

FORM APPROVED COUNTY COUNSEL
 BY: GREGORY P. PRIAMOS DATE: 10/27/15

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

673



FROM: Economic Development Agency

SUBMITTAL DATE:
 October 22, 2015

SUBJECT: First Amendment to Lease, Department of Public Social Services, Moreno Valley, Tenant improvements, 11 Years, CEQA Finding of Nothing Further is Required, District 5, [\$748,059], 59.63% Federal; 38.02% State, 2.35% County DPSS Budget

RECOMMENDED MOTION: That the Board of Supervisors:

1. Find that project will not have a significant effect on the environment, nothing further is required because all potentially significant effects of the project have been adequately analyzed in a Negative Declaration adopted by this Board on August 5, 2014;
2. Approve the attached First Amendment to Lease and authorize the Chairman of the Board to execute the same on behalf of the County; and
3. Direct the Clerk of the Board to file the Notice of Determination with the County Clerk within 5 days of approval by the Board.

BACKGROUND:

Summary
 (Commences on Page 2)

FISCAL PROCEDURES APPROVED
 PAUL ANGULO, CPA, AUDITOR-CONTROLLER
 BY: Susana Garcia-Bocanegra 10/27/15

Robert Field
 Robert Field
 Assistant County Executive Officer/EDA

| FINANCIAL DATA | Current Fiscal Year: | Next Fiscal Year: | Total Cost: | Ongoing Cost: | POLICY/CONSENT (per Exec. Office) |
|--|----------------------|-------------------|--------------|---------------------------------------|---|
| COST | \$ (785,910) | \$ 5,358 | \$ (748,059) | \$ 0 | Consent <input type="checkbox"/> Policy <input checked="" type="checkbox"/> |
| NET COUNTY COST | \$ (18,469) | \$ 126 | \$ (17,579) | \$ 0 | |
| SOURCE OF FUNDS: 59.63% Federal, 38.02% State, 2.35% County DPSS Budget | | | | Budget Adjustment: No | |
| | | | | For Fiscal Year: 2015/16-25/26 | |

C.E.O. RECOMMENDATION:

APPROVE
 BY: Rohini Dasika
 Rohini Dasika

County Executive Office Signature

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Ashley, seconded by Supervisor Benoit and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes: Jeffries, Tavaglione, Washington, Benoit and Ashley
 Nays: None
 Absent: None
 Date: November 3, 2015
 xc: EDA, Recorder

Kecia Harper-Ihem
 Clerk of the Board
 By: Kecia Harper-Ihem
 Deputy

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

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

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

Economic Development Agency

FORM 11: First Amendment to Lease, Department of Public Social Services, Moreno Valley, Tenant Improvements, 11 Years, CEQA Finding of Nothing Further is Required, District 5, [\$748,059], 59.63% Federal; 38.02% State, 2.35% County DPSS Budget

DATE: October 22, 2015

PAGE: 2 of 3

BACKGROUND:

Summary

On August 5, 2014, the Board of Supervisors approved an 11-year lease for a 52,500 square foot office building in Moreno Valley to be constructed by the Lessor, CP Moreno Valley, L.L.C., for use by the Department of Public Social Services' Self Sufficiency program (DPSS). Currently the building is under construction with a targeted completion date of January, 2016. During the course of construction, the methodology for telephone and data cabling infrastructure installation provided by Riverside County Information Technology (RCIT) has been reformatted. To execute the new methodology during this in-progress project, a detrimental time delay will result, including additional unbudgeted costs. Therefore, in an effort to maintain the project timelines and budget, the Lessor will modify its construction contract to include the structure cabling system installation. This First Amendment to Lease amends terms in the Lease addressing the project work that will be provided by the Lessor, but such work was always included as part of the Lease. The total DPSS project cost remains as budgeted.

Lessor: CP Moreno Valley, L.L.C.
2860 Kilgore Road, Suite 115
Rancho Cordova, CA 95670-6152

Premises Location: 12625 Heacock Street, Moreno Valley, CA

Size: 52,500 square feet

Rent: \$2.14 per sq. ft.
\$112,356.00 per month
\$1,348,272.00 per year

Rent Abatement: The rent is abated during months 1 – 4 of the lease term resulting in an effective rate of \$2.07 per square foot.

Term: Eleven years

Rental Adjustment: 15% at the commencement of year seven

Options to Extend: Two, five-year options

Option to Terminate: None

Utilities: County to pay for all interior utilities, including electricity, water, and gas

Custodial: Included in rent and includes a full-time day porter.

Interior/Exterior Maintenance: Included in rent

Improvements: Increased by \$403,000.00 for a not to exceed \$3,180,699.00. County to reimburse the increased amount in full upon completion.

(Continued)

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

Economic Development Agency

FORM 11: First Amendment to Lease, Department of Public Social Services, Moreno Valley, Tenant Improvements, 11 Years, CEQA Finding of Nothing Further is Required, District 5, [\$748,059], 59.63% Federal; 38.02% State, 2.35% County DPSS Budget

DATE: October 22, 2015

PAGE: 3 of 3

BACKGROUND:

Summary (Continued)

Parking: 315 parking stalls

The lease amendment project described herein was found to not have a significant effect on the environment. Nothing further is required because all potentially significant impacts have been adequately analyzed in an earlier Initial Study/Negative Declaration that was considered and adopted by the Board Supervisors on August 5, 2014, Agenda Item 3.17, based upon the findings incorporated therein. Entering into this First Amendment to Lease will not result in any new significant environmental effects and will not create or substantially increase the severity of any potential environmental effects. As a result, no further environmental documentation is required for California Environmental Quality Act purposes.

Impact on Citizens and Businesses

Once open for business, the public benefit will be to provide program services to clients in the community and region.

SUPPLEMENTAL:

Additional Fiscal Information

See attached Exhibits A, B, & C

DPSS has budgeted these costs in FY2015/16 and will reimburse the Economic Development Agency for all lease costs on a monthly basis.

Contract History and Price Reasonableness

This is an 11 year lease. The lease rate is competitive based on the current real estate market.

Attachments:

Exhibits A, B & C

Notice of Determination

Aerial Image

First Amendment to Lease

Exhibit A

FY 2015/16

DPSS Lease Cost Analysis

Heacock Street, Moreno Valley, California

ESTIMATED AMOUNTS

Total Square Footage to be Leased:

| | | | |
|---|-----------|---------------------|--|
| Current Office: | 52,500 | SQFT | |
| Approximate Cost per SQFT (July - April) | \$ | - | |
| Approximate Cost per SQFT (May - June) | \$ | 2.14 | |
| Lease Cost per Month (July - April) | \$ | - | |
| Lease Cost per Month (Nov-June) previously approved | \$ | 112,356.00 | |
| Lease Cost per Month (May - June) | \$ | 112,356.00 | |
| Total Lease Cost (July - April) | \$ | - | |
| Lease Cost per Month (Nov-June) previously approved | \$ | 898,848.00 | |
| Total Lease Cost (May - June) | \$ | 224,712.00 | |
| Total Estimated Lease Cost for FY 2015/16 | \$ | 1,123,560.00 | |

Estimated Additional Costs:

| | | | |
|---|-----------|---------------------|-----------------|
| Utility Cost per Square Foot | \$ | 0.12 | |
| Estimated Utility Costs per Month (July - June) | | \$ | <u>6,300.00</u> |
| Estimated Utility Cost (previously approved) | \$ | 75,600.00 | |
| Total Estimated Utility Cost | \$ | | \$ 37,800.00 |
| RCIT (previously approved) | \$ | 470,000.00 | |
| RCIT - 1st Amendment | \$ | - | |
| Tenant Improvement (previously approved) | \$ | 925,899.67 | |
| Tenant Improvement - 1st Amendment | \$ | | \$ 1,328,899.67 |
| EDA Lease Management Fee - 3.89% | \$ | 70,982.68 | |
| EDA Lease Management Fee - 4.12% | \$ | | \$ 64,008.80 |
| TOTAL ESTIMATED COST FOR FY 2015/16 | \$ | 1,655,420.47 | |
| Amount Previously approved in Lease Agreement | \$ | 2,441,330.35 | |
| Amount of FY15/16 for 1st Amendment | \$ | (785,909.88) | |
| TOTAL COUNTY COST 2.35% | \$ | (18,468.88) | |

Exhibit B

FY 2016/17

DPSS Lease Cost Analysis

Heacock Street, Moreno Valley, California

ESTIMATED AMOUNTS

Total Square Footage to be Leased:

| | | | |
|--|--------|------|------------------------|
| Current Office: | 52,500 | SQFT | |
| Approximate Cost per SQFT (July - April) | \$ | 2.14 | |
| Approximate Cost per SQFT (May - June) | \$ | 2.14 | |
| Lease Cost per Month (July - April) | | \$ | 112,356.00 |
| Lease Cost per Month (May - June) | | \$ | 112,356.00 |
| Total Lease Cost (July - April) | | | \$ 1,123,560.00 |
| Total Lease Cost (May - June) | | | \$ 224,712.00 |
| Total Estimated Lease Cost for FY 2016/17 | | | \$ 1,348,272.00 |

Estimated Additional Costs:

| | | | |
|---|----|------|-------------------------------|
| Utility Cost per Square Foot | \$ | 0.12 | |
| Estimated Utility Costs per Month (July - June) | | \$ | <u>6,300.00</u> |
| Total Estimated Utility Cost | | | \$ 75,600.00 |
| RCIT (previously approved) | | | |
| Tenant Improvement (previously approved) | | | \$ 981,453.65 |
| EDA Lease Management Fee - 3.89% | | \$ | 90,626.33 |
| EDA Lease Management Fee - 4.12% | | | \$ <u>95,984.70</u> |
| TOTAL ESTIMATED COST FOR FY 2016/17 | | | \$ <u>2,501,310.34</u> |
| Amount Previously approved in Lease Agreement | | | \$ 2,495,951.97 |
| Amount of FY16/17 for 1st Amendment | | | \$ 5,358.37 |
| TOTAL COUNTY COST 2.35% | | | \$ 125.92 |

Exhibit C

**FY 2017/18 to FY 2025/26
DPSS Lease Cost Analysis
Heacock Street, Moreno Valley, California**

ESTIMATED AMOUNTS

Total Square Footage to be Leased:

Current Office: 52,500 SQFT

| | FY 2017/18 | FY 2018/19 | Total FY 2019/20 to FY 2025/26 |
|--|------------------------|------------------------|--------------------------------------|
| Approximate Cost per SQFT (July - April) | \$ 2.14 | \$ 2.14 | |
| Approximate Cost per SQFT (May - June) | \$ 2.14 | \$ 2.14 | |
| Lease Cost per Month (July - April) | \$ 112,356.00 | \$ 112,356.00 | \$ 870,757.80 |
| Lease Cost per Month (May - June) | \$ 112,356.00 | \$ 112,356.00 | \$ 870,757.80 |
| Total Lease Cost (July - April) | \$ 1,123,560.00 | \$ 1,123,560.00 | \$ 8,707,578.00 |
| Total Lease Cost (May - June) | \$ 224,712.00 | \$ 224,712.00 | \$ 1,741,515.60 |
| Total Estimated Lease Cost for FY 2017/18 to FY 2025/26 | \$ 1,348,272.00 | \$ 1,348,272.00 | \$ 10,449,093.60 |

Estimated Additional Costs:

| | | | |
|--|------------------------|------------------------|-------------------------|
| Utility Cost per Square Foot | \$ 0.12 | \$ 0.12 | |
| Estimated Utility Costs per Month (July - June) | \$ 6,300.00 | \$ 6,300.00 | \$ - |
| Total Estimated Utility Cost | \$ 75,600.00 | \$ 75,600.00 | \$ 529,200.00 |
| RCIT (previously approved) | | \$ - | \$ - |
| Tenant Improvement (previously approved) | \$ 981,453.65 | | \$ - |
| EDA Lease Management Fee - 3.89% | \$ 90,626.33 | \$ 52,447.78 | \$ 406,469.74 |
| EDA Lease Management Fee - 4.12% | \$ 95,984.70 | \$ 55,548.81 | \$ 430,502.66 |
| TOTAL ESTIMATED COST FOR FY 2017/18 to FY 2025/26 | \$ 2,501,310.34 | \$ 1,479,420.81 | \$ 11,815,266.00 |
| Amount Previously approved in Lease Agreement | \$ 2,495,951.97 | \$ 1,476,319.78 | \$ 11,384,763.34 |
| Amount of FY17/18- 25/26 for 1st Amendment | \$ 5,358.37 | \$ 3,101.03 | \$ 430,502.66 |
| TOTAL COUNTY COST 2.35% | \$ 125.92 | \$ 72.87 | \$ 10,116.81 |

F11: Total Cost \$ (748,059.20)
F11: Net County Cost - Total Cost \$ (17,579.39)



Original Negative Declaration/Notice of Determination was routed to County Clerks for posting on:

11/3/15
Date

Kb
Initial

Notice of Determination

To:

Office of Planning and Research
For U.S Mail: Street Address:
P.O. Box 3044 1400 Tenth St.
Sacramento, CA 95812-3044 Sacramento, CA 95814

From:

Public County of Riverside Economic
Agency: Development Agency
Address: 3403 10th Street, 4th Floor
Riverside, CA 92501
Contact: John Alfred
Phone: (951) 955-0911

County Clerk

Riverside County -
County of: (County Clerk Office)
Address: 4080 Lemon St., 1st Floor
Riverside, CA 92502

Lead Agency (if different from above):

Address: _____
Contact: _____
Phone: _____

SUBJECT: Filing of Notice of Determination in Compliance with Section 21108 or 21152 of the Public Resources Code.

State Clearinghouse Number (if submitted to State Clearinghouse): _____

Project Title: Proposed Lease for the Department of Public Social Services (Initial Study: RIVCO/CEQA 2014-01-JA)

Project Location (include county): West side of Heacock Street at the intersection of Webster A venue and Heacock Street, Moreno Valley, Riverside County, CA

Project Description:

An Initial Study RIVCO/CEQA 2014-01-JA was prepared for the project titled "Lease agreement by and between the County of Riverside and CP Moreno Valley, L.L.C." and a subsequent Notice of Determination filed August 8, 2014. On August 5, 2014, the County of Riverside Board of Supervisors (BOS) approved an 11-year lease for a 52,500 square foot office building in Moreno Valley to be constructed by CP Moreno Valley, L.L.C. (Lessor), for use by the Department of Public Social Services' Self Sufficiency program (DPSS). Currently the building is under construction with a targeted completion date of January, 2016. The County prepared an Initial Study for the proposed Lease Agreement and the results of the analysis demonstrate that the project would not have any significant impacts on the environment. The Initial Study/Negative Declaration (IS/ND) was prepared and circulated for public review and comment from June 9, 2014 to July 14, 2014. Further, all environmental issues for the construction were analyzed in an IS/ND through the City of Moreno Valley, as the lead agency and a Notice of Determination was filed on October 14, 2014 for a Plot Plan for the development of a 52,500 square foot professional office building.

During the course of construction, telephone and data cabling infrastructure installation has been reformatted and will result in a detrimental time delay and additional costs to the County. Therefore, the obligation to deliver this portion of construction from the County to the developer has been agreed and the proposed First Amendment to Lease amends the project scope to include the structure cabling system installation. The project will not have a significant effect on the environment and nothing further is required, as all potentially significant effects of the project have been adequately analyzed in the IS/ND adopted by the County BOS on August 5, 2014.

This is to advise that the Riverside County Board of Supervisors approved the above project on

Lead agency or Responsible Agency

11/3/15 and has made the following determinations regarding the above described project:
(Date)

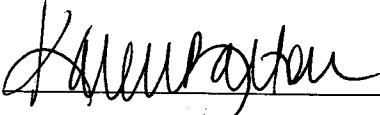
1. The project will will not have a significant effect on the environment.
2. An Environmental Impact Report and Addendum was prepared for this project pursuant to the provisions of CEQA.
 A Negative Declaration was prepared for this project pursuant to the provisions of CEQA.

NOV 03 2015 34

3. Mitigation measures were were not made a condition of the approval of the project.
4. A Mitigation reporting or monitoring plan was was not adopted for this project.
5. A statement of Overriding Considerations was was not adopted for this project.
6. Findings were were not made pursuant to the provisions of CEQA.

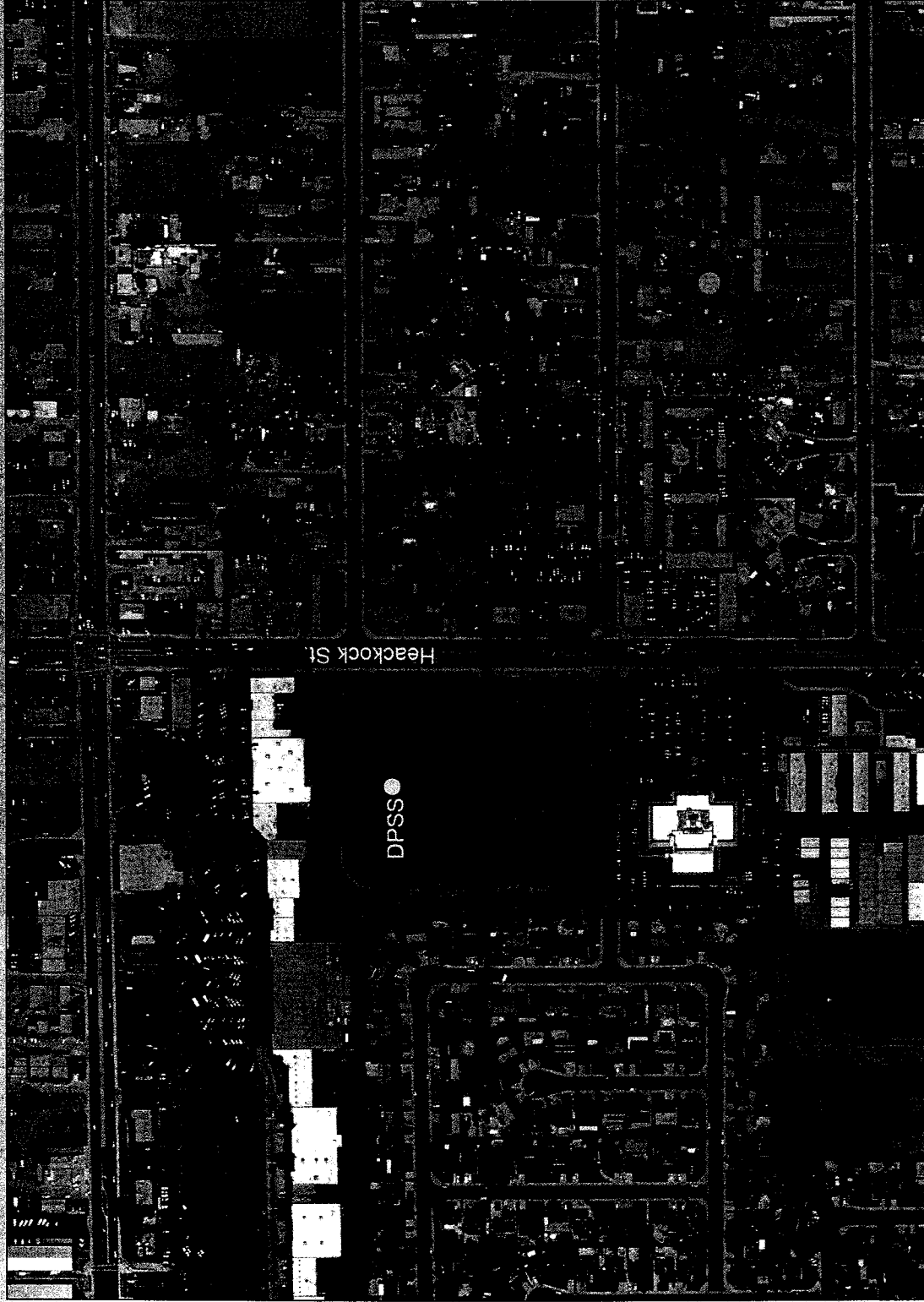
This is to certify that the Final Initial Study with comments and responses and record of project approval, and/or the Negative Declaration, is available to the General Public at:

County of Riverside
Economic Development Agency
3403 10th Street, 4th Floor
Riverside, CA 92501

Signature: (Public Agency)  Title: Board Assistant
Date: 11/3/15 Date received for filing at OPR: _____

Authority cited: Sections 21083, Public Resources Code.
Reference Section 21000-21174, Public Resources Code.

First Amendment to Lease
12625 Heacock St., Moreno Valley, CA



Legend

Notes
District 5
APN: 292-100-018

IMPORTANT Maps and data are to be used for reference purposes only. Map features are approximate, and are not necessarily accurate to surveying or engineering standards. The County of Riverside makes no warranty or guarantee as to the content (the source is often third party), accuracy, timeliness, or completeness of any of the data provided, and assumes no legal responsibility for the information contained on this map. Any use of this product with respect to accuracy and precision shall be the sole responsibility of the user.

REPORT PRINTED ON... 8/18/2015 4:40:52 PM

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966 Feet



RIVERSIDE COUNTY CLERK & RECORDER

**AUTHORIZATION
TO BILL
BY JOURNAL VOUCHER**

Project Name: Proposed Lease for the Department of Public Social Services (Initial Study: RIVCO/CEQA 2014-01-JA)

Accounting String: 524830-47220-7200400000-FM042462013300

- CDFW fee Neg Dec (Paid)
- County Clerk Processing Fee (\$50.00)

DATE: September 10, 2015

AGENCY: Riverside County Economic Development Agency

THIS AUTHORIZES THE COUNTY CLERK & RECORDER TO BILL FOR FILING AND HANDLING FEES FOR THE ACCOMPANYING DOCUMENT(S).

NUMBER OF DOCUMENTS INCLUDED: One (1)

AUTHORIZED BY: John Alfred, Acting Senior Environmental Planner, Economic Development Agency

Signature:  _____

PRESENTED BY: Heidi Rigler, Senior Real Property Agent Economic Development Agency

-TO BE FILLED IN BY COUNTY CLERK-

ACCEPTED BY: _____

DATE: _____

RECEIPT # (S) _____

1 **FIRST AMENDMENT TO LEASE**

2 (Department of Public Social Services,
3 12625 Heacock Street, Moreno Valley, California)
4

5 This FIRST AMENDMENT to Lease ("First Amendment") is made as of
6 November 3, 2015, by and between the **COUNTY OF RIVERSIDE**, a political
7 subdivision of the State of California ("County"), and **CP MORENO VALLEY DPSS,**
8 **LLC**, ("Lessor") and, sometimes collectively referred to as the "Parties."

9 **RECITALS**

10 A. CP Moreno Valley DPSS, LLC, as Lessor, and County, have entered into
11 that certain Lease dated August 5, 2014, ("Original Lease") pertaining to the premises
12 located at 12625 Heacock Street, Moreno Valley, California, as more particularly
13 described in the Original Lease.

14 B. The Original Lease, as amended, shall hereafter be referred to as the
15 "Lease".

16 C. County and Lessor desire to amend the Lease by including the
17 installation of the structure cabling system by Lessor.

18 **NOW, THEREFORE**, for good and valuable consideration the receipt and
19 adequacy of which is hereby acknowledged, the parties agree as follows:

20 **1. Improvements by Lessor.** Section 11 of the Lease shall be amended to
21 add subsection 11.1.9 as follows:

22 11.1.9 Lessor, at its expense shall construct those certain leasehold
23 improvements as stated herein ("Additional Improvements"). The Additional
24 Improvements shall be constructed generally in accordance with the provisions of
25 Exhibit "F" of the Lease (to the extent applicable) and in accordance with specifications
26 by County as stated in the attached Exhibit "I." Total cost not to exceed \$403,000.00.

27 Upon Completion and acceptance of the Additional Improvements by
28 County, Lessor shall provide County with an invoice for the actual cost of

1 improvements described herein Exhibit "I", not to exceed \$403,000.00. Upon receipt of
2 said invoice, County shall reimburse Lessor the balance in full within forty five (45)
3 days.

4 **2. First Amendment to Prevail.** The provisions of this First Amendment
5 shall prevail over any inconsistency or conflicting provisions of the Lease, and shall
6 supplement the remaining provisions thereof. Unless defined herein or the context
7 requires otherwise, all capitalized terms herein shall have the meaning defined in the
8 Lease.

9 **3. Miscellaneous.** Except as amended or modified herein, all the terms of
10 the Lease shall remain in full force and effect and shall apply with the same force and
11 effect. If any provisions of this Amendment or the Lease shall be determined to be
12 illegal or unenforceable, such determination shall not affect any other provision of the
13 Lease and all such other provisions shall remain in full force and effect. The language
14 in all parts of the Lease shall be construed according to its normal and usual meaning
15 and not strictly for or against either Lessor or Lessee. Neither this Amendment, nor the
16 Lease, nor any notice nor memorandum regarding the terms hereof, shall be recorded
17 by Lessee.

18 //

19 //

20 //

21 //

22 //

23 //

24 //

25 //

26 //

27 //

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1 **4. Effective Date.** This First Amendment to Lease shall not be binding or
2 consummated until its approval by the County's Board of Supervisors and fully
3 executed by the Parties.

4
5 LESSEE:
6 COUNTY OF RIVERSIDE

LESSOR:
CP MORENO VALLEY DPSS, LLC, a
California limited liability company

7 By: *Marion Ashley*
8 Marion Ashley, Chairman
9 Board of Supervisors

By: *John A. Buckel*
John A. Buckel, Manager

10
11 ATTEST:
12 Kecia Harper-Ihem
13 Clerk of the Board

14 By: *Kellie Dwyer*
15 Deputy

16 APPROVED AS TO FORM:
17 Gregory P. Priamos, County Counsel

18
19 By: *Synthia M. Gunzel*
20 SYNTHIA M. GUNZEL
21 Deputy County Counsel

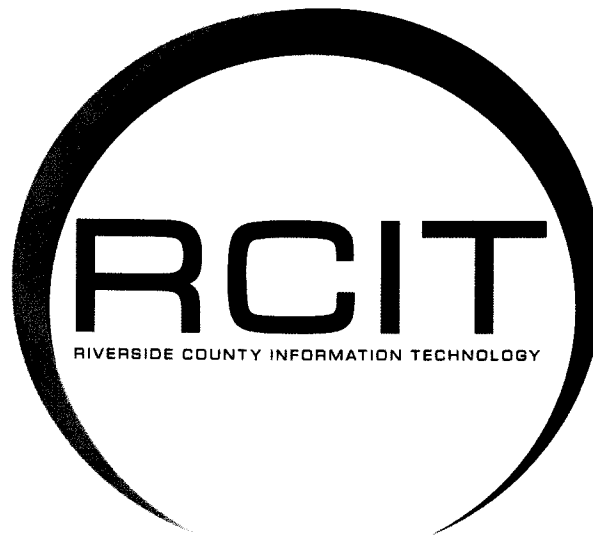
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EXHIBIT "I"

**RIVERSIDE COUNTY INFORMATION TECHNOLOGY
Detailed Scope of Work**

**Department Of Social Services – Heacock, Moreno Valley – Structured
Cabling Project**

12625 Heacock Street, Moreno Valley, CA 92553



Detailed Scope of Work

1. **Scope of Work:**
 - 1.1. **Station Cabling:**
 - 1.1.1. **Wall Phones:**
 - 1.1.1.1. Provide labor and material to cable and install one white BerkTek LANmark 1000 category 6 cable at 13 new wall-phone Work Area Outlets (WAO).
 - 1.1.1.1.1. Terminate both ends using white Leviton eXtreme category 6 inserts.
 - 1.1.1.1.2. At the WAO, use a one port Leviton stainless steel face plate with phone studs.
 - 1.1.1.1.3. In the Telecom Room, the eXtreme inserts will be housed QuickPort patch panel dedicated to wall phones.
 - 1.1.2. **Dual Data**
 - 1.1.2.1. Provide labor and material to cable and install two white BerkTek LANmark 1000 category 6 cables at 350 dual WAO locations.
 - 1.1.2.1.1. 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.
 - 1.1.2.1.2. 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.
 - 1.1.2.1.3. 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.
 - 1.1.3. **Quad Data:**
 - 1.1.3.1. Provide labor and material to cable and install four white BerkTek LANmark 1000 category 6 cables at 100 quad WAO locations.
 - 1.1.3.1.1. Each quad WAO will carry two location numbers; i.e. 1A-001 A&B and 1A-002 A&B.
 - 1.1.3.1.2. 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.
 - 1.1.3.1.3. 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.
 - 1.1.3.1.4. 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.
 - 1.1.4. **Security:**
 - 1.1.4.1. Provide labor and material to cable and install four white BerkTek LANmark 1000 category 6 cables at 2 Security WAO locations.
 - 1.1.4.1.1. Terminate the cables at the WAO using yellow Leviton eXtreme category 6 inserts on both ends.
 - 1.1.4.1.2. At the WAO, use white 4-port faceplates for hard wall terminations.
 - 1.1.4.1.3. In the Telecom Room, the eXtreme inserts will be housed QuickPort patch panel dedicated to Special Services.
 - 1.1.5. **Horizontal Patch Panels**
 - 1.1.5.1. Data A and B WAO – Provide and install 22 Leviton 48 port category 6 patch panels.
 - 1.1.5.2. Wall Phone WAO – Provide and install 1 Leviton 24 port QuickPort patch panel kit.
 - 1.1.5.3. Security WAO – Provide and install 1 Leviton 48 port QuickPort patch panel kit.
 - 1.1.6. **Patch Cords:**
 - 1.1.6.1. Deliver the following quantities of patch cords to the site:
 - 1.1.6.1.1. 350 - 1' white category 6 patch cord

Detailed Scope of Work

- 1.1.6.1.2. 50 - 2' white category 6 patch cord
- 1.1.6.1.3. 50 - 3' white category 6 patch cord
- 1.1.6.1.4. 100 - 5' white category 6 patch cord
- 1.1.6.1.5. 350 - 10' white category 6 patch cord
- 1.1.6.1.6. 350 - 1' green category 6 patch cord
- 1.1.6.1.7. 25 - 2' green category 6 patch cord
- 1.1.6.1.8. 25 - 3' green category 6 patch cord
- 1.1.6.1.9. 50- 5' green category 6 patch cord
- 1.1.6.1.10. 350 - 10' green category 6 patch cord

1.2. Paging System:

1.2.1. Zone Paging Equipment

- 1.2.1.1. Provide and install zone paging unit and amplifier consisting of:
 - 1.2.1.1.1. 1 Bogen PCM 2000 Central Processing Unit (CPU) module.
 - 1.2.1.1.2. 1 Bogen PCM 2000 Telephone Interface Module (TIM).
 - 1.2.1.1.3. 2 Bogen PCM 2000 Zone Paging Module (ZPM).
 - 1.2.1.1.4. 1 Bogen 12V power supplies
 - 1.2.1.1.5. 1 Bogen 250 watt amplifier

1.2.2. Speaker Installation

- 1.2.2.1. Provide and install 72 Bogen SM4T speakers and SMTB Tile Bridges.
 - 1.2.2.1.1. Set all taps to .5 watts and volume adjustment knobs to half (5 of 10).
- 1.2.2.2. Provide and install 1 Bogen S810T725PG8WVK speaker and RE84 ceiling enclosures in each of the lobby public restrooms.
 - 1.2.2.2.1. Total of 2 speakers
 - 1.2.2.2.2. Set all taps to .5 watts and volume adjustment knobs to half (5 of 10).
- 1.2.2.3. Provide and install 2 Bogen 5 watt outdoor rated paging horns on the front of the building facing the parking lot.
 - 1.2.2.3.1. Set all taps to 2.5 watts and volume adjustment knobs to half (5 of 10).
- 1.2.2.4. Provide and install 2 Atlas volume controls in the lobby, behind the receptionist.
 - 1.2.2.4.1. One unit will control the paging volume of the lobby speakers and the second will control the outdoor horns.
- 1.2.2.5. Test all paging speakers and zones for proper operation and sound levels; adjust as required by DPSS and RCIT.

1.2.3. Paging Cable

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

1.2.4. Tone Generator Installation

- 1.2.4.1. Provide and install 1 Bogen Multi Tone Generator and power supply.
 - 1.2.4.1.1. Connect the tone generator to the override port of the existing PCM2000 zone paging system using a 6 conductor line cord.
 - 1.2.4.1.2. IE Alarms will provide you with two contact closures to serve as the trigger for the tone generator and the PCM2000 override port.
 - 1.2.4.1.3. 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.

1.3. A/V System:

1.3.1. AV Cart Work Area Outlet:

Detailed Scope of Work

- 1.3.1.1. Provide and install one white Berk-Tek LANmark 1000 category 6 cable, one 50' HDMI and one 50' VGA cable from the overhead projectors in 8 conference rooms.
 - 1.3.1.1.1. In all instances, the AV Cart WAO will be located next to a dual data WAO.
 - 1.3.1.1.2. Terminate the category 6 cable using a beige Leviton eXtreme category 6 inserts at both ends.
 - 1.3.1.1.3. 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.
 - 1.3.1.1.4. 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 Cart location and at the projector.
 - 1.3.1.1.5. Install 2 single gang box eliminators (Caddie MPLS / MP1) per projector location to facilitate faceplate placement.
- 1.3.2. **Ceiling Mounted Projector Installation**
 - 1.3.2.1. Provide labor only to install 8 DPSS provided projector mounting kits. You will be provided with the following for each conference room:
 - 1.3.2.1.1. One Chief RPAU Universal Projector Ceiling Mount
 - 1.3.2.1.2. One CMA003 3" (76.2 mm) Extension Column
 - 1.3.2.1.3. One CMA440 weight Suspended Ceiling Kit
 - 1.3.2.1.4. Provide labor only to install and focus the DPSS provided Panasonic PT-FW430 series projectors.
- 1.3.3. **TV Work Area Outlet**
 - 1.3.3.1. Provide and install four shielded yellow LANmark - 6 FTP Riser Category 6 F/UTP cables at each of 5 TV locations (total of 10 cables).
 - 1.3.3.1.1. 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.
 - 1.3.3.1.2. Terminate all ends of all cables using Leviton Atlas beige shielded category 6 inserts.
 - 1.3.3.1.3. At the WAO, provide white 4-port faceplates for hard wall locations.
 - 1.3.3.1.4. At the DVD player, provide one white VeriGO Zero-U QuickPort panel.
 - 1.3.3.1.5. In the telecom room, the eXtreme inserts will be housed in the Special Services patch panel.
- 1.3.4. **HDMI Equipment:**
 - 1.3.4.1. Provide and install 1 - HDMI 1 to 5 splitter.
 - 1.3.4.2. Provide and install 5 HDMI 1.3 over category 6 extenders at the TV / DVD locations.
 - 1.3.4.3. DPSS will provide and install the DVD / BluRay player and upto 5 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.
- 1.3.5. **Patch Cords:**
 - 1.3.5.1. Provide and install 8 - Cable Exchange 3' white category 6 patch cords; one at each of the overhead projectors.
 - 1.3.5.2. Provide and install 8 - Cable Exchange 2' M/M HDMI cables; one at each of the overhead projectors.
 - 1.3.5.3. Provide and install 8 - Cable Exchange 2' M/M VGA cables; one at each of the overhead projectors.
 - 1.3.5.4. Provide and install 5 - Cable Exchange 3' yellow shielded category 6 patch cords; one per Geffen extender.
 - 1.3.5.5. Provide and install 5 - Cable Exchange 9' yellow shielded category 6 patch cords; one per Geffen extender.
 - 1.3.5.6. Provide and install 5 - Cable Exchange 3' M/M HDMI cables; used to interconnect the DVD and Geffen extender.
 - 1.3.5.7. Provide and install 5 - Cable Exchange 6' M/M HDMI cables; used to connect the TVs and extenders.

Detailed Scope of Work

1.3.6. Cart Buildout

- 1.3.6.1. 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.
 - 1.3.6.1.1. All of the carts will be provided by DPSS and will come preassembled.
 - 1.3.6.1.2. 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.
 - 1.3.6.1.3. The whip will be held together using Nleco Products 1.25" black mesh.
 - 1.3.6.1.4. Provide and install a total of 3 – 25 foot category 6 patch cords per cart.
 - 1.3.6.1.4.1. 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.
 - 1.3.6.1.5. 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.
 - 1.3.6.1.6. Provide and install 1 - 25' HDMI and 1 – 25' VGA cables per cart.
 - 1.3.6.1.7. 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.
 - 1.3.6.1.8. Provide and install 1 – Tripp Lite power strip with 25' cord per cart.
 - 1.3.6.1.9. Provide and install 1 – Stage Nija Cord Winders on the side of each cart for storing of cable whip.
 - 1.3.6.1.10. Provide and deliver to the site, 6 – 10' USB extender cables.

1.4. Wireless System:

1.4.1. Wireless AP Work Area Outlet:

- 1.4.1.1. Provide and install two white Berk-Tek LANmark 10G2 category 6A cable at 18 WAO.
 - 1.4.1.1.1. Terminate both ends of the cable using blue Leviton eXtreme Cat 6A insert.
 - 1.4.1.1.2. At the WAO, use a white two port QuickPort surface mount box and QuickPort in ceiling bracket with clip placed above the ceiling.
 - 1.4.1.1.3. In the telecom room, the eXtreme inserts will be housed in a QuickPort patch panel dedicated to APs.

1.4.2. Wireless Access Points:

- 1.4.2.1. Provide labor only to install 18 owner furnished (DPSS) contractor installed WAP units.
 - 1.4.2.1.1. Include labor to pick up access points from DPSS – 4060 County Circle Drive, Riverside CA 92503.

1.4.3. AP Patch Panels:

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

1.4.4. Patch Cords:

- 1.4.4.1. Deliver the following quantities of patch cords to the site:
 - 1.4.4.1.1. 18 - 3' blue eXtreme category 6A patch cord
 - 1.4.4.1.2. 18 - 15' blue eXtreme category 6A patch cord

1.5. Special Services:

1.5.1. Special Services Cables:

- 1.5.1.1. Provide and install a total of 24 white Berk-Tek LANmark 1000 category 6 cables.
 - 1.5.1.1.1. Total of 8 cables from the MPOE to TR1A row A.
 - 1.5.1.1.2. Total of 8 cables from the MPOE to TR1A row B.
 - 1.5.1.1.3. Total of 8 cables from TR1A row A to row B.
 - 1.5.1.1.4. Terminate both ends of the cables connecting from / to the MPOE using orange Leviton eXtreme category 6 jacks.

Detailed Scope of Work

- 1.5.1.1.5. Terminate both ends of the cables connecting row A to Row B using green Leviton eXtreme category 6 jacks.
- 1.5.1.1.6. All eXtreme inserts will be housed in a QuickPort patch panels.

1.5.2. Analog Cables:

- 1.5.2.1. Provide and install 9 Cable Exchange 25-pair riser cables from the voice equipment rack to the voice frame.
 - 1.5.2.1.1. In Row A - 4 of the cables will be terminated onto analog patch panels using the Amphenol connectors, the remaining cables are reserved for the RCIT provided voice gateway.
 - 1.5.2.1.2. In Row B - 1 of the cable will be terminated onto analog patch panel.
 - 1.5.2.1.3. Terminate cables on a 110 termination block on the voice frame / backboard.

1.5.3. Analog Patch Panels:

- 1.5.3.1. Provide and install 5 Leviton 24 port Amphenol 2 wire patch panel.

1.5.4. Special Services Patch Panels:

- 1.5.4.1. Provide and install 2 Leviton 12 port QuickPort mini patch panel kit in the MPOE.
- 1.5.4.2. Provide and install 2 Leviton 24 port QuickPort patch panel kits in TR1A, one each in row A and row B.

1.6. Copper Backbone:

1.6.1. Copper Backbone Cable:

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

1.6.2. Voice Frame Build Out:

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

1.7. Telecom Rooms:

1.7.1. Equipment Racks

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

1.7.2. Wire Managers:

- 1.7.2.1. Provide and install 50 Chatsworth 2 RMU single-sided horizontal wire managers.
- 1.7.2.2. Provide and install 12 Chatsworth CCS 6"x6" vertical wire manager.

1.7.3. Equipment Shelves:

- 1.7.3.1. Provide and install 20 sets of heavy-duty shelves, one for every 2 post equipment rack.
- 1.7.3.2. Provide and install 2 solid shelf in the 4 post rack.

1.7.4. Cable Ladder Assembly:

- 1.7.4.1. 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:
 - 1.7.4.1.1. 18" wide Chatsworth alternate space ladder rack for all sections traversing over equipment racks.
 - 1.7.4.1.2. 18" wide Chatsworth universal ladder for all other sections.
 - 1.7.4.1.3. 18" wide Chatsworth runway triangle and wall angled support brackets.
 - 1.7.4.1.4. Chatsworth rack-to-runway mounting plates and 6" elevation kits on all equipment racks.
 - 1.7.4.1.5. Chatsworth heavy duty butt-splice kits and junction splice kits as needed.
 - 1.7.4.1.6. Provide and install Chatsworth radius drops cable over all vertical wire managers.

Detailed Scope of Work

1.8. Grounding:

1.8.1. General

- 1.8.1.1. 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.***
- 1.8.1.2. 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.
- 1.8.1.3. 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.
- 1.8.1.4. 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.
- 1.8.1.5. Install 1 grounding strap for each piece of cable ladder at every junction point.
- 1.8.1.6. Labeling shall be compliant with TIA/EIA 606 labeling specifications and numbering scheme will be provided by RCIT.
- 1.8.1.7. 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.

1.9. PDU/UPS:

1.9.1. UPS Equipment

- 1.9.1.1. Provide and install 2 APC Smart-UPS 5000VA 208V rack mount.
- 1.9.1.2. Provide and install 2 APC SmartUPS/SmartUPS RT Two Post Rail Kit.

1.9.2. PDU Equipment

- 1.9.2.1. Provide and install 4 APC horizontal switched PDU.

1.9.3. Power Cords

- 1.9.3.1. Provide 4 APC Power Cord Kit (six per kit), Locking, C13 to C14, 1.8m.

1.10. Miscellaneous:

1.10.1. Sleeves:

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

1.10.2. Fire Stop:

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

1.10.3. Spare Material:

- 1.10.3.1. Provide and install as needed, up to 20 blank covers unused communications outlets.
- 1.10.3.2. Provide and deliver to the site, 75 – 10 foot HP display port cables.
- 1.10.3.3. Provide and deliver to the site, 75 – 10 VGA M/M cables.

1.11. Contingency:

- 1.11.1. Include a project contingency equivalent to 10% of your total estimated labor and material cost.

Project Name: DPSS Heacock Street

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.

| Material/Labor Description | Part Number | Manufacturer |
|--|--------------------|---------------------|
| 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 |
| Yellow eXtreme Cat 6 - Single (Security) | 61110-RY6 | Leviton |
| White 2 Port - Single-Gang Faceplate | 42080-2WS | Leviton |
| White 4 Port - Single-Gang Faceplate | 42080-4WS | Leviton |
| White Blank Insert | 41084-BWB | Leviton |
| Black 2 Port - Single-Gang Faceplate | 42080-2ES | Leviton |
| Black 4 Port - Single-Gang Faceplate | 42080-4ES | Leviton |
| Black Blank Insert | 41084-BEB | Leviton |
| Ivory 4 Port - 106 Duplex Frame | 41087-QJP | 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 |
| 48-Port - Flat QuickPort Panel Empty, 2RU | 49255-H48 | Leviton |
| 3' White eXtreme Cat 6 UTP SlimLine Patch Cord | 6D460-03W | Leviton |
| 5' White eXtreme Cat 6 UTP SlimLine Patch Cord | 6D460-05W | Leviton |
| 10' White eXtreme Cat 6 UTP SlimLine Patch Cord | 6D460-10W | Leviton |
| Stainless Steel Keystone Wall Phone Plate (No Jack) | 4108W-1SP | Leviton |
| 1' White Patch Cord - Cat 6 | CEX-HC6BTWH-1FT | Cable Exchange |
| 2' White Patch Cord - Cat 6 | CEX-HC6BTWH-2FT | Cable Exchange |
| 1' Green Patch Cord - Cat 6 | CEX-HC6BTGR-1FT | Cable Exchange |
| 2' Green Patch Cord - Cat 6 | CEX-HC6BTGR-2FT | Cable Exchange |
| 3' Green eXtreme Cat 6 UTP SlimLine Patch Cord | 6D460-03V | Leviton |
| 5' Green eXtreme Cat 6 UTP SlimLine Patch Cord | 6D460-05V | Leviton |

| | | |
|--|----------------|---------------|
| 10' Green eXtreme Cat 6 UTP SlimLine Patch Cord | 6D460-10V | Leviton |
| Material/Labor Description | | |
| CPU, Paging Module | PCM - CPU | Bogen |
| TIM, Paging Module | PCM - TIM | Bogen |
| ZPM, Paging Module | PCM - ZPM | Bogen |
| Power Supply 12V | PCMPS2 | Bogen |
| 250 Watt Amplifier | TPU250 | Bogen |
| Surface Mount Ceiling Speaker 4 Watt Multi-Tap | SM4T | Bogen |
| Title Bridge For SM4T Speaker (5 Pack) | SMTB | Bogen |
| Ceiling Speaker 4 Watt Multi-Tap With Volume Control | S810T725PG8WVK | Bogen |
| Ceiling Speaker Enclosure | RE84 | Bogen |
| Title Bridge For SB10T725PG8WVK Speaker | TB8 | 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 |
| Volume Control 10 Watt | AT-10 | Atlas |
| Volume Control 35 Watt | AT-35 | Atlas |
| 1 Pr 18 AWG - PVC (Clear) Speaker Cable | E1032S | General |
| 6 Conductor Silver Satin Telephone Line Cord | | |
| Reflex 5 Watt Paging Horn | SPT5A | Bogen |
| Material/Labor Description | | |
| Part Number | | |
| Manufacturer | | |
| LANmark -1000, UTP, 4 Pair, Cat 6 - PVC (Yellow) | 10032461 | Berk-Tek |
| LANmark - 6 FTP Riser Category 6 F/UTP (Yellow) | 10090687 | Berk-Tek |

| | | |
|---|----------------------------|---------------------|
| Ivory eXtreme Cat 6 - Single (AV) | 61110-RI6 | Leviton |
| Ivory Atlas-X1 Cat 6 Shielded (AV) | 61SIK-RI6 | Leviton |
| White 4 Port - Single-Gang Faceplate | 42080-4WS | Leviton |
| White 6 Port - Single-Gang Faceplate | 42080-6WS | Leviton |
| 24-Port - Flat QuickPort Patch Panel Empty, 1RU | 49255-H24 | Leviton |
| 1:5 Splitter For HDMI | EXT-HDMI1.3-145 | Geffen |
| Extender For HDMI Over Cat 6 | GTB-HDBT-POL-BLK | Geffen |
| 2 Ft HDMI Cable - M/M | CEX-HDMIMM-2FT | Cable Exchange |
| 50 Ft HDMI Cable - M/M | CEX-HDMIMM-50FT | Cable Exchange |
| 2 Ft VGA Cable - M/M | CEX-SVGAMM-2FT | Cable Exchange |
| 50 Ft VGA Cable - M/M | CEX-SVGAMM-50FT | Cable Exchange |
| 3' Yellow eXtreme Cat 6 UTP SlimLine Patch Cord | 6D460-03Y | Leviton |
| 3' Yellow Patch Cord - Cat 6 Shielded | CEX-HC6YWB-T-SHL-3FT | Cable Exchange |
| 9' Yellow Patch Cord - Cat 6 Shielded | CEX-HC6YWB-T-SHL-9FT | Cable Exchange |
| Stainless Steel faceplate-1Port HDMI, 1Port VGA | CEX-WPSS-HDMISVGAFF | |
| 12-Port - VertiGO Zero-U QuickPort Panel, Empty | 49280-QP0 | Leviton |
| Orange eXtreme Cat 6 - Single (Data A) | 61110-RO6 | Leviton |
| Green eXtreme Cat 6 - Single (Data B) | 61110-RV6 | Leviton |
| 25' White Patch Cord - Cat 6 | CEX-HC6BTWH-25FT | Cable Exchange |
| Tripp Lite 8 OUTLET ISOBAR SURGE power strip - W/25' cord | ISOBAR825ULTRA | |
| Cable Exchange-25' HDMI Cable | CABLE EXCH CEX-HDMIMM-25FT | |
| Cable Exchange-25' VGA Cable | CABLE EXCH CEX-SVGAMM-25FT | |
| Stainless Steel faceplate-1Port HDMI, 1Port VGA | CEX-WPSS-HDMISVGAFF | |
| HDMI barrel connector-Female/Female | CEX-HDMIFF-ADP | |
| VGA barrel connector-Female/Female | CEX-VGAFF-ADP | |
| Nelco Products Protector Mesh 1 1/4" Black | FPE1-1/4BLK | |
| 10' USB extender cables | | |
| Material/Labor Description | | |
| LANmark-10G 2, UTP, 4 Pair, Cat 6A - PVC (White) | 10137703 | Berk-Tek |
| Part Number | | Manufacturer |

| | | |
|---|-----------|-------------|
| 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 |
| 24-Port - Flat QuickPort Patch Panel Empty, 1RU | 49255-H24 | 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 |

| Material/Labor Description | Part Number | Manufacturer |
|--|--------------------|----------------|
| LANmark-1000, UTP, 4 Pair, Cat 6 - PVC (White) | 10032459 | Berk-Tek |
| 25 Pair M/M 50 Pin Amphenol 50' Cable Assembly | CEX-25P-C590PP-50M | Cable Exchange |
| Orange eXtreme Cat 6 - Single (Entrance Facility) | 61110-RO6 | Leviton |
| Green eXtreme Cat 6 - Single (LAN Extension) | 61110-RV6 | Leviton |
| 24 Port Analog Panel - 8 Pin RJ45, 2 Conductor To 50 Pin Female Amphenol Connectors, Active Pins 4&5 | 49012-J24 | Leviton |
| 24-Port - Flat QuickPort Patch Panel Empty, 1RU | 49255-H24 | Leviton |
| 12-Port - VertiGO Zero-U QuickPort Panel, Empty | 49280-QP0 | Leviton |

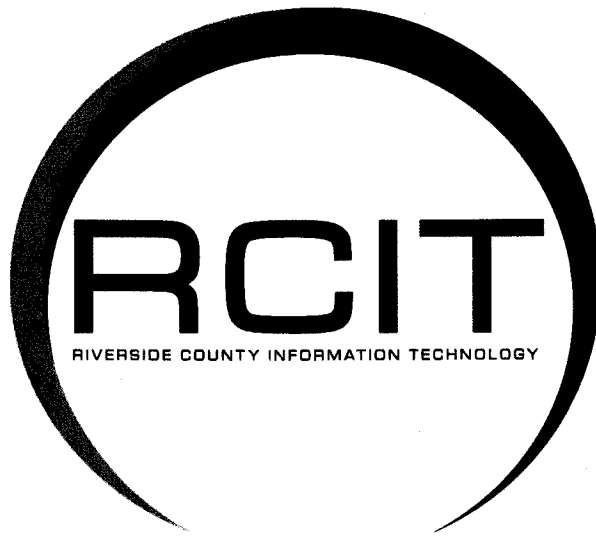
| Material/Labor Description | Part Number | Manufacturer |
|-----------------------------------|----------------|--------------|
| Essex - Riser Cable - 100 Pr | ARMM-02-104-03 | Essex |
| 300 Pair 110 Block Kit W/C5 Clips | 41AB2-3F5 | Leviton |
| 110 Jumper Trough w/ Legs | 41A10-HCM | Leviton |

| Material/Labor Description | Part Number | Manufacturer |
|--|--------------|--------------|
| Enhanced Standard 19" X 7' Equipment Rack | 55053-703 | 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 Solid Black (QuadraRack Server) | 16351-719 | CPI |
| Combination Cabling Section(CCS) 6" W | 30165-703 | 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 |
| Support Bracket For Cable Runway 18" | 11746-718 | CPI |
| Wall Angle Cable Runway Support Kit 18" | 11421-718 | CPI |
| Channel Rack To Runway Mounting Plate, Grey 18" | 12730-718 | CPI |
| Cable Runway Radius Inside Bend 18" | 10724-718 | CPI |
| Heavy Duty Butt-Splice Kit | 11299-001 | CPI |
| Junction Splice Kit | 11302-701 | CPI |
| Vertical Wall Bracket (Gold/Pkg 2) | 10608-701 | CPI |
| 4" Spillway | BJ-20498-001 | Bejed |
| 2 RMU Double Sided Horizontal Wire Manager | 30530-719 | CPI |
| QuadraRackServer Frame | 15053-703 | CPI |

| Material/Labor Description | Part Number | Manufacturer |
|---|----------------|--------------|
| 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 |
| Cable Runway Ground Straps Kit | 40164-001 | CPI |
| Cable Shield Bond Clamp | 4460-S | 3M |
| Two Hole Long Barrel Compression Lugs 2 AWG | GECLB22A | Harger |

| | | |
|--|-----------------|----------------|
| Compression Tap | YH2929 | B-Line |
| Material/Labor Description | | |
| Smart-UPS 5000VA 208V rack mount (L6-30P input) | SUA5000RMT5U | APC |
| APC SmartUPS/SmartUPS RT Two Post Rail Kit | AP9625 | APC |
| Horizontal PDU, Switched 2U, Input 208V L6-30P, Output (16) C13 | AP7911A | APC |
| Material/Labor Description | | |
| 1/4" X 10' P-Rod | 708AFAB3 | Erico |
| Push Install Rod/Wire Hanger with Pin Driven Angle Bracket (Box of 50) | Per Rod | |
| P-Rod | Per Stringer | |
| Stringer | Per J-Hook | |
| J Hook | Per Sleeve | |
| 4" Sleeve | 378288 | Hilti |
| CP 658T 4" Fire stop Plug- Package Of 20 | MPLS | Caddy |
| MPLS Cut-In Ring | 378288 | Hilti |
| CP 658T 4" Fire stop Plug- Package Of 20 | MPLS | Caddy |
| MPLS Cut-In Ring | HSL-3-B M12/5 | Hilti |
| Heavy Duty Concrete Anchor | CEX-DPMM-10F | Cable Exchange |
| HP Display Port Cable Kit-10 foot | CEX-SVGAMM-10FT | Cable Exchange |
| 10' VGA Cables | | |

**RIVERSIDE COUNTY INFORMATION TECHNOLOGY
STRUCTURED CABLING GENERAL TERMS, CONDITIONS AND
CONTRACTOR QUALIFICATION REQUIRMENTS**



CODES STANDARDS AND ORDINANCE

PERMIT FEES AND CERTIFICATES OF APPROVAL

SAFETY

ASBESTOS

CONDITIONS FOR SITE USE AND PROTECTION

MATERIALS

WARRANTIES

INSPECTION ACCEPTANCE AND TITLE

1. CODES, STANDARDS AND ORDINANCE

- A. 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.
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.
 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. ANSI TIA-492.CAAB, Detail Specification for Class Iva Dispersion-Unshifted Single-Mode Optical Fibers with Low Water Peak.
 4. ANSI/TIA-526-7, Measurement of Optical Power Loss of Installed Single-Mode Fiber Cable Plant - OFSTP-7.
 5. ANSI/TIA-526-14-A, Optical Power Loss Measurements of Installed Multimode Fiber Cable Plant - OFSTP-14.
 6. ANSI/TIA-568-C.0, Generic Telecommunications Cabling for Customer Premises.
 7. ANSI/TIA-568-C.1, Commercial Building Telecommunications Cabling Standard.
 8. ANSI/TIA-568-C.2, Balanced Twisted Pair Telecommunications Cabling and Components Standards.
 9. ANSI/TIA-568-C.3, Optical Fiber Cabling Components Standard.
 10. ANSI/TIA-568-C.4, Broadband Coaxial Cabling Components Standard.
 11. ANSI/TIA-569-D, Commercial Building Standard for Telecommunication Pathways and Spaces.
 12. ANSI/TIA-598-C, Optical Fiber Cable Color Coding.
 13. ANSI/TIA-606-B, Administration Standard for Commercial Telecommunications.
 14. ANSI/TIA-607-B, Generic Telecommunications Bonding and Grounding (Earthing) for Customer Premises.
 15. ANSI/TIA-758-B, Customer-Owned Outside Plant Telecommunications Infrastructure Standard.
 16. ANSI/TIA-862-A, Building Automation Systems Cabling Standard.
 17. ANSI/TIA-942-A, Telecommunications Infrastructure Standard for Data Centers.
 18. ANSI/TIA TSB-140: Additional Guidelines for Field-Testing, Loss and Polarity of Optical Fiber Cabling Systems.
 19. NFPA 70 – National Electrical Code (NEC).
 20. BICSI Information Transport Systems Installation Methods Manual
 21. BICSI Telecommunications Distribution Methods Manual, (TDMM)
- B. 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:
1. Global Engineering Documents, 15 Inverness Way East, Englewood, CO, 80112, 800-854-7179, <http://global.ihs.com>
 2. BICSI, 8610 Hidden River Parkway, Tampa, FL, 33637, 800-242-7405, www.bicsi.org

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- C. 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.
- D. 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.
- E. This document does not replace any code, either partially or wholly. Bidder must be aware of local codes that may impact any project.

2. PERMIT, FEES, AND CERTIFICATES OF APPROVAL

- A. It is the responsibility of Bidder to make application and pay for any and all required construction permits associated with the project.

3. SAFETY

- A. Bidder shall take the necessary precautions and bear the sole responsibility for the safety of the methods employed in performing the work. Bidder shall at all times comply with the regulations set forth by federal, state, and local laws, rules, and regulations concerning "OSHA" and all applicable state labor laws, regulations, and standards.
- B. The National Fire Protection Code, National Electrical Safety Codes, OSHA regulations shall be adhered to during all installation activities.
- C. Bidder shall indemnify and hold harmless RCIT from and against all liabilities, suits, damages, costs, and expenses (including attorney's fees and court costs) which may be imposed on RCIT because of Bidder, subcontractor, or supplier's failure to comply with the regulations stated herein.
- D. The Contractor shall provide safety equipment to each employee to be used as appropriate or required for the work. (e.g., eye protection, sound suppressors, hard hats, gloves, respirators, etc., as required).

4. ASBESTOS

- A. Certain Riverside County buildings constructed prior to 1970 may contain asbestos found in the original construction materials used. The majority of materials detected with asbestos are blown-in ceiling insulation, floor tiles, walls, pipe insulation and other construction materials. If an Asbestos concern develops, immediately contact the RCIT Project Manager before any work is done.
- B. All cabling contractors will ensure that personnel they place on Riverside County premises will have asbestos awareness training and certification. Cabling Contractor's Project Managers and Technicians shall be Asbestos Administrative Awareness Certified possessing current credentials. Documentation shall be provided to Riverside County upon request.

5. CONDITIONS FOR SITE USE AND PROTECTION

- A. **General:**
 - 1. Use of the site shall be at RCIT's direction in matters in which RCIT deems it necessary to place restriction.

2. Access to building wherein the work is performed shall be during regular business hours unless otherwise specified or arranged.
3. Proceed with the work without interfering with ordinary use of streets, aisles, passages, exits, and operations of the customer.
4. Bidder shall coordinate with RCIT project manager the approved access and egress locations for material handling and delivery.

B. Site Cleanliness:

1. The work area shall be kept clean at all times during construction. Protect floors and all adjacent surfaces by use of drop cloths and other means. All cutting, dust, and other debris shall be removed periodically during the workday so as not to be tracked into other areas of the building or create a hazard to foot traffic. At the end of the workday all unused materials shall be stacked in a neat and orderly manner and located in an area designated by the County Project Manager out of the path of others, unless otherwise specified in writing. All indoor areas of construction shall be vacuumed clean of all dust at the completion of each workday. The County Project Manager can at any time stop the job for any condition that he/ she may deem unsafe.
2. The County of Riverside dumpster(s) shall not be used by the Contractor. Contractors shall supply their own dumpster(s) and lawfully transport all trash and debris generated by the project off the County Riverside property to an appropriate dumpsite.

C. Protection of County's Facilities:

1. Effectively protect RCIT and the County's facilities, equipment, and materials from dust, dirt, and damage while performing under the scope of work.
2. While accessing secure areas within the County facilities, Bidder shall not leave any doorways or access ways 'propped' open in any fashion that may normally be closed, locked, or purposely secured.
3. The Contractor shall be solely and completely responsible for the condition of the premises on which the work is performed and for safety of all persons and property on the site during performance of the contract. This requirement shall not be limited to normal working hours, but shall apply continuously throughout the project.

D. Pre-Installation Site Survey:

1. Prior to start of systems installation, meet at the project site with RCIT's representative and representatives of trades performing related work to coordinate efforts. Review areas of potential interference and resolve conflicts before proceeding with the work. Bidder shall coordinate with RCIT project manager and notify project manager of unresolved conflicts and the potential for missed due dates or deadlines. Coordination with the General Contractor shall be necessary to plan the crucial scheduled completions of the equipment room and telecommunications closets.
2. Examine areas and conditions under which the system is to be installed. Do not proceed with the work until satisfactory conditions have been achieved.

6. MATERIALS

- A. All parts Bid must be new and manufactured within the past six (6) months.
- B. 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:
 1. Name of manufacturer
 2. Part Number
 3. Product Data Sheet
 4. Third party performance comparison verification (only applicable for cabling system components)
 5. Product performance comparison
 6. Unit cost
 7. Manufacturer lead time

- C. 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.
- D. 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:
 - 1. Part in question
 - 2. Construction start date
 - 3. Date of contractor P.O. to authorized distributor
 - 4. Delay expected
 - 5. Substitution suggested with supporting product data sheet
 - 6. Cost differences, if any
- E. It shall be the sole responsibility of RCIT to accept or reject the substitution.
- F. Delivery, Storage and Handling
 - 1. Protect equipment during transit, storage, and handling to prevent damage or theft.
 - 2. Bidder is responsible to make sufficient coordination and preparation for secure storage of equipment and materials.
 - 3. Do not store equipment where conditions fall outside manufacturer's recommendations for environmental conditions.
 - 4. Damaged equipment shall be removed from site and replaced with new equipment.
 - 5. Bidder shall be responsible for safekeeping of Bidders and subcontractors' property, such as equipment and materials, on the job site. RCIT assumes no responsibility for protection of above named property against fire, theft, and environmental conditions.

7. WARRANTIES

- A. 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.
 - 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.
 - 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. Acceptable manufacturer solution for the copper and optical fiber infrastructure is a Berk-Tek Leviton Technologies or RCIT Pre-Approved Equal.
 - 4. The structured cabling system shall be installed and registered by a Berk-Tek OASIS Certified Integrator and Leviton Preferred Network Installer (PNI) or RCIT Pre-Approved Equal.
 - 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:
 - a. Manufacturer warranty application form.
 - b. Compliance of the proper network test equipment and permanent link adapters.
 - c. Electronic test results per cable port and a summary report of all test results.
 - d. All documentation shall be issued electronically on a CD-ROM, FTP site or via email.
 - 6. Provide the manufacturer warranty application registration number to RCIT.

- B. The System components must be new, unused, current edition and in original packing material.
 - a. Approved products shall be listed on the most recent version of the applicable manufacturer's data sheets.
- C. 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.
- D. The System must be installed by a Certified Integrator/Installer in good standing, authorized by the specified Manufacturer(s) for the past five (5) years and adhere to the terms and conditions specified within the Certified Integrator/Installer Program Agreements.
- E. 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.
- F. Transfer manufacturer's warranties to RCIT in addition to the General System Guarantee. Submit these warranties on installed cabling system. Detail specific parts within equipment that are subject to separate conditional warranty. Warranty proprietary equipment and systems involved in this contract during the warranty period. Final payment shall not relieve Bidder of these obligations.
- G. Manufacturer Limited Lifetime Warranty shall be Berk-Tek Leviton Technologies or RCIT pre-approved equal.
- H. Repair problems associated with any cabling installation reported by RCIT shall be corrected in accordance with the following schedule:
 - a. Any installation within an eighty (80) mile radius of RCIT Administrative Center located at 4080 Lemon Street, Riverside, CA, shall be corrected within one (1) working day from notification.
 - b. Installations outside an eighty (80) mile radius of same County Administrative Center shall be corrected within two (2) working days from notification.
- I. If Bidder responds to a problem and determines that the problem was not caused due to the installation, Bidder has the right to bill RCIT.
- J. If Bidder procures equipment or materials under the contract, Bidder shall obtain for the benefit of RCIT equipment and materials warranties against defects in materials and workmanship to the extent such warranties are reasonably obtainable.
- K. Bidder shall pass along to RCIT any additional warranties offered by the manufacturers, at no additional costs to RCIT, should said warranties extend beyond the period specified herein.

8. INSPECTION, ACCEPTANCE, AND TITLE

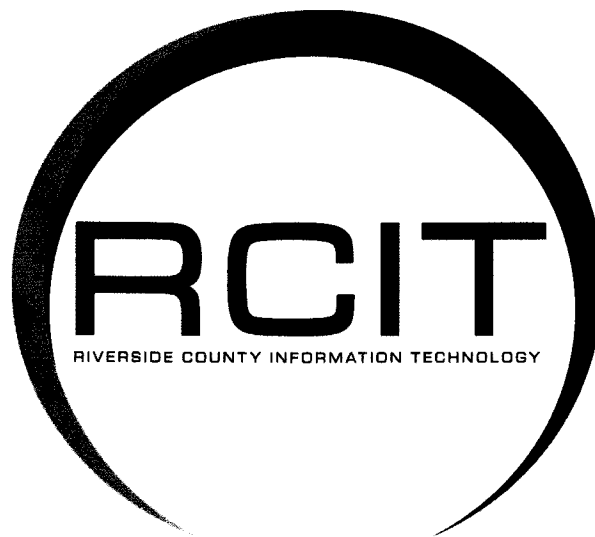
- A. Inspection and Acceptance shall be at destination and upon successful installation unless otherwise provided. Title to/or risk of loss or damage to all items shall be the responsibility of the successful Contractor until acceptance by RCIT, unless loss or damage results from negligence by RCIT.
- B. 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.
- C. 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

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uncover the work for inspection by RCIT at no cost to RCIT, and then recover the work according to the specification contained herein.

- D. Bidder shall notify RCIT in writing when the work is ready for inspection. RCIT shall inspect the work within twenty four (24) hours after receipt of notification from Bidder.
- E. 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.
- F. Acceptance shall be subject to completion of all work, successful post-installation testing, which yields 100 percent PASS rating, and receipt of full documentation.
- G. 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.
- H. RCIT shall provide prints, as required, in either paper format or 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.
- I. Bidder shall provide within five (5) working days at the conclusion of the project:
 - 1. Warranty documents for equipment.
 - 2. Data cabling certification test result printouts and electronic media.
 - 3. Cable records and cross-connect sheets.
 - 4. Current Test Equipment Certification Report.
 - 5. Provide one (1) copy of items 1,2 & 3 above in a 1.5" binder with the following items:
 - 1. Binder cover sheet
 - 2. Divider tabs
 - 3. RCDD Project signoff document

**RIVERSIDE COUNTY INFORMATION TECHNOLOGY
STRUCTURED CABLING GENERAL TERMS, CONDITIONS AND
CONTRACTOR QUALIFICATION REQUIREMENTS**



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.

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Cable Certification

- 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%

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Cable Certification

- 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. HDTDX/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

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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 | | ACR | ELFEXT | PS NEXT | PS ACR | PS ELFEXT |
|------------------------|----------|--------|-------------|------------|-------|----------------|------|--|------|--------|---------|--------|-----------|
| | Ω | Max. | nS | nS | MHz | dB | dB | | dB | dB | dB | dB | dB |
| 12345678 12345678 | i | 90 m | 498 | 44 | 1 | 3 | 65.0 | | 62.0 | 64.2 | 62.0 | 59.0 | 61.2 |
| | | | | | 4 | 3.5 | 64.1 | | 60.6 | 52.1 | 61.8 | 58.3 | 49.1 |
| | | | | | 8 | 5 | 59.4 | | 54.4 | 46.1 | 57.0 | 52.1 | 43.1 |
| 12345678S 12345678S | | | | | 10 | 5.5 | 57.8 | | 52.3 | 44.2 | 55.5 | 49.9 | 41.2 |
| | | | | | 16 | 7 | 54.6 | | 47.6 | 40.1 | 52.2 | 45.2 | 37.1 |
| | | | | | 20 | 7.9 | 53.1 | | 45.2 | 38.2 | 50.7 | 42.8 | 35.2 |
| | | | | | 25 | 8.9 | 51.5 | | 42.7 | 36.2 | 49.1 | 40.2 | 33.2 |
| | | | | | 31.25 | 10 | 50.0 | | 40.0 | 34.3 | 47.5 | 37.6 | 31.3 |
| | | | | | 62.5 | 14.4 | 45.1 | | 30.8 | 28.3 | 42.7 | 28.3 | 25.3 |
| | | | | | 100 | 18.6 | 41.8 | | 23.3 | 24.2 | 39.3 | 20.7 | 21.2 |
| | | | | | 200 | 27.4 | 36.9 | | 9.6 | 18.2 | 34.3 | 7.0 | 15.2 |
| | | | | | 250 | 31.1 | 35.3 | | 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:

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- 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**

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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:

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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:

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

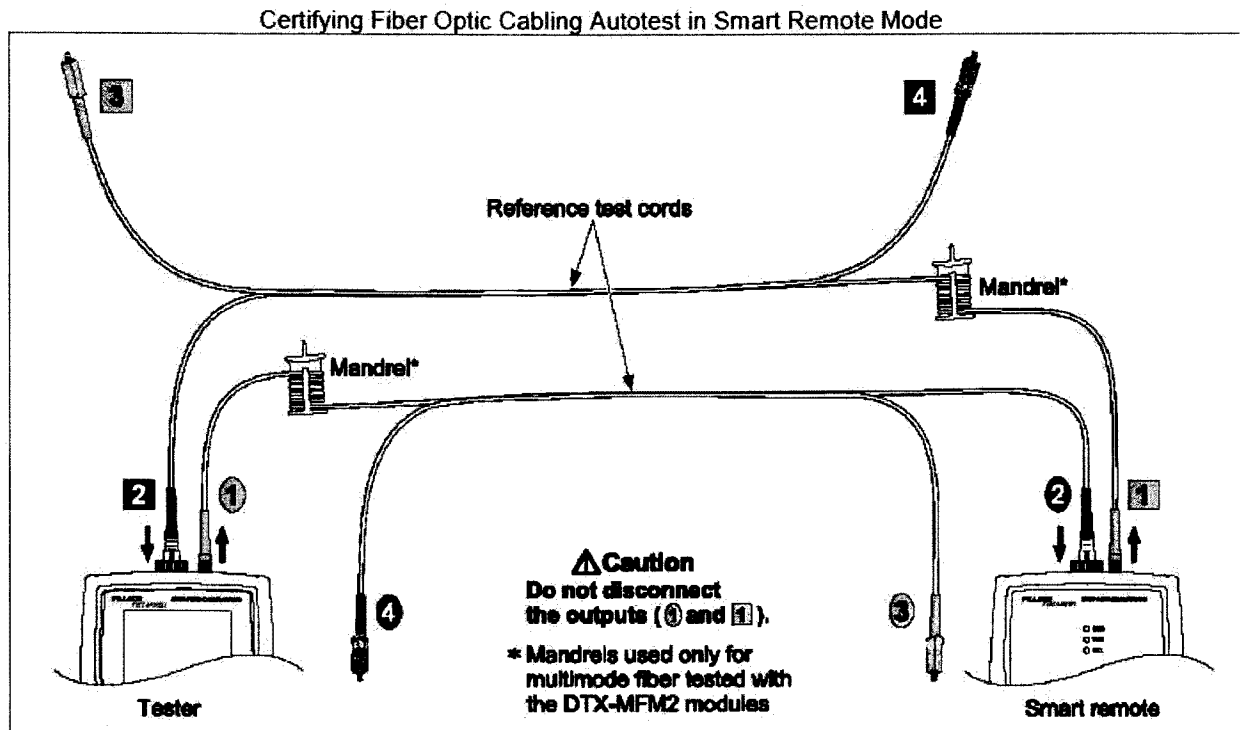
*(Length from calculation above. This figure will vary with cable length)

- 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.

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- 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.

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Smart Remote Mode Reference Connections (Method B)

- 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

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- 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:

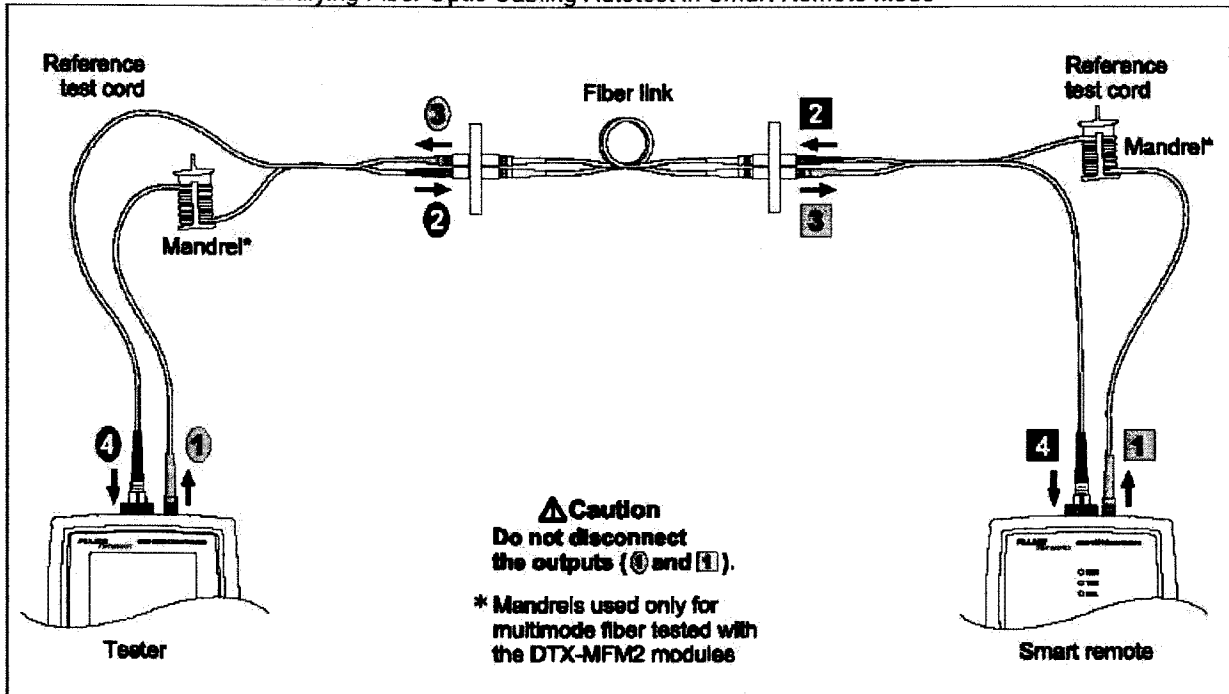
Select AUTO TEST and verify that the Tester screen reads the following:

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.

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Certifying Fiber Optic Cabling Autotest in Smart Remote Mode



amd1467.eps

Smart Remote Mode Test Connections (Method B)

