eXtreme inserts will be housed in a QuickPort patch panel dedicated to APs.

##### **5.4.2. Wireless Access Points:**

- 5.4.2.1. Provide labor only to install 24 owner furnished (DPSS) contractor installed WAP units.
  - 5.4.2.1.1. Include labor to pick up access points from DPSS – 4060 County Circle Drive, Riverside CA 92503.

##### **5.4.3. AP Patch Panels:**

- 5.4.3.1. Provide and install one Leviton 24 -module QuickPort patch panel kit.

##### **5.4.4. Patch Cords:**

- 5.4.4.1. Deliver the following quantities of patch cords to the site:
  - 5.4.4.1.1. 24 - 3' blue eXtreme category 6A patch cord
  - 5.4.4.1.2. 24 - 15' blue eXtreme category 6A patch cord

#### **5.5. Special Services:**

##### **5.5.1. Special Services Cables:**

- 5.5.1.1. Provide and install a total of 36 white Berk-Tek LANmark 1000 category 6 cables.
  - 5.5.1.1.1. Total of 12 cables from the MPOE to TR1A row A.
  - 5.5.1.1.2. Total of 12 cables from the MPOE to TR1A row B.
  - 5.5.1.1.3. Total of 12 cables from TR1A row A to row B.
  - 5.5.1.1.4. Terminate both ends of the cables connecting from / to the MPOE using orange Leviton eXtreme category 6 jacks.
  - 5.5.1.1.5. Terminate both ends of the cables connecting row A to Row B using green Leviton eXtreme category 6 jacks.
  - 5.5.1.1.6. All eXtreme inserts will be housed in a QuickPort patch panels.

##### **5.5.2. Analog Cables:**

- 5.5.2.1. Provide and install 5 Cable Exchange 25-pair riser cables from the voice equipment rack to the voice frame.
  - 5.5.2.1.1. In Row A - 2 of the cables will be terminated onto analog patch panels using the Amphenol connectors, and the 2 remaining cables are reserved for the RCIT provided voice gateway.
  - 5.5.2.1.2. In Row B - 1 of the cable will be terminated onto analog patch panel.
  - 5.5.2.1.3. Terminate cables on a 110 termination block on the voice frame / backboard.

##### **5.5.3. Analog Patch Panels:**

- 5.5.3.1. Provide and install 3 Leviton 24 port Amphenol 2 wire patch panels, 2 in row A, 1 in row B.

##### **5.5.4. Special Services Patch Panels:**

- 5.5.4.1. Provide and install 1 Leviton 24 port QuickPort patch panel kit in the MPOE.
- 5.5.4.2. Provide and install 1 CPI 2U hinged wall mounted bracket in the MPOE.
- 5.5.4.3. Provide and install 2 Leviton 24 port QuickPort patch panel kits in TR1A, two in row A.

#### **5.6. Copper Backbone:**

##### **5.6.1. Copper Backbone Cable:**

- 5.6.1.1. It is the cabling contractor's responsibility to field verify actual footages prior to ordering material.
- 5.6.1.2. Provide and install 1 Essex 100 pair riser rated cable from the MPOE to TR1A.

**5.6.2. Voice Frame Build Out:**

- 5.6.2.1. Provide and install 4 – 300 pair 110 termination block assemblies and 4 – 110 jumper troughs with legs.
  - 5.6.2.1.1. Install 1 of each in the MPOE and the remainder in TR1A.

**5.7. Telecom Rooms:**

**5.7.1. Equipment Racks**

- 5.7.1.1. See Telecom Room layout drawings for room configuration.
- 5.7.1.2. Provide and install 10 Chatsworth Enhanced Standard 19" X 7' 2 post equipment racks.
- 5.7.1.3. Provide and install 2 Chatsworth 4-Post server rack in TR1A.
- 5.7.1.4. Provide 8 packages of #12/24 screws and cage nuts.

**5.7.2. Wire Managers:**

- 5.7.2.1. Provide and install 54 Chatsworth 2 RMU single-sided horizontal wire managers.
- 5.7.2.2. Provide and install 10 Chatsworth CCS 6"x6" vertical wire managers.
- 5.7.2.3. Provide and install 4 Chatsworth CCS 10" vertical wire managers.

**5.7.3. Equipment Shelves:**

- 5.7.3.1. Provide and install 10 Chatsworth heavy-duty shelf kits, one for each 2 post equipment rack.
- 5.7.3.2. Provide and install 6 Chatsworth solid shelves, three in each 4 post rack.
- 5.7.3.3. Provide and install 2 Chatsworth keyboard shelves, one in each 4 post rack.

**5.7.4. Cable Ladder Assembly:**

- 5.7.4.1. Provide and install a complete ladder rack system in both Telecom Rooms, as shown in the Telecom Room layout drawing, consisting of but not limited to:
  - 5.7.4.1.1. 18" wide Chatsworth alternate space ladder rack for all sections traversing over equipment racks.
  - 5.7.4.1.2. 18" wide Chatsworth universal ladder for all other sections.
  - 5.7.4.1.3. 18" wide Chatsworth universal ladder placed vertically in 3 foot sections on the walls where incoming cables transition from vertical to horizontal (5 locations).
  - 5.7.4.1.4. Chatsworth vertical wall brackets for vertically mounted ladder rack.
  - 5.7.4.1.5. 18" wide Chatsworth runway triangle and wall angled support brackets.
  - 5.7.4.1.6. Chatsworth rack-to-runway mounting plates and 6" elevation kits on all equipment racks.
  - 5.7.4.1.7. Chatsworth heavy duty butt-splice kits and junction splice kits as needed.
  - 5.7.4.1.8. Provide and install Chatsworth radius drops cable over all vertical wire managers (24 total).

**5.8. Grounding:**

**5.8.1. General**

- 5.8.1.1. In the telecommunications room install (1) 20" Telecommunications Main Ground Bus Bar in the designated location. ***Bonding to building ground shall be performed by the electrical contractor working on this project.***
- 5.8.1.2. Install a #2 AWG stranded copper ground wire from the Telecommunications Main Ground Bus Bar down the length of each rack row. Attach the #2 ground wire to the bus bar using a two-hole long barrel compression lug. (CPI L Bracket can be used for standoff)
- 5.8.1.3. Install a #6 AWG stranded copper ground wire from the #2 AWG conductor to each rack; attach the #6 ground wire to the #2 conductor using a compression H Tap and a two-hole long barrel compression lug.
- 5.8.1.4. Install a #6 AWG stranded copper ground wire from the Telecommunications Main Ground Bus Bar to the cable runway; attach the wire using two-hole long barrel compression lugs.
- 5.8.1.5. Install 1 grounding strap for each piece of cable ladder at every junction point.

- 5.8.1.6. Labeling shall be compliant with TIA/EIA 606 labeling specifications and numbering scheme will be provided by RCIT.
- 5.8.1.7. All surfaces to be bonded must be sanded or an abrasive tool used to remove paint or any protective coating so that to provide a good bonding surface. Apply an Antioxidant Joint Compound on all bonding connections. All bonding conductor connections shall use a two hole lug with the holes 5/8" (center-to-center) apart and secured with two 1/4" bolts. Lugs can be either a mechanical or compression type connector.

**5.9. PDU/UPS:**

**5.9.1. UPS Equipment**

- 5.9.1.1. Provide and install 7 APC Smart-UPS 5000VA 208V rack mounts.
- 5.9.1.2. Provide and install 2 APC step-down transformers.
- 5.9.1.3. Provide and install 7 APC SmartUPS/SmartUPS RT Two Post Rail Kits.

**5.9.2. PDU Equipment**

- 5.9.2.1. Provide and install 3 APC horizontal switched PDU's.

**5.9.3. Power Cords**

- 1.1.1.1 Provide (2) 1.2m C13 to C14 power cord kits.
- 1.1.1.2 Provide (2) 1.8m C13 to C14 power cord kits.
- 1.1.1.3 Provide (8) 8 foot C13 to C14 power cords.
- 1.1.1.4 Provide (4) 8 foot C14 to C15 power cords

**5.10. Miscellaneous:**

**5.10.1. Sleeves:**

- 5.10.1.1. Provide and install 40 – 4 inch sleeves for routing of cables into the telecommunications room.

**5.10.2. Fire Stop:**

- 5.10.2.1. Provide and install UL rated fire stop assemblies/material needed to seal fire rated walls, conduit and sleeves.

**5.11. Audio Visual Equipment:**

**5.11.1. Scope of Work:**

- 5.11.1.1. The contractor shall furnish all travel, parts, labor, materials, rentals, equipment, disposal, transportation and supervision necessary to install two (2) complete and operational Audio Visual Systems in Training Room 106, and 107 for the new Desert Hot Springs DPSS facility. These two rooms must be able to operate independently or combined together as a single AV system. Work to be performed in strict accordance with the approved drawing set prepared by Riverside County Information Technology (noted as separate documents).

**5.11.2. Installation methods:**

- 5.11.2.1. Provide and install J-hooks, Pencil-rod (P-rod), and stringers (wire hangers) to support cabling.
- 5.11.2.2. All cable distances are approximate, contractor is responsible for determining actual lengths during the mandatory bid walk or by scaling the floor plan.
- 5.11.2.3. All installed cable will maintain a minimum 12" clearance from florescent light fixtures, HVAC motorized controls, and all other electrical interference generating devices.
- 5.11.2.4. All wiring shall follow standard AV Rack wiring procedures, this to included but not limited to: Lacing bars, cabling bundles accordingly to signal types, and other wire management hardware as necessary
- 5.11.2.5. Controllers shall provide control capabilities for common AV functions including power, input switching, and volume control.
- 5.11.2.6. All audio equipment input and output wiring shall be configured as balanced, low impedance, and floating lines unless otherwise indicated.

- 5.11.2.7. Connections to terminal blocks shall be made using crimp type non insulated spade lugs of the proper size for the type and gauge of wire used. Wire lugs used for speaker level wiring shall be ring type and shall be insulated.
- 5.11.2.8. Label products in a logical legible and permanent manner corresponding to the Drawings. Wording, format, style, color and arrangement of text will be subject to the RCIT Engineers approval. Submit samples and labeling schedule for approval. Labeling will be verified at final adjustment and equalization.
- 5.11.2.9. Label all permanently installed wires on both ends with approved permanent clip-on type or sleeve type markers. Wrap around adhesive labels will not be accepted unless completely covered with clear heat shrink tubing.
- 5.11.2.10. Unless otherwise noted, the work shall include everything necessary or incidental to complete the installation including, but not limited to, wall plates, cables, rack shelves, cable management, configuration of active equipment etc. All necessary information shall be furnished to technicians to ensure that all Audio-Visual Systems specified will be installed according to specifications.

**5.11.3. Training Room 106 AV system:**

- 5.11.3.1. Provide and install (1) PVM220 PlenumVault Mounting Kit in the ceiling grid.
- 5.11.3.2. Provide and install (1) 50' STP201 shielded twisted pair cable between the Switcher and AV box.
- 5.11.3.3. Provide and install (2) speaker cables between the PVS Switcher and each speaker.
- 5.11.3.4. Provide and install (1) HDMI cable between the PVS switcher and HDMI Distribution amplifier.
- 5.11.3.5. Provide and install (1) HDMI cable between the HDMI Distribution amplifier and HDMI 2-port switcher.
- 5.11.3.6. Provide and install (1) HDMI cable between the HDMI Distribution amplifier and Projector.
- 5.11.3.7. Provide and install (1) HDMI cable between the HDMI Distribution Amplifier in Room 106 and the HDMI 2-port switcher in Room 107. (Contractor to verify length)
- 5.11.3.8. Provide and install (1) HDMI cable between the HDMI 2-port switcher in Room 106 and the HDMI Distribution Amplifier in Room 107.(Contractor to verify length)
- 5.11.3.9. Provide and install (1) RS-232 cable between the MLC Controller and Projector.
- 5.11.3.10. Provide and install (1) RS-232 cable between the MLC Controller and PVS switcher.
- 5.11.3.11. Provide and install (1) serial control cable between the MLC Controller and Projector screen control.
- 5.11.3.12. Provide and install (2) serial control cables between the MLC Controller in Room 106 and the MLC Controller in Room 107.
- 5.11.3.13. Provide and install (2) Full-Range Flat Field 2'x2' speakers.
- 5.11.3.14. Provide, install and configure (1) PVS Switcher.
- 5.11.3.15. Provide and install (1) HDMI Distribution Amplifier.
- 5.11.3.16. Provide and install (1) HDMI Switcher.
- 5.11.3.17. Provide, install and configure (1) MLC Controller.
- 5.11.3.18. Provide and install (1) HDMI and VGA Decora Wallplate.
- 5.11.3.19. Provide and install (1) Cat 6 cable from the Special Service panel in TR1.A to the MLC Controller in Room 106.
- 5.11.3.20. Provide and install (1) serial control cable between the MLC Controller and the HDMI Switcher in Room 106.

**5.11.4. Training Room 107 AV system:**

- 5.11.4.1. Provide and install (1) PVM220 PlenumVault Mounting Kit in the ceiling grid.
- 5.11.4.2. Provide and install (1) 50' STP201 shielded twisted pair cable between the Switcher and AV box.
- 5.11.4.3. Provide and install (2) speaker cables between the PVS Switcher and each speaker.
- 5.11.4.4. Provide and install (1) HDMI cable between the PVS switcher and HDMI Distribution amplifier.
- 5.11.4.5. Provide and install (1) HDMI cable between the HDMI Distribution amplifier and HDMI 2-port switcher.
- 5.11.4.6. Provide and install (1) HDMI cable between the HDMI Distribution amplifier and Projector.

- 5.11.4.7. Provide and install (1) RS-232 cable between the MLC Controller and Projector.
- 5.11.4.8. Provide and install (1) RS-232 cable between the MLC Controller and PVS switcher.
- 5.11.4.9. Provide and install (1) serial control cable between the MLC Controller and Projector screen control.
- 5.11.4.10. Provide and install (2) Full-Range Flat Field 2'x2' speakers.
- 5.11.4.11. Provide, install and configure (1) PVS Switcher.
- 5.11.4.12. Provide and install (1) HDMI Distribution Amplifier.
- 5.11.4.13. Provide and install (1) HDMI Switcher.
- 5.11.4.14. Provide, install and configure (1) MLC Controller.
- 5.11.4.15. Provide and install (1) HDMI and VGA Decora Wallplate.
- 5.11.4.16. Provide and install (1) Cat 6 cable from the Special Service panel in TR1.A to the MLC Controller in Room 107.
- 5.11.4.17. Provide and install (1) serial control cable between the MLC Controller and the HDMI Switcher in Room 107.
- 5.11.4.18. Provide (4) - Cable Exchange 10' M/M HDMI cables.
- 5.11.4.19. Provide (4) - Cable Exchange 10' M/M VGA cables.

## **6. Allowances**

### PART 1 GENERAL

#### 1.01 SECTION INCLUDES

- A. Allowances which the Contractor shall provide for designated construction activities in the Work and in this bid.

#### 1.02 RELATED DOCUMENTS

- A. The Conditions of the Contract and other sections apply to this section as fully as if repeated herein.

#### 1.03 DESCRIPTION OF REQUIREMENTS

- A. Definitions and Explanations: Certain requirements of the construction related to each allowance are indicated and specified. The allowance has been established by the County and represents selection by the County for designated portions of the Work specified and shown.
- B. Types of allowance scheduled herein for the Work include lump sum cash allowances. Include all allowances in Contract sum, and identify all allowances in Schedule of Values as separate line items.
- C. Selection and Purchase: At earliest feasible date after award of contract, advise the Construction Manager of scheduled date when final selection and purchase of each product or system described by each allowance must be accomplished in order to avoid delays in performance of the Work.
  - 1. Establish date by which General Contractor must enter into contract and coordinate with sub-contractor responsible for work defined by allowance.
  - 2. Establish date by which final list of products must be established for purchase of products and systems as specifically selected by the County.

#### 1.04 Definitions and description of requirements

- A. **Cash Allowance Criteria**



1. The Allowance is used only as directed by the County.
  2. The Allowance is used exclusively for the County's purposes and for the defined Scope of Work.
  3. The contractor will prepare detailed breakdown of all costs associated with the work defined for the allowance. These amounts will be charged against the Allowance by Change Order, based on final detailed payment receipts and back-up as required by County, and will include all direct costs of work performed under the defined work scope.
    - a. Contractor shall obtain quotes for equipment from three separate vendors and present to County for consideration and selection.
  4. Contractor shall include in the base bid contract amount all cost of coordination, supervision, bond costs, overhead and profit, supervision, installation and all indirect project costs associated with the work defined. Where allowance amount is not exceeded, no general contractor costs will be permitted to be charged against the allowance amounts specified below.
    - a. At project closeout, unused Cash Allowance amounts shall be credited to the County by Change Order.
    - b. Changes that exceed the amount of each allowance will be processed as a Change Order per Contract Documents.
- B. Material and Labor Allowance Criteria
1. Applies to all material and labor allowances identified in the contact documents.
  2. The Allowance is used only as directed by the County.
  3. The Allowance is used exclusively for the County's purposes and for the defined Scope of Work.
  4. The contractor will prepare detailed breakdown of all costs associated with the work defined for the allowance. These amounts will be charged against the Allowance by Change Order, based on final detailed payment receipts and back-up as required by County, and will include all direct costs of work performed under the defined work scope.
  5. Contractor shall include in the base bid contract amount all cost of coordination, supervision, bond costs, overhead and profit, supervision, installation and all indirect project costs associated with the work defined. Where allowance amount is not exceeded, no general contractor costs will be permitted to be charged against the allowance amounts specified below.
    - a. At project closeout, unused Material and Labor Allowances shall be credited to the County by Change Order based on the cash value established per Section 1.04.B.4.
    - b. Changes that exceed the amount of each allowance will be processed as a Change Order per Contract Documents.

## PART 2 PRODUCTS

### **Not Used**

## PART 3 EXECUTION

### 3.01 Schedule of cash allowances

Included in the Total Base Bid are the Allowances identified below. Items covered by Allowances shall be provided for such amounts and by such persons or firms as the County may direct.

#### **ALLOWANCE A1:**

##### **Unforeseen corrections to the Structured Cabling System**

\$20,000.00

Contractor shall include in their Base Bid an allowance for any additional effort, over and above contract work due to existing conditions, obstructions or unforeseen items encountered which are not readily discernible prior to construction. Allowance will also be used at the County's discretion for any required supplemental Work.

**Project Name:****Document A – Material List**

It is the contractor's responsibility to insure all labor and material needed to deliver a complete, fully functional system that complies with all applicable codes, RCIT and industry standards / best practices is accounted for in their cost proposal. The following is not intended to be a complete material list, but a clarification on certain items specified within the scope of services in Appendix A.

**Station Cabling**

<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>
LANmark-1000, UTP, 4 Pair, Cat 6 - PVC (White)	10032459	Berk-Tek
Orange eXtreme Cat 6 - Single (Data A)	61110-RO6	Leviton
Green eXtreme Cat 6 - Single (Data B)	61110-RV6	Leviton
White eXtreme Cat 6 - Single (900 Series)	61110-RW6	Leviton
White 2 Port - Single-Gang Faceplate	42080-2WS	Leviton
White 4 Port - Single-Gang Faceplate	42080-4WS	Leviton
Black 2 Port - Single-Gang Faceplate	42080-2ES	Leviton
Black 4 Port - Single-Gang Faceplate	42080-4ES	Leviton
Ivory 4 Port - 106 Duplex Frame	41087-QIP	Leviton
24-Port - eXtreme Cat 6 Flat, 110-Style Patch Panel, 1RU	69586-U24	Leviton
48-Port - eXtreme Cat 6 Flat, 110-Style Patch Panel, 2RU	69586-U48	Leviton
24-Port - Flat QuickPort Panel Empty, 1RU	49255-H24	Leviton
1' White eXtreme Cat 6 UTP Slimline Patch Cord	6D460-01W	Leviton
1' Green eXtreme Cat 6 UTP Slimline Patch Cord	6D460-01G	Leviton
2' White eXtreme Cat 6 UTP Slimline Patch Cord	6D460-02W	Leviton
2' Green eXtreme Cat 6 UTP Slimline Patch Cord	6D460-02G	Leviton
3' White eXtreme Cat 6 UTP Slimline Patch Cord	6D460-03W	Leviton
3' Green eXtreme Cat 6 UTP Slimline Patch Cord	6D460-03G	Leviton
9' White eXtreme Cat 6 UTP Slimline Patch Cord	6D460-09W	Leviton
5' White eXtreme Cat 6 UTP SlimLine Patch Cord	6D460-05W	Leviton

**Paging System**

<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>
CPU, Paging Module	PCM -CPU	Bogen
TIM, Paging Module	PCM -TIM	Bogen
ZPM, Paging Module	PCM - ZPM	Bogen
Power Supply For PCM - CPU	PCM-PS2	Bogen
250 Watt Amplifier	TPU250	Bogen
Surface Mount Ceiling Speaker 4 Watt Multi-Tap	SM4T	Bogen
Tile Bridge For SM4T Speaker (5 Pack)	SMTB	Bogen
Ceiling Speaker 4 Watt Multi-Tap With Volume Control	S810T725PG8WVK	Bogen
Ceiling Speaker Enclosure	RE84	Bogen
Multi Tone Generator	TG4C	Bogen
Mini Din Steel Mounting Rail (1 Meter Section)	1492-DR3	Allen Bradley
Mini Terminal Block (Grey)	1492-WM4	Allen Bradley
Side Jumper (10 Pole)	1492-SJ6-10	Allen Bradley
Horn Speaker	AP-15T	Atlas
1 Pr 18 AWG - PVC (Clear) Speaker Cable	E1032S	General
<b>A/V Systems</b>		
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>
LANmark -1000, UTP, 4 Pair, Cat 6 - Plenum (Yellow)	10032090	Berk-Tek
LANmark - 6 FTP Riser Category 6 F/UTP (Yellow)	10090687	Berk-Tek
Ivory Atlas-X1 Cat 6 Shielded (AV)	61SJK-RI6	Leviton
White 4 Port - Single-Gang Faceplate	42080-4WS	Leviton
QuickPort Blank Insert	41084-BEB	Leviton
24-Port - Flat QuickPort Patch Panel Empty, 1RU	49255-H24	Leviton
Flush Wall Mount Bracket (2U)	11583-719	CPI
1:4 Splitter For HDMI	EXT-HDMI1.3-144	Geffen
Extender For HDMI Over Cat 6	GTB-HDBT-POL-BLK	Geffen
2 Ft HDMI Cable - M/M	CEX-HDMIMM-2FT	Cable Exchange
6 Ft HDMI Cable - M/M	CEX-HDMIMM-6FT	Cable Exchange

15 Ft HDMI Cable - M/M	CEX-HDMIMM-15FT	Cable Exchange
35 Ft HDMI Cable - M/M	CEX-HDMIMM-35FT	Cable Exchange
2 Ft VGA Cable - M/M	CEX-SVGAMM-2FT	Cable Exchange
9 Ft VGA Cable - M/M	CEX-SVGAMM-9FT	Cable Exchange
35 Ft VGA Cable - M/M	CEX-SVGAMM-35FT	Cable Exchange
3' Yellow eXtreme Cat 6 UTP SlimLine Patch Cord	6D460-03Y	Leviton
3' Yellow Patch Cord - Cat 6 Shielded	CEX-HC6YWBT-SHL-3FT	Cable Exchange
9' Yellow Patch Cord - Cat 6 Shielded	CEX-HC6YWBT-SHL-9FT	Cable Exchange
Chief RPAU Universal Projector Ceiling Mount	RPAU	Chief
Chief Weight Suspended Ceiling Kit	CMA440	Chief
VeriGO Zero-U Quick Port Panel w/3"Channel	49280-QP3	Leviton
Tripp Lite Power Strip w/25'cord w/7 Outlets	TLP25	Tripp Lite
Nija Cord Winder	SCW-125	Stage Ninja
USB Extender Cable 10'		
Stainless Steel Face Plate with 1 HDMI F/F coupler and 1 VGA F/F Coupler	CEX-WPSS-HDMISVGAFF	Cable Exchange
25' Yellow eXtreme Patch Cord- Cat 6	6D460-25W	
3 Ft HDMI Cable M/M	CEX-HDMIMM-3FT	Cable Exchange
<b>Wireless Systems</b>		
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>
LANmark-10G 2, UTP, 4 Pair, Cat 6A - PVC (White)	10137703	Berk-Tek
Blue eXtreme Cat 6A - Single (Wireless)	6110G-RL6	Leviton
White 2 Port - Surface-Mount Box	41089-2WP	Leviton
QuickPort In Ceiling Bracket With Clip	49223-CBC	Leviton
QuickPort Blank Insert	41084-BEB	Leviton
48-Port - Flat QuickPort Patch Panel Empty, 2RU	49255-H48	Leviton
T-Bar Independent Support Clips 15/16"	IDS	Erico Caddy
T-Bar Independent Support Clips 9/16" X 5/16"	IDS95	Erico Caddy
Multi-Function Clip W/ 1/4-20" Stud And Hex Nut	4Z4S	Erico Caddy
3' Blue eXtreme Cat 6A UTP SlimLine Patch Cord	6AS10-03L	Leviton
15' Blue eXtreme Cat 6A UTP SlimLine Patch Cord	6AS10-15L	Leviton

<b>Special Services Cabling</b>		
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>
LANmark-1000, UTP, 4 Pair, Cat 6 - PVC (White)	10032459	Berk-Tek
Orange eXtreme Cat 6 - Single (Entrance Facility)	61110-RO6	Leviton
Green eXtreme Cat 6 - Single (LAN Extension)	61110-RV6	Leviton
Yellow eXtreme Cat 6 - Single (Security)	61110-RY6	Leviton
48 Port Analog Panel - 8 Pin RJ45, 2 Conductor To 50 Pin Female Amphenol Connectors, Active Pins 4&5	49012-J48	Leviton
24-Port - Flat QuickPort Patch Panel Empty, 1RU	49255-H24	Leviton
12-Port - VertiGO Zero-U QuickPort Panel, Empty	49280-QP0	Leviton
Hinged Wall Mounted Bracket (2U)	11521-704	CPI
<b>Copper Backbone</b>		
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>
Essex - Riser Cable - 100 Pr	ARMM-02-104-03	Essex
300 Pair 110 Block Kit W/C5 Clips	41AB2-3F5	Leviton
300 Pair 110 Block Kit W/C4 Clips	41AB2-3F4	Leviton
110 Jumper Trough w/ Legs	41A10-HCM	Leviton
<b>Telecom Rooms</b>		
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>
Enhanced Standard 19" X 7' Equipment Rack	55053-703	CPI
Adjustable 4 Post Server Rack 29.54" To 35.43"	15213-703	CPI
Screws/Cage Nuts #12-24 Pkg 25 (QuadraRack Server)	12639-001	CPI

Double Sided Heavy Duty Rack Shelf, 19"	11164-719	CPI
Fixed Shelf Vented Black (QuadraRack Server)	16350-719	CPI
Monitor Shelf/Keyboard Black (QuadraRack 4-Post)	12495-719	CPI
Combination Cabling Section(CCS) 6" W	30165-703	CPI
Combination Cabling Section(CCS) 10" W	30166-703	CPI
2 RMU Front Only Horizontal Wire Manager	30130-719	CPI
Alternate Space Cable Runway, 18"	31472-718	CPI
Universal Cable Runway, 9' 11-1/2" X 18"	10250-718	CPI
Cable Runway Radius Drop 18"	12100-718	CPI
Wall Angle Cable Runway Support Kit 18"	11421-718	CPI
Channel Rack To Runway Mounting Plate, Grey 18"	12730-718	CPI
Heavy Duty Butt-Splice Kit	11299-001	CPI
Junction Splice Kit	16302-001	CPI
J-Bolt Kit	11308-701	CPI
Cable Runway Elevation Kit 6"	10506-706	CPI
Vertical Wall Bracket (Gold/Pkg 2)	10608-701	CPI
4" Spillway	BJ-2049B-001	Bejed
<b>Grounding</b>		
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>
6 AWG Stranded Ground Wire (Green)	THHN-6-STR-GRN	NA
2 AWG Stranded Ground Wire (Green)	THHN-2-STR-GRN	NA
BICSI & ANSI/EIA/TIA Ground Bus Bar, 20" TMGB Pattern	40153-020	CPI
L Bracket Cable Runway	11268-001	CPI
1/4" Compression Lugs, 1 Ea.	40162-901	CPI
Cable Shield Bond Clamp	4460-S	3M
Two Hole Long Barrel Compression Lugs 6 AWG	GECLB62A	Harger
Two Hole Long Barrel Compression Lugs 2 AWG	GECLB22A	Harger
Compression Tap W/Cover	YH2929WCC	B-Line

<b>PDU / UPS</b>		
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>
Horizontal PDU, Switched 2U, Input 208V L6-30P, Output (16) C13	AP7911A	APC
Smart-UPS 5000VA 208V rack mount (L6-30P input)	SUA5000RMT5U	APC
Step-Down Transformer RM 2U 208V IN 120V OUT; w/5-20 Receptacles	AP9626	APC
APC SmartUPS/SmartUPS RT Two Post Rail Kit	AP9625	APC
Power Cord Kit (6 ea), Locking, C13 to C14, 1.2m	AP8704S	APC
Power Cord Kit (6 ea), Locking, C13 to C14, 1.8m	AP8706S	APC
Power Cord Kit, Locking C13 to C14, 2.5M	AP9870	APC
Power Cord Kit , Locking C14 to C15, 2.5M	Various	TBD
<b>Miscellaneous</b>		
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>
Push Install Rod/Wire Hanger with Pin Driven Angle Bracket (Box of 50)	708AFAB3	Erico
6' 12 Gauge Seismic Ceiling Wire With Pin and Clip (100 Per Pack)		
6' 12 Gauge Seismic Ceiling Wire With 3" Wood Eye Lag (100 Per Pack)		
CABLECAT J-Hook with Rod/Wire Clip (3/4", Small, 40 Per Box)	CAT124Z34	Erico
CAT HP J-Hook with Multi-Function Clip (2", Large, 50 Per Box)	CAT32HP4Z34	Erico
4" Sleeve	Per Sleeve	
Heavy Duty Concrete Anchor (20 Per Box)	HSL-3-B M12/5	Hilti
Extron Digital Plenum Vault Classroom	42-220-000271	Extron
HDMI DA, Two Output	60-997-01	Extron
SW2 HDMI with EDID Minder	60-841-21	Extron
NOTE: The Digital Plenum Vault Classroom is a packaged solution from Extron. Additional parts are required to complete the design as shown in the AV Drawing. The contractor is responsible to deliver and install a complete working system.		Extron



**Document B**

**Rev 082515**

Project Name:	
Customer:	
Project Number:	
Address:	
City:	
CONTRACTOR	

In the event of a change order, applicable unit cost as quoted will be extended for both materials and labor to cover the addition of work. No increase to unit cost shall be permitted. Change order must be agreed upon in writing by both County and Contractor prior to service being rendered.

Tax Rate %	8.00%
Contingency	0.00%

	Total Material	Total Tax	Total Freight	Total Labor
01. Station Cabling	\$0.00	\$0.00		\$0.00
02. Paging System	\$0.00	\$0.00		\$0.00
03. A/V Systems	\$0.00	\$0.00		\$0.00
04. Wireless Systems	\$0.00	\$0.00		\$0.00
05. Special Services Cabling	\$0.00	\$0.00		\$0.00
06. Copper Backbone	\$0.00	\$0.00		\$0.00
07. Fiber Backbone	\$0.00	\$0.00		\$0.00
08. Telecom Rooms	\$0.00	\$0.00		\$0.00
09. Grounding	\$0.00	\$0.00		\$0.00
10. PDU / UPS	\$0.00	\$0.00		\$0.00
11. Miscellaneous	\$0.00	\$0.00		\$0.00
12. Rental Equipment	\$0.00	<b>Nontaxable</b>		\$0.00

<b>Total Material</b>	\$0.00
<b>Total Labor</b>	\$0.00
<b>Total Rental</b>	\$0.00
<b>Total Tax</b>	\$0.00
<b>Total Freight</b>	\$0.00
<b>Contingency</b> (% of Material, Labor and Rental)	\$0.00
<b>Estimate Total</b>	<b>\$0.00</b>

<b>Station Cabling</b>					Installed Quantity	Mat Unit	Mat Ext	Lab Unit	Lab Ext
Material/Labor Description	Part Number	Manufacturer	Unit				Material		Labor
							\$0.00		\$0.00
							<b>TOTAL</b>	\$0.00	
<b>Paging System</b>									
Material/Labor Description	Part Number	Manufacturer	Unit				Material		Labor
							\$0.00		\$0.00
							<b>TOTAL</b>	\$0.00	
<b>A/V Systems</b>									
Material/Labor Description	Part Number	Manufacturer	Unit				Material		Labor
							\$0.00		\$0.00
							<b>TOTAL</b>	\$0.00	
<b>Wireless Systems</b>									
Material/Labor Description	Part Number	Manufacturer	Unit				Material		Labor
							\$0.00		\$0.00
							<b>TOTAL</b>	\$0.00	
<b>Special Services Cabling</b>									
Material/Labor Description	Part Number	Manufacturer	Unit				Material		Labor
							\$0.00		\$0.00
							<b>TOTAL</b>	\$0.00	

<b>Copper Backbone</b>								
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>	<b>Unit</b>	<b>Installed Quantity</b>	<b>Mat Unit</b>	<b>Lab Unit</b>		
					Sub-totals	Material \$0.00	Labor \$0.00	
						TOTAL	\$0.00	
<b>Fiber Backbone</b>								
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>	<b>Unit</b>	<b>Installed Quantity</b>	<b>Mat Unit</b>	<b>Lab Unit</b>		
					Sub-totals	Material \$0.00	Labor \$0.00	
						TOTAL	\$0.00	
<b>Telecom Rooms</b>								
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>	<b>Unit</b>	<b>Installed Quantity</b>	<b>Mat Unit</b>	<b>Lab Unit</b>		
					Sub-totals	Material \$0.00	Labor \$0.00	
						TOTAL	\$0.00	
<b>Grounding</b>								
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>	<b>Unit</b>	<b>Installed Quantity</b>	<b>Mat Unit</b>	<b>Lab Unit</b>		
					Sub-totals	Material \$0.00	Labor \$0.00	
						TOTAL	\$0.00	
<b>PDU / UPS</b>								
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>	<b>Unit</b>	<b>Installed Quantity</b>	<b>Mat Unit</b>	<b>Lab Unit</b>		
					Sub-totals	Material \$0.00	Labor \$0.00	
						TOTAL	\$0.00	
<b>Miscellaneous</b>								
<b>Material/Labor Description</b>	<b>Part Number</b>	<b>Manufacturer</b>	<b>Unit</b>	<b>Installed Quantity</b>	<b>Mat Unit</b>	<b>Lab Unit</b>		
					Sub-totals	Material \$0.00	Labor \$0.00	
						TOTAL	\$0.00	
<b>Rental Equipment</b>								
<b>Rental Description</b>	<b>Part Number</b>	<b>Manufacturer</b>	<b>Unit</b>	<b>Quantity</b>	<b>Rental Unit</b>	<b>Lab Unit</b>		
					Sub-totals	Material \$0.00	Labor \$0.00	
						TOTAL	\$0.00	

Document C:  
**Pierson Plaza**  
**Riverside County**  
**Department of Public Social Services**

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish	Total Float	2016											
							JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT		
<b>Pierson Plaza</b>																		
<b>Administration</b>																		
1000	Contract Award	5	0	13MAR15 A	19MAR15 A													
1010	Contract Execute	5	0	19MAR15 A	19MAR15 A													
1040	Construction NTP	1	0	08MAY15 A	11JAN16 A		Construction NTP											
1020	Permits	5	0	15MAY15 A	11JAN16 A		Permits											
1960	County Turnover Milestone	0	0		18AUG16	0	◆ County Turnover M											
1970	Coordination of County Work	15	15	23AUG16	12SEP16	11d	■ Coordinat											
1971	County Occupancy	0	0		12SEP16	11d	◆ County O											
2000	Start of Liquidated Damages - \$2,500 per	0	0	03OCT16		0	◆ S											
<b>Site Development</b>																		
1030	GC to Stage & Mobilize	5	0	04MAY15 A	08MAY15 A													
1050	Pre Water	7	0	07MAY15 A	27MAY15 A													
1060	Survey and Staking	5	0	11MAY15 A	07DEC15 A		ng											
1070	Mass Grading & Earthwork	15	0	15MAY15 A	08DEC15 A		Earthwork											
1080	Over-x-SS Bldg Pad	6	0	16MAY15 A	29MAY15 A													
1110	Cert Pad	1	0	29MAY15 A	29MAY15 A													
1100	Export Soil Material	15	0	15OCT15 A	04NOV15 A													
1170	Fire Riser in Building	3	0	22JAN16 A	26JAN16 A		■ Fire Riser in Building											
1230	Rough Grade Parking lots	11	11	22FEB16	07MAR16	51d	■ Rough Grade Parking lots											
1150	Onsite Sewer Lines	5	5	26FEB16	03MAR16	38d	■ Onsite Sewer Lines											
1200	Dry Utility Backbone / SCE Tie-ins	12	12	02MAR16	17MAR16	41d	■ Dry Utility Backbone / SCE Tie-ins											
1210	Storm and infiltration system	15	15	04MAR16	24MAR16	38d	■ Storm and infiltration system											
1300	Onsite Domestic & Fire Water	20	20	25MAR16	21APR16	38d	■ Onsite Domestic & Fire Water											
1420	Fine Grade Parking Lot	5	5	22APR16	28APR16	38d	■ Fine Grade Parking Lot											

Start date 15MAY15  
 Finish date 30SEP16  
 Data date 12FEB16  
 Page number 1A  
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Schedule Update as of 12FEB16  
 Pierson Plaza



- Early bar
- Target bar
- Progress bar
- Critical bar

- Summary bar
- ◆ Start milestone point
- ◆ Finish milestone point



**Pierson Plaza  
Riverside County  
Department of Public Social Services**

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish	Total Float	2016															
							JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT						
1440	Curb & Gutter	8	8	29APR16	10MAY16	38d																
1450	Parking Light Poles Electrical and Bases	6	6	29APR16	06MAY16	38d																
1480	Misc. Electrical / PIV / Signage / Landscape	6	6	09MAY16	16MAY16	38d																
1500	Site Retaining and Masonry Walls	15	15	11MAY16	31MAY16	57d																
1530	Landscape Irrigation Rough	11	11	17MAY16	31MAY16	38d																
1540	Wrought Iron Fencing	10	10	01JUN16	14JUN16	62d																
1550	Fine Grade for Rock Base / Certify	4	4	01JUN16	06JUN16	38d																
1580	Install Rock Base / Certify	3	3	07JUN16	09JUN16	38d																
1600	Onsite Asphalt Pavement	4	4	10JUN16	15JUN16	38d																
1610	On & Offsite Sidewalks ADA walkways	8	8	16JUN16	27JUN16	38d																
1620	Signage & ADA Stripping.	3	3	16JUN16	20JUN16	58d																
1660	Finish Irrigation	12	12	28JUN16	14JUL16	38d																
1700	Erect Light Poles	3	3	15JUL16	19JUL16	38d																
1720	Plant Landscape Material	8	8	20JUL16	29JUL16	38d																
<b>Offsite Development</b>																						
1090	Offsite Demo	5	5	12FEB16	19FEB16	38d																
1120	Offsite Sewer Lines	4	4	22FEB16	25FEB16	38d																
1160	Offsite Water Tie In	3	3	26FEB16	01MAR16	41d																
1310	Complete Street Widening Demo & Grading	5	5	18MAR16	24MAR16	41d																
1340	Offsite Curb & Gutter Sidewalk & Ramps	10	10	25MAR16	07APR16	41d																
1390	Offsite Paving	6	6	08APR16	15APR16	41d																
1410	Striping on Street Paving	1	1	18APR16	18APR16	41d																
<b>Building Construction</b>																						
1130	Stake Building Corners	3	0	29MAY15 A	01JUN15 A																	
1180	Excavate For Foundation	4	0	12JAN16 A	14JAN16 A																	

Start date 15MAY15  
 Finish date 30SEP16  
 Data date 12FEB16  
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Schedule Update as of 12FEB16  
 Pierson Plaza

Early bar

Target bar

Progress bar

Critical bar

Summary bar

Start milestone point

Finish milestone point

**Pierson Plaza  
Riverside County  
Department of Public Social Services**

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish	Total Float	2016											
							JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT		
1190	Electrical Underground	15	0	14JAN16 A	27JAN16 A		■ Electrical Underground											
1220	Form Work Foundations	8	0	15JAN16 A	19JAN16 A		■ Form Work Foundations											
1140	Plumbing Underground	15	0	18JAN16 A	22JAN16 A		■ Plumbing Underground											
1240	Set Rebar & Templates	3	0	18JAN16 A	20JAN16 A		■ Set Rebar & Templates											
1250	Place Footing Concrete	1	0	20JAN16 A	20JAN16 A		■ Place Footing Concrete											
1260	Prep SOG	4	0	22JAN16 A	28JAN16 A		■ Prep SOG											
1280	Set Structural Steel Templates	2	0	26JAN16 A	26JAN16 A		■ Set Structural Steel Templates											
1290	Inspection - SOG	1	0	28JAN16 A	28JAN16 A		■ Inspection - SOG											
1320	Place and Finish SOG	3	0	29JAN16 A	29JAN16 A		■ Place and Finish SOG											
1330	Cure Time SOG	3	0	29JAN16 A	01FEB16 A		■ Cure Time SOG											
1350	Tilt Up Wall Panel Mobilization	2	0	01FEB16 A	01FEB16 A		■ Tilt Up Wall Panel Mobilization											
1360	Form Wall Panels	10	0	02FEB16 A	09FEB16 A		■ Form Wall Panels											
1370	Reinforce/Embeds	6	5	10FEB16 A	19FEB16	0	■ Reinforce/Embeds											
1380	Place Wall Panels	2	2	24FEB16	25FEB16	0	■ Place Wall Panels											
1400	Cure Time	5	5	26FEB16	03MAR16	0	■ Cure Time											
1430	Stand Walls	2	2	04MAR16	07MAR16	0	■ Stand Walls											
1435	Perimeter Steel Structures	5	5	04MAR16	10MAR16	3d	■ Perimeter Steel Structures											
1460	Install Struc Steel CLM's	2	2	08MAR16	09MAR16	0	■ Install Struc Steel CLM's											
1470	Grout Panels	2	2	08MAR16	09MAR16	2d	■ Grout Panels											
1490	Set up and Prep for Pour Strip	2	2	10MAR16	11MAR16	0	■ Set up and Prep for Pour Strip											
1510	Pour Strip	2	2	14MAR16	15MAR16	0	■ Pour Strip											
1520	Erect Roof Structure / Penetrations	15	15	16MAR16	05APR16	0	■ Erect Roof Structure / Penetrations											
1560	Install Ext Building Stone Work	8	8	21MAR16	30MAR16	12d	■ Install Ext Building Stone Work											
1570	Overhead Plumbing Rough In	5	5	06APR16	12APR16	0	■ Overhead Plumbing Rough In											

Start date 15MAY15  
Finish date 30SEP16  
Data date 12FEB16  
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Schedule Update as of 12FEB16  
Pierson Plaza



■ Early bar  
■ Target bar  
■ Progress bar  
■ Critical bar

— Summary bar  
◆ Start milestone point  
◆ Finish milestone point



**Pierson Plaza  
Riverside County  
Department of Public Social Services**

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish	Total Float	2016											
							JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT		
1590	Roof TPO System	8	8	06APR16	15APR16	0												
1630	Set RTU	4	4	18APR16	21APR16	0												
1640	Overhead Sprinkler Systems	10	10	18APR16	29APR16	0												
1740	Storefront Doors and Windows	10	10	18APR16	29APR16	19d												
1650	Overhead Mechanical Rough In	11	11	20APR16	04MAY16	0												
1655	County Overhead Elec Rough In	5	5	20APR16	26APR16	1d												
1670	Overhead Electrical Rough	12	12	22APR16	09MAY16	0												
1680	Interior Wall Framing	15	15	28APR16	18MAY16	0												
1690	Plumbing Rough In @ Interior Walls	10	10	05MAY16	18MAY16	6d												
1730	Wall Backing and Supports	3	3	05MAY16	09MAY16	13d												
1710	Electrical Rough In @ Interior Walls	15	15	06MAY16	26MAY16	0												
1760	Install Cloud Structures	4	4	19MAY16	24MAY16	14d												
1750	Drywall Hang Tape Finish	12	12	27MAY16	13JUN16	0												
1785	County Cable Rack Instalation	15	15	03JUN16	23JUN16	25d												
1770	Ceramic Tile	10	10	14JUN16	27JUN16	22d												
1780	Install Ceiling Grid	5	5	14JUN16	20JUN16	0												
1790	Electrical Rough In @ Ceiling	15	15	21JUN16	12JUL16	0												
1795	Fire Protection Drops	8	8	21JUN16	30JUN16	20d												
1800	Mechanical Rough in @ Ceiling	10	10	21JUN16	05JUL16	17d												
1810	Cabinets Counters	8	8	28JUN16	08JUL16	22d												
1820	Paint and Trim	10	10	13JUL16	26JUL16	0												
1830	Above Ceiling Inspection	1	1	13JUL16	13JUL16	12d												
1840	Drop Ceiling Tile	4	4	14JUL16	19JUL16	12d												
1850	Flooring	12	12	27JUL16	11AUG16	2d												

Start date 15MAY15  
Finish date 30SEP16  
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Schedule Update as of 12FEB16  
Pierson Plaza

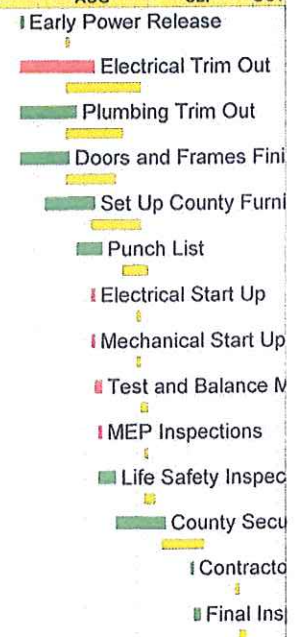
Primavera Systems, Inc

- Early bar
- Target bar
- Progress bar
- Critical bar

- Summary bar
- Start milestone point
- Finish milestone point

**Pierson Plaza  
Riverside County  
Department of Public Social Services**

Act ID	Description	Orig Dur	Rem Dur	Early Start	Early Finish	Total Float	2016														
							JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT					
1860	Early Power Release	1	1	27JUL16	27JUL16	13d															
1870	Electrical Trim Out	15	15	27JUL16	16AUG16	0															
1880	Plumbing Trim Out	12	12	27JUL16	11AUG16	5d															
1890	Doors and Frames Finish Hardware	10	10	27JUL16	09AUG16	7d															
1950	Set Up County Furniture Installation	10	10	03AUG16	16AUG16	2d															
1940	Punch List	5	5	12AUG16	18AUG16	29d															
1900	Electrical Start Up	1	1	16AUG16	16AUG16	0															
1910	Mechanical Start Up	1	1	16AUG16	16AUG16	0															
1920	Test and Balance Mechanical	2	2	17AUG16	18AUG16	0															
1930	MEP Inspections	1	1	18AUG16	18AUG16	0															
1979	Life Safety Inspections	3	3	18AUG16	22AUG16	11d															
1871	County Security System Installation	10	10	23AUG16	05SEP16	16d															
1975	Contractor Time to Complete	1	1	13SEP16	13SEP16	11d															
1980	Final Inspections	2	2	14SEP16	15SEP16	11d															



Start date 15MAY15  
 Finish date 30SEP16  
 Data date 12FEB16  
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Schedule Update as of 12FEB16  
 Pierson Plaza

	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: green; margin-right: 5px;"></span> Early bar</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: yellow; margin-right: 5px;"></span> Target bar</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: blue; margin-right: 5px;"></span> Progress bar</li> <li><span style="display: inline-block; width: 15px; height: 10px; background-color: red; margin-right: 5px;"></span> Critical bar</li> </ul>	<ul style="list-style-type: none"> <li><span style="display: inline-block; width: 15px; border-bottom: 1px solid blue; margin-right: 5px;"></span> Summary bar</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> Start milestone point</li> <li><span style="display: inline-block; width: 10px; height: 10px; background-color: orange; border: 1px solid black; margin-right: 5px;"></span> Finish milestone point</li> </ul>
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**RIVERSIDE COUNTY INFORMATION TECHNOLOGY  
CABLING INFRASTRUCTURE  
SUPPLEMENTAL INSTALLATION INSTRUCTIONS**





GENERAL CONDITIONS

HORIZONTAL STATION CABLING

PAGING CABLING

HORIZONTAL WIRELESS CABLING

SPECIAL SERVICES CABLING

ANALOG SERVICES

COPPER BACKBONE

FIBER BACKBONE

TELECOM ROOM

GROUNDING

## **GENERAL CONDITIONS:**

1. All cable distances are approximate, contractor is responsible for determining actual length during the mandatory bid walk or by scaling the floor plan.

## **1. Horizontal Station Cabling**

### **1.1. Materials: (See Document A for specific part numbers)**

- 1.1.1. All locations shall use Berk-Tek LANmark-1000 white cable.
- 1.1.2. All station cables shall use Leviton eXtreme high density patch panels.
- 1.1.3. All station cables shall use Leviton eXtreme, Cat6, RJ-45 modular jacks.
- 1.1.4. All wall phone locations shall use Leviton QuickPort configurable patch panels.
- 1.1.5. All wall phone locations shall use Leviton eXtreme, Cat6, RJ-45 modular jacks.

### **1.2. Installation Methods:**

- 1.2.1. General: Provide and install J-hooks, Pencil-rod (P-rod), and stringers (wire hangers) to support cabling. Cable bundles will be limited to 50 cables per J-hook and no more than 4-5' spacing between J-hooks.
- 1.2.2. Use stringer for a maximum of 25 cables per stringer and P-rod for 26 or more cables. A maximum of three J-hooks of 50 cables are allowed per P-rod. Cables will be bundled using Velcro straps in the Telecom Rooms in groups of 24 from the point the cable enters the room to the point of termination.
- 1.2.3. A minimum of 12" slack will be provided in the ceiling at each WAO location. Store cable slack in an extended loop and fasten to the conduit stub or J-hook using the properly rated Velcro strap. In the Telecommunications Room, all cables terminated will have a minimum 3' service loop installed in the vertical wire manger prior to the point of termination.
- 1.2.4. All installed cable will maintain a minimum 12" clearance from florescent light fixtures, HVAC motorized controls, and all other electrical interference generating devices.

### **1.3. County Standard (Dual) Work Area Outlet Termination:**

- 1.3.1. In the telecommunications room, all Standard work area outlet cables shall terminate on a Leviton eXtreme Category 6, 110 style high density patch panels, wired in accordance with the T568B pin configuration standard in their respective "A" & "B" Rows. Standard WAO cables shall not be combined into the termination of Data only or Special LAN cables on patch panels.
- 1.3.2. At the work area outlet, each WAO shall carry one location number; i.e. 1A-001 A&B use white Leviton 2-port faceplates for hard wall office locations and black 2-port faceplates for systems furniture locations.
- 1.3.3. The first cable shall terminate on a Leviton orange T568B jack (1A-001A).
- 1.3.4. The second cable shall terminate on a Leviton green T568B jack (1A-001B).
- 1.3.5. Labeling shall be compliant with TIA/EIA 606 labeling specifications and numbering scheme will be provided by RCIT.

1.3.6. Testing shall be performed in compliance with the test criteria in Document E.

## **1.4. Quad Work Area Outlet Termination:**

- 1.4.1. In the telecommunications room, all Standard work area outlet cables shall terminate on a Leviton eXtreme Category 6, 110 style high density patch panels, wired in accordance with the T568B pin configuration standard in their respective "A" & "B" Rows. Standard WAO cables shall not be combined into the termination of Data only or Special LAN cables on patch panels.
- 1.4.2. At the work area outlet, each quad WAO will carry two location numbers; i.e. 1A-001 A&B and 1A-002 A&B use white Leviton 4-port faceplates for hard wall office locations and black 4-port faceplates for systems furniture locations.
- 1.4.3. The first cable shall terminate on a Leviton orange T568B jack (1A-001A).
- 1.4.4. The second cable shall terminate on a Leviton green T568B jack (1A-001B).
- 1.4.5. The third cable shall terminate on a Leviton orange T568B jack (1A-002A).
- 1.4.6. The fourth cable shall terminate on a Leviton green T568B jack (1A-002B).
- 1.4.7. Labeling shall be compliant with TIA/EIA 606 labeling specifications and numbering scheme will be provided by RCIT.
- 1.4.8. Testing shall be performed in compliance with the test criteria in Document E.

## **1.5. Wall Phone Cable Termination:**

- 1.5.1. In the telecommunications room, all Wall Phone cables shall terminate onto white Leviton eXtreme Cat6 T568B modular jacks. Install the jacks into a QuickPort field configurable patch panel.
- 1.5.2. At the work area outlet, terminate the cable onto a white Leviton eXtreme Cat6 modular jack. Install the jack into a stainless steel Leviton wall phone plate.
- 1.5.3. Labeling shall be compliant with TIA/EIA 606 labeling specifications and numbering scheme will be provided by RCIT.
- 1.5.4. Testing shall be performed in compliance with the test criteria in Document E.

## **2. Paging Cabling**

### **2.1. Materials: (See Document A for specific part numbers)**

- 2.1.1. All paging locations shall use General 1-pair 18 AWG speaker cable.
- 2.1.2. All paging cables shall terminate using a Paging distribution strip and terminal blocks.
- 2.1.3. All indoor speakers shall be Bogen surface mount speakers.
- 2.1.4. All indoor speakers shall be mounted using a Bogen tile bridge.

### **2.2. Paging Cable Termination:**

- 2.2.1. In the telecommunications room, all paging cables shall terminate onto an Allen Bradley steel mini din mounting rail using mini terminal blocks and side jumpers.
- 2.2.2. At the speaker location, terminate the cable onto a SM4T surface mount speaker using the provided wiring nuts. Set all taps to .5 watts and volume adjustment knobs to half (5 of 10).
- 2.2.3. One individual leg shall not have more than (10) speakers connected.
- 2.2.4. Test all paging speakers and zones for proper operation and sound levels; adjust as needed.

- 2.2.5. Labeling shall be compliant with TIA/EIA 606 labeling specifications and numbering scheme will be provided by RCIT.

## 3. Horizontal Wireless Cabling

### **3.1. Materials: (See Document A for specific part numbers)**

- 3.1.1. All locations shall use Berk-Tek LANmark-10G2 white cable.
- 3.1.2. All wireless horizontal cables shall use Leviton QuickPort configurable patch panels.
- 3.1.3. All wireless horizontal locations shall use blue Leviton eXtreme, Cat 6A, RJ-45 modular jacks.
- 3.1.4. All wireless horizontal locations shall use a Leviton 2-port surface mount box with a QuickPort in ceiling bracket with clip.

### **3.2. Wireless Work Area Outlet Termination:**

- 3.2.1. In the telecommunications room, all wireless horizontal cables shall terminate onto blue Leviton eXtreme Cat6A T568B modular jacks. Install the jacks into a QuickPort field configurable patch panel
- 3.2.2. At the work area outlet, terminate both cables onto blue Leviton eXtreme Cat 6A modular jacks. Install the jacks into a Leviton 2-port surface mount box. Attach the surface box to a ceiling stringer using a QuickPort in ceiling bracket with clip.
- 3.2.3. Each work area outlet shall carry two location numbers; i.e. 1A-701 and 1A-702.
- 3.2.4. Each cable shall terminate on a Leviton blue T568B jack.
- 3.2.5. Labeling shall be compliant with TIA/EIA 606 labeling specifications and numbering scheme will be provided by RCIT.
- 3.2.6. Testing shall be performed in compliance with the test criteria in Document E.

## 4. Special Services Cabling

### **4.1. Materials: (See Document A for specific part numbers)**

- 4.1.1. All locations shall use Berk-Tek LANmark-1000 series white cable.
- 4.1.2. All special services cables shall use Leviton eXtreme, Cat6, RJ-45 modular jacks.
- 4.1.3. All special services cables shall use Leviton QuickPort configurable patch panels.

### **4.2. Special Services Termination:**

- 4.2.1. In the telecommunications room, all special services cables shall terminate onto specific designated colors using Leviton eXtreme Cat6 T568B modular jacks. Install the jacks into a QuickPort field configurable patch panel.
- 4.2.2. The special services cables shall terminate onto the following designated colors:
- Entrance Facility/MPOE modular jacks shall be orange in color
  - LAN Extension modular jacks shall be green in color
  - T1 Extension modular jacks shall be purple in color
  - Security modular jacks shall be yellow in color
  - AV, TV and projector modular jacks shall be ivory in color
  - Special purpose, i.e. modular jacks shall be crimson in color
- 4.2.3. Labeling shall be compliant with TIA/EIA 606 labeling specifications and numbering scheme will be provided by RCIT.

4.2.4. Testing shall be performed in compliance with the test criteria in Document E.

## 5. Analog Services

### 5.1. Materials: (See Document A for specific part numbers)

- 5.1.1. All locations shall use 25-pair Amphenol cables.
- 5.1.2. All analog services cables shall use Leviton 24-port voice grade patch panels with Amphenol connector.
- 5.1.3. All analog services cables shall use Leviton 300-pair 110 blocks.

### 5.2. Analog Services Termination:

- 5.2.1. In the telecommunications room, terminate the open end of the analog services cable onto the designated area of the 110 voice frame; install the Amphenol end onto the 24-port voice grade patch panel on the designated rack location.
- 5.2.2. In the telecommunications equipment rack, maintain a minimum of 3' service loop installed in the vertical wire manger prior to the point of termination.

## 6. Copper Backbone

### 6.1. Materials:

- 6.1.1. Reference Document A for part numbers.

### 6.2. Copper Backbone Termination:

- 6.2.1. In the telecommunications room and Entrance Facility, all copper backbone cables shall terminate onto the designated area provided in the scope of work, reference Document A for part number of termination hardware.
- 6.2.2. All cables shall include 15' for vertical transition at each end and 20' of routing length in each Telecom Room.
- 6.2.3. All copper backbone cables shall enter the termination blocks from the bottom.
- 6.2.4. Ground each end of all backbone cables by installing a #6 AWG stranded copper ground wire from the TMGB to the shield bond connector..
- 6.2.5. Labeling shall be compliant with TIA/EIA 606 labeling specifications and numbering scheme will be provided by RCIT.
- 6.2.6. Testing shall be performed in compliance with the test criteria in Document E.

## 7. Fiber Backbone

### 7.1. Materials: (See Document A for specific part numbers)

- 7.1.1. All fiber backbone cables shall use Berk-Tek cable.
- 7.1.2. All fiber backbone cables shall use Leviton connectors.
- 7.1.3. All fiber backbone cables shall use Leviton enclosures.
- 7.1.4. All fiber backbone cables shall use Leviton adapter plates.

### 7.2. Fiber Backbone Termination:

- 7.2.1. In the telecommunications room and Entrance Facility, terminate all strands of fiber onto the designated area provided in the scope of work, reference Document A for part number of termination hardware.
- 7.2.2. All fiber distances shall include a 30' maintenance loop on both ends.
- 7.2.3. Strict compliance with TIA/EIA 568-B.3 to ensure reverse-pair polarity on all 568SC connectors will be obtained. Terminated fiber pairs shall be crossed at the distant end patch panel so fiber 1 at the near end will be connected to fiber 2 at

the far end, fibers 3/4; 5/6 etc. are placed likewise. Designation of near end/far end in relation to the runs are as follows: Telecom Room 1A is considered the near end on all runs.

- 7.2.4. Labeling shall be compliant with TIA/EIA 606 labeling specifications and numbering scheme will be provided by RCIT.
- 7.2.5. Testing shall be performed in compliance with the test criteria in Document E.

## 8. Telecom Room

### 8.1. Materials:

- 8.1.1. Reference Document A for part numbers.

### 8.2. Telecom Room Installation:

- 8.2.1. All racks shall be anchored using 1/2" drop-in anchors and washers.
- 8.2.2. Cable runway shall be attached using 3/8" lag bolts.

## 9. Grounding

### 9.1. Materials:

- 9.1.1. Reference Document A for part numbers.

### 9.2. Grounding Installation:

- 9.2.1. In the telecommunications room install (1) Telecommunications Main Ground Bus Bar in the designated location. ***Bonding to building ground shall be performed by the electrical contractor working on this project.***
- 9.2.2. Install a #2 AWG stranded copper ground wire from the Telecommunications Main Ground Bus Bar down the length of each rack row. Attach the #2 ground wire to the bus bar using a two-hole long barrel compression lug.
- 9.2.3. Install a #6 AWG stranded copper ground wire from the #2 AWG conductor to each rack; attach the #6 ground wire to the #2 conductor using a compression H Tap and a two-hole long barrel compression lug.
- 9.2.4. Install a #6 AWG stranded copper ground wire from the Telecommunications Main Ground Bus Bar to the cable runway; attach the wire using two-hole long barrel compression lugs.
- 9.2.5. Install 1 grounding strap for each piece of cable ladder at every junction point.
- 9.2.6. Labeling shall be compliant with TIA/EIA 606 labeling specifications and numbering scheme will be provided by RCIT.
- 9.2.7. All surfaces to be bonded must be sanded or an abrasive tool used to remove paint or any protective coating so that to provide a good bonding surface. Apply an Antioxidant Joint Compound on all bonding connections. All bonding conductor connections shall use a two hole lug with the holes 5/8" (center-to-center) apart and secured with two 1/4" bolts. Lugs can be either a mechanical or compression type connector.

# Cable Certification

## General Testing Criteria (Applies to all cable certification testing)

1. RCIT reserves the right to be present during any or all cable testing procedures. The Contractor shall obtain authorization from the RCIT Project Engineer prior to commencing testing. RCIT reserves the right to require retesting of any cables tested prior to the Contractor authorization for test commencement at no additional cost to RCIT.
2. All cabling not tested strictly in accordance with these procedures shall be retested at no additional cost to RCIT.
3. 100 percent of the installed cable shall be tested.
4. Test equipment shall be fully charged prior to each day's testing.
5. All Category 6 UTP Cable, Multimode, and Single Mode Fiber Optic Cable tests shall be performed using the **Fluke DTX 1800 CableAnalyzer** (Tester) and the **Fluke DTX 1800 SmartRemote** (Remote) **Model** cable tester set, no substitute testers are allowed. The Contractor shall indicate the **Fluke LinkWare** software revision installed on the test equipment is the most current available from the cable tester manufacturer (see Fluke Networks Website; <http://www.flukenetworks.com>) prior to commencing any final cable tests for record.
6. All cables, Horizontal, Intrabuilding Backbone Cable, and Interbuilding Backbone Cable, shall be tested prior to the cutover of voice and data systems to the new cable plant, unless otherwise directed by the RCIT Project Engineer. Complete test results by cable type, including a Summary Report shall be presented to RCIT Project Engineer within five working days after the cutover date.
7. Test results shall be provided in electronic report format using the **Fluke LinkWare Cable Test Management Software** on a data CD. Handwritten test reports are not acceptable. Paper print-outs of complete, individual cable tests are not required unless previously requested in the RCIT Scope of Work. Electronic reports must be accompanied by a Certificate signed and stamped by an authorized RCDD representative of the Contractor warranting the truth and accuracy of the electronic report data. The certificate must reference traceable cable/fiber numbers that match the electronic record.
8. Test reports shall include the following information for each permanent Cat 6 copper cable link or permanent optical fiber link (MM and/or SM) tested:
  - 8.1. Tester manufacture, model, main unit serial number, remote unit serial number, main unit adapter type, remote unit adapter type, software version, operator.
  - 8.2. Cable number and project/job name.
  - 8.3. Auto test specification used.
  - 8.4. Date and time of test.
  - 8.5. Overall pass/fail indication.

- 8.6. Wire map results that indicate the permanent cable link tested has no shorts, opens, miss-wires, split, reversed or crossed pairs, and end-to-end connectivity is achieved.
- 8.7. Two copies of the test results will be provided in electronic format. The Summary Report provided by the **LinkWare Cable Test Management** software program, for both Copper and Fiber tests are the only portion of the test results required in paper format as well. The detailed report of individual copper cables tested is not required in printed copy format.
- 8.8. Any individual test that fails a relevant performance parameter shall be marked as a FAIL and the Contractor shall indicate the action taken to correct the problem.
- 8.9. Overall PASS/FAIL indication for the cable or fiber tested.



## Category 6 Data Cable Certification Testing

1. All testing shall be performed in conformance with EIA/TIA 568-B.2 using the permanent link test setup. Cabling shall meet the performance specifications for Category 6 specific to TIA/EIA 568 B.
  - 1.1. The following equipment is required to perform Category 6 Data Cable Testing with the Fluke DTX 1800 CableAnalyzer and Fluke DTX 1800 SmartRemote:
    - 1.1.1. DTX 1800 CableAnalyzer with battery pack and/or AC adapter
    - 1.1.2. DTX 1800 SmartRemote with battery pack and/or AC adapter
    - 1.1.3. (2) Cat6/Class E Permanent Link Adapters
  - 1.2. The DTX 1800 CableAnalyzer (Tester) profile will be configured as follows:
    - 1.2.1. Select SPECIAL FUNCTIONS> SET REFERENCE. Follow the manufacturer's procedures for setting the reference between the DTX 1800 CableAnalyzer and the DTX 1800 SmartRemote.  
  
**1.2.2. Select SETUP on the DTX 1800 menu, and set the following testing parameters:**
  - 1.3. SETUP > INSTRUMENT SETTINGS:
    - 1.3.1. Select Tab 2 and set:
    - 1.3.2. Operator (Name),
    - 1.3.3. Site Client Name; set the Project Location (if unclear, contact the RCIT Project Engineer for assistance)
    - 1.3.4. Select Tab 3 and set
    - 1.3.5. Date (if incorrect)
    - 1.3.6. Time (if incorrect)
    - 1.3.7. Numeric Format: 00.0
    - 1.3.8. Length Units: Meters (m)
  - 1.4. SETUP > TWISTED PAIR:
    - 1.4.1. Select Tab 1 and set: Test Limit:
    - 1.4.2. Press F1 and select: TIA; then under the sub-selection options:
    - 1.4.3. Select TIA Cat 6 Perm. Link
    - 1.4.4. Cable Type: Select Manufacturer, Select Berk-Tek; then under the sub-selection options:
    - 1.4.5. Berk-Tek LM 1000 PL (for Plenum CMP cable)
      - 1.4.5.1. Berk-Tek LM 1000 NP (for Riser-Rated, Non Plenum, CMR cable)
      - 1.4.5.2. NVP (Nominal Velocity of Propagation): Select and manually input these settings as appropriate for the cable used:
      - 1.4.5.3. Berk-Tek LANmark 1000 CMR (Riser Rated) NVP = 69.0%

- 1.4.5.4. Berk-Tek LANmark 1000 CMP (Plenum Rated) NVP = 72.0%
  - 1.4.6. Outlet Configuration (Wiremap): T568B
  - 1.4.7. Select Tab 2 and set:
    - 1.4.7.1. HDTD<sub>X</sub>/HDTDR (High Definition Time Domain Cross-talk/High Definition Time Domain Reflectometer): PASS\*/FAIL Only
  - 1.4.8. AC Wire Map (for PoE Midspan Injectors only) Select **Disable**
    - 1.4.8.1.1. NOTE: This test is not commonly required or performed for RCIT. This test option will be noted in the body of the Specifications, if AC Wire Map testing is required.
    - 1.4.8.1.2. Select AUTO TEST and verify that the Tester screen reads the following:**
  - 1.4.9. TIA Cat 6 Perm. Link –
    - 1.4.9.1.1. NOTE:
    - 1.4.9.1.2. The Tester is set for the minimum TIA Standards for each Cat6 Permanent Link test parameter specified by TIA568-B.2. RCIT incorporates Berk-Tek LANmark 1000 Cat 6 cable into their Structured Cabling Standards. LANmark 1000 Cable is an extended performance product which exceeds the minimum standards imposed by TIA for the Cat 6 Permanent Link tests. This extended performance will appear as increased head room or performance margin for these tests, as applicable.
  - 1.4.10. Berk-Tek LM-1000 (PL, or NP, as appropriate from SET UP menu)
  - 1.4.11. Operator: (Name)
  - 1.4.12. Site: County of Riverside Department Name for the Installation Site
  - 1.4.13. Folder: (Contractor selected)
  - 1.4.14. Store Plot Data: YES
- 1.5. When the Tester is set for AUTO TEST, the Tester will conduct the following tests when the Tester is connected properly and the AUTO TEST button is pressed:
- 1.5.1. Wire Map
  - 1.5.2. Resistance
  - 1.5.3. Length (in Meters, HDTDR)
  - 1.5.4. Propagation Delay
  - 1.5.5. Delay Skew
  - 1.5.6. Insertion Loss (Attenuation)
  - 1.5.7. NEXT (Near End Crosstalk) and NEXT at the SmartRemote
  - 1.5.8. Return Loss
  - 1.5.9. ACR (Attenuation to Crosstalk Ratio) and ACR at the SmartRemote

Document E  
Cable Certification

1.5.10. PSACR (power-sum Attenuation to Crosstalk Ratio) and PSACR at the SmartRemote

1.5.11. ELFEXT (Equal Level Far End Cross Talk)

1.5.12. PSELFEXT (Power Sum Equal Level Far End Cross Talk)

1.5.12.1.1. NOTE:

1.5.12.1.2. Cat 6 Permanent Link testing automatically certifies each cable for 100BaseT and 1000BaseT networks. Tests are performed automatically in both directions for applicable tests. When set for Cat 6 Permanent Link testing, the Tester performs cable tests at frequencies up to 250 MHz.

1.5.13. Save all tested cable results.

1.5.14. Tests with PASS\* and FAIL\* notation are to be identified in the cable summary report.

1.5.15. If the test failed, (One or more test parameters marked with an “X”) press the F1 button: FAULT INFO, on the Tester and review the diagnostic information for the failure. The tester will show likely causes for the failure and the suggest actions for correcting the problem.

1.5.16. All cable tests must pass prior to cable plant acceptance.

1.5.17. Record and save Attenuation, NEXT, PSNEXT, Return Loss, ELFEXT and PSELFEXT data that indicate the worst-case result, the frequency at which it occurs, the limit at that point and the headroom margin in dB. Length (in meters), propagation delay and delay skew relative to the applicable limit. Information shall be provided for all pair combinations included in the T568B Wire Map function of the Tester.

1.1.1. Save all tests (ex. 1A.001A, 1A.001B, 1A.002A, 1A.002B)

TIA Cat 6 Perm. Link

Wire Map	Res.	Length	Prop. Delay	Delay Skew	Freq.	Insertion Loss	NEXT	RL	ACR	ELFEXT	PS NEXT	PS ACR	PS ELFEXT
	$\Omega$	Max.	nS	nS	MHz	dB	dB	dB	dB	dB	dB	dB	dB
12345678	i	90 m	498	44	1	3	65.0	19.1	62.0	64.2	62.0	59.0	61.2
12345678					4	3.5	64.1	21.0	60.6	52.1	61.8	58.3	49.1
					8	5	59.4	21.0	54.4	46.1	57.0	52.1	43.1
12345678S					10	5.5	57.8	21.0	52.3	44.2	55.5	49.9	41.2
12345678S					16	7	54.6	20.0	47.6	40.1	52.2	45.2	37.1
					20	7.9	53.1	19.5	45.2	38.2	50.7	42.8	35.2
					25	8.9	51.5	19.0	42.7	36.2	49.1	40.2	33.2
					31.25	10	50.0	18.5	40.0	34.3	47.5	37.6	31.3
					62.5	14.4	45.1	16.0	30.8	28.3	42.7	28.3	25.3
					100	18.6	41.8	14.0	23.3	24.2	39.3	20.7	21.2
					200	27.4	36.9	11.0	9.6	18.2	34.3	7.0	15.2
					250	31.1	35.3	10.0	4.2	16.2	32.7	1.6	13.2

## Copper Feed Certification Testing

1. All copper backbone cables shall be tested for shorts, opens, miswires, split, reversed or crossed pairs, and end-to-end connectivity using the Fluke CableAnalyzer.
  - 1.1. The Tester should be connected to a commercially available test adapter that allows the connection of the RJ-45 modular plug on the Fluke CableAnalyzer to either a 110 termination block, or 66M1-50 termination block as appropriate. Suggested adapter components are:
    - 1.2. Independent Technologies 110 Block Adapter, Independent Technologies Part Number: ITC-3002B, or equal.
    - 1.3. Independent Technologies Universal 66 Block Adapter, Independent Technologies Part Number: ITC-3002C, or equal.
  - 1.4. Testing will verify that all pairs in 4 pair increments for all the pairs in the copper feed cable.
  - 1.5. SETUP > TWISTED PAIR:
    - 1.5.1. Select Tab 1 and set: Test Limit:
    - 1.5.2. Select: TIA; then under the sub-selection options:
    - 1.5.3. Select TIA Cat 3 Perm. Link
    - 1.5.4. Select Cable Type: Select Custom, Select Name; Enter ARMM Riser Cable:
      - 1.5.4.1. NVP (Nominal Velocity of Propagation): Select and manually input these settings as appropriate for the cable used:
      - 1.5.4.2. ARMM Cable (Riser Rated) NVP = 60.0%
      - 1.5.4.3. Outlet Configuration (Wiremap): T568B
      - 1.5.4.4. Select Tab 2 and set:
      - 1.5.4.5. HDTDX/HDTDR (High Definition Time Domain Cross-talk/High Definition Time Domain Reflectometer): PASS\*/FAIL Only
    - 1.5.5. AC Wire Map (for PoE Midspan Injectors only) Select **Disable**
      - 1.5.5.1.1. NOTE: This test is not commonly required or performed for RCIT. This test option will be noted in the body of the Specifications, if AC Wire Map testing is required.
  - 1.5.6. Select **Single Test** and verify that the Tester screen reads the following:
- 1.6. TIA Cat 3 Perm. Link – ARMM Riser Cable
- 1.7. When the Tester is set for Wire Map, the Tester will conduct the Wire Map test when the Tester is connected properly and the Enter button is pressed:

- 1.7.1. Wire Map
- 1.7.2. Propagation Delay
- 1.7.3. Delay Skew
- 1.7.4. Save all tests (ex. 1A/2A-01 PAIRS 1-4, 1A/2A-01 PAIRS 5-8, 1A/2A-01 PAIRS 9-12, 1A/2A-01 PAIRS 13-16, 1A/2A-01 PAIRS 17-20, 1A/2A-01 PAIRS 21-44, 1A/2A-01 PAIRS 22-25 for a 25 pair cable)

## Special Services Patch Panel Certification Testing

1. All copper special services patch panel cables shall be tested for shorts, opens, miswires, split, reversed or crossed pairs, and end-to-end connectivity using the Fluke CableAnalyzer.
  - 1.1. The Tester and Remote Units should be connected to the DTX PLA002 Cat 6 Permanent Link Adapters. The Tester shall be connected to the RJ-45 jacks installed within patch panels. The Remote shall use a modular plug adapter on the Fluke CableAnalyzer to test the far end terminations on either 110 termination blocks, or 66M1-50 termination blocks as appropriate. Suggested adapter components are:
    - 1.2. Independent Technologies 110 Block Adapter, Independent Technologies Part Number: ITC-3002B, or equal.
    - 1.3. Independent Technologies Universal 66 Block Adapter, Independent Technologies Part Number: ITC-3002C, or equal.
    - 1.4. Testing will verify that for RJ11 jacks the “A” outlet jack (white) is on pairs 1&2 and the “B” outlet jack is on pairs 3&4 in the USOC Wire Map configuration.
    - 1.5. Testing will verify that for RJ45 jacks, that all pairs 4 pairs are tested.
      - 1.5.1.1. **Select Single Test and verify that the Tester screen reads the following:**
  - 1.6. SETUP > TWISTED PAIR:
    - 1.6.1. Select Tab 1 and set: Test Limit:
    - 1.6.2. Select: TIA; then under the sub-selection options:
    - 1.6.3. Select TIA Cat 5e Perm. Link
    - 1.6.4. Cable Type: Select Manufacturer, Select Berk-Tek; then under the sub-selection options:
      - 1.6.5. Berk-Tek LM-350 PL (for Plenum CMP cable)
        - 1.6.5.1. Berk-Tek LM-350 NP (for Riser-Rated, Non Plenum, CMR cable)
        - 1.6.5.2. NVP (Nominal Velocity of Propagation): Select and manually input these settings as appropriate for the cable used:
          - 1.6.5.3. Berk-Tek LANmark 350 CMR (Riser Rated) NVP = 70.0%
          - 1.6.5.4. Berk-Tek LANmark 350 CMP (Plenum Rated) NVP = 72.0%
          - 1.6.5.5. Outlet Configuration (Wiremap): T568B
          - 1.6.5.6. Select Tab 2 and set:
          - 1.6.5.7. HDTDX/HDTDR (High Definition Time Domain Cross-talk/High Definition Time Domain Reflectometer): PASS\*/FAIL Only
    - 1.6.6. AC Wire Map (for PoE Midspan Injectors only) Select **Disable**

1.6.6.1.1. NOTE: This test is not commonly required or performed for RCIT. This test option will be noted in the body of the Specifications, if AC Wire Map testing is required.

**1.6.6.2. Select Single Test and verify that the Tester screen reads the following:**

- 1.7. TIA Cat 5e Perm. Link – Berk-Tek LM-350 NP
- 1.8. When the Tester is set for Wire Map, the Tester will conduct the Wire Map test when the Tester is connected properly and the Enter button is pressed:
  - 1.8.1. Wire Map
  - 1.8.2. Length (in Meters, HDTDR)
  - 1.8.3. Propagation Delay
  - 1.8.4. Delay Skew
  - 1.8.5. Save all tested cable results.

## Fiber Certification Testing

1. The Contractor shall be responsible for testing every strand of each Intrabuilding and Interbuilding fiber optic backbone cable.
  - 1.1. RCIT typically does not specify installations that leave fibers unterminated, (dark fibers) therefore, all strands in each cable shall be terminated, mounted in a fiber distribution/patch panel, labeled and tested.
  - 1.2. The installed fiber link(s), each consisting of two (2) fibers/strands (Tx and Rx). Multimode fiber will be tested as specified by TIA/EIA-568-B.1.7.1 and ANSI/TIA/EIA 526-14A Method B. Singlemode fiber will be tested as specified by TIA/EIA-568-B.1.7.1 and ANSI/TIA/EIA 526-7 Method A.1.

**NOTE:**

Method A tests the loss (attenuation) of the fiber one connection at the end of the fiber.

Method B and Method A.1 test the loss the fiber and the connections at both ends of the fiber.

Method C tests only loss of the fiber cable itself without connections.

- 1.3. The following tests apply for both multimode and single mode fiber cables.
- 1.4. The testing procedure for each fiber optic strand is as follows:
- 1.5. Perform end-to-end, bi-directional power loss tests at 850nm and 1300nm wavelengths for multimode, and 1310nm and 1550nm for singlemode fibers.

**NOTE:**

The Fluke DTX 1800 CableAnalyzer and Fluke DTX 1800 SmartRemote Set is capable of testing fiber links in both directions from one termination location. The CableAnalyzer will prompt the Operator to switch cable connectors (at the panel connector adapter/bulkhead, NOT at the Tester or Remote) when the Near End to Far End Testing is completed, and the Tester is ready for Far End to Near End testing to be accomplished.

- 1.6. The allowable loss budget for each terminated cable run will be calculated by summing the maximum allowable loss for splices, mated connector pairs, and fiber length. Calculating the Loss (Attenuation) for the Fiber Length segment (between connectors) is performed as follows:
  - 1.6.1. Loss (Attenuation) per 1000 meters (1 km) of fiber cables specified by RCIT per the Manufacturer:



Berk-Tek GigaLite 50um/125um MM (Type LB): 3.0dB/km@850nm/  
1.0dB/km@1300nm

Berk-Tek Singlemode (Type AB): 0.7dB/km @1310nm/0.7dBkm@1550nm

Corning 50um/125um MM (Code C): 3.5dB/km@850nm/1.5dB/km@1300nm

Corning Singlemode (Code E): 1.0 dB/km @1310nm/1.0dB/km@1550nm

- 1.6.2. Divide the cable length in Meters by 1000 Meters to determine length in kilometers (km):

Example: The fiber cable segment is 85 meters long, as measured from the cable jacket markings.

$$85 \text{ meters} / 1000 \text{ meters} = 0.085 \text{ km}$$

Multiply the Attenuation (dB) per km times the length in km:

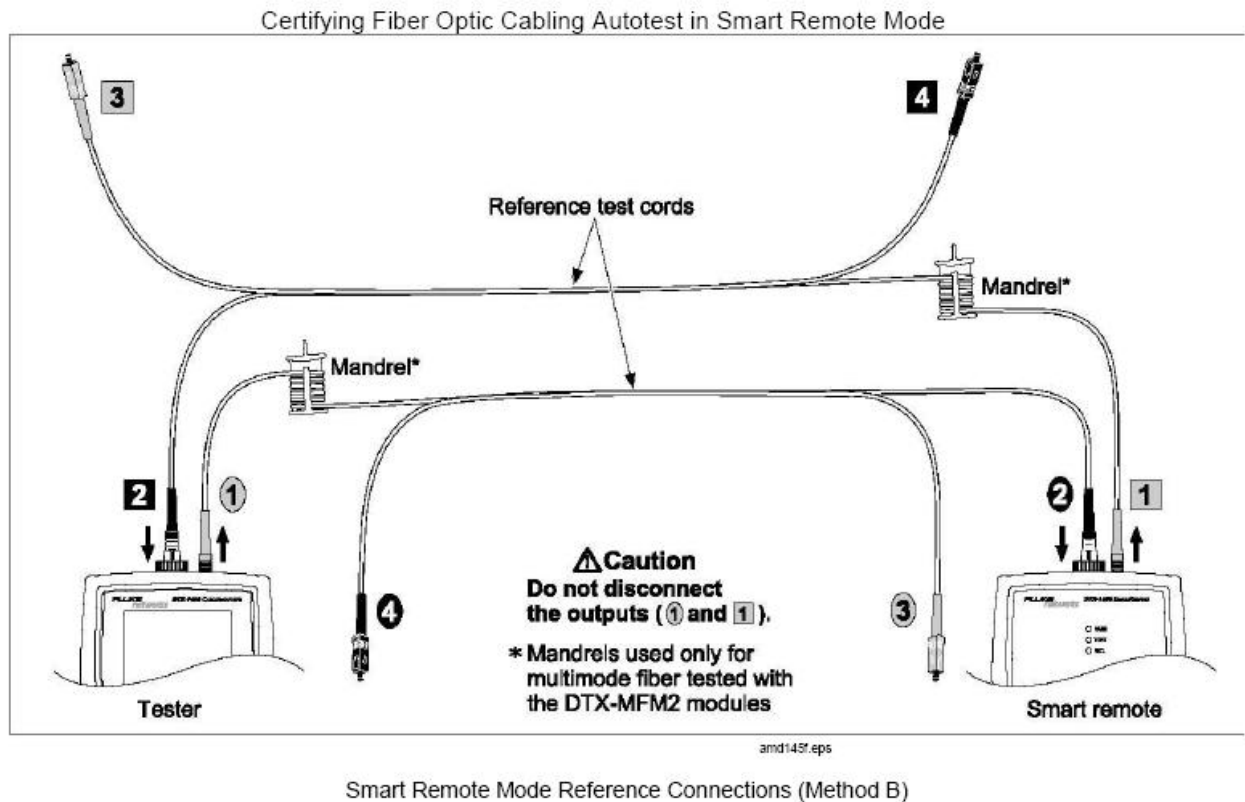
Example: Attenuation of Berk-Tek Gigalite 50um/125um MM (Type LB) Fiber:

$$3.0\text{dB/km} \times 0.085\text{km}^* = 0.255\text{dB}$$

\*(Length from calculation above. This figure will vary with cable length)

- 1.7. The following maximum allowable Loss budgets apply for cable and connectors:
  - 1.7.1. Fusion Splices: Maximum allowable Loss (attenuation) per spliced strand: 0.2dB
  - 1.7.2. Connectors: Maximum allowable Loss per mated connector pair: 0.50dB
  - 1.7.3. Fiber: Maximum allowable attenuation for each fiber strand shall not exceed the calculated maximum Loss rating based on performance as stated by manufacturer of the cable under test.
- 1.8. If a fiber strand of a cable run exceeds the calculated maximum power loss, as measured by the Fiber Loss tests, the fiber strand shall then be tested with the Tester configured with the Fluke DTX-OTDR Module to determine whether it is the fiber strand, fusion splice(s) or the connector, that exceeds the power loss margin.
- 1.9. If the connector exceeds the power loss margin, then re-polish and/or re-terminate the connector and repeat the testing procedures above.
- 1.10. If the fusion splice exceeds the power loss margin, break the splice, re-splice and retest.

- 1.11. If a fiber strand in the cable exceeds the specified power loss budget, then the contractor shall notify the RCIT Project Engineer as soon as possible to determine the impact of cable replacement on the Project Schedule. RCIT and the Contractor will devise a plan to procure new materials and replace the faulty cable.
  - 1.12. Record and document the length and power loss readings in relative decibels (dB) for every strand. Indicate as part of the testing documentation those runs that exceeded the power loss margins and the action taken (re-pulling the cable, re-polishing or re-terminating the connector).
2. The following equipment is required to perform Fiber Optic Cable Testing with the Fluke DTX 1800 CableAnalyzer and Fluke DTX 1800 SmartRemote:
    - 2.1. DTX 1800 CableAnalyzer with battery pack and/or AC adapter
    - 2.2. DTX 1800 SmartRemote with battery pack and/or AC adapter
    - 2.3. DTX-MFM2 Fiber Modules (pair) for 50um/125um Multimode fiber cable
    - 2.4. DTX-GFM2 Gigabit Fiber Modules (pair) for 50um/125 Gigabit Multimode fiber cable.
    - 2.5. DTX-SFM2 Fiber Modules (pair) for Singlemode fiber cable
    - 2.6. Fluke DTX SC Fiber Connector Adapter (pair)
    - 2.7. Fluke 50um Fiber Mandrel (red plastic, pair) used ONLY for testing Multimode cables.
    - 2.8. Fluke Reference Test Cords, 50um/125um (pair)
    - 2.9. Fluke Reference Test Cords, Singlemode (pair)
    - 2.10. Fiber cleaning supplies
  3. The Tester and Remote profile will be configured as follows:
    - 3.1. Install the DTX-MFM2 Fiber Modules for Multimode tests, DTX-MFM2 Fiber Modules for Gigabit Multimode tests, or the DTX-SFM2 Fiber Modules for Singlemode testing as appropriate.
    - 3.2. Select SPECIAL FUNCTIONS> SET REFERENCE. Follow the manufacturer's procedures for setting the reference between the DTX 1800 CableAnalyzer and the DTX 1800 SmartRemote.



- 3.3. For Multimode Fiber Testing, Select **SETUP** on the DTX 1800 menu, and set the following testing parameters:
- 3.4. **SETUP > FIBER LOSS:**
- 3.5. Select Tab 1 and set:
  - 3.5.1. Test Limit> TIA568B Backbone MM
  - 3.5.2. Fiber Type> Select Manufacturer>Nexans>LANmark OF3

**NOTE:**

Berk-Tek is not an available manufacturer option in this menu, however, according to Berk-Tek, LANmark OF3 contains the same glass as Berk-Tek Gigalite10 Type EB fiber, and , LANmark SM is the same as Berk-Tek Type AB fiber.

- 3.5.3. Remote End Setup> Select Smart Remote
- 3.5.4. Bi-Directional> Select Yes
- 3.6. Select Tab 2 and set:
  - 3.6.1. Number of Adapters (mated pairs)>2
  - 3.6.2. Number of Splices: >(Number of fusion splices as applicable)
  - 3.6.3. Connector Type> SC

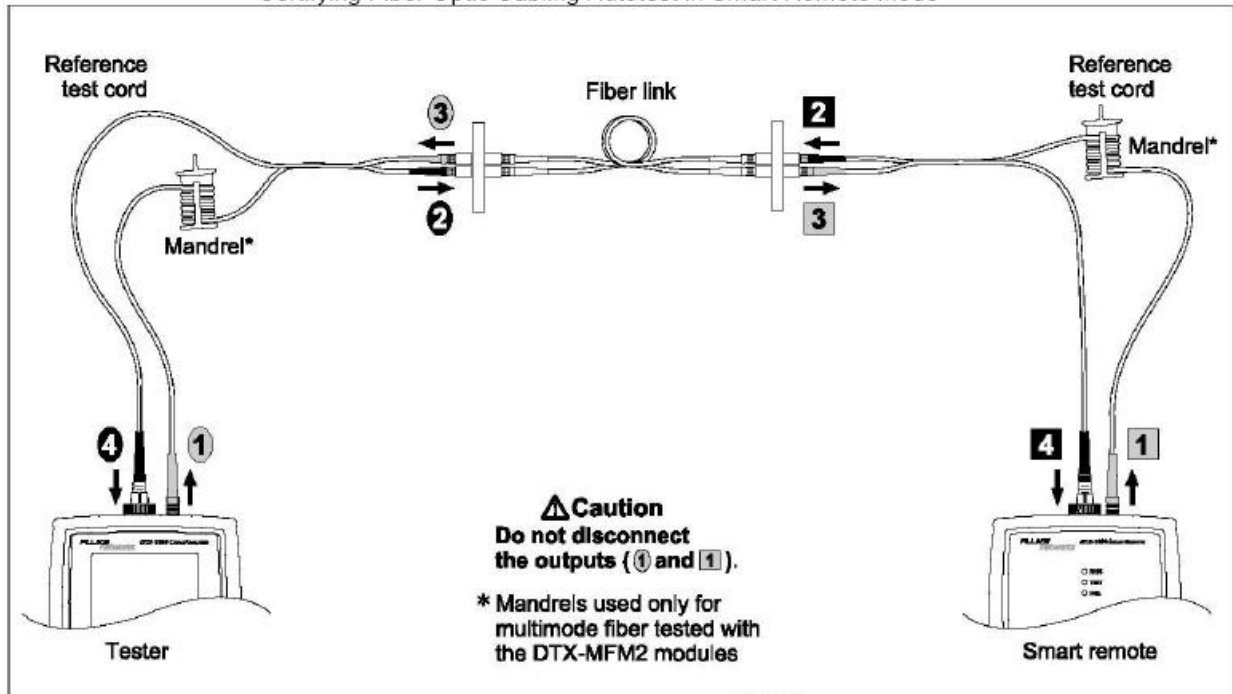
- 3.6.4. Test Method> Method B
- 3.7. Select Tab 3 and set: Index of Refraction>Default
- 3.7.1. Press F1 and select: TIA; then under the sub-selection options:

**Select AUTO TEST and verify that the Tester screen reads the following:**

TIA568B Backbone MM  
LANmark OF3 (50)  
Smart Remote

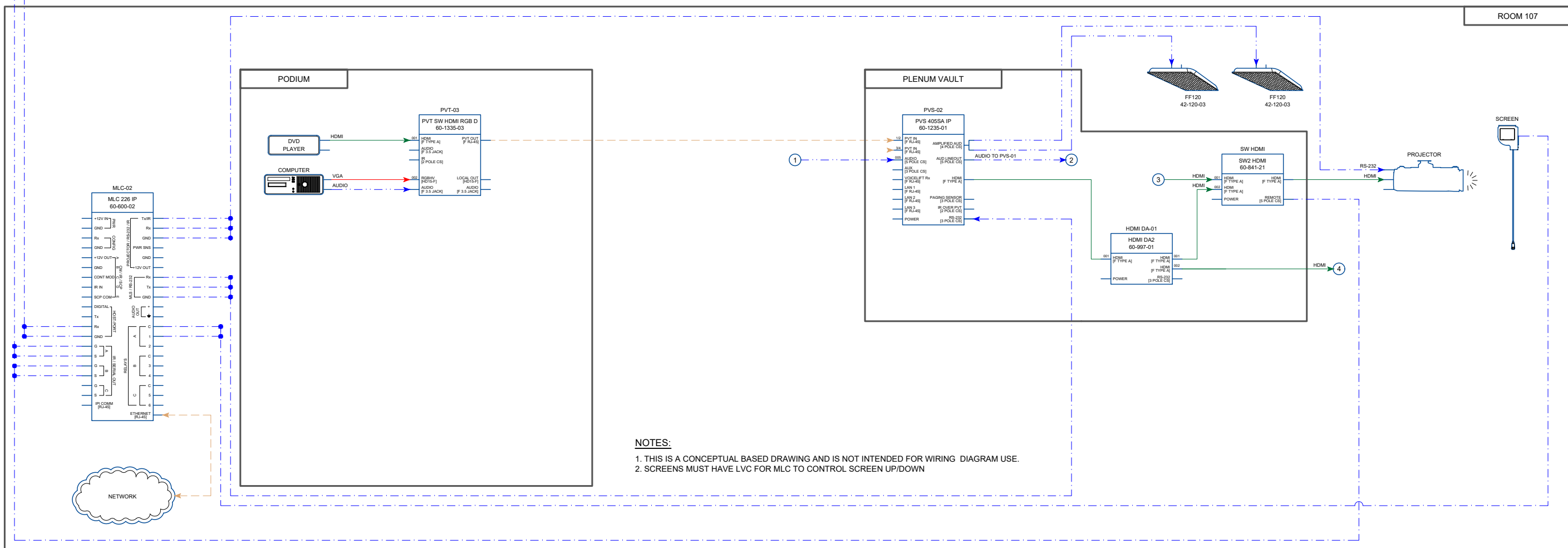
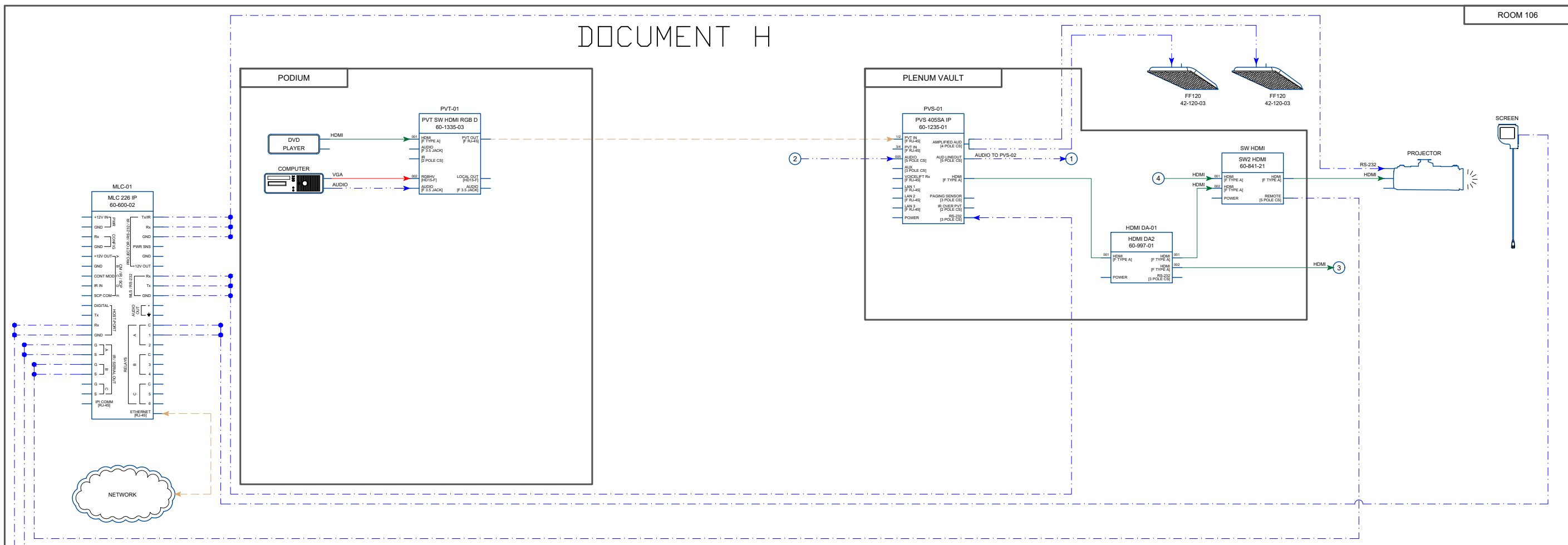
- 3.7.2. Berk-Tek LANmark OF3 (PL, or NP, as appropriate from SET UP menu)
  - 3.7.3. Operator: (Name)
  - 3.7.4. Site: County of Riverside Department Name for the Installation Site
  - 3.7.5. Folder: (Contractor selected)
  - 3.7.6. Store Plot Data: YES
- 3.8. When the Tester is set for AUTO TEST, the Tester will conduct the following tests when the Tester is connected properly and the AUTO TEST button is pressed:
- 3.8.1. Length (in Meters)
  - 3.8.2. Loss (Attenuation)
    - (a) Length (in meters) relative to the applicable limit. Any individual test that fails the relevant performance specification shall be marked as a FAIL and action taken to correct the problem.
    - (b) Overall pass/fail indication.

Certifying Fiber Optic Cabling Autotest in Smart Remote Mode



Smart Remote Mode Test Connections (Method B)

# DOCUMENT H



**NOTES:**

1. THIS IS A CONCEPTUAL BASED DRAWING AND IS NOT INTENDED FOR WIRING DIAGRAM USE.
2. SCREENS MUST HAVE LVC FOR MLC TO CONTROL SCREEN UP/DOWN



**Extron Electra**  
1025 E. BALL ROAD  
ANAHEIM, CA 9280

**RIVERSIDE COUNTY IT**  
6147 RIVERCREST DRIVE  
SUITE A  
RIVERSIDE, CA 92507  
US

**REVISIONS:**

△	REVISED TO ADD RS232 TO SWITCH
△	
△	
△	
△	
△	

**PROJECT NAME:**  
DPSS DESERT HOT SPRING  
DIVISIBLE ROOM

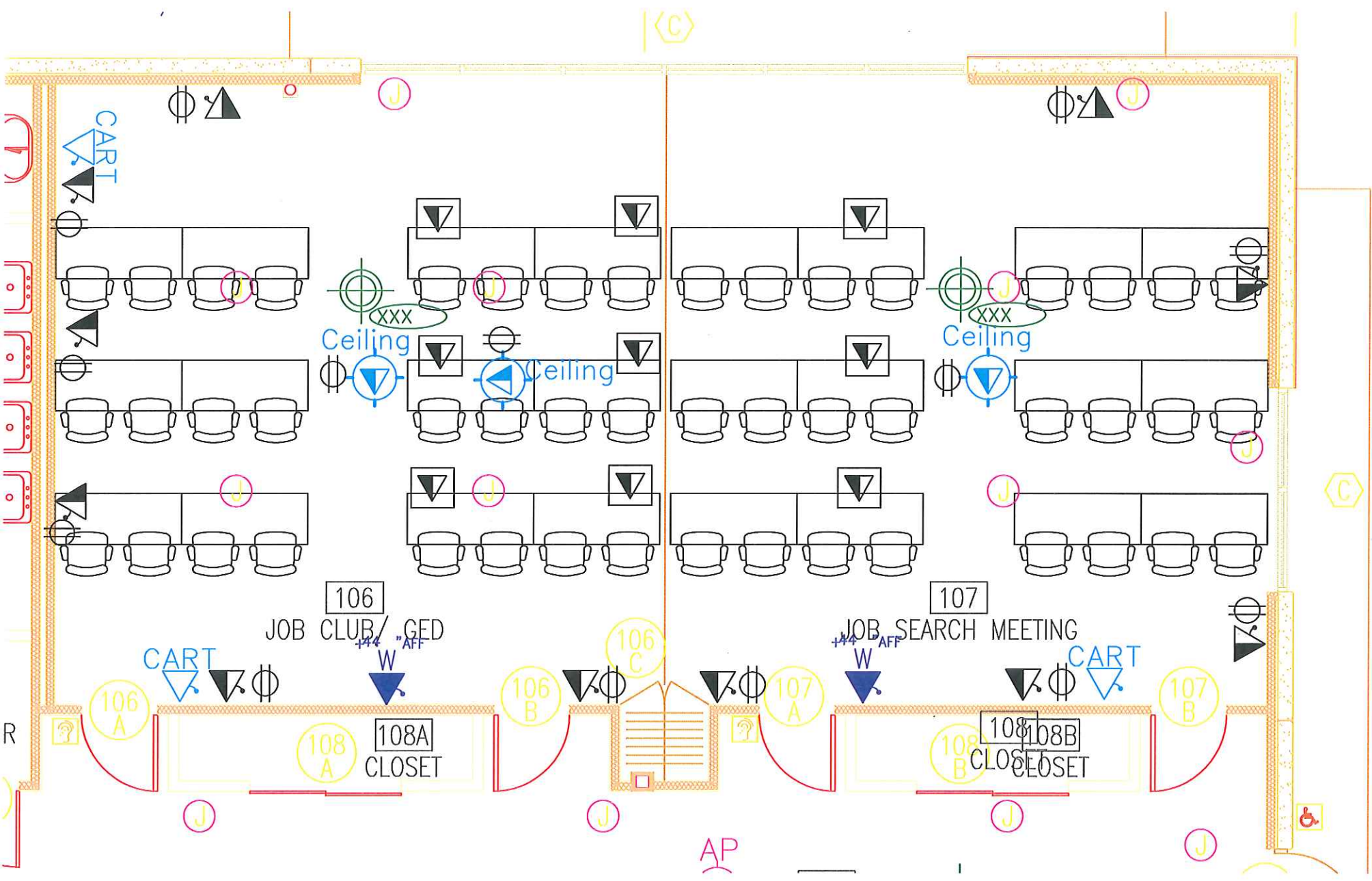
**APPROVED BY:**  
NICK LACOMMARE

**REQUESTED BY:**  
CARL GRONNING

**DRAWN BY:**  
NICK LACOMMARE

**CALL LOG No.:** 2284345-1  
**DATE:** 11/30/20

**SHEET:** 1 OF 1  
**SCALE:** NTS



Document "1"

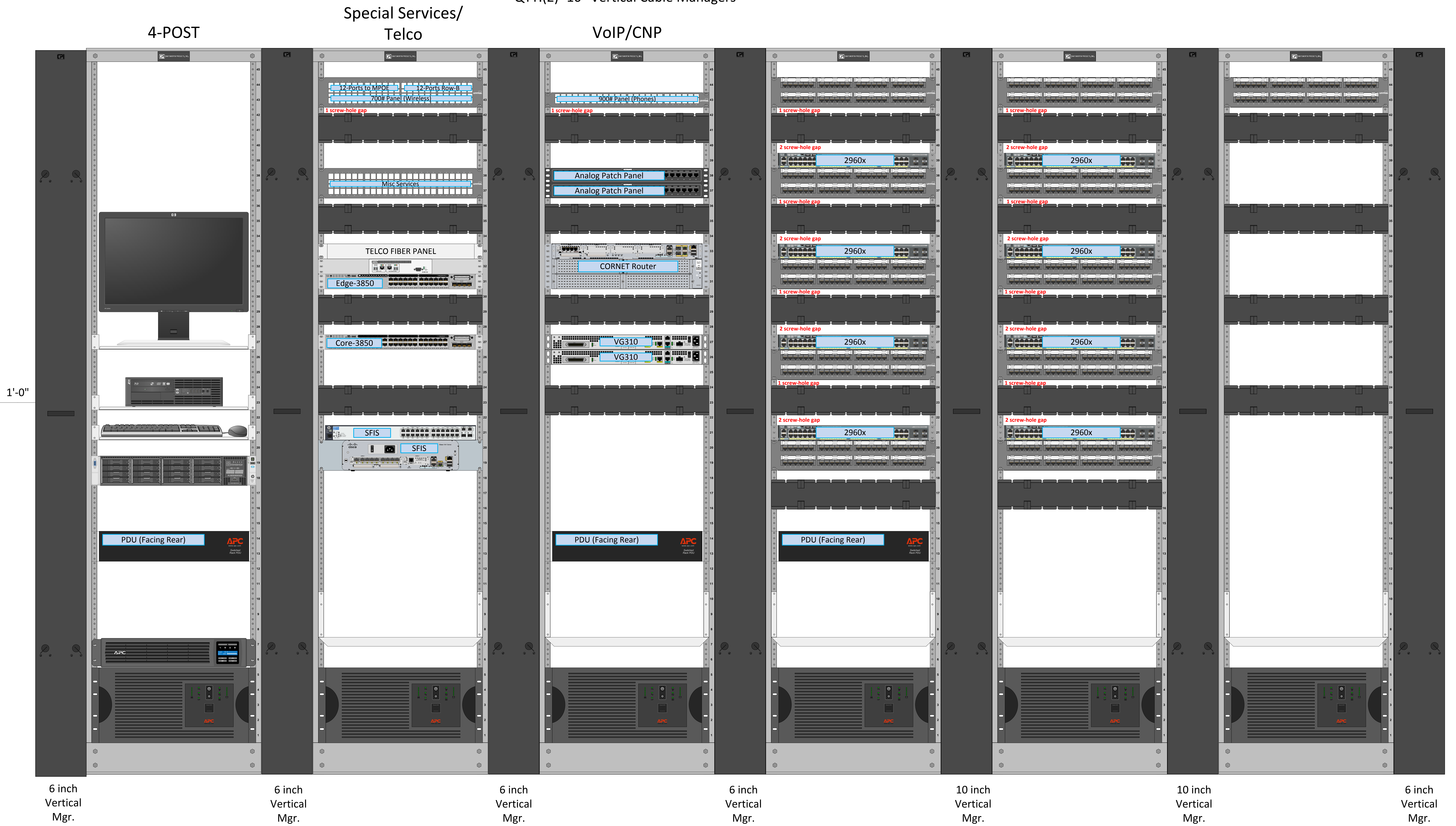


**\*NOTE\*** – Make all horizontal managers line up across the racks

Row A Equipment

- =====
- Qty.(1) – 7' Four Post Rack
- Qty.(5) - 7' Two Post Racks
- Qty.(5) – Two Piece Heavy Duty Shelves (for 2 post)
- Qty.(1) – Keyboard Shelf
- Qty.(2) – Four Post Rack Shelves
- Qty.(27) – Horizontal Cable Managers (5 will be on back side)
- Qty.(5) - 6" Vertical Cable Managers
- QTY.(2)- 10" Vertical Cable Managers

WALL





**\*NOTE\*** – Make all horizontal managers line up across the racks

Row B Equipment

- =====
- Qty.(1) – 7' Four Post Rack
- Qty.(5) - 7' Two Post Racks
- Qty.(5) – Two Piece Heavy Duty Shelves (for 2 post)
- Qty.(1) – Keyboard Shelf
- Qty.(2) – Four Post Rack Shelves
- Qty.(27) – Horizontal Cable Managers (5 will be on back side)
- Qty.(5) - 6" Vertical Cable Managers
- Qty.(2) -10" Vertical Cable Mangers



6 inch Vertical Mgr.

10 inch Vertical Mgr.

10 inch Vertical Mgr.

6 inch Vertical Mgr.

6 inch Vertical Mgr.

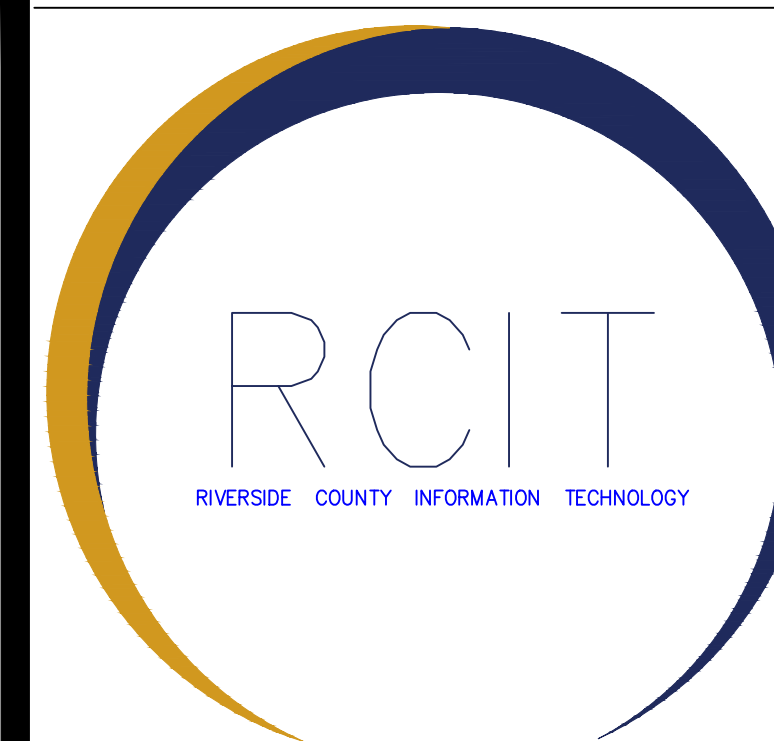
6 inch Vertical Mgr.

6 inch Vertical Mgr.

WALL

1'-0"





**Riverside  
County  
Information  
Technology  
Communications  
Bureau**

3450 14th Street  
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**Carl Gronning, RCDD**  
Telecommunications Engineer  
951.955-7816 voice  
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DPSS

65753 Pierson Blvd.  
Desert Hot Springs, CA

**GENERAL NOTES**

WHERE CONDUIT STUB-OUTS ARE LOCATED NEAR A CEILING SPACE THAT IS INACCESSIBLE, THE CONDUIT END SHALL TERMINATE IN AN ACCESSIBLE PORTION OF THE CEILING SPACE

**KEY NOTES**

**STANDARD HEIGHT WALL WORK AREA OUTLET - DUAL:** ELECTRICIAN TO INSTALL ONE (1) 1 INCH EMT CONDUIT (FLEX NOT ALLOWED) STUBBED INTO THE CEILING SPACE, 5S BOX, SINGLE-GANG REDUCER, REAM AND ADD BUSHING. HEIGHT SHALL BE APPROX. 18 INCHES TO BOTTOM OF OUTLET OR MATCH STANDARD ELECTRICAL HEIGHT. EXACT LOCATION TO BE VERIFIED WITH FURNITURE VENDOR.  
**RCIT CONTRACTOR TO INSTALL TWO (2) CATEGORY 6 DATA CABLES PER WORK AREA OUTLET.**

**ABOVE COUNTER WALL WORK AREA OUTLET - DUAL:** SAME AS ABOVE EXCEPT TELECOM OUTLET SHALL BE LOCATED ABOVE COUNTER, MATCH ELECTRIC OUTLET HEIGHT.

**SYSTEMS FURNITURE WORK AREA OUTLET - DUAL:** ALL CABLES WILL BE ROUTED INTO THE SYSTEMS FURNITURE VIA THE SYSTEMS FURNITURE IN-FEED.  
**RCIT CONTRACTOR TO INSTALL TWO (2) CATEGORY 6 DATA CABLE PER WORK AREA OUTLET.**

**STANDARD HEIGHT WALL WORK AREA OUTLET - QUAD:** ELECTRICIAN TO INSTALL ONE (1) 1 INCH EMT CONDUIT (FLEX NOT ALLOWED) STUBBED INTO THE CEILING SPACE, 5S BOX, SINGLE-GANG REDUCER, REAM AND ADD BUSHING. HEIGHT SHALL BE APPROX. 18 INCHES TO BOTTOM OF OUTLET OR MATCH STANDARD ELECTRICAL HEIGHT. EXACT LOCATION TO BE VERIFIED WITH FURNITURE VENDOR.  
**RCIT CONTRACTOR TO INSTALL FOUR (4) CATEGORY 6 DATA CABLES PER WORK AREA OUTLET.**

**ABOVE COUNTER WALL WORK AREA OUTLET - QUAD:** SAME AS ABOVE EXCEPT TELECOM OUTLET SHALL BE LOCATED ABOVE COUNTER, MATCH ELECTRIC OUTLET HEIGHT.

**SYSTEMS FURNITURE WORK AREA OUTLET - QUAD:** ALL CABLES WILL BE ROUTED INTO THE SYSTEMS FURNITURE VIA THE SYSTEMS FURNITURE IN-FEED.  
**RCIT CONTRACTOR TO INSTALL QUAD (4) CATEGORY 6 DATA CABLE PER WORK AREA OUTLET.**

**SECURITY WORK AREA OUTLET:** ELECTRICIAN TO INSTALL ONE (1) 1 INCH EMT CONDUIT (FLEX NOT ALLOWED) STUBBED INTO THE CEILING SPACE 5S BOX, SINGLE-GANG REDUCER, REAM AND ADD BUSHING. HEIGHT SHALL BE APPROX. 18 INCHES TO BOTTOM OF OUTLET OR MATCH STANDARD ELECTRICAL HEIGHT. EXACT LOCATION TO BE VERIFIED WITH THE SECURITY ELECTRONICS VENDOR.  
**RCIT CONTRACTOR TO INSTALL FOUR (4) CATEGORY 6 DATA CABLES PER WORK AREA OUTLET.**

**WALL PHONE WORK AREA OUTLET:** ELECTRICIAN TO INSTALL ONE (1) 1 INCH EMT CONDUIT (FLEX NOT ALLOWED) STUBBED INTO THE CEILING SPACE 5S BOX, SINGLE-GANG REDUCER, REAM AND ADD BUSHING. HEIGHT SHALL BE @ 44" A.F.F TO CENTER OF THE BOX.  
**RCIT CONTRACTOR TO INSTALL ONE (1) CATEGORY 6 DATA CABLE PER WORK AREA OUTLET.**

**FLOOR BOXES WORK AREA OUTLET:** ELECTRICIAN TO INSTALL WIREMOLD P/N RFB2-06 OR EQUIVALENT POWER & DATA FLOOR BOX. COLOR TO BE SPECIFIED BY ARCHITECT. INSTALL (1) 1 INCH EMT CONDUIT WITH PULL STRING FOR VOICE AND DATA CONNECTIVITY. CONDUIT SHALL BE CONTINUOUS TO THE NEAREST WALL AND STUBBED UP INTO THE CEILING SPACE OF THE FLOOR AS BEING SERVED. CONDUIT SHALL HAVE NO MORE THAN TWO (2) 90 DEGREE BENDS. REAM ALL CONDUIT ENDS AND FIT WITH INSULATED BUSHINGS. ALL BOXES SHALL BE CONFIGURED FOR DUAL SERVICE WHICH WILL REQUIRE ACCESSORY ITEMS FOR SEPARATION OF POWER AND DATA. ALL BOXES SHALL INCLUDE (1) WIREMOLD P/N RFB20P OR EQUIVALENT INTERNAL DUPLEX RECEPTACLE FOR POWER AND (1) WIREMOLD P/N RFB20T OR EQUIVALENT FOR COMMUNICATIONS. FLOOR BOXES MAY NOT BE CONNECTED TOGETHER OR DAISY CHAINED FOR ANY REASON. EXACT LOCATION TO BE VERIFIED WITH FURNITURE VENDOR.  
**RCIT CONTRACTOR TO INSTALL TWO (2) CATEGORY 6 DATA CABLES PER WORK AREA OUTLET.**

**SYSTEMS FURNITURE IN-FEED:** CEILING IN-FEED UTILITY COLUMN PROVIDED BY THE SYSTEMS FURNITURE VENDOR OR THE ELECTRICIAN IS TO INSTALL ONE (1) 1.25 INCH EMT CONDUIT (FLEX NOT ALLOWED) STUBBED INTO THE CEILING SPACE, 5S BOX, DUAL-GANG REDUCER, REAM AND ADD BUSHING. HEIGHT SHALL BE APPROX. 18 INCHES TO BOTTOM OF OUTLET OR MATCH STANDARD ELECTRICAL HEIGHT. ONE (1) SYSTEMS FURNITURE IN-FEED IS REQUIRED FOR EVERY 4 SYSTEM FURNITURE LOCATIONS OR A TOTAL OF 12 CABLES. ADD SUFFICIENT QUANTITIES TO ACCOMMODATE THIS RATIO. EXACT LOCATION TO BE VERIFIED WITH FURNITURE VENDOR.

**AUDIO VISUAL WORK AREA OUTLET:** ELECTRICIAN TO INSTALL ONE (1) SINGLE-GANG MPLS MOUNTING BRACKET. HEIGHT SHALL BE APPROX. 18 INCHES TO BOTTOM OF OUTLET OR MATCH STANDARD ELECTRICAL HEIGHT. PROVIDE ONE (1) 2 INCH KNOCK-OUT ON THE TOP STUD OF THE WALL. ADD NON-METALIC SNAP IN BUSHING AND PULL STRING.  
**RCIT CONTRACTOR TO INSTALL ONE (1) HDMI AND ONE (1) VGA CABLE CONNECTING TO THE OVERHEAD PROJECTOR.**

**TELEVISION WORK AREA OUTLET:** ELECTRICIAN TO INSTALL TWO (2) 1 INCH EMT CONDUIT (FLEX NOT ALLOWED) STUBBED INTO THE CEILING SPACE, 5S BOX, SINGLE-GANG REDUCER, REAM AND ADD BUSHING. HEIGHT AND EXACT LOCATION TO BE NOTED BY ARCHITECT.  
**RCIT CONTRACTOR TO INSTALL FOUR (4) CATEGORY 6 SHIELDED DATA CABLES PER WORK AREA OUTLET.**

**DVD WORK AREA OUTLET:** ELECTRICIAN TO INSTALL ONE (1) SINGLE-GANG MPLS MOUNTING BRACKET. HEIGHT SHALL BE APPROX. 18 INCHES TO BOTTOM OF OUTLET OR MATCH STANDARD ELECTRICAL HEIGHT. PROVIDE ONE (1) 2 INCH KNOCK-OUT ON THE TOP STUD OF THE WALL. ADD NON-METALIC SNAP IN BUSHING AND PULL STRING.

**CEILING WORK AREA OUTLET:** RCIT CONTRACTOR TO INSTALL TWO (2) CATEGORY 6 DATA CABLE PER WORK AREA OUTLET. TERMINATED ON A FLUSH MOUNTED FACEPLATE. LEAVE 15 FOOT SLACK LOOP IN CEILING.

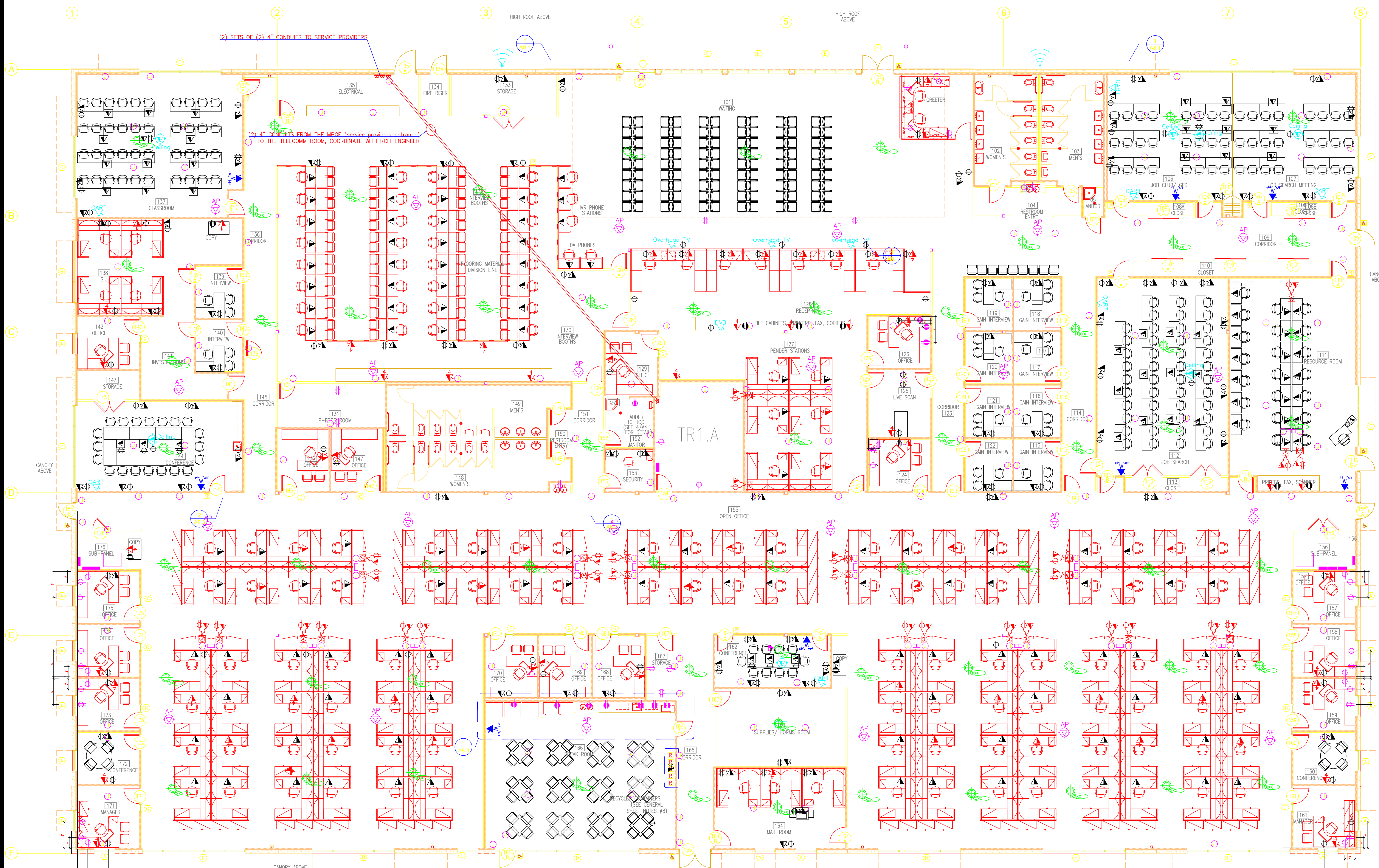
**AUDIO VISUAL CART WORK AREA OUTLET:** ELECTRICIAN TO INSTALL ONE (1) FSR WALL BOX (P/N WB-X2-GNG-B) AND COVER (P/N WB-X2-CVR-WHITE). HEIGHT SHALL BE APPROX. 18 INCHES TO BOTTOM OF OUTLET OR MATCH STANDARD ELECTRICAL HEIGHT. INSTALL ONE (1) 2 INCH CONDUIT FROM THE BOX TO THE DROP CEILING ABOVE.  
**RCIT CONTRACTOR TO INSTALL:** TWO (2) CATEGORY 6 DATA CABLES (STANDARD WORK AREA OUTLET) CONNECTING TO THE TELECOM ROOM. ONE (1) HDMI, ONE (1) CATEGORY 6 AND ONE (1) VGA CABLE CONNECTING TO THE OVERHEAD PROJECTOR.

**AP WORK AREA OUTLET:** RCIT CONTRACTOR TO INSTALL ONE (1) CATEGORY 6A DATA CABLE PER WORK AREA OUTLET. TERMINATED ON 2 PORT SURFACE MOUNT BOX ABOVE THE CEILING. LEAVE 15 FOOT SLACK LOOP IN CEILING.

**INDOOR PAGING SPEAKER:** RCIT CONTRACTOR TO INSTALL 18 AWG/2 CONDUCTOR PAGING CABLE AND PAGING SPEAKER.

**OUTDOOR PAGING HORN:** ELECTRICIAN TO INSTALL ONE (1) 1 INCH EMT CONDUIT (FLEX NOT ALLOWED) STUBBED INTO THE CEILING SPACE, 2 GANG WEATHER RATED BOX AND COVER, REAM AND ADD BUSHING. HEIGHT AND EXACT LOCATION TO BE NOTED BY ARCHITECT.  
**RCIT CONTRACTOR TO INSTALL 18 AWG/2 CONDUCTOR PAGING CABLE AND PAGING HORN.**

**PAGING ATTENUATOR WORK AREA OUTLET:** ELECTRICIAN TO INSTALL ONE (1) 1 INCH EMT CONDUIT (FLEX NOT ALLOWED) STUBBED INTO THE CEILING SPACE 5S BOX, SINGLE-GANG REDUCER, REAM AND ADD BUSHING. HEIGHT SHALL BE @ 44" A.F.F TO CENTER OF THE BOX.



DATE:  
**December 14, 2015**  
PROJECT:  
#  
REQUESTED BY:  
#  
FIELD VERIFICATION BY:  
#  
DRAWING UPDATED BY: :  
**Carl Gronning**  
SCALE:  
**# NOT TO SCALE**

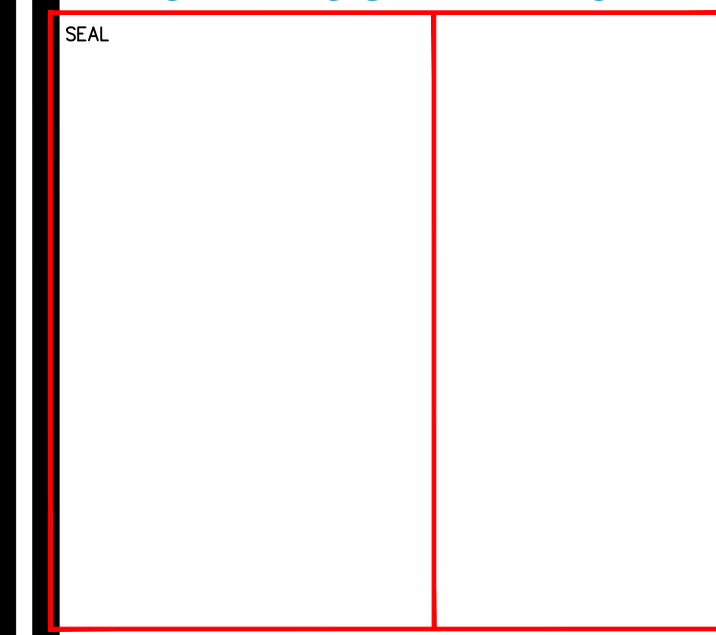
SHEET TITLE:  
**FLOOR  
PLAN**

Document F

SHEET OF

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REVISION	DATE	DESCRIPTION

PROJECT NO:	
CAD DWG FILE:	
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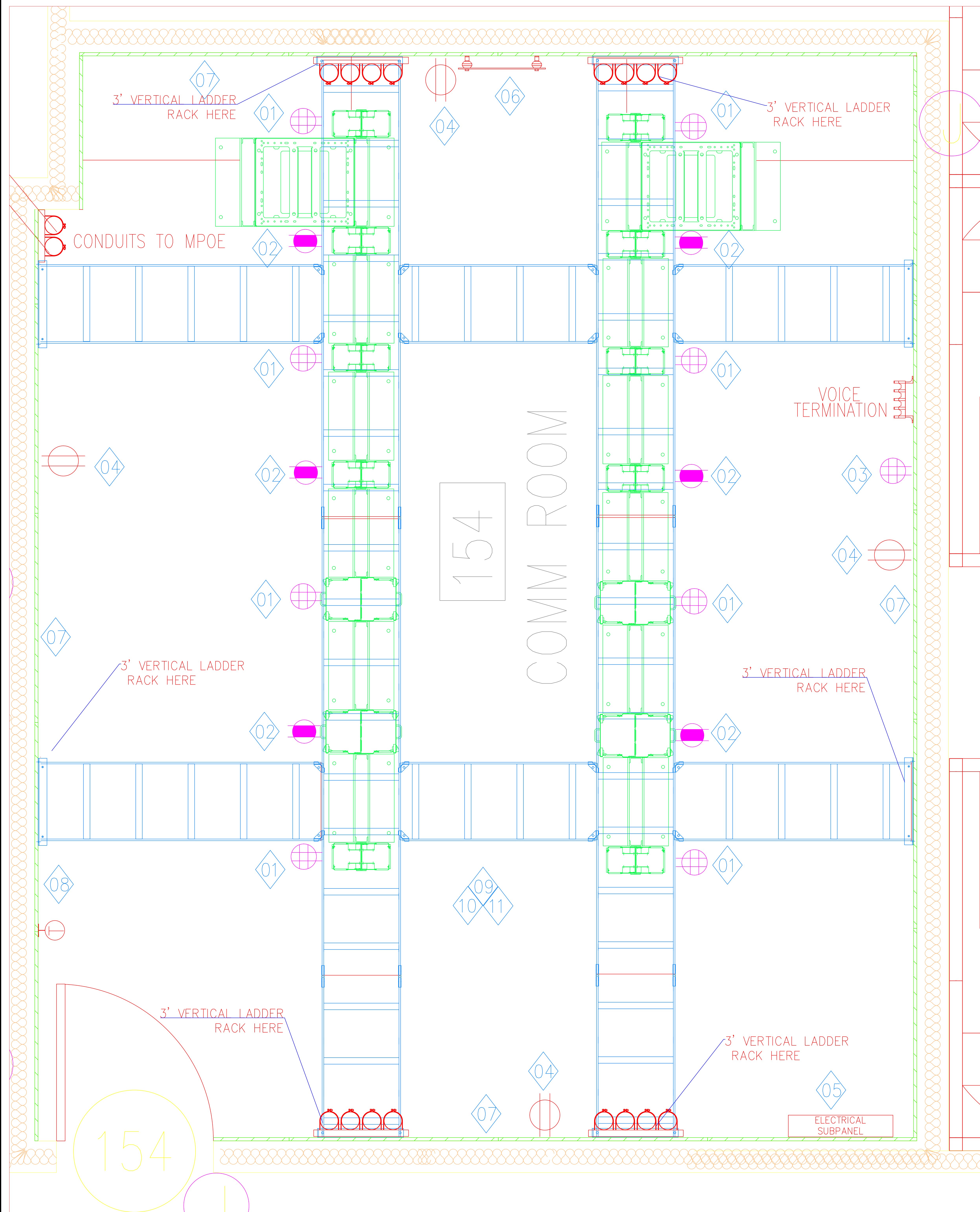
SHEET TITLE:

1ST FLOOR TELECOMM EQUIPMENT ROOM  
KEY NOTES:

- INSTALL (1) DEDICATED 120 VAC, 20 AMP EMERGENCY CIRCUIT WITH ISOLATED GROUND. **CIRCUIT WILL HAVE ITS OWN SEPARATE HOT, NEUTRAL, AND GROUND WIRES ALL THE WAY BACK TO THE POWER DISTRIBUTION PANEL.** TERMINATE EACH CIRCUIT ON A DOUBLE DUPLEX (FOUR-PLEX) OUTLET IN A SURFACE MOUNTED 4S BOX ATTACHED TO THE CABLE RUNWAY. EACH DEDICATED CIRCUIT MUST BE CLEARLY LABELED WITH A MECHANICAL LABELER DEVICE USING WHITE TAPE WITH BLACK LETTERING (HAND WRITTEN IS NOT PERMITTED) ON THE ELECTRICAL OUTLET COVER AND SUB-PANEL. REFER TO ATTACHED DRAWING FOR EXACT LOCATION.
- INSTALL (1) DEDICATED 208 VAC, 30 AMP EMERGENCY CIRCUIT TERMINATED IN A 4S BOX ATTACHED TO THE CABLE RUNWAY. **CIRCUIT WILL HAVE ITS OWN SEPARATE HOT, NEUTRAL, AND GROUND WIRES ALL THE WAY BACK TO THE POWER DISTRIBUTION PANEL.** TERMINATE CIRCUIT ONTO A NEMA L6-30R TYPE OUTLET. CIRCUIT WILL BE CLEARLY LABELED WITH A MECHANICAL LABELER DEVICE USING WHITE TAPE WITH BLACK LETTERING (HAND WRITTEN IS NOT PERMITTED) ON THE ELECTRICAL OUTLET AND SUB-PANEL. REFER TO ATTACHED DRAWING FOR EXACT LOCATION.
- INSTALL (1) DEDICATED 120 VAC, 20 AMP EMERGENCY CIRCUIT WITH ISOLATED GROUND. **CIRCUIT WILL HAVE ITS OWN SEPARATE HOT, NEUTRAL, AND GROUND WIRES ALL THE WAY BACK TO THE POWER DISTRIBUTION PANEL.** TERMINATE EACH CIRCUIT ON A DOUBLE DUPLEX (FOUR-PLEX) OUTLET, AT A HEIGHT OF 48" AFF. EACH DEDICATED CIRCUIT MUST BE CLEARLY LABELED WITH A MECHANICAL LABELER DEVICE USING WHITE TAPE WITH BLACK LETTERING (HAND WRITTEN IS NOT PERMITTED) ON THE ELECTRICAL OUTLET COVER AND SUB-PANEL. REFER TO ATTACHED DRAWING FOR EXACT LOCATION.
- INSTALL GENERAL PURPOSE/CONVENIENCE 120 VAC, 20 AMP ELECTRICAL DUPLEX OUTLETS AT STANDARD HEIGHT AS REQUIRED BY CODE OR ON EACH WALL.
- INSTALL RECESSED-MOUNTED CIRCUIT BREAKER SUB PANEL. ONLY TELECOM ROOM ELECTRICAL CIRCUITS WILL TERMINATE IN THIS SUB PANEL.
- INSTALL (1) 3/0 AWG STRANDED GROUND WIRE FROM THE BUILDING GROUNDING ELECTRODE SOURCE TO THE TELECOMMUNICATIONS MAIN GROUNDING BUSBAR (TMGB) IN THE TELECOMMUNICATIONS ROOM. THE BUSS BAR WILL BE PROVIDED BY COUNTY INFORMATION TECHNOLOGY AND WILL BE MOUNTED TO THE WALL IN THE TELECOMMUNICATIONS ROOM BY THE CABLING CONTRACTOR. THE ELECTRICIAN IS RESPONSIBLE TO BOND THE GROUND WIRE TO THE BUSBAR.
- PLYWOOD: 3/4" AC GRADE, VOID FREE, FIRE RATED PLYWOOD ON ALL WALLS AS INDICATED, (8 FOOT HIGH SHEETS). THE PLYWOOD SHOULD BE INSTALLED WITH THE GRADE C-SIDE FACING THE WALL. THE PLYWOOD SHALL BE INSTALLED AT 12 INCHES AFF AND 8 FEET UPWARDS FROM THERE, USE FLUSH HARDWARE AND SUPPORTS TO MOUNT THE PLYWOOD. ONE COAT OF PRIMER AND TWO COATS OF WHITE FIRE RESISTANT PAINT.
- INSTALL (1) RECESSED 5S BOX WITH SINGLE GANG REDUCER, 1 INCH EMT STUBBED INTO CEILING SPACE WITH PLASTIC BUSHING AT 48 INCHES AFF TO CENTER OF 5S BOX
- INSTALL STANDALONE ENVIRONMENTAL CONTROL SYSTEM. THE ENVIRONMENTAL CONTROL SYSTEM SHOULD BE ABLE TO MAINTAIN A TEMPERATURE BETWEEN 18 DEGREES CELSIUS AND 24 DEGREES CELSIUS (64 DEGREES FAHRENHEIT AND 75 DEGREES FAHRENHEIT) AT ALL TIMES (24 HOURS PER DAY, 365 DAYS PER YEAR). SENSORS AND CONTROLS MUST BE LOCATED IN THE EQUIPMENT ROOM PLACED 5 FT. AFF. REFRIGERANT AND CONDENSATION LINES MUST NOT BE PLACED ABOVE ANY PORTION OF THE COMPUTER RACKS OR DESIGNATED TELEPHONE, RADIO, PAGING, OR ALARM SYSTEMS. ESTIMATED HEAT LOAD FOR THE TELECOM ROOM/COMPUTER NETWORK ROOM- TR1.A IS 72,000 BTU'S. ESTIMATED HEAT LOAD FOR THE TELEPHONE ROOM/MPOE IS 15,000 BTU'S. ESTIMATED HEAT LOAD FOR THE TELECOMM ROOM TR1.B IS 12,000 BTU'S.
- INSTALL 4-BULB, 48 INCH LONG LIGHT FIXTURES (or equivalent). FIXTURES SHOULD NOT BE INSTALLED DIRECTLY ABOVE CABLE LADDERS. ROOM LIGHTING SHALL HAVE A MINIMUM OF 500 LUX (50 FOOT CANDLES) MEASURED 3 FEET AFF. DO NOT USE DIFFUSER LIGHT FIXTURE GRILLS. POWER FROM LIGHTING SHOULD NOT COME FROM THE ELECTRICAL PANEL INSIDE THE TELECOMMUNICATIONS ROOM.
- COVER FLOOR WITH LIGHT COLORED VCT TILE, INSTALLED ACCORDING TO MANUFACTURES SPECIFICATIONS. MINIMUM LOAD BEARING OF 100 LB/SQ-FT. RAISED TILE FLOORING IS ACCEPTABLE AS IN TR1.A.

ALL COMMUNICATIONS RACKS AND CABLE RUNWAY WILL BE INSTALLED BY THE RCIT CABLING CONTRACTOR.

COORDINATE THE PLACEMENT OF ALL CORING, CONDUIT, SLEEVES AND ELECTRICAL OUTLETS WITH RCIT ENGINEERING.



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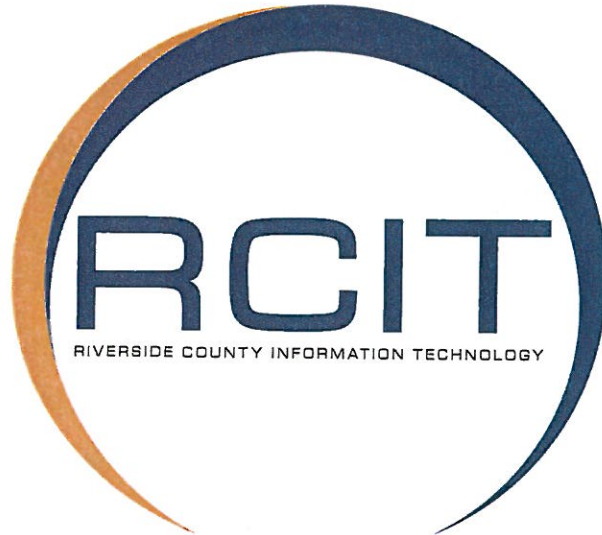


**ATTACHMENT B**

**RIVERSIDE COUNTY INFORMATION TECHNOLOGY**

**DPSS – Desert Hot Springs  
Structured Cabling and AV Project**

**65753 Pierson Blvd., Desert Hot Springs, CA 92240**



**GENERAL CONDITIONS OF**  
**THE STANDARD FORM CONSTRUCTION CONTRACT**  
**BETWEEN COUNTY AND CONTRACTOR**

**(LONG FORM)**

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**GENERAL CONDITIONS OF**  
**THE STANDARD FORM CONSTRUCTION CONTRACT**  
**BETWEEN COUNTY AND CONTRACTOR**

(LONG FORM)

**ARTICLE 1**  
**GENERAL PROVISIONS**

**1.1 DEFINITIONS**

1.1.1 **Acceptance.** "Acceptance" means the point that the Project is formally accepted by the Board of Supervisors and a Notice of Completion is recorded by County.

1.1.2 **Act of God.** "Act of God" means earthquake, natural flood, tornado or other unusually severe natural or weather phenomenon occurring at the Site and causing Delay to performance of the Work at the Site; provided, however, that precipitation and winds shall not be an Act of God unless it exceeds in any given month the 10-year average of monthly levels as established by the National Oceanic and Atmospheric Administration ("NOAA") according to NOAA's records of measurable precipitation and winds taken at NOAA's recording station located within the Riverside County basin area that is nearest to the Site.

1.1.3 **Addendum.** "Addendum" means written or graphic information (including, without limitation, Drawings or Specifications) issued prior to the Bid Closing Deadline, which modifies or interprets the Bidding Documents by additions, deletions, clarifications or corrections.

1.1.4 **Admitted Surety.** "Admitted Surety" means a surety insurer that is duly certified pursuant to California Insurance Code §995.120 to transact business as a surety in the State of California.

1.1.5 **Allowable Costs.** "Allowable Costs" means those costs listed in Paragraph 7.7.3, below, that are used in calculating Contract Adjustments to the Contract Price.

1.1.6 **Allowable Markups.** "Allowable Markups" means those percentage markups listed in Paragraph 7.7.5, below, used in calculating Contract Adjustments to the Contract Price.

1.1.7 **Alternate.** "Alternate" means a proposed alternative described in the Bidding Documents adding to, or deleting from, the Bidding Documents a particular material, system, product or method of construction.

1.1.8 **Applicable Laws.** "Applicable Laws" means all statutes, ordinances, rules, regulations, policies and guidelines enacted by Governmental Authorities (including, without limitation, Environmental Laws and Disability Laws), codes adopted or promulgated by Governmental Authorities (including, without limitation, building and health and safety codes), lawful orders of Governmental Authorities and common law, including, but not limited to, principles of equity applied by the courts of the State of California, which are in effect at the time the Work is performed.

1.1.9 **Application for Payment.** "Application for Payment" means Contractor's itemized application for Progress Payment or Final Payment prepared, submitted and substantiated in accordance with the requirements of the Contract Documents.

1.1.10 **Architect.** "Architect" means the design professional retained by County that is primarily responsible for the preparation of the Drawings and Specifications for the Project.

1.1.11 **Assistant CEO/EDA.** "Assistant CEO/EDA" means the Assistant CEO for the Economic Development Agency, or his/her designee.

1.1.12 **Award.** "Award" means either (1) a minute order duly adopted by the Board of Supervisors approving County's entering into the Construction Contract with Contractor or (2) execution of the Construction Contract by the Clerk of the Board.

1.1.13 **Base Bid.** "Base Bid" means the sum of money stated in a Bid for which the Bidder proposes to perform the Work, exclusive of adjustments for Alternates.

1.1.14 **Bid.** "Bid" means the completed and signed Bid Form and other Bid Submittals submitted by a Bidder to County in response to the Notice Inviting Bids and in accordance with the Instructions to Bidders.

1.1.15 **Bid Amount.** "Bid Amount" means the dollar amount that is used as the basis for determining which Bidder has submitted the lowest Bid price for purposes of Award pursuant to the County's chosen method of Award set forth in Paragraph 4.5.3 of the Instructions to Bidders.

1.1.16 **Bid Bond.** "Bid Bond" means alternative form of Bid Security submitted by a Bidder that consists of a surety bond issued by a Surety.

1.1.17 **Bid Closing Deadline.** "Bid Closing Deadline" means the deadline (date and time) for receipt of Bids by County that is stated in the Bidding Documents, as adjusted by Addendum.

1.1.18 **Bid Form.** "Bid Form" means the form prescribed by the Bidding Documents to be completed and signed by a Bidder showing the dollar amount(s) of its Bid.

1.1.19 **Bid Security.** "Bid Security" means a deposit of cash, certified or cashier's check or bond submitted by a Bidder in accordance with the Bidding Documents guaranteeing that if Award is made to the Bidder, the Bidder will enter into the Construction Contract and furnish the Performance Bond and Payment Bond and other Post-Award Submittals.

1.1.20 **Bid Submittal.** "Bid Submittal" means a document that Bidder is required by the Bidding Documents to submit with or as part of its Bid.

1.1.21 **Bidder.** "Bidder" means a person or entity submitting a Bid for Award of the Construction Contract.

1.1.22 **Bidding Documents.** "Bidding Documents" means the following collection of documents prepared and issued by County relating to the Project:

- .1 Notice Inviting Bids;
- .2 Instructions to Bidders;
- .3 Bid Form;
- .4 Standard Form of Construction Contract Between County and Contractor (unsigned);
- .5 General Conditions to Standard Form of Construction Contract Between County and Contractor (Long Form);
- .6 Specifications;
- .7 Plans and Drawings;
- .8 Addenda;
- .9 Reference Documents;
- .10 Safety Program; and

.11 those documents, or those portions or provisions of documents, that, although not listed in Subparagraph 1.1.22.2 through Subparagraph 1.1.22.10, above, are expressly cross-referenced therein or attached thereto, including, without limitation, all documents submitted by Contractor as part of its Bid or Post-Award Submittals.

1.1.23 **Board of Supervisors.** "Board of Supervisors" means the Board of Supervisors for the County of Riverside.

1.1.24 **Change.** "Change" means a modification, change, addition, substitution or deletion in the Work or in Contractor's means, methods, manner, time or sequence of performing the Work arising from any cause or circumstances, including, without limitation, either directly at the request of County or constructively by reason of other circumstances. Use of the term "Change," in any context, in the Contract Documents shall not be interpreted as implying that Contractor is entitled to a Contract Adjustment on any basis other than as permitted by the terms of the Contract Documents for Compensable Change, Deleted Work or Compensable Delay.

1.1.25 **Change Order.** "Change Order" means a written instrument, signed in accordance with the requirements of the General Conditions, setting forth the agreement of County and Contractor on the terms of a Contract Adjustment.

1.1.26 **Change Order Request.** "Change Order Request" means Contractor's written request for a Contract Adjustment pursuant to Paragraph 7.6.2, below.

1.1.27 **Claim.** "Claim" means a written demand or assertion by Contractor seeking, as a matter of right, an interpretation of contract, payment of money, recovery of damages or other relief. A Claim does not include the following: (1) tort claims for personal injury or death; (2) stop payment notice claims; (3) a determination of the right of County to specific performance or injunctive relief to compel performance; (4) a determination of the right of County to suspend, revoke or limit the Contractor's Prequalification status or rating or to debar Contractor from bidding or contracting with County; or (5) a determination of the right of County under Applicable Laws to terminate the Construction Contract and/or recovery of penalties imposed upon Contractor for violation of statutory obligations under Public Contract Code §4100 *et seq.*

1.1.28 **Close-Out Documents.** "Close-Out Documents" means all Record Documents, warranties, guarantees, technical information, operations manuals, replacement parts, excess and attic stock and other documents (including, without limitation, electronic versions and hard copies) and things required to be submitted by Contractor under the Contract Documents as a condition of Final Completion or Final Payment.

1.1.29 **Compensable Change.** "Compensable Change" means circumstances involving the performance of Extra Work:

.1 that are the result of

(1) Differing Site Conditions,

(2) amendments or additions to Applicable Laws, which amendments or additions are enacted after the Bid Closing Deadline,

(3) a Change requested by County in accordance with the conditions of authorization applicable to Compensable Changes set forth in Article 7, below, or

(4) other circumstances involving a Change in the Work for which Contractor is given under the Contract Documents a specific and express right to a Contract Adjustment to the Contract Price;

.2 that are not caused, in whole or in part, by an act or omission of Contractor or a Subcontractor, of any Tier, constituting negligence, willful misconduct, or violation of an Applicable Law, or by a failure of Contractor of a Subcontractor, of any Tier, to comply with the Contract Documents;

.3 for which a Contract Adjustment is neither prohibited by nor waived under the terms of the Contract Documents; and

.4 that if performed would require Contractor to incur additional and unforeseeable Allowable Costs that would not have been required to be incurred in the absence of such circumstances.

1.1.30 **Compensable Delay.** "Compensable Delay" means a Delay to the critical path of activities affecting Contractor's ability to achieve Substantial Completion of the entirety of the Work within the Contract Time:

.1 that is the result of

(a) a Compensable Change,

(b) the active negligence of County, Architect, a County Consultant or a Separate Contractor,

(c) a breach by County of an obligation under the Contract Documents, or

(d) other circumstances involving Delay for which Contractor is given under the Contract Documents a specific and express right to a Contract Adjustment adjusting the Contract Price;

.2 that is not caused, in whole or in part, by an act or omission of Contractor or a Subcontractor, of any Tier, constituting negligence, willful misconduct, or a violation of an Applicable Law, or a failure by Contractor or any Subcontractor, of any Tier, to comply with the Contract Documents; and

.3 for which a Contract Adjustment to the Contract Time is neither prohibited by nor waived under the terms of the Contract Documents.

1.1.31 **Construction Change Directive.** "Construction Change Directive" means a written instrument signed in accordance with the requirements of Article 7, below, that: (1) directs the performance of a Change that does not involve a Contract Adjustment; (2) establishes a mutually agreed basis for compensation to Contractor for a Compensable Change under circumstances where performance of the Compensable Change needs to proceed in advance of the County performing a full evaluation of the Contractor's rights relative to a Contract Adjustment; or (3) directs performance of Work or a Change with respect to which there exists a dispute or question regarding the terms of a Contract Adjustment.

1.1.32 **Construction Contract.** "Construction Contract" means the written form of Standard Form of Construction Contract Between County and Contractor included in the Bidding Documents signed by County and Contractor.

1.1.33 **Construction Schedule.** "Construction Schedule" means the detailed, critical path schedule prepared by Contractor in accordance with the requirements of the Contract Documents showing Contractor's plan for performance of the Work within the Contract Time.

1.1.34 **Contract Adjustment.** "Contract Adjustment" means an adjustment, additive or deductive, to the Contract Price or Contract Time that is permitted by the Contract Documents due to circumstances constituting a Compensable Change, Compensable Delay or Deleted Work.

1.1.35 **Contract Documents.** "Contract Documents" means the following collection of documents:

.1 Construction Contract;

.2 Addenda;

.3 General Conditions;

- .4 Specifications;
- .5 Plans and Drawings;
- .6 Modifications;
- .7 Reference Documents;
- .8 Change Orders;
- .9 Unilateral Change Orders;
- .10 Construction Change Directives;
- .11 Safety Program;

.12 other documents that comprise exhibits, attachments or riders to the documents listed in preceding Subparagraph 1.1.35.1 through Subparagraph 1.1.35.11, above;

- .13 executed Declaration of Sufficiency of Funds;
- .14 executed Non-Collusion Declaration; and

.15 if the Bidding Documents limit bidding to Prequalified Bidders, those written representations, obligations or responsibilities made, acknowledged or assumed by the Bidder as part of the applicable Prequalification conducted by County, including, without limitation, any continuing obligations assumed by Contractor to disclose false or misleading information, report changes in ownership or management and comply with minimum safety requirements.

1.1.36 **Contract Price.** “Contract Price” means the dollar amount set forth in the Construction Contract as the total compensation payable by County to Contractor for complete performance by Contractor in accordance with the Contract Documents of the Work and other obligations assumed by Contractor under the Contract Documents.

1.1.37 **Contract Time.** “Contract Time” means the total number of Days set forth in the Construction Contract within which Contractor is obligated to achieve Substantial Completion and/or Final Completion of the Work, as extended or shortened by Contract Adjustments.

1.1.38 **Contractor.** “Contractor” means the person or entity identified by County as the Bidder receiving Award of the Construction Contract.

1.1.39 **Contractor Amount.** “Contractor Amount” means the component amount calculated on behalf of Contractor pursuant to Paragraph 15.1.5, below, that is used to determine the total net amount payable to Contractor or County in the event of a partial or full termination or discontinuance of the Work.

1.1.40 **Contractor’s Own Expense.** “Contractor’s Own Expense” means that Contractor agrees to assume sole responsibility to pay and be responsible for any resulting or associated Loss and Delay, without any Contract Adjustment and without any other form of compensation or reimbursement, of any kind, by County.

1.1.41 **County.** “County” means the County of Riverside, a political subdivision of the State of California.

1.1.42 **County Amount.** “County Amount” means the component amount calculated on behalf of County pursuant to Paragraph 15.1.5, below, that is used to determine the total net amount payable to Contractor or County in the event of a partial or full termination or discontinuance of the Work.