

INVITATION FOR BID  
IFB C4DNCS19  
Data Networks and Communications Services  
CATEGORY 23 – METROPOLITAN AREA  
NETWORK ETHERNET  
NWN Corporation  
Statement of Work  
TECHNICAL REQUIREMENTS  
March 5, 2020  
BAFO  
Issued by:  
STATE OF CALIFORNIA  
California Department of Technology Statewide  
Procurement  
PO Box 1810  
Rancho Cordova, CA 95741

Disclaimer: The original PDF version and any subsequent addendums of the IFB released by the Procurement Official of this Bid remain the official version. In the event of any inconsistency between the Bidder's versions, articles, attachments, specifications or provisions which constitute the Contract, the official State version of the IFB in its entirety shall take precedence.

## AMENDMENT LOG

<b>Amendment #</b>	<b>Date</b>	<b>Amendment Description</b>
3	11/01/2020	Addendum Changed to Amendment, Deleted items 2 - BAFO; and added Item 3, Am 3 Changes. Updated Table of Contents in its entirety. Table 20.2.10; Updated entire table.
23	10/05/2024	Updated Header to Amendment 23. Updated Table of Contents. Reformatted Table 23.2.1.7a for ADA Compliance Added SKUs to Table 23.4.2.2 – Unsolicited Services Related Infrastructure

## TABLE OF CONTENTS

23.1 OVERVIEW .....	5
23.1.1 Bidder Response Requirements .....	5
23.1.2 Designation of Requirements .....	6
23.1.3 Pacific Time Zone .....	6
23.2 ETHERNET SERVICES.....	6
23.2.1 Metropolitan Area Network Ethernet (MAE) Services.....	6
23.2.1.1 General Requirements .....	7
23.2.1.1.1 Standards .....	7
23.2.1.1.2 Security .....	7
23.2.1.1.3 Data Breach Reporting.....	7
23.2.1.1.4 End-to-End Ethernet Delivery .....	7
23.2.1.1.5 Ethernet Virtual Connections (EVC) .....	8
23.2.1.1.6 Ethernet User-to-Network Interface (UNI).....	8
23.2.1.1.7 Multiple Classes of Service (CoS) .....	8
23.2.1.1.8 Service Frame Delivery Options .....	8
23.2.1.1.9 Ethernet Service Frame Disposition.....	9
23.2.1.1.10 VLAN Tag Preservation.....	9
23.2.1.1.11 Maximum Frame Size .....	9
23.2.1.1.12 Jumbo Frames .....	9
23.2.1.1.13 Performance Monitoring .....	9
23.2.1.1.14 Network Monitoring.....	10
23.2.1.1.15 Technical Support .....	10
23.2.1.1.16 Maintenance .....	10
23.2.1.1.17 Equipment and Environment .....	10
23.2.1.1.18 Contractor Wi-Fi Hotspot Service Offerings .....	11
23.2.1.2 Ethernet Private Line (EPL) MAE Service .....	11
23.2.1.3 Ethernet Virtual Private Line (EVPL) MAE Service .....	11
23.2.1.4 EVPL MAE Service Multiplexing .....	12
23.2.1.5 EPL and EVPL MAE Classes of Service (CoS) .....	12
23.2.1.5.1 BASIC CoS MAE.....	12
23.2.1.5.2 PRIORITY CoS MAE.....	12
23.2.1.5.3 PREMIUM CoS MAE.....	13
23.2.1.6 EPL and EVPL MAE Service Feature Description .....	14
23.2.1.6.1 EPL and EVPL MAE Service Connections .....	14
23.2.1.6.2 Managed IP Enabled Routing Service:.....	14
23.2.1.6.3 MAE Backup Options .....	28

23.2.1.6.4 Additional Unsolicited MAE Services and Features.....	28
23.2.1.7 MAE Service Geographic Service Areas .....	31
23.3 NETWORK DISASTER/OPERATIONAL RECOVERY .....	38
23.3.1 Telecommunications Service Priority (TSP) Program .....	38
23.4 OTHER SERVICES .....	38
23.4.1 Hourly Rates for Services .....	38
23.4.2 Services Related Infrastructure (SRI) .....	38
23.4.2.1 Extended Demarcation Wiring Services .....	38
23.4.2.2 Unsolicited Services Related Infrastructure .....	47
23.4.3 Services Related Hourly Support .....	86
23.5 SERVICE LEVEL AGREEMENTS (SLA) .....	89
23.5.1 Service Level Agreement Format .....	89
23.5.2 Technical Requirements versus SLA Objectives .....	90
23.5.3 Methods of Outage Reporting: Customer or Contractor .....	90
23.5.4 Bidder Response to Service Level Agreements.....	90
23.5.5 Contractor SLA Management Plan .....	90
23.5.6 Technical SLA General Requirements .....	91
23.5.7 Trouble Ticket Stop Clock Conditions .....	93
23.5.8 Technical Service Level Agreements (SLA).....	97
23.5.8.1 Availability (M-S).....	97
23.5.8.2 Catastrophic Outage 1 (CAT 1) (M-S) .....	98
23.5.8.3 Catastrophic Outage 2 (CAT 2) (M-S) .....	99
23.5.8.4 Catastrophic Outage 3 (CAT 3) (M-S) .....	101
23.5.8.5 Excessive Outage (M-S).....	102
23.5.8.6 Notification .....	103
23.5.8.7 Latency (M-S) .....	104
23.5.8.8 Packet Loss (M-S) .....	105
23.5.8.9 Provisioning (M-S) .....	107
23.5.8.10 Time to Repair (M-S).....	108
23.5.8.11 Managed Service Proactive Notification.....	109
23.5.8.12 Unsolicited Service Enhancement SLAs.....	111
23.5.8.13 Proposed Unsolicited Offerings.....	111
23.5.8.14 Contract Amendment Service Enhancement SLAs.....	111

## TECHNICAL REQUIREMENTS

### Category 23 – METROPOLITAN AREA NETWORK ETHERNET

#### **23.1 OVERVIEW**

The California Department of Technology (CDT), Statewide Telecommunications Procurement (STP) is requesting proposals from responsive vendors to provide Metropolitan Area Network (MAN) Ethernet services and features.

This Category 23 IFB C4DNCS19 (IFB) provides the State's solicitation for best value solutions for MAN Ethernet services. This IFB also describes the CALNET technical requirements necessary to support the CALNET program requirements.

This IFB will be awarded to Bidders that meet the award criteria as described in IFB C4DNCS19 Part 1, Bid Evaluation. The CALNET Data Network and Communications Services (DNCS) Contract(s) that result from the award of this IFB will be managed on a day-to-day basis by the CALNET Contractor Management Organization (CALNET CMO).

#### 23.1.1 Bidder Response Requirements

Throughout this IFB, Bidders are required to acknowledge acceptance of the requirements described herein by responding to one of the following:

1. Example A (for responses that require confirmation that the Bidder understands and accepts the requirement):

**“Bidder understands the requirements and shall meet or exceed them? Yes ”**

Or,

2. Example B (for responses that require the Bidder to provide a description or written response to the requirement):

**“Bidder understands the requirements and shall meet or exceed them? Yes ”**

**Description:”**

Or,

3. Example C (for responses contained in Technical Feature and/or Service Tables):

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidders Product Identifier	Bidder Meets or Exceeds? Yes or No
1					Yes

### 23.1.2 Designation of Requirements

All Technical Requirements specified in this IFB C4DNCS19 are Mandatory and must be responded to as identified in IFB C4DNCS19 Part 1, SOW Mandatory Technical Requirements by the Bidder. Additionally, some Mandatory requirements are "Mandatory-Scorable" and are designated as "(M-S)".

Costs associated with services shall be included in the prices provided by the Bidder for the individual items included in the Cost Worksheets. Items not listed in the Cost Worksheets will not be billable by the Contractor. If additional unsolicited items include the features described in the IFB and are not included as billable in the Cost Worksheets, the cost associated with the features shall not be included in the unsolicited price.

Services and features included in the Cost Worksheets are those that the Bidder must provide. All Bidders must provide individual prices as indicated in the Cost Worksheets in the Bidder's Final Proposal. Items submitted with no price will be considered as offered at no cost.

### 23.1.3 Pacific Time Zone

Unless specific otherwise, all times stated herein are times in the Pacific Time Zone.

**Bidder understands the requirements and shall meet or exceed them? Yes**

## 23.2 ETHERNET SERVICES

Contractors shall provide Ethernet network services in specific geographic locations throughout the state. The service shall provide for the transmission of digital signals in a dedicated high capacity channel. The service shall be available in multiple configurations, enabling Customers to connect two or more Local Area Networks (LANs) at the native speed of the LAN backbone.

**Bidder understands the requirements and shall meet or exceed them? Yes**

### 23.2.1 Metropolitan Area Network Ethernet (MAE) Services

Contractors shall provide switched Ethernet point-to-point and multipoint LAN services for use in a metropolitan area which allows Customers to connect two or more locations.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.1 General Requirements

23.2.1.1.1 Standards

1. Contractor's service shall provide Ethernet services that comply with all applicable standards as set by the following standard bodies:

**Bidder understands the requirements and shall meet or exceed them? Yes**

2. Metro Ethernet Forum (MEF);

**Bidder understands the requirements and shall meet or exceed them? Yes**

3. Internet Engineering Task Force;

**Bidder understands the requirements and shall meet or exceed them? Yes**

4. International Telecommunications Union (ITU); and,

**Bidder understands the requirements and shall meet or exceed them? Yes**

5. Institute of Electrical and Electronics Engineers, Inc. (IEEE).

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.1.2 Security

Contractor shall physically secure all data and networking facilities through which data traverses Contractor's WAN complying with the physical security controls of NIST SP 800-53, ISO/IEC 27001, or equivalent standards.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.1.3 Data Breach Reporting

If Contractor determines that a breach of data has occurred that may involve CALNET Customer data, the nature and scope of the breach (as it affects Customer data) shall be reported to both the Customer and the CALNET CMO within 24 hours of that determination.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.1.4 End-to-End Ethernet Delivery

Contractors shall provide a seamless end-to-end service traversing from the Customer Premise Equipment (CPE) through the Contractor's network minimizing conversion of protocols.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.1.5 Ethernet Virtual Connections (EVC)

Contractor's service shall provide EVCs, which are used to define the association of two or more User-to-Network Interfaces (UNI's).

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.1.6 Ethernet User-to-Network Interface (UNI)

Contractor's service shall provide delivery of the service via a User-to-Network Interface (UNI). The service shall provide bidirectional, full duplex transmission of Ethernet frames using a standard IEEE 802.3 Ethernet interface (UNI). Table 23.2.1.1.6 lists the UNI physical interfaces.

**Table 23.2.1.1.6 – UNI Physical Interfaces**

UNI Speed	UNI Physical Interface
10 Mbps	10/100/1000Base-Tx
100 Mbps	10/100/1000Base-Tx or Sx
1 Gbps	1000Base-Tx or 1000Base-SX
10 Gbps	10GBase-SR or 10GBase-LR

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.1.7 Multiple Classes of Service (CoS)

The service shall provide Class of Service (CoS) options that allow for differentiated service performance levels for different types of network traffic.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.1.8 Service Frame Delivery Options

Service Frame Delivery options supported shall include:

1. Unicast Frame Delivery;

**Bidder understands the requirements and shall meet or exceed them? Yes**

2. Multicast Frame Delivery as per RFC 1112;

**Bidder understands the requirements and shall meet or exceed them? Yes**

3. IEEE 802.1 Bridging and Management Standards; and,

**Bidder understands the requirements and shall meet or exceed them? Yes**

4. Broadcast Frame Delivery as per IEEE 802.3.

**Bidder understands the requirements and shall meet or exceed them? Yes**



#### 23.2.1.1.9 Ethernet Service Frame Disposition

The service shall deliver all service frames associated with the EVC unconditionally across the network as specified in Table 23.2.1.1.19.

**Table 23.2.1.1.9 –Service Frame Delivery Disposition**

<b>Service Frame Type</b>	<b>Service Frame Delivery</b>
Unicast	All Frames delivered unconditionally
Multicast	All Frames delivered unconditionally
Broadcast	All Frames delivered unconditionally

**Bidder understands the requirements and shall meet or exceed them? Yes**

#### 23.2.1.1.10 VLAN Tag Preservation

The service shall support IEEE 802.1Q VLAN-tagged Customer packets. All Customer VLAN IDs and priority code points (IEEE 802.1p) for CoS shall be transmitted and received unaltered by the service. Untagged packets shall be mapped to the native VLAN specified by Customer. Customers may configure their own VLANs on their Customer owned CPE without coordination with the Contractor.

**Bidder understands the requirements and shall meet or exceed them? Yes**

#### 23.2.1.1.11 Maximum Frame Size

The service shall support a Maximum Transmission Unit (MTU) packet size of 1,600 bytes to support untagged or 802.1Q tagged packet sizes.

**Bidder understands the requirements and shall meet or exceed them? Yes**

#### 23.2.1.1.12 Jumbo Frames

The Contractor's network shall support Jumbo Frames.

**Bidder understands the requirements and shall meet or exceed them? Yes**

#### 23.2.1.1.13 Performance Monitoring

The Contractor shall conduct Performance Monitoring that includes the following:

1. Signal failure;

**Bidder understands the requirements and shall meet or exceed them? Yes**

2. Signal degradation;

**Bidder understands the requirements and shall meet or exceed them? Yes**

3. Connectivity or Loss of connectivity;

**Bidder understands the requirements and shall meet or exceed them? Yes**

4. Frame loss;

**Bidder understands the requirements and shall meet or exceed them? Yes**

5. Errored frames;

**Bidder understands the requirements and shall meet or exceed them? Yes**

6. Looping;

**Bidder understands the requirements and shall meet or exceed them? Yes**

7. Mis-inserted frames; and,

**Bidder understands the requirements and shall meet or exceed them? Yes**

8. Maintenance parameters.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.1.14 Network Monitoring

The Contractor shall monitor all services on a 24x7 basis.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.1.15 Technical Support

Contractor shall provide technical support for service issues via a toll-free telephone number that operates on a 24x7 basis.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.1.16 Maintenance

The Contractor shall perform maintenance during a set maintenance window. Maintenance shall be coordinated between the Contractor and the Customer. Contractor shall provide a minimum of 48 hour notice to the Customer for non-service impacting scheduled maintenance. Contractor shall provide a minimum of seven days' notice for service impacting planned maintenance. Emergency maintenance shall be performed as needed.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.1.17 Equipment and Environment

The Contractor shall provide and install all network terminating Equipment (NTE) in Customer provided racking and utilize State provided AC power. The NTE shall connect to either a Customer router with an Ethernet blade or a

Customer Ethernet switch equipped to support Ethernet located within fifty feet.

**Bidder understands the requirements and shall meet or exceed them? Yes**

All Equipment shall adhere to the Telcordia Network Equipment Building System (NEBS).

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.1.18 Contractor Wi-Fi Hotspot Service Offerings

The Contractor shall not configure services utilizing state-funded (or leased) infrastructure or resources to provide Contractor branded Wi-Fi hotspots for a fee/subscription to the general public. Use of any publicly funded power, facilities, or infrastructure in State leased or owned buildings to provide Contractor fee based Wi-Fi services is considered a gift of public funds.

The Contractor shall not provide Contractor branded Wi-Fi hotspot services for non-CALNET users by piggybacking onto CALNET Customer primary installations or by any other means that utilize publicly funded assets. This restriction includes but is not limited to installation of secondary equipment, circuits, or data channels both land based and wireless.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.2 Ethernet Private Line (EPL) MAE Service

The Contractor shall provide Ethernet Private Line (EPL) MAE service. This service shall provide a logical Point-to-Point connection between two Customer locations or a Customer location and an Internet Service Provider Point of Presence (POP), Interexchange Carrier POP, or another 3rd party location. EPL service shall enable Customers to use any VLANs or Ethernet control protocol across the service without coordination with the Contractor.

EPL service shall enable Customers to connect their Customer Premise Equipment (CPE) using an Ethernet interface and provide one Ethernet Virtual Connection (EVC) between two Customer locations.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.3 Ethernet Virtual Private Line (EVPL) MAE Service

The Contractor shall provide Ethernet Virtual Private Line (EVPL) MAE service. This service shall provide an Ethernet Virtual Connection (EVC) between two

Customer locations similar to Ethernet Private Line service but shall support the added flexibility to multiplex multiple services (EVCs) on a single UNI at a Customer's hub or aggregation site.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.4 EVPL MAE Service Multiplexing

The EVPL MAE service shall enable Customers to multiplex multiple services (EVCs) on a given UNI eliminating the need for multiple physical interfaces on the Customer's router or Ethernet switch.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.5 EPL and EVPL MAE Classes of Service (CoS)

Contractor shall provide three Classes of Service (CoS) options for the EPL/EVPL MAE services – BASIC, PRIORITY and PREMIUM. The CoS options shall allow for differentiated service performance levels for different types of network traffic. CoS options shall allow Customers to prioritize mission-critical traffic from lesser priority traffic in the network. The CoS shall be associated with the bandwidth usage rate, Committed Information Rate (CIR), ordered by the Customer for each connection at the Customer locations. If the Customer requests multiple EVCs per location, then a CoS will be associated with each EVC.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.5.1 BASIC CoS MAE

BASIC CoS supports data applications with more tolerance for delay and/or those with least priority. There are no service performance parameters associated with this Class of Service.

The Contractor shall offer CIR - BASIC CoS services and features detailed in Table 23.2.1.6.b.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.5.2 PRIORITY CoS MAE

PRIORITY CoS shall support data applications with more tolerance for delay and/or those that are lower in priority. The service parameters associated with this class of service are listed in Table 23.2.1.5.2.

Table 23.2.1.5.2 lists the service performance objectives for PRIORITY CoS for distances within 250 network miles.

The Contractor shall offer CIR – PRIORITY CoS services and features detailed in Table 23.2.1.6.c.

**Table 23.2.1.5.2 – PRIORITY CoS Performance Objectives**

Performance Objective (≤ 250 miles)	PRIORITY CoS
Latency (one way)	<25ms
Jitter (one way)	<15ms
Packet Loss (one way)	<0.5%
Availability	>99.99%

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.2.1.5.3 PREMIUM CoS MAE

PREMIUM CoS shall support applications that require minimal loss and low latency variation (i.e., jitter). The network will provision data in this class of service in a priority queue indicating that it is delay sensitive. The service parameters associated with this class of service are listed in Table 23.2.1.5.3.

Table 23.2.1.5.3 lists the service performance objectives for PREMIUM CoS for distances within 250 network miles.

The Contractor shall offer CIR - PREMIUM CoS services and features detailed in Table 23.2.1.6.d.

**Table 23.2.1.5.3 – PREMIUM CoS Performance Objectives**

Performance Objective (≤ 250 miles)	PREMIUM CoS
Latency (one way)	<15ms
Jitter (one way)	<5ms
Packet Loss (one way)	<0.1%
Availability	>99.99%

**Bidder understands the requirements and shall meet or exceed them? Yes**

### 23.2.1.6 EPL and EVPL MAE Service Feature Description

Contractor shall provide MAE services as described below.

#### 23.2.1.6.1 EPL and EVPL MAE Service Connections

EPL and EVPL MAE Service Connections shall include the Network Interface and the Access Link from the Customer premises to the Ethernet network, a port on the Ethernet network, the assigned bandwidth usage and one Ethernet Virtual Connection (EVC).

1. Network Interface (NI): The point that the Customer's data transmission enters the Contractor's network. The point of interconnection between the Contractor's communication facility and Customer end-user's terminal equipment.

**Bidder understands the requirements and shall meet or exceed them? Yes**

2. Access Link: Connects a Customer facility at the NI to an Ethernet port on the Metro Ethernet network with a standard optical or copper connection.

**Bidder understands the requirements and shall meet or exceed them? Yes**

3. Port: An Ethernet port is the physical entry point to the shared Metro Ethernet Network. Virtual Local Area Networks (VLANs) Ethernet Virtual Connections (EVCs) originate and terminate on a Metro Ethernet Port.

**Bidder understands the requirements and shall meet or exceed them? Yes**

#### 23.2.1.6.2 Managed IP Enabled Routing Service:

1. Contractor shall offer a managed router or IP enabled routing device service that includes the components described in Section 23.2.1.6.1 in a bundled format which includes a Contractor owned, maintained and managed router or managed IP enabled routing device as identified in Table 23.2.1.6.a.

**Bidder understands the requirements and shall meet or exceed them? Yes**

2. The Contractor's managed routing service shall include proactive Customer notification.

**Bidder understands the requirements and shall meet or exceed them? Yes**

3. The Contractor shall provide customers full read only access to the managed router or managed IP enabled routing device.

**Bidder understands the requirements and shall meet or exceed them? Yes**

Contractors shall provide the services and Features described in Table 23.2.1.6.a

**Table 23.2.1.6.a – MAE Services and Features**

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
1	EPL MAE Service Connection 10/100 Mbps	10/100 Mbps Ethernet port per location; Assessed per interface at bandwidths of 10/100 Mbps (10/100BASE-T). The EPL connection rate element includes the physical connection (Access Link) between the Customer's demarcation and the core Ethernet network, the port, one EVC and the NI.		ATS-BUN-MAE-EPL100M	Yes
2	EPL MAE Service Connection 10/100 Mbps with Managed IP Enabled Routing Device	10/100 Mbps Ethernet port per location with managed IP enabled routing device; Assessed per interface at bandwidths of 10/100 Mbps (10/100BASE-T). The EPL connection rate element includes the physical		ATS-BUN-MAE-EPL100MR	Yes

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
		connection (Access Link) between the Customer's demarcation and the core Ethernet network, the port, one EVC and the NI.			
3	EPL MAE Service Connection Gigabit Ethernet (1 Gbps)	1 Gbps Ethernet port per location; Assessed per interface at bandwidths of 1 Gbps Ethernet. The EPL connection rate element includes the physical connection (Access Link) between the Customer's demarcation and the core Ethernet network, the port, one EVC and the NI.		ATS-BUN-MAE-EPL1G	Yes
4	EPL MAE Service Connection Gigabit Ethernet (1 Gbps) with Managed IP Enabled Routing Device	1 Gbps Ethernet port per location, with managed IP enabled routing device; Assessed per interface at bandwidths of 1 Gbps Ethernet. The EPL connection rate		ATS-BUN-MAE-EPL1GR	Yes



Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
		element includes the physical connection (Access Link) between the Customer's demarcation and the core Ethernet network, the port, one EVC and the NI.			
5	EPL MAE Service Connection Gigabit Ethernet (10 GE)	10 Gbps Ethernet port per location; Assessed per interface at bandwidths of 10 Gbps Ethernet. The EPL connection rate element includes the physical connection (Access Link) between the Customer's demarcation and the core Ethernet network, the port, one EVC and the NI.		ATS-BUN-MAE-EPL10GE	Yes
6	EPL MAE Service Connection Gigabit Ethernet (10 GE) with Managed IP Enabled	10 Gbps Ethernet port per location, with managed IP enabled routing device; Assessed per interface at bandwidths of 10 Gbps Ethernet.		ATS-BUN-MAE-EPL10GER	Yes

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
	Routing Device	The EPL connection rate element includes the physical connection (Access Link) between the Customer's demarcation and the core Ethernet network, the port, one EVC and the NI.			
7	EVPL MAE Service Connection 10/100 Mbps	Assessed per interface at bandwidths of 10/100 Mbps (10/100BASE-T). The EVPL connection rate element includes the physical connection (Access Link) between the Customer's demarcation and the core Ethernet network, the port, one EVC and the NI.		ATS-BUN-MAE-EVPL100M	Yes
8	EVPL MAE Service Connection 10/100 Mbps with Managed IP Enabled	Assessed per interface at bandwidths of 10/100 Mbps (10/100BASE-T) with managed IP enabled routing		ATS-BUN-MAE-EVPL100MR	Yes

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
	Routing Device	device. The EVPL connection rate element includes the physical connection (Access Link) between the Customer's demarcation and the core Ethernet network, the port, one EVC and the NI.			
9	EVPL MAE Service Connection Gigabit Ethernet (1 Gbps)	Assessed per interface at bandwidths of 1 Gbps Ethernet. The EVPL connection rate element includes the physical connection (Access Link) between the Customer's demarcation and the core Ethernet network, the port, one EVC and the NI.		ATS-BUN-MAE-EVPL1G	Yes
10	EVPL MAE Service Connection Gigabit Ethernet (1 Gbps) with Managed IP Enabled	Assessed per interface at bandwidths of 1 Gbps Ethernet with managed IP Enabled routing device. The EVPL connection rate		ATS-BUN-MAE-EVPL1GR	Yes

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
	Routing Device	element includes the physical connection (Access Link) between the Customer's demarcation and the core Ethernet network, the port, one EVC and the NI.			
11	EVPL MAE Service Connection 10 Gigabit Ethernet (10 GE)	Assessed per interface at bandwidths of 10 GE. The EVPL connection rate element includes the physical connection (Access Link) between the Customer's demarcation and the core Ethernet network, the port, one EVC and the NI.		ATS-BUN-MAE-EVPL10GE	Yes
12	EVPL MAE Service Connection 10 Gigabit Ethernet (10 GE) with Managed IP Enabled Routing Device	Assessed per interface at bandwidths of 10 GE with managed IP Enabled routing device. The EVPL connection rate element includes the physical connection (Access Link)		ATS-BUN-MAE-EVPL10GER	Yes

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
		between the Customer's demarcation and the core Ethernet network, the port, one EVC and the NI.			
13	Additional MAE MAC Addresses (51-100)	MAC Address rate element is a data link layer protocol used for Layer 2 connectivity. Standard service allows up to 50 MAC addresses to be present per EPL/EVPL connection. This optional feature increases that limit up to 100 MAC addresses per EPL/EVPL connection. A technical review will be necessary to determine if service can be provided and for approval to exceed the limit.		ATS-PRO-CIR-MAC100	Yes
14	Ethernet Virtual Connection (EVC) MAE	EVC rate element. EVCs shall be assigned in 1 Mbps increments within each port range. Customer may order		ATS-PRO-CIR-EVC	Yes

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
		additional EVCs to establish additional virtual connections over the same physical connections. When additional EVCs are ordered, the Customer must designate the portion of the CIR bandwidth assigned to each EVC.			

Contractor shall provide the Services and Features described in Table 23.2.1.6.b.

**Table 23.2.1.6.b – CIR Basic Class of Service MAE**

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Meets or Exceeds? Yes or No
1	BASIC CIR MAE - 2 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRB2M	Yes
2	BASIC CIR MAE - 4 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRB4M	Yes
3	BASIC CIR MAE - 5 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRB5M	Yes
4	BASIC CIR MAE - 8 Mbps	The guaranteed average		ATS-BUN-MAE-CIRB8M	Yes

<b>Line Item</b>	<b>Feature Name</b>	<b>Feature Description</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>	<b>Bidder's Product Identifier</b>	<b>Meets or Exceeds? Yes or No</b>
		bandwidth of the virtual circuit.			
5	BASIC CIR MAE - 10 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN- MAE- CIRB10M	Yes
6	BASIC CIR MAE - 20 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN- MAE- CIRB20M	Yes
7	BASIC CIR MAE - 50 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN- MAE- CIRB50M	Yes
8	BASIC CIR MAE - 100 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN- MAE- CIRB100M	Yes
9	BASIC CIR MAE - 150 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN- MAE- CIRB150M	Yes
10	BASIC CIR MAE - 200 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN- MAE- CIRB200M	Yes
11	BASIC CIR MAE - 250 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN- MAE- CIRB250M	Yes
12	BASIC CIR MAE - 400 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN- MAE- CIRB400M	Yes
13	BASIC CIR MAE - 500 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN- MAE- CIRB500M	Yes

<b>Line Item</b>	<b>Feature Name</b>	<b>Feature Description</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>	<b>Bidder's Product Identifier</b>	<b>Meets or Exceeds? Yes or No</b>
14	BASIC CIR MAE - 600 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRB600M	Yes
15	BASIC CIR MAE - 1 Gbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRB1G	Yes
16	BASIC CIR MAE - 10 Gbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRB10G	Yes

Contractor shall provide the Services and Features described in Table 23.2.1.6.c.

**Table 23.2.1.6.c – CIR Priority Class of Service MAE**

<b>Line Item</b>	<b>Feature Name</b>	<b>Feature Description</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>	<b>Bidder's Product Identifier</b>	<b>Meets or Exceeds? Yes or No</b>
1	PRIORITY CIR MAE - 2 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP2M	Yes
2	PRIORITY CIR MAE - 4 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP4M	Yes
3	PRIORITY CIR MAE - 5 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP5M	Yes
4	PRIORITY CIR MAE - 8 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP8M	Yes



<b>Line Item</b>	<b>Feature Name</b>	<b>Feature Description</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>	<b>Bidder's Product Identifier</b>	<b>Meets or Exceeds? Yes or No</b>
5	PRIORITY CIR MAE - 10 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP10M	Yes
6	PRIORITY CIR MAE - 20 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP20M	Yes
7	PRIORITY CIR MAE - 50 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP50M	Yes
8	PRIORITY CIR MAE - 100 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP100M	Yes
9	PRIORITY CIR MAE - 150 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP150M	Yes
10	PRIORITY CIR MAE - 200 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP200M	Yes
11	PRIORITY CIR MAE - 250 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP250M	Yes
12	PRIORITY CIR MAE - 400 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP400M	Yes
13	PRIORITY CIR MAE - 500 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP500M	Yes

<b>Line Item</b>	<b>Feature Name</b>	<b>Feature Description</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>	<b>Bidder's Product Identifier</b>	<b>Meets or Exceeds? Yes or No</b>
14	PRIORITY CIR MAE - 600 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP600M	Yes
15	PRIORITY CIR MAE - 1 Gbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP1G	Yes
16	PRIORITY CIR MAE - 10 Gbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRP10G	Yes

Contractor shall provide the Services and Features described in Table 23.2.1.6.d.

**Table 23.2.1.6.d CIR – Premium Class of Service MAE**

<b>Line Item</b>	<b>Feature Name</b>	<b>Feature Description</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>	<b>Bidder's Product Identifier</b>	<b>Meets or Exceeds? Yes or No</b>
1	PREMIUM CIR MAE - 2 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM2M	Yes
2	PREMIUM CIR MAE - 4 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM4M	Yes
3	PREMIUM CIR MAE - 5 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM5M	Yes
4	PREMIUM CIR MAE - 8 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM8M	Yes

<b>Line Item</b>	<b>Feature Name</b>	<b>Feature Description</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>	<b>Bidder's Product Identifier</b>	<b>Meets or Exceeds? Yes or No</b>
5	PREMIUM CIR MAE - 10 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM10M	Yes
6	PREMIUM CIR MAE - 20 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM20M	Yes
7	PREMIUM CIR MAE - 50 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM50M	Yes
8	PREMIUM CIR MAE - 100 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM100M	Yes
9	PREMIUM CIR MAE - 150 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM150M	Yes
10	PREMIUM CIR MAE - 200Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM200M	Yes
11	PREMIUM CIR MAE - 250 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM250M	Yes
12	PREMIUM CIR MAE - 400 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM400M	Yes
13	PREMIUM CIR MAE - 500 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM500M	Yes

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Meets or Exceeds? Yes or No
14	PREMIUM CIR MAE - 600 Mbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM600M	Yes
15	PREMIUM CIR MAE -1 Gbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM1G	Yes
16	PREMIUM CIR MAE - 10 Gbps	The guaranteed average bandwidth of the virtual circuit.		ATS-BUN-MAE-CIRM10G	Yes

#### 23.2.1.6.3 MAE Backup Options

If the Contractor provides LTE backup services for Managed Equipment the Contractor shall use current CALNET Cellular providers. All Bidders are required to indicate below that they understand the requirement regardless of their intent to provide LTE backup services.

#### **Bidder understands this requirement and shall meet or exceed it? Yes**

#### 23.2.1.6.4 Additional Unsolicited MAE Services and Features

The Bidder may offer additional unsolicited MAE services and features in Table 23.2.1.6.4.

**Table 23.2.1.6.4 – Unsolicited MAE Services and Features**

Line Item	Feature Name	Bidder's Product Identifier	Bidder's Product Description, Restrictions and Limitations
Add-On Service to activate port/access gateway for Internet Access within Core Metro Ethernet Infrastructure. Not available as a standalone dedicated internet access service.			
1	Bundled Internet Access - 5Mbps NRC	ATS-MSN-INT-MPLS5M	Not Applicable for Port Only SKU's
2	Bundled Internet Access - 5Mbps MRC	ATS-MSR-INT-MPLS5M	Not Applicable for Port Only SKU's

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
3	Bundled Internet Access - 10Mbps NRC	ATS-MSN-INT-MPLS10M	Not Applicable for Port Only SKU's
4	Bundled Internet Access - 10Mbps MRC	ATS-MSR-INT-MPLS10M	Not Applicable for Port Only SKU's
5	Bundled Internet Access - 20Mbps NRC	ATS-MSN-INT-MPLS20M	Not Applicable for Port Only SKU's
6	Bundled Internet Access - 20Mbps MRC	ATS-MSR-INT-MPLS20M	Not Applicable for Port Only SKU's
7	Bundled Internet Access - 50Mbps NRC	ATS-MSN-INT-MPLS50M	Not Applicable for Port Only SKU's
8	Bundled Internet Access - 50Mbps MRC	ATS-MSR-INT-MPLS50M	Not Applicable for Port Only SKU's
9	Bundled Internet Access - 100Mbps NRC	ATS-MSN-INT-MPLS100M	Not Applicable for Port Only SKU's
10	Bundled Internet Access - 100Mbps MRC	ATS-MSR-INT-MPLS100M	Not Applicable for Port Only SKU's
11	Bundled Internet Access - 200Mbps NRC	ATS-MSN-INT-MPLS200M	Not Applicable for Port Only SKU's
12	Bundled Internet Access - 200Mbps MRC	ATS-MSR-INT-MPLS200M	Not Applicable for Port Only SKU's
13	Bundled Internet Access - 500Mbps NRC	ATS-MSN-INT-MPLS500M	Not Applicable for Port Only SKU's
14	Bundled Internet Access - 500Mbps MRC	ATS-MSR-INT-MPLS500M	Not Applicable for Port Only SKU's
15	Bundled Internet Access - 1Gbps NRC	ATS-MSN-INT-MPLS1G	Not Applicable for Port Only SKU's

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
16	Bundled Internet Access - 1Gbps MRC	ATS-MSR-INT-MPLS1G	Not Applicable for Port Only SKU's
17	Bundled Internet Access - 2Gbps NRC	ATS-MSN-INT-MPLS2G	Not Applicable for Port Only SKU's
18	Bundled Internet Access - 2Gbps MRC	ATS-MSR-INT-MPLS2G	Not Applicable for Port Only SKU's
19	Bundled Internet Access - 5Gbps NRC	ATS-MSN-INT-MPLS5G	Not Applicable for Port Only SKU's
20	Bundled Internet Access - 5Gbps MRC	ATS-MSR-INT-MPLS5G	Not Applicable for Port Only SKU's
21	Bundled Internet Access - 10Gbps NRC	ATS-MSN-INT-MPLS10G	Not Applicable for Port Only SKU's
22	Bundled Internet Access - 10Gbps MRC	ATS-MSR-INT-MPLS10G	Not Applicable for Port Only SKU's
23	NWN Provided Provisioning Services	ATS-PRO-CIR-DIA	Add-On Service to activate port/access gateway for Internet Access within Coretro Ethernet Infrastructure. Not available as a standalone dedicated internet access service.
24	Port Change Request for Circuit	ATS-MSN-CIR-PCR	
25	Port Expedite Request	ATS-MSN-CIR-PEXP	
26	One Static IP address	ATS-AAS-IPA-1S	NWN Support Services
27	Five Static IP addresses	ATS-AAS-IPA-5S	NWN Support Services
28	Twenty-nine Static IP addresses	ATS-AAS-IPA-29S	NWN Support Services
29	Mobile Connection 10M	ATS-AAS-MC-10M	NWN Support Services

Line Item	Feature Name	Bidder's Product Identifier	Bidder's Product Description, Restrictions and Limitations
30	Mobile Connection 20M	ATS-AAS-MC-20M	NWN Support Services
31	Mobile Connection 50M	ATS-AAS-MC-50M	NWN Support Services
32	Mobile Connection 100M	ATS-AAS-MC-100M	NWN Support Services
33	Mobile Connection 250M	ATS-AAS-MC-250M	NWN Support Services
34	Mobile Connection 500M	ATS-AAS-MC-500M	NWN Support Services
35	Setup for Mobile Connection	ATS-PRO-MC	

### 23.2.1.7 MAE Service Geographic Service Areas

Bidder shall identify the locations where their EPL and EVPL MAE Services are available in Table 23.2.1.7.a. The Contractor shall provide the service where commercially available through Contractor owned facilities, third-party agreements, and as allowed by State or Federal regulations. Commitment to provide service is subject to facility availability as determined by the Bidder at time of bid submission and may be reassessed by Contractor at time of service order.

#### **Bidder understands the requirements and shall meet or exceed them? Yes**

Special construction charges that may be required to provide this service are not included in this offering or contained within the CALNET contracts and must be acquired by the customer directly through other procurement means.

#### **Bidder understands the requirements and shall meet or exceed them? Yes**

**Table 23.2.1.7.a – Bidder's MAE Services Service Locations**

Line Item	Service Location – City or ZIP Code	EPL MAE Service 10/100 Mbps	EPL MAE Service 1 Gbps	EPL MAE Service 10 Gbps	EVPL MAE Service 10/100 Mbps	EVPL MAE Service 1 Gbps	EVPL MAE Service 10 Gbps
1 - 692	Please see 23.2.1.7.a. Bidder's MAE Services Service Locations List Line Item 1 - 692	Yes	Yes	Yes	Yes	Yes	Yes

23.2.1.7.a. Bidder's MAE Services Service Locations List Line Item 1 - 692:

- |                               |                             |                      |
|-------------------------------|-----------------------------|----------------------|
| 1. Los Angeles                | 36. La Mirada               | 72. La Crescenta     |
| 2. West Hollywood             | 37. Montebello              | 73. Agoura Hills     |
| 3. Playa Vista                | 38. Norwalk                 | 74. Calabasas        |
| 4. Bell Gardens               | 39. Pico Rivera             | 75. Canoga Park      |
| 5. Beverly Hills              | 40. Santa Fe Springs        | 76. Winnetka         |
| 6. Compton                    | 41. Stanton                 | 77. West Hills       |
| 7. Culver City                | 42. Artesia                 | 78. Chatsworth       |
| 8. Downey                     | 43. Cerritos                | 79. Encino           |
| 9. El Segundo                 | 44. Avalon                  | 80. Newbury Park     |
| 10. Gardena                   | 45. Bellflower              | 81. Newhall          |
| 11. Hawthorne                 | 46. Harbor City             | 82. Northridge       |
| 12. Hermosa Beach             | 47. Lakewood                | 83. Porter Ranch     |
| 13. Huntington Park           | 48. Hawaiian<br>Gardens     | 84. Pacoima          |
| 14. Lawndale                  |                             | 85. Reseda           |
| 15. Lynwood                   | 49. Lomita                  | 86. San Fernando     |
| 16. Malibu                    | 50. Los Alamitos            | 87. Sylmar           |
| 17. Manhattan<br>Beach        | 51. Paramount               | 88. North Hills      |
| 18. Maywood                   | 52. San Pedro               | 89. Granada Hills    |
| 19. Pacific Palisades         | 53. Seal Beach              | 90. Mission Hills    |
| 20. Palos Verdes<br>Peninsula | 54. Sunset Beach            | 91. Santa Clarita    |
| 21. Rancho Palos<br>Verdes    | 55. Wilmington              | 92. Canyon Country   |
| 22. Redondo Beach             | 56. Carson                  | 93. Sun Valley       |
| 23. South Gate                | 57. Signal Hill             | 94. Valencia         |
| 24. Topanga                   | 58. Long Beach              | 95. Tarzana          |
| 25. Venice                    | 59. Altadena                | 96. Thousand Oaks    |
| 26. Marina Del Rey            | 60. Arcadia                 | 97. Westlake Village |
| 27. Playa Del Rey             | 61. Duarte                  | 98. Woodland Hills   |
| 28. Inglewood                 | 62. La Canada<br>Flintridge | 99. Stevenson Ranch  |
| 29. Santa Monica              | 63. Monrovia                | 100. Castaic         |
| 30. Torrance                  | 64. Montrose                | 101. Van Nuys        |
| 31. Whittier                  | 65. Sierra Madre            | 102. Panorama City   |
| 32. Buena Park                | 66. South Pasadena          | 103. Sherman Oaks    |
| 33. La Palma                  | 67. Sunland                 | 104. Burbank         |
| 34. Cypress                   | 68. Tujunga                 | 105. North Hollywood |
| 35. La Habra                  | 69. Pasadena                | 106. Studio City     |
|                               | 70. San Marino              | 107. Valley Village  |
|                               | 71. Glendale                | 108. Universal City  |



- |                       |                         |                         |
|-----------------------|-------------------------|-------------------------|
| 109. Rancho Cucamonga | 148. Tecate             | 187. Coachella          |
| 110. Azusa            | 149. Bonsall            | 188. Desert Hot Springs |
| 111. Baldwin Park     | 150. Cardiff By The Sea | 189. El Centro          |
| 112. Chino            | 151. Carlsbad           | 190. Heber              |
| 113. Chino Hills      | 152. Del Mar            | 191. Holtville          |
| 114. Claremont        | 153. El Cajon           | 192. Imperial           |
| 115. Covina           | 154. Encinitas          | 193. Joshua Tree        |
| 116. El Monte         | 155. Escondido          | 194. La Quinta          |
| 117. South El Monte   | 156. Fallbrook          | 195. Mecca              |
| 118. Glendora         | 157. Julian             | 196. Niland             |
| 119. La Puente        | 158. La Jolla           | 197. North Palm Springs |
| 120. Hacienda Heights | 159. Lakeside           | 198. Palm Springs       |
| 121. Rowland Heights  | 160. Oceanside          | 199. Rancho Mirage      |
| 122. La Verne         | 161. Camp Pendleton     | 200. Thermal            |
| 123. Mira Loma        | 162. Pala               | 201. Salton City        |
| 124. Monterey Park    | 163. Pauma Valley       | 202. Thousand Palms     |
| 125. Ontario          | 164. Poway              | 203. Twentynine Palms   |
| 126. Montclair        | 165. Ramona             | 204. Whitewater         |
| 127. Diamond Bar      | 166. Rancho Santa Fe    | 205. Winterhaven        |
| 128. Pomona           | 167. San Marcos         | 206. Yucca Valley       |
| 129. Rosemead         | 168. Santa Ysabel       | 207. Adelanto           |
| 130. San Dimas        | 169. Santee             | 208. Apple Valley       |
| 131. San Gabriel      | 170. Solana Beach       | 209. Baker              |
| 132. Temple City      | 171. Vista              | 210. Barstow            |
| 133. Upland           | 172. Valley Center      | 211. Grand Terrace      |
| 134. Walnut           | 173. San Diego          | 212. Big Bear Lake      |
| 135. West Covina      | 174. Coronado           | 213. Bloomington        |
| 136. Alhambra         | 175. San Ysidro         | 214. Blue Jay           |
| 137. Alpine           | 176. Indio              | 215. Calimesa           |
| 138. Bonita           | 177. Indian Wells       | 216. Cedar Glen         |
| 139. Boulevard        | 178. Palm Desert        | 217. Cedarpines Park    |
| 140. Campo            | 179. Banning            | 218. Colton             |
| 141. Chula Vista      | 180. Beaumont           | 219. Crestline          |
| 142. Imperial Beach   | 181. Blythe             | 220. Daggett            |
| 143. Jamul            | 182. Brawley            | 221. Essex              |
| 144. La Mesa          | 183. Cabazon            | 222. Fontana            |
| 145. Lemon Grove      | 184. Calexico           | 223. Hesperia           |
| 146. National City    | 185. Calipatria         | 224. Highland           |
| 147. Spring Valley    | 186. Cathedral City     | 225. Lake Arrowhead     |

- |                             |                             |                         |
|-----------------------------|-----------------------------|-------------------------|
| 226. Loma Linda             | 264. Huntington Beach       | 301. Port Hueneme       |
| 227. Lucerne Valley         | 265. Laguna Beach           | 302. Santa Paula        |
| 228. Lytle Creek            | 266. Laguna Hills           | 303. Simi Valley        |
| 229. Mentone                | 267. Midway City            | 304. Brandeis           |
| 230. Needles                | 268. Aliso Viejo            | 305. Somis              |
| 231. Nipton                 | 269. Newport Coast          | 306. Santa Barbara      |
| 232. Oro Grande             | 270. Newport Beach          | 307. Goleta             |
| 233. Phelan                 | 271. San Clemente           | 308. Armona             |
| 234. Redlands               | 272. San Juan Capistrano    | 309. Arvin              |
| 235. Rialto                 | 273. Silverado              | 310. Avenal             |
| 236. Skyforest              | 274. Laguna Niguel          | 311. Coalinga           |
| 237. Victorville            | 275. Trabuco Canyon         | 312. Corcoran           |
| 238. Yermo                  | 276. Westminster            | 313. Delano             |
| 239. Yucaipa                | 277. Rancho Santa Margarita | 314. Ducor              |
| 240. San Bernardino         | 278. Mission Viejo          | 315. Earlimart          |
| 241. Riverside              | 279. Ladera Ranch           | 316. Exeter             |
| 242. March Air Reserve Base | 280. Santa Ana              | 317. Pine Mountain Club |
| 243. Lake Elsinore          | 281. Fountain Valley        | 318. Farmersville       |
| 244. Aguanga                | 282. Tustin                 | 319. Frazier Park       |
| 245. Anza                   | 283. Anaheim                | 320. Hanford            |
| 246. Hemet                  | 284. Brea                   | 321. Kettleman City     |
| 247. Moreno Valley          | 285. Fullerton              | 322. Lake Isabella      |
| 248. Murrieta               | 286. Garden Grove           | 323. Lamont             |
| 249. Nuevo                  | 287. Norco                  | 324. Lebec              |
| 250. Perris                 | 288. Orange                 | 325. Lemoore            |
| 251. San Jacinto            | 289. Placentia              | 326. Lindsay            |
| 252. Menifee                | 290. Corona                 | 327. Mc Farland         |
| 253. Sun City               | 291. Yorba Linda            | 328. Porterville        |
| 254. Temecula               | 292. Ventura                | 329. Richgrove          |
| 255. Wildomar               | 293. Camarillo              | 330. Shafter            |
| 256. Irvine                 | 294. Carpinteria            | 331. Stratford          |
| 257. Foothill Ranch         | 295. Fillmore               | 332. Strathmore         |
| 258. Capistrano Beach       | 296. Moorpark               | 333. Taft               |
| 259. Corona Del Mar         | 297. Oak View               | 334. Three Rivers       |
| 260. Costa Mesa             | 298. Ojai                   | 335. Tulare             |
| 261. Dana Point             | 299. Oxnard                 | 336. Visalia            |
| 262. Lake Forest            | 300. Piru                   | 337. Wasco              |
| 263. Laguna Woods           |                             | 338. Woodlake           |
|                             |                             | 339. Bakersfield        |

- |                      |                    |                             |
|----------------------|--------------------|-----------------------------|
| 340. San Luis Obispo | 380. Tehachapi     | 420. Portola Valley         |
| 341. Los Osos        | 381. Chowchilla    | 421. Millbrae               |
| 342. Arroyo Grande   | 382. Clovis        | 422. Mountain View          |
| 343. Atascadero      | 383. Cutler        | 423. Pacifica               |
| 344. Buellton        | 384. Dinuba        | 424. Redwood City           |
| 345. Cambria         | 385. Dos Palos     | 425. San Bruno              |
| 346. Cayucos         | 386. Firebaugh     | 426. San Carlos             |
| 347. Grover Beach    | 387. Five Points   | 427. South San<br>Francisco |
| 348. Guadalupe       | 388. Fowler        | 428. Sunnyvale              |
| 349. Lompoc          | 389. Friant        | 429. San Francisco          |
| 350. Los Alamos      | 390. Kerman        | 430. Palo Alto              |
| 351. Los Olivos      | 391. Kingsburg     | 431. Stanford               |
| 352. Morro Bay       | 392. Los Banos     | 432. San Mateo              |
| 353. Nipomo          | 393. Madera        | 433. Alameda                |
| 354. Paso Robles     | 394. Orange Cove   | 434. American<br>Canyon     |
| 355. Pismo Beach     | 395. Parlier       | 435. Danville               |
| 356. San Ardo        | 396. Fresno        | 436. Alamo                  |
| 357. Santa Margarita | 397. Reedley       | 437. Angwin                 |
| 358. Santa Maria     | 398. Riverdale     | 438. Antioch                |
| 359. Santa Ynez      | 399. Sanger        | 439. Benicia                |
| 360. Shandon         | 400. Selma         | 440. Brentwood              |
| 361. Solvang         | 401. Salinas       | 441. Byron                  |
| 362. Templeton       | 402. Big Sur       | 442. Calistoga              |
| 363. Mojave          | 403. Carmel        | 443. Concord                |
| 364. California City | 404. Gonzales      | 444. Pleasant Hill          |
| 365. Acton           | 405. Greenfield    | 445. Crockett               |
| 366. Bishop          | 406. King City     | 446. El Cerrito             |
| 367. Boron           | 407. Marina        | 447. Fairfield              |
| 368. Bridgeport      | 408. Monterey      | 448. Fremont                |
| 369. Edwards         | 409. Pacific Grove | 449. Hayward                |
| 370. Independence    | 410. Pebble Beach  | 450. Castro Valley          |
| 371. Keene           | 411. Seaside       | 451. Hercules               |
| 372. Lancaster       | 412. Soledad       | 452. Lafayette              |
| 373. Littlerock      | 413. Belmont       | 453. Livermore              |
| 374. Llano           | 414. Brisbane      | 454. Martinez               |
| 375. Lone Pine       | 415. Burlingame    | 455. Moraga                 |
| 376. Mammoth Lakes   | 416. Daly City     | 456. Napa                   |
| 377. Palmdale        | 417. Los Altos     | 457. Newark                 |
| 378. Ridgecrest      | 418. Menlo Park    |                             |
| 379. Rosamond        | 419. Atherton      |                             |

- |                        |                             |                  |
|------------------------|-----------------------------|------------------|
| 458. Oakley            | 498. Point Reyes<br>Station | 537. Delhi       |
| 459. Orinda            |                             | 538. Escalon     |
| 460. Pinole            | 499. Ross                   | 539. Groveland   |
| 461. Pittsburg         | 500. San Anselmo            | 540. Gustine     |
| 462. Pleasanton        | 501. Sausalito              | 541. Hilmar      |
| 463. Dublin            | 502. Woodacre               | 542. Hughson     |
| 464. Rio Vista         | 503. Alviso                 | 543. Jamestown   |
| 465. Rodeo             | 504. Aptos                  | 544. Lathrop     |
| 466. Rutherford        | 505. Boulder Creek          | 545. Le Grand    |
| 467. Saint Helena      | 506. Campbell               | 546. Livingston  |
| 468. Deer Park         | 507. Capitola               | 547. Manteca     |
| 469. San Leandro       | 508. Castroville            | 548. Mariposa    |
| 470. San Lorenzo       | 509. Cupertino              | 549. Merced      |
| 471. San Ramon         | 510. Felton                 | 550. Modesto     |
| 472. Suisun City       | 511. Freedom                | 551. Newman      |
| 473. Sunol             | 512. Gilroy                 | 552. Oakdale     |
| 474. Union City        | 513. Hollister              | 553. Patterson   |
| 475. Vallejo           | 514. Los Gatos              | 554. Ripon       |
| 476. Walnut Creek      | 515. Milpitas               | 555. Riverbank   |
| 477. Yountville        | 516. Morgan Hill            | 556. Salida      |
| 478. Oakland           | 517. San Juan Bautista      | 557. Sonora      |
| 479. Emeryville        | 518. San Martin             | 558. Tuolumne    |
| 480. Berkeley          | 519. Santa Clara            | 559. Turlock     |
| 481. Albany            | 520. Santa Cruz             | 560. Waterford   |
| 482. Richmond          | 521. Scotts Valley          | 561. Winton      |
| 483. El Sobrante       | 522. Saratoga               | 562. Santa Rosa  |
| 484. San Pablo         | 523. Soquel                 | 563. Cazadero    |
| 485. San Rafael        | 524. Watsonville            | 564. Clearlake   |
| 486. Greenbrae         | 525. San Jose               | 565. Cloverdale  |
| 487. Belvedere Tiburon | 526. Stockton               | 566. Forestville |
| 488. Corte Madera      | 527. Acampo                 | 567. Fort Bragg  |
| 489. Rohnert Park      | 528. Angels Camp            | 568. Geyserville |
| 490. Dillon Beach      | 529. French Camp            | 569. Glen Ellen  |
| 491. Cotati            | 530. Linden                 | 570. Gualala     |
| 492. Larkspur          | 531. Lodi                   | 571. Guerneville |
| 493. Marshall          | 532. San Andreas            | 572. Healdsburg  |
| 494. Mill Valley       | 533. Atwater                | 573. Kelseyville |
| 495. Novato            | 534. Tracy                  | 574. Kenwood     |
| 496. Nicasio           | 535. Ceres                  | 575. Lakeport    |
| 497. Petaluma          | 536. Crows Landing          | 576. Lower Lake  |

- |                            |                      |                       |
|----------------------------|----------------------|-----------------------|
| 577. Middletown            | 615. Georgetown      | 654. Durham           |
| 578. Monte Rio             | 616. Herald          | 655. Grass Valley     |
| 579. Occidental            | 617. Ione            | 656. Penn Valley      |
| 580. Philo                 | 618. Jackson         | 657. Gridley          |
| 581. Hidden Valley<br>Lake | 619. Lincoln         | 658. Live Oak         |
| 582. Redwood Valley        | 620. Loomis          | 659. Magalia          |
| 583. Sebastopol            | 621. McClellan       | 660. Nevada City      |
| 584. Sonoma                | 622. Madison         | 661. Olivehurst       |
| 585. Ukiah                 | 623. Mather          | 662. Orland           |
| 586. Upper Lake            | 624. Newcastle       | 663. Oroville         |
| 587. Willits               | 625. North Highlands | 664. Paradise         |
| 588. Windsor               | 626. Roseville       | 665. Princeton        |
| 589. Eureka                | 627. Orangevale      | 666. Quincy           |
| 590. McKinleyville         | 628. Placerville     | 667. Sutter           |
| 591. Arcata                | 629. Pleasant Grove  | 668. Williams         |
| 592. Crescent City         | 630. Rancho Cordova  | 669. Willows          |
| 593. Fortuna               | 631. Rescue          | 670. Yuba City        |
| 594. Garberville           | 632. Rio Linda       | 671. Redding          |
| 595. Loleta                | 633. Rocklin         | 672. Anderson         |
| 596. Redway                | 634. Shingle Springs | 673. Burney           |
| 597. Scotia                | 635. Sloughhouse     | 674. Canby            |
| 598. Smith River           | 636. Vacaville       | 675. Corning          |
| 599. Trinidad              | 637. Wheatland       | 676. Fall River Mills |
| 600. Auburn                | 638. Winters         | 677. Fort Jones       |
| 601. West Sacramento       | 639. Woodland        | 678. McArthur         |
| 602. Brooks                | 640. Camino          | 679. Mount Shasta     |
| 603. Carmichael            | 641. Colfax          | 680. Red Bluff        |
| 604. Citrus Heights        | 642. Pollock Pines   | 681. Weaverville      |
| 605. Clarksburg            | 643. Granite Bay     | 682. Weed             |
| 606. Coloma                | 644. El Dorado Hills | 683. Yreka            |
| 607. Davis                 | 645. Sacramento      | 684. Alturas          |
| 608. Diamond Springs       | 646. Antelope        | 685. Cedarville       |
| 609. Dixon                 | 647. Marysville      | 686. Markleeville     |
| 610. Elk Grove             | 648. Beale Afb       | 687. Susanville       |
| 611. Fair Oaks             | 649. Alleghany       | 688. Tahoma           |
| 612. Folsom                | 650. Arbutle         | 689. Kings Beach      |
| 613. Galt                  | 651. Chico           | 690. Tahoe City       |
| 614. Garden Valley         | 652. Colusa          | 691. South Lake Tahoe |
|                            | 653. Dunnigan        | 692. Truckee          |

### **23.3 NETWORK DISASTER/OPERATIONAL RECOVERY**

#### 23.3.1 Telecommunications Service Priority (TSP) Program

When applicable, the Contractor shall comply with the Telecommunications Service Priority (TSP) Program, a Federal Communications Commission (FCC) mandate for prioritizing service requests by identifying those services critical to National Security and Emergency Preparedness (NS/EP) and be in compliance with all related CPUC and FCC requirements.

**Bidder understands the requirements and shall meet or exceed them? Yes**

### **23.4 OTHER SERVICES**

#### 23.4.1 Hourly Rates for Services

The hourly classifications of hours worked for services described in this section will be as follows:

1. Regular Hours – Hours worked between 8:00AM and 4:59PM, Monday through Friday.
2. Overtime Hours – Hours worked between 5:00PM and 7:59AM, Monday through Friday and all day Saturday.
3. Sunday and Holiday Hours – Any hours worked on Sunday or State of California holidays.

When coordinated scheduling for projects between the State and the Contractor occurs, the State and the Contractor may mutually agree that hours worked between 5:00PM and 7:59AM, Monday through Friday and all day Saturday and any hours worked on Sunday or State of California holidays can be classified as Regular Hours in accordance with the State of California Department of Industrial Relations.

**Bidder understands this Requirement and shall meet or exceed it? Yes**

#### 23.4.2 Services Related Infrastructure (SRI)

The Contractor shall offer infrastructure service as defined below.

##### 23.4.2.1 Extended Demarcation Wiring Services

The Contractor shall provide Extended Demarcation (Extended Demarc) wiring to support the services covered by this IFB C4DNCS19 Category for all of the Customer occupied buildings where services under this Contract are being offered. Extended Demarc wiring includes wire/cable related activities required

to extend the demarcation point to the Customer defined termination location or cross-connect point from the Contractor's Minimum Point of Entry (MPOE).

**Bidder understands this Requirement and shall meet or exceed it? Yes**

Extended Demarc wiring shall include the necessary wire/cable, connectors, jumpers, panel, and jack. Extended Demarc wiring shall also include associated trouble shooting, testing and labeling. Extended Demarc wiring is limited to the following:

1. Installation of cabling for extending services from the MPOE location to the Customer's point of utilization;
2. Installation of cross-connects or rearrangement of existing jumpers;
3. Identification and testing of existing cabling beyond the MPOE to the Customer's Equipment location; and,
4. Installation intervals shall be in accordance with the timeframes identified for the services that this cabling will support, and shall be subject to the SLAs associated with that service.

**Bidder understands this Requirement and shall meet or exceed it? Yes**

The Contractor shall not be required to complete Extended Demarc wiring from the MPOE to the extended Demarc location if:

1. The wire/cable pathway is blocked, and cannot be cleared without significant effort or damage to the Customer site;
2. The wire/cable pathway is in an asbestos or other environment hazardous to the Contractor's personnel, or where such work would be hazardous to the public or to the Customer's staff; or,
3. Upon written release provided by either the Customer or by the CALNET Program.

The Bidder shall provide a price in the Cost Worksheets for all labor and materials required for Extended Demarc wiring necessary to complete the provisioning of one Demarc extension as described herein. The Bidder shall provide one price for each media identified.

Wiring will be installed according to industry Standards and cabling recommendations published in the State Telecommunications Management Manual (STMM), Facilities Management Chapter, and Uniform Building Cabling/Wiring current at the time of this IFB and as periodically updated by the CALNET Program. Additionally, all wiring installation and maintenance activities

will be in accordance with all applicable EIA/TIA, BICSI, and ITU-T recommended standards current at the time of installation or maintenance.

**Bidder understands this Requirement and shall meet or exceed it? Yes**

Bidder shall provide the Extended Demarcation Wiring Services described in Table 23.4.2.1.

**Table 23.4.2.1 – Extended Demarcation Wiring Services**

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
1	Extended Demarcation -Copper – Regular Hours	Wiring services to extend Facilities from the Customer's MPOE to the Customer's point of utilization from a copper trunk or trunking equipment. Includes 300 feet of four-pair cable and an RJ48 or equivalent jack.		ATS-3PN-DMCCOP	Yes
2	Extended Demarcation -Copper – Overtime Hours	Wiring services to extend Facilities from the Customer's MPOE to the Customer's point of utilization from a copper trunk or trunking equipment. Includes 300 feet of four-pair cable and an		ATS-3PN-DMCCOP-AH	Yes



Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
		RJ48 or equivalent jack.			
3	Extended Demarcation -Copper – Sunday and Holiday Hours	Wiring services to extend Facilities from the Customer's MPOE to the Customer's point of utilization from a copper trunk or trunking equipment. Includes 300 feet of four-pair cable and an RJ48 or equivalent jack.		ATS-3PN-DMCCOP-AHW	Yes
4	Extended Demarcation -Copper 25 Pair – Regular Hours	Wiring services to extend Facilities from the Customer's MPOE to the Customer's point of utilization from a copper trunk or trunking equipment. Includes 300 feet or less of Category 5 25-pair CMP cable, one patch panel and mounting hardware. Ten Category 5e, three meter jumpers; one 24-		ATS-3PN-DMCCOP25	Yes

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
		<p>port patch panel to be provided in the MPOE and Intermediate Distribution Frame (IDF) for all circuits being extended. Includes associated troubleshooting, testing, and labeling.</p>			
5	<p>Extended Demarcation -Copper 25 Pair – Overtime Hours</p>	<p>Wiring services to extend Facilities from the Customer's MPOE to the Customer's point of utilization from a copper trunk or trunking equipment. Includes 300 feet or less of Category 5 25-pair CMP cable, one patch panel and mounting hardware. Ten Category 5e, three meter jumpers; one 24-port patch panel to be provided in the MPOE and Intermediate</p>		<p>ATS-3PN-DMCCOP25-AH</p>	<p>Yes</p>

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
		Distribution Frame (IDF) for all circuits being extended. Includes associated troubleshooting, testing, and labeling.			
6	Extended Demarcation -Copper 25 Pair – Sunday and Holiday Hours	Wiring services to extend Facilities from the Customer's MPOE to the Customer's point of utilization from a copper trunk or trunking equipment. Includes 300 feet or less of Category 5 25-pair CMP cable, one patch panel and mounting hardware. Ten Category 5e, three meter jumpers; one 24-port patch panel to be provided in the MPOE and Intermediate Distribution Frame (IDF) for all circuits being extended.		ATS-3PN-DMCCOP25-AHW	Yes

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
		Includes associated troubleshooting, testing, and labeling.			
7	Extended Demarcation - Optical Fiber Link – Regular Hours	Wiring services to extend Facilities from the Customer's MPOE to the Customer's point of utilization from a fiber trunk or trunking equipment, Strand count required to provision one/each service only. Includes up to 1,000 feet of 62.5/125 – or 50/125 – micron, two-strand CMP fiber drop cable with adapters, enclosures, connectors, and two SC-SC duplex patch cords for each single circuit extension. Includes associated troubleshooting,		ATS-3PN-DMCFIB	Yes

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
		testing and labeling.			
8	Extended Demarcation - Optical Fiber Link – Overtime Hours	Wiring services to extend Facilities from the Customer's MPOE to the Customer's point of utilization from a fiber trunk or trunking equipment, Strand count required to provision one/each service only. Includes up to 1,000 feet of 62.5/125 – or 50/125 – micron, two-strand CMP fiber drop cable with adapters, enclosures, connectors, and two SC-SC duplex patch cords for each single circuit extension. Includes associated troubleshooting, testing and labeling.		ATS-3PN-DMCFIB-AH	Yes

<b>Line Item</b>	<b>Feature Name</b>	<b>Feature Description</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>	<b>Bidder's Product Identifier</b>	<b>Bidder Meets or Exceeds? Yes or No</b>
9	Extended Demarcation - Optical Fiber Link – Sunday and Holiday Hours	Wiring services to extend Facilities from the Customer's MPOE to the Customer's point of utilization from a fiber trunk or trunking equipment, Strand count required to provision one/each service only. Includes up to 1,000 feet of 62.5/125 – or 50/125 – micron, two-strand CMP fiber drop cable with adapters, enclosures, connectors, and two SC-SC duplex patch cords for each single circuit extension. Includes associated troubleshooting, testing and labeling.		ATS-3PN-DMCFIB-AHW	Yes

### 23.4.2.2 Unsolicited Services Related Infrastructure

Bidder may offer additional unsolicited Services Related Infrastructure in Table 23.4.2.2.

**Table 23.4.2.2 – Unsolicited Services Related Infrastructure**

Line Item	Feature Name	Bidder's Product Identifier	Bidder's Product Description, Restrictions and Limitations
1	Install Customer Provided UPS	NWN0092	Install Customer Provided Rack Mount UPS Labor Only
2	48-Port Switch (Patch Cords)	NWN0093	Provide and Install 48- Patch Cords from switch to patch panel); Leviton or Equivalent
3	7' 2-Post Rack	NWN0094	Provide and Install 7' 2 post rack; CPI or Equivalent
4	7' 4-post seismic rack	NWN0095	Provide and Install 7' 4- Post seismic Rack; CPI or Equivalent
5	Install Customer Provided Rack	NWN0096	Install Customer Provided Rack; Labor Only
6	2RU Horizontal Wire Manager	NWN0097	Provide and Install 2RU Horizontal Wire Manager; Leviton or Equivalent
7	Double Sided Vertical Wire Manager for 7' Rack	NWN0098	Provide and Install Double Sided Vertical Wire Manager for 7' rack; CPI or Equivalent
8	Install Customer Provided Vertical Wire Manager for 7' Rack	NWN0307	Install Customer Provided 7' vertical wire manager; Labor Only
9	Install Customer Provided 2RU Horizontal Wire Manager	NWN0099	Install Customer Provided 2RU Horizontal Wire Manager; Labor Only
10	Shelf (Single sided 3U)	NWN0100	Provide and Install Single-sided 3U Shelf; CPI or Equivalent
11	Install Customer Provided Single Sided 3U Shelf	NWN0101	Install Customer Provided Single Sided 3U Shelf; Labor Only
12	Install 4' x 4' x 3/4" Painted Plywood Backboard	NWN0103	Provide and Install Fire Treated 4' x 4' x 3/4" Painted Plywood Backboard

Line Item	Feature Name	Bidder's Product Identifier	Bidder's Product Description, Restrictions and Limitations
13	Power Strip (4 outlets)	NWN0104	Provide and Install Power Strip - Up to 4 Outlets; CPI or Equivalent
14	Install up to 10' x 12" Ladder Rack With 9" Rungs	NWN0105	Provide and Install Ladder Rack – Up to 10'x12" with 9" rungs (includes Support Hardware; CPI or Equivalent
15	Communication Pole 10 feet	NWN0106	Provide and Install Communication Pole – Up to 10 feet; Wiremold or Equivalent
16	6-Strand MM ISP Fiber	NWN0107	Provide and Install 6-Strand MM 50/125um ISP Fiber; Corning or Equivalent
17	6-Strand SM ISP Fiber	NWN0108	Provide and Install 6-Strand SM ISP Fiber; Corning or Equivalent
18	2-Strand MM ISP Fiber	NWN0109	Provide and Install 2-Strand MM 50/125 ISP Fiber; Corning or Equivalent
19	2-Strand SM ISP Fiber	NWN0110	Provide and Install 2-Strand SM ISP Fiber; Corning or Equivalent
20	6-Strand MM 50/125um OSP Underground Fiber	NWN0111	Provide and Install 6-Strand MM 50/125um OSP Underground Fiber; Corning or Equivalent
21	6-Strand SM OSP Underground Fiber	NWN0112	Provide and Install 6-Strand SM OSP Underground Fiber; Corning or Equivalent
22	12-Strand MM 50/125um OSP Underground Fiber	NWN0113	Provide and Install 12-Strand MM 50/125um OSP Underground Fiber; Corning or Equivalent
23	12-strand SM OSP Underground Fiber	NWN0114	Provide and Install 12-strand SM OSP Underground Fiber; Corning or Equivalent
24	24-Strand MM 50/125um OSP Underground Fiber	NWN0115	Provide and Install 24-Strand MM 50/125um OSP Underground Fiber; Corning or Equivalent
25	48-strand MM 50/125um OSP underground fiber	NWN0116	Provide and install 48-strand SM OSP underground fiber; Corning or Equivalent
26	24-Strand SM OSP Underground Fiber	NWN0116B	Provide and install 24-strand SM OSP Underground fiber; Corning or Equivalent



<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
27	48-Strand SM OSP Underground Fiber	NWN0117	Provide and Install 48- Strand SM OSP Underground Fiber; Corning or Equivalent
28	1" Corrugated innerduct in Existing 2" to 4" Duct	NWN0118	Provide and Install 1" corrugated innerduct Underground in Existing 2" to 4" Duct - All 1" Innerduct; Carlon or Equivalent
29	1 1/4" Corrugated Innerduct in Existing 4" Duct	NWN0119	Provide and Install 1-1/4" Corrugated innerduct Underground in Existing 4" Duct - All 1 1/4" Innerduct; Carlon or Equivalent
30	CAT5 25-Pair Copper ISP	NWN0120	Provide and Install CAT5 25-Pair Copper ISP; Superior Essex or Equivalent
31	CAT5 25-Pair Copper Underground OSP	NWN0121	Provide and Install CAT5 25-Pair Copper Underground OSP; Superior Essex or Equivalent
32	CAT3 50-Pair Copper ISP	NWN0122	Provide and Install CAT3 50-Pair Copper ISP; Superior Essex or Equivalent
33	CAT3 50-Pair Copper Underground OSP	NWN0123	Provide and Install CAT3 50-Pair Copper Underground OSP; Superior Essex or Equivalent
34	CAT3 100-Pair Copper ISP	NWN0124	Provide and Install CAT3 100-Pair Copper ISP; Superior Essex or Equivalent
35	CAT3 100-Pair Copper Underground OSP	NWN0125	Provide and Install CAT3 100-Pair Copper Underground OSP; Superior Essex or Equivalent
36	Cat 6 4-Pair Copper ISP Circuit Extension	NWN0126	Provide and Install Cat 6 4-Pair Copper ISP Circuit Extension - Up to 300'; BerkTek or Equivalent
37	Cat 6 4-Pair Copper OSP Circuit Extension	NWN0127	Provide and Install Cat 6 4-Pair Copper OSP Circuit Extension - Up to 300'; BerkTek or Equivalent
38	CAT5 25-pair Copper ISP Circuit Extension	NWN0128	Provide and Install CAT5 25-pair Copper ISP Circuit Extension - Up to 300'; BerkTek or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
39	CAT5 25-pair Copper OSP Circuit Extension	NWN0129	Provide and Install CAT5 25-pair Copper OSP Circuit Extension - Up to 300'; BerkTek or Equivalent
40	RG58 COAX ISP	NWN0130	Provide and Install RG58 COAX ISP - Up to 300'; Commscope or Equivalent
41	RG62 COAX ISP	NWN0131	Provide and Install RG62 COAX ISP - Up to 300'; Commscope or Equivalent
42	RG6 COAX ISP	NWN0132	Provide and Install RG6 COAX ISP - Up to 300'; Commscope or Equivalent
43	25-Pair Protector	NWN0133	Provide and Install 25- Pair Protector; Commscope or Equivalent
44	50-Pair Protector	NWN0134	Provide and Install 50- Pair Protector; Circa or Equivalent
45	100-Pair Protector	NWN0135	Provide and Install 100- Pair Protector; Circa or Equivalent
46	4-Pair Protector	NWN0136	Provide and Install 4-Pair Protector; Circa or Equivalent
47	Protector Modules	NWN0137	Provide and Install Surge Protector Modules; Circa or Equivalent
48	BIX Mount 250-pair	NWN0138	Provide and Install BIX Mount 250- pair
49	BIX Connector	NWN0139	Provide and Install BIX Connector
50	BIX Ring	NWN0140	Provide and Install BIX Ring
51	66-Type Block 50 Pair	NWN0141	Provide and Install 66- Type Block 50 Pair with standoff bracket; Leviton or Equivalent
52	110-Style Block 100 Pair Kit	NWN0142	Provide and Install 110- Style Block 100 Pair Kit; Leviton or Equivalent
53	Rack Mount Fiber Cabinet, 2 Panel Capacity, 24 Fiber	NWN0143	Provide and Install Rack Mount Fiber Cabinet, 2 Panel Capacity, 24 Fiber; Corning or Equivalent
54	Rack Mount Fiber Cabinet, 4 Panel Capacity, 48 Fiber	NWN0144	Provide and Install Rack Mount Fiber Cabinet, 4 Panel Capacity, 48 Fiber; Corning or Equivalent
55	Wall Mount Fiber Cabinet, 2 Panel Capacity, 24 Fiber	NWN0145	Provide and Install Wall Mount Fiber Cabinet, 2 Panel Capacity, 24 Fiber; Corning or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
56	Wall Mount Fiber Cabinet, 4 Panel Capacity, 48 Fiber	NWN0146	Provide and Install Wall Mount Fiber Cabinet, 4 Panel Capacity, 48 Fiber; Corning or Equivalent
57	6-Strand Connector Panel MM 50/125 SC	NWN0147	Provide and Install 6- Strand Connector Panel MM 50/125 SC; Corning or Equivalent
58	6-Strand Connector Panel MM 50/125 LC	NWN0148	Provide and Install 6- Strand Connector Panel MM 50/125 LC; Corning or Equivalent
59	6-Strand Connector Panel MM 62.5/125 SC	NWN0149	Provide and Install 6- Strand Connector Panel MM 62.5/125 SC; Corning or Equivalent
60	6-Strand Connector Panel MM 62.5/125 LC	NWN0150	Provide and Install 6- Strand Connector Panel MM 62.5/125 LC; Corning or Equivalent
61	12-Strand Connector Panel MM 50/125 SC	NWN0151	Provide and Install 12- Strand Connector Panel MM 50/125 SC; Corning or Equivalent
62	12-Strand Connector Panel MM 50/125 LC	NWN0152	Provide and Install 12- Strand Connector Panel MM 50/125 LC; Corning or Equivalent
63	12-Strand Connector Panel MM 62.5/125 SC	NWN0153	Provide and Install 12- Strand Connector Panel MM 62.5/125 SC; Corning or Equivalent
64	12-Strand Connector Panel MM 62.5/125 LC	NWN0154	Provide and Install 12- Strand Connector Panel MM 62.5/125 LC; Corning or Equivalent
65	6-Strand Connector Panel SM SC	NWN0155	Provide and Install 6- Strand Connector Panel SM SC; Corning or Equivalent
66	6-Strand Connector Panel SM LC	NWN0156	Provide and Install 6- Strand Connector Panel SM LC; Corning or Equivalent
67	12-Strand Connector Panel SM SC	NWN0157	Provide and Install 12- Strand Connector Panel SM SC; Corning or Equivalent
68	12-Strand Connector Panel SM LC	NWN0158	Provide and Install 12- Strand Connector Panel SM LC; Corning or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
69	SC MM 50µm Connector	NWN0159	Provide SC MM 50µm Connector; Material Only – Must be Ordered in Conjunction with material Component in this Section
70	SC MM 62.5µm Connector	NWN0160	Provide SC MM 62.5µm Connector; Material Only – Must be Ordered in Conjunction with material Component in this Section
71	SC SM 9/125 connector	NWN0161	Provide SC SM 9/125um Mode Connector; Material Only – Must be Ordered in Conjunction with material Component in this Section
72	LC MM 50µm Connector	NWN0162	Provide LC MM 50µm Connector; Material Only – Must be Ordered in Conjunction with material Component in this Section
73	LC MM 62.5µm Connector	NWN0163	Provide LC MM 62.5µm Connector; Material Only – Must be Ordered in Conjunction with material Component in this Section
74	LC SM 9/125um Connector	NWN0164	Provide LC Mode SM 9/125um Connector; Material Only – Must be Ordered in Conjunction with material Component in this Section
75	Multimode 62.5/125 SC To SC 1 Meter Patch Cable	NWN0165	Provide and Install Multimode 62.5/125 SC To SC 1 Meter Patch Cable
76	Multimode 62.5/125 SC To SC 3 Meter Patch Cable	NWN0166	Provide and Install Multimode 62.5/125 SC To SC 3 Meter Patch Cable
77	Multimode 62.5/125 SC To LC 1 Meter Patch Cable	NWN0167	Provide and Install Multimode 62.5/125 SC To LC 1 Meter Patch Cable

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
78	Multimode 62.5/125 SC To LC 3 Meter Patch Cable	NWN0168	Provide and Install Multimode 62.5/125 SC To LC 3 Meter Patch Cable
79	Multimode 62.5/125 LC To LC 1 Meter Patch Cable	NWN0169	Provide and Install Multimode 62.5/125 LC To LC 1 Meter Patch Cable
80	Multimode 62.5/125 LC To LC 3 Meter Patch Cable	NWN0170	Provide and Install Multimode 62.5/125 LC To LC 3 Meter Patch Cable
81	Multimode 50/125 SC To SC 1 Meter Patch Cable	NWN0171	Provide and Install Multimode 50/125 SC To SC 1 Meter Patch Cable
82	Multimode 50/125 SC To SC 3 Meter Patch Cable	NWN0172	Provide and Install Multimode 50/125 SC To SC 3 Meter Patch Cable
83	Multimode 50/125 SC To LC 1 Meter Patch Cable	NWN0173	Provide and Install Multimode 50/125 SC To LC 1 Meter Patch Cable
84	Multimode 50/125 SC To LC 3 Meter Patch Cable	NWN0174	Provide and Install Multimode 50/125 SC To LC 3 Meter Patch Cable
85	Multimode 50/125 LC To LC 1 Meter Patch Cable	NWN0175	Provide and Install Multimode 50/125 LC To LC 1 Meter Patch Cable
86	Multimode 50/125 LC To LC 3 Meter Patch Cable	NWN0176	Provide and Install Multimode 50/125 LC To LC 3 Meter Patch Cable
87	Single Mode 9/125 SC To SC 1 Meter Patch Cable	NWN0177	Provide and Install Single Mode 9/125 SC To SC 1 Meter Patch Cable
88	Single Mode 9/125 SC To SC 3 Meter Patch Cable	NWN0178	Provide and Install Single Mode 9/125 SC To SC 3 Meter Patch Cable
89	Single Mode 9/125 SC To LC 1 Meter Patch Cable	NWN0179	Provide and Install Single Mode 9/125 SC To LC 1 Meter Patch Cable
90	Single Mode 9/125 SC To LC 3 Meter Patch Cable	NWN0180	Provide and Install Single Mode 9/125 SC To LC 3 Meter Patch Cable

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
91	Single Mode 9/125 LC To LC 1 Meter Patch Cable	NWN0181	Provide and Install Single Mode 9/125 LC To LC 1 Meter Patch Cable
92	Single Mode 9/125 LC To LC 3 Meter Patch Cable	NWN0182	Provide and Install Single Mode 9/125 LC To LC 3 Meter Patch Cable
93	Copper Cable Termination per Pair	NWN0183	Terminate one pair on 110 or 66 block, Copper Cable 25 Pair and Larger; Does not include cable preparation time or grounding
94	Copper Cable Splicing per Pair	NWN0184	Splice one pair of Copper Cable 25 Pair and Larger; Does not include cable preparation time or grounding
95	Copper cable Testing per Pair	NWN0185	Test one pair of Copper cable 25 Pair and Larger
96	Fiber Termination per Strand	NWN0186	Terminate one strand of fiber, 6 strands and larger
97	Fiber Splicing per Pair	NWN0187	Splice one strand of fiber, 6 strands and larger
98	Fiber Testing per Strand	NWN0188	Test one strand of fiber with OTDR or & power meter must provide test print out to customer
99	4-Pair CAT5e Termination and Testing	NWN0189	Terminate CAT5e 4- Pair with 8P8C 568B outlet, test with level II tester, submit printed test result to customer
100	4-Pair Cat 6 Termination and Testing	NWN0190	Terminate CAT6 4-Pair with 8P8C 568B CAT6 outlet, test with level II tester, submit printed test result to customer
101	4-Pair Cat 6 Jacking	NWN0191	Terminate CAT6 cable with CAT6 8P8C 568B outlet, test with LEVEL II tester. Submit printed test result to customer
102	4-Pair Cat 6 Termination	NWN0192	Terminate 4- Pair Cat 6 cable
103	4-Pair Cat 6 Testing	NWN0193	Test 4-Pair Cat 6 cable with Level II tester. Submit printed copy to customer
104	4-Pair Cat 6A Termination and Testing	NWN0194	Terminate CAT6A 4- Pair cable with CAT6A 8P8C 568B outlet

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
105	4-Pair Cat 6A Jacking	NWN0195	Terminate CAT6A cable with CAT6A 8P8C 568B outlet
106	4-Pair Cat 6A Termination	NWN0196	Terminate 4- Pair CAT6A cable on block
107	4-Pair Cat 6A Testing	NWN0197	Test 4-Pair Cat 6A cable with Level II tester. Submit printed copy to customer
108	Single 4-Pair Cat 6 PVC Cable	NWN0198	Provide and Install Single 4-pair Cat 6 PVC Cable; BerkTek or Equivalent
109	Single 4-Pair Cat 6 Plenum Cable	NWN0199	Provide and Install Single 4-Pair Cat 6 Plenum Cable; BerkTek or Equivalent
110	Single 4-Pair Cat 6 OSP Cable	NWN0200	Provide and Install Single 4-Pair Cat 6 OSP Cable; BerkTek or Equivalent
111	Single 4-Pair Cat 6A PVC Cable	NWN0201	Provide and Install Single 4-Pair Cat 6A PVC Cable; BerkTek or Equivalent
112	Single 4-Pair Cat 6A Plenum Cable	NWN0202	Provide and Install Single 4-Pair Cat 6A Plenum Cable; BerkTek or Equivalent
113	Single 4-Pair Cat 6A OSP Cable	NWN0203	Provide and Install Single 4-Pair Cat 6A OSP Cable; BerkTek or Equivalent
114	24-Port Unloaded Cat 6A Patch Panel	NWN0204	Provide and Install 24- Port Unloaded Cat 6A Patch Panel; Leviton or Equivalent
115	48-Port Unloaded Cat 6A Patch Panel	NWN0205	Provide and Install 48- Port Unloaded Cat 6A Patch Panel; Leviton or Equivalent
116	New 24-Port Cat 6 Patch Panel	NWN0206	Provide and Install New 24-Port Cat 6 Patch Panel; Leviton or Equivalent
117	New 48-Port Cat 6 Patch Panel	NWN0207	Provide and Install New 48-Port Cat 6 Patch Panel; Leviton or Equivalent
118	New 12-Port Cat 6 Patch Panel	NWN0210	Provide and Install New 12-Port Cat 6 Patch Panel; Leviton or Equivalent
119	Face Plate Plastic	NWN0211	Provide and Install Face Plate Plastic; Leviton or Equivalent
120	Modular Furniture Device Plate	NWN0212	Provide and Install Modular Furniture Device Plate; Leviton or Equivalent
121	4-Port Stainless Steel Faceplate	NWN0213	Provide and Install 4-Port Stainless Steel Faceplate; Leviton or Equivalent
122	6-port Stainless Steel Faceplate	NWN0214	Provide and Install 6-port Stainless Steel Faceplate; Leviton or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
123	Cat 6 Jack Insert	NWN0215	Provide and Install Cat 6 Jack Insert; Leviton or Equivalent
124	Cat 6A Jack Insert	NWN0216	Provide and Install Cat 6A Jack Insert; Leviton or Equivalent
125	3' Cat 5e Patch Cord	NWN0217	Provide and Install 3' Cat 5e Patch Cord; Leviton or Equivalent
126	10' Cat 5e Patch Cord	NWN0218	Provide and Install 10' Cat 5e Patch Cord; Leviton or Equivalent
127	3' Cat 6 Patch Cord	NWN0219	Provide and Install 3' Cat 6 Patch Cord; Leviton or Equivalent
128	10' Cat 6 Patch Cord	NWN0220	Provide and Install 10' Cat 6 Patch Cord; Leviton or Equivalent
129	Velcro Ties	NWN0221	Provide and Install Velcro Ties - 25 Yard Roll; Panduit or Equivalent
130	6.5" Coyote Fiber Splice Closure	NWN0222	Provide and Install Fiber Splice Closure; Preformed or Equivalent
131	Fiber Splice Tray	NWN0223	Provide and Install Fiber Splice Tray; Preformed or Equivalent
132	Copper Splice Case 4.0x25	NWN0224	Provide and Install Copper Splice Case 4.0x25; Preformed or Equivalent
133	Copper Splice Case 6.5x28	NWN0225	Provide and Install Copper Splice Case 6.5x28; Preformed or Equivalent
134	Rod & rope conduit	NWN0227	Rod & rope conduit and leave 3/8" rope in conduit to pull; Pull String & Rope provided by NWN. Rope to be approximately sized to conduit size
135	Stick (10') of 1" EMT	NWN0228	Provide and Install Stick (10') of 1" EMT
136	Stick (10') of 1 1/4" EMT	NWN0229	Provide and Install Stick (10') of 1 1/4" EMT
137	Stick (10') of 2" EMT	NWN0230	Provide and Install Stick (10') of 2" EMT
138	Stick (10') of 1" Rigid	NWN0231	Provide and Install Stick (10') of 1" Rigid
139	Stick (10') of 1 1/4" Rigid	NWN0232	Provide and Install Stick (10') of 1 1/4" Rigid
140	Stick (10') of 2" Rigid	NWN0233	Provide and Install Stick (10') of 2" Rigid
141	1" EMT Stub	NWN0234	Provide and Install 1" EMT Stub - From Device Box to Ceiling - Includes Straps, Connector and Bushing



<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
142	6"x6"x4" NEMA1 indoor Surface Mount Box	NWN0235	Provide and Install 6'x6"x4" NEMA1 Surface Mount Box
143	1" 2-Hole Strap, EMT	NWN0236	Provide and Install 1" 2- Hole Strap, EMT
144	1" Bushing, EMT	NWN0237	Provide and Install 1" Bushing, EMT
145	1" Compression Connector, EMT	NWN0238	Provide and Install 1" Compression Connector, EMT
146	1" Compression Coupler, EMT	NWN0239	Provide and Install 1" Compression Coupler, EMT
147	1" Unistrut Clamp, EMT	NWN0240	Provide and Install 1" Unistrut Clamp, EMT
148	2" 2-Hole Strap, EMT	NWN0241	Provide and Install 2" 2- Hole Strap, EMT
149	2" Bushing, EMT	NWN0242	Provide and Install 2" Bushing, EMT
150	2" Compression Connector, EMT	NWN0243	Provide and Install 2" Compression Connector, EMT
151	2" Compression Coupler, EMT	NWN0244	Provide and Install 2" Compression Coupler, EMT
152	2" Unistrut Clamp, EMT	NWN0245	Provide and Install 2" Unistrut Clamp, EMT
153	3" 2-Hole Strap, EMT	NWN0246	Provide and Install 3" 2- Hole Strap, EMT
154	3" Bushing, EMT	NWN0247	Provide and Install 3" Bushing, EMT
155	3" Compression Connector, EMT	NWN0248	Provide and Install 3" Compression Connector, EMT
156	3" Compression Coupler, EMT	NWN0249	Provide and Install 3" Compression Coupler, EMT
157	3" Unistrut Clamp, EMT	NWN0250	Provide and Install 3" Unistrut Clamp, EMT
158	4" 2-Hole Strap, EMT	NWN0251	Provide and Install 4" 2- Hole Strap, EMT
159	4" Bushing, EMT	NWN0252	Provide and Install 4" Bushing, EMT
160	4" Compression Connector, EMT	NWN0253	Provide and Install 4" Compression Connector, EMT
161	4" Compression Coupler, EMT	NWN0254	Provide and Install 4" Compression Coupler, EMT
162	4" Unistrut Clamp, EMT	NWN0255	Provide and Install 4" Unistrut Clamp, EMT

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
163	1" 2-Hole Strap, Rigid	NWN0256	Provide and Install 1" 2- Hole Strap, Rigid
164	1" Bushing, Rigid	NWN0257	Provide and Install 1" Bushing, Rigid
165	1" Compression Connector, Rigid	NWN0258	Provide and Install Connector - 1" Compression Connector, Rigid
166	1" Compression Coupler, Rigid	NWN0259	Provide and Install Coupler - 1" Compression Coupler, Rigid
167	1" Unistrut Clamp, Rigid	NWN0260	Provide and Install 1" Unistrut Clamp, Rigid
168	2" 2-Hole Strap, Rigid	NWN0261	Provide and Install 2" 2- Hole Strap, Rigid
169	2" Bushing, Rigid	NWN0262	Provide and Install 2" Bushing, Rigid
170	2" Compression Connector, Rigid	NWN0263	Provide and Install Connector - 2" Compression Connector, Rigid
171	2" Compression Coupler, Rigid	NWN0264	Provide and Install Coupler - 2" Compression Coupler, Rigid
172	2" Unistrut Clamp, Rigid	NWN0265	Provide and Install 2" Unistrut Clamp, Rigid
173	2" J-Hook w/ Multi-Purpose Clip	NWN0266	Provide and Install 2" J- Hook w/ Multi-Purpose Clip
174	2 Gang weatherproof Bell Box	NWN0267	Provide and Install 2 Gang Bell Box or Equivalent
175	NEMA1 8"x8"x6" Pull Box	NWN0268	Provide and Install 8"x8"x6" NEMA1 Pull Box or Equivalent
176	12"x12"x8" NEMA 1 Junction Box	NWN0269	Provide and Install 12"x12"x8" NEMA 1 J-Box or Equivalent
177	12"x12"x8" NEMA 3 Junction Box	NWN0270	Provide and Install 12"x12"x8" NEMA 3 J-Box1 or Equivalent
178	Install Customer Provided WAP (Wireless Access Point)	NWN0271	Install Customer Provided WAP (Wireless Access Point); Labor Only Does not include Configuration
179	WAP (Wireless Access Point) Enclosure	NWN0272	Provide and Install WAP (Wireless Access Point) Enclosure; Oberon or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
180	Install Customer Provided Camera	NWN0273	Install Customer Provided Camera; Labor Only
181	Install Customer Provided Paging Speaker	NWN0274	Install Customer Provided Paging Speaker; Labor Only
182	Unistrut slotted 7/8"	NWN0275	Provide and Install Unistrut slotted 7/8"
183	1" unistrut straps EMT	NWN0276	Provide and Install 1" unistrut straps EMT
184	2" unistrut straps EMT	NWN0277	Provide and Install 2" unistrut straps EMT
185	1"x12" EMT Sleeve	NWN0278	Provide and Install 1" EMT Sleeve; Core or Penetration not Included
186	2"x12" EMT Sleeve	NWN0279	Provide and Install 2" EMT Sleeve; Core or Penetration not Included
187	3"x12" EMT Sleeve	NWN0280	Provide and Install 3" EMT Sleeve; Core or Penetration not Included
188	4"x12" EMT Sleeve	NWN0281	Provide and Install 4" EMT Sleeve; Core or Penetration not Included
189	8"x8"x6" Pull Box NEMA3R	NWN0282	Provide and Install 8"x8"x6" Pull Box NEMA 3R
190	Raceway: 5-Foot Base Ivory and Cover Plastic (2 1/4" x 11/16")	NWN0283	Provide and Install 5- Foot Base Ivory and Cover Plastic (2 1/4" x 11/16"); Wiremold or Equivalent
191	Raceway: Cover Clip	NWN0284	Provide and Install Cover Clip; Wiremold or Equivalent
192	Raceway: Internal Elbow	NWN0285	Provide and Install Internal Elbow; Wiremold or Equivalent
193	Raceway: External Bend	NWN0286	Provide and Install External Bend; Wiremold or Equivalent
194	Raceway: Flat Elbow	NWN0287	Provide and Install Flat Elbow; Wiremold or Equivalent
195	Raceway: Wire Clip Ivory	NWN0288	Provide and Install Wire Clip Ivory; Wiremold or Equivalent
196	Raceway: Blank End Fitting	NWN0289	Provide and Install Blank End Fitting; Wiremold or Equivalent
197	Raceway: Entrance Fitting	NWN0290	Provide and Install Entrance Fitting; Wiremold or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
198	Raceway: Tee	NWN0291	Tee; Wiremold or Equivalent
199	Raceway: Core Drilling, 1" Hole	NWN0292	Core Drilling, 1" Hole; Labor Only
200	Raceway: Core Drilling, 2" hole	NWN0293	Core Drilling, 2" hole; Labor Only
201	Raceway: Core Drilling, 3" hole	NWN0294	Core Drilling, 3" hole; Labor Only
202	Raceway: Core Drilling, 4" hole	NWN0295	Core Drilling, 4" hole; Labor Only
203	Raceway: 1"x8" EMT sleeve for Drywall - Wall Penetration	NWN0296	Provide and Install 1"x8" sleeve for Wall Penetration - Drywall
204	Raceway: Scissor Lift Rental (20')	NWN0297	Provide Scissor Lift Rental (20') - Includes Daily Rate, Pickup and Delivery Fees.; For NWN use in support of SRI.
205	Raceway: Fire Seal Penetration, 1" Hole	NWN0298	Provide and Install Fire Seal Penetration, 1" Hole
206	Raceway: Fire Seal Penetration, 2" Hole	NWN0299	Provide and Install Fire Seal Penetration, 2" Hole
207	Raceway: Fire Seal Penetration, 3" Hole	NWN0300	Provide and Install Fire Seal Penetration, 3" Hole
208	Raceway: Fire Seal Penetration, 4" Hole	NWN0301	Provide and Install Fire Seal Penetration, 4" Hole
209	Installation of Equipment Ground – Rods and Wire	NWN0302	Provide and Install Equipment Ground 1 - 8' x 5/8" Ground Rod and # 6 Ground Wire; Includes All Material, Terminations and Labor
210	Installation of Equipment Ground – Wire Only	NWN0303	Provide and Install Equipment Ground, # 6 Ground Wire; Includes All Material, Terminations and Labor
211	Relocate Existing Telephone Handset	NWN0304	Relocate Existing Telephone Handset - same HC/TC on Existing Cabling; Includes Cross- Connect, Testing, and Documentation

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
212	Install New Cross-Connect	NWN0305	Provide Installation New Cross-Connect
213	Locate and Identify Circuit	NWN0306	Locate and Identify Circuit - Includes Tone, Tag and Document; Labor Only
214	Install Customer Provided UPS	NWN0092- OT	Install Customer Provided Rack Mount UPS; Labor Only
215	48-Port Switch (Patch Cords)	NWN0093- OT	Provide and Install 48- Patch Cords from switch to patch panel); Leviton or Equivalent
216	7' 2-Post Rack	NWN0094- OT	Provide and Install 7' 2 post rack; CPI or Equivalent
217	7' 4-post seismic rack	NWN0095- OT	Provide and Install 7' 4- Post seismic Rack; CPI or Equivalent
218	Install Customer Provided Rack	NWN0096- OT	Provide and Install Customer Provided Rack; Labor Only
219	Double Sided Vertical Wire Manager for 7' Rack	NWN0098- OT	Provide and Install Double Sided Vertical Wire Manager for 7' rack; CPI or Equivalent
220	Install Customer Provided Vertical Wire Manager for 7' Rack	NWN0307- OT	Customer Provided 7' vertical wire manager; Labor Only
221	Install Customer Provided 2RU Horizontal Wire Manager	NWN0099- OT	Installation of Customer Provided 2RU Horizontal Wire Manager; Labor Only
222	Shelf (Single sided 3U)	NWN0100- OT	Provide and Install Single-sided 3U Shelf; CPI or Equivalent
223	Install Customer Provided Single Sided 3U Shelf	NWN0101- OT	Install Customer Provided Single Sided 3U Shelf; Labor Only
224	Hinged Wall Bracket	NWN0102- OT	Provide and Install Hinged Wall Bracket; Allen Tel
225	Install 4' x 4' x 3/4" Painted Plywood Backboard	NWN0103- OT	Provide and Install Fire Treated 4' x 4' x 3/4" Painted Plywood Backboard

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
226	Power Strip (4 outlets)	NWN0104- OT	Provide and Install Power Strip - Up to 4 Outlets; CPI or Equivalent
227	Install up to 10' x 12" Ladder Rack With 9" Rungs	NWN0105- OT	Provide and Install Ladder Rack – Up to 10'x12" with 9" rungs (includes Support Hardware); CPI or Equivalent
228	Communication Pole 10 feet	NWN0106- OT	Provide and Install Communication Pole – Up to 10 feet; Wiremold or Equivalent
229	6-Strand MM ISP Fiber	NWN0107- OT	Provide and Install 6- Strand MM 50/125um ISP Fiber; Corning or Equivalent
230	6-Strand SM ISP Fiber	NWN0108- OT	Provide and install 6-Strand SM ISP Fiber; Corning or Equivalent
231	2-Strand MM ISP Fiber	NWN0109- OT	Provide and install 2-Strand MM 50/125 ISP Fiber; Corning or Equivalent
232	2-Strand SM ISP Fiber	NWN0110- OT	Provide and install 2-Strand SM ISP Fiber; Corning or Equivalent
233	6-Strand MM 50/125um OSP Underground Fiber	NWN0111- OT	Provide and install 6-Strand MM 50/125um OSP Underground Fiber; Corning or Equivalent
234	6-Strand SM OSP Underground Fiber	NWN0112- OT	Provide and install 6-Strand SM OSP Underground Fiber; Corning or Equivalent
235	12-Strand MM 50/125um OSP Underground Fiber	NWN0113- OT	Provide and install 12-Strand MM 50/125um OSP Underground Fiber; Corning or Equivalent
236	12-strand SM OSP Underground Fiber	NWN0114- OT	Provide and install 12-strand SM OSP Underground Fiber; Corning or Equivalent
237	24-Strand MM 50/125um OSP Underground Fiber	NWN0115- OT	Provide and install 24-Strand MM 50/125um OSP Underground Fiber; Corning or Equivalent
238	48-strand MM 50/125um OSP underground fiber	NWN0116- OT	Provide and install 48-strand SM OSP Underground Fiber; Corning or Equivalent
239	24-Strand SM OSP Underground Fiber	NWN0116B- OT	Provide and Install 24- Strand SM OSP Underground Fiber; Corning or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
240	48-Strand SM OSP Underground Fiber	NWN0117- OT	Provide and Install 48- Strand SM OSP Underground Fiber; Corning or Equivalent
241	1" Corrugated innerduct in Existing 2" to 4" Duct	NWN0118- OT	Provide and Install 1" corrugated innerduct Underground in Existing 2" to 4" Duct - All 1" Innerduct; Carlon or Equivalent
242	1 1/4" Corrugated Innerduct in Existing 4" Duct	NWN0119- OT	Provide and Install 1-1/4" Corrugated innerduct Underground in Existing 4" Duct - All 1 1/4" Innerduct; Carlon or Equivalent
243	CAT5 25-Pair Copper ISP	NWN0120- OT	Provide and Install CAT5 25-Pair Copper ISP; Superior Essex or Equivalent
244	CAT5 25-Pair Copper Underground OSP	NWN0121- OT	Provide and Install CAT5 25-Pair Copper Underground OSP; Superior Essex or Equivalent
245	CAT3 50-Pair Copper ISP	NWN0122- OT	Provide and Install CAT3 50-Pair Copper ISP; Superior Essex or Equivalent
246	CAT3 50-Pair Copper Underground OSP	NWN0123- OT	Provide and Install CAT3 50-Pair Copper Underground OSP; Superior Essex or Equivalent
247	CAT3 100-Pair Copper ISP	NWN0124- OT	Provide and Install CAT3 100-Pair Copper ISP; Superior Essex or Equivalent
248	CAT3 100-Pair Copper Underground OSP	NWN0125- OT	Provide and Install CAT3 100-Pair Copper Underground OSP; Superior Essex or Equivalent
249	Cat 6 4-Pair Copper ISP Circuit Extension	NWN0126- OT	Provide and Install Cat 6 4-Pair Copper ISP Circuit Extension - Up to 300'; BerkTek or Equivalent
250	Cat 6 4-Pair Copper OSP Circuit Extension	NWN0127- OT	Provide and Install Cat 6 4-Pair Copper OSP Circuit Extension - Up to 300'; BerkTek or Equivalent
251	CAT5 25-pair Copper ISP Circuit Extension	NWN0128- OT	Provide and Install CAT5 25-pair Copper ISP Circuit Extension - Up to 300'; BerkTek or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
252	CAT5 25-pair Copper OSP Circuit Extension	NWN0129- OT	Provide and Install CAT5 25-pair Copper OSP Circuit Extension - Up to 300'; BerkTek or Equivalent
253	RG58 COAX ISP	NWN0130- OT	Provide and Install RG58 COAX ISP - Up to 300'; Commscope or Equivalent
254	RG62 COAX ISP	NWN0131- OT	Provide and Install RG62 COAX ISP - Up to 300'; Commscope or Equivalent
255	RG6 COAX ISP	NWN0132- OT	Provide and Install RG6 COAX ISP - Up to 300'; Commscope or Equivalent
256	25-Pair Protector	NWN0133- OT	Provide and Install 25- Pair Protector; Circa or Equivalent
257	50-Pair Protector	NWN0134- OT	Provide and Install 50- Pair Protector; Circa or Equivalent
258	100-Pair Protector	NWN0135- OT	Provide and Install 100- Pair Protector; Circa or Equivalent
259	4-Pair Protector	NWN0136- OT	Provide and Install 4-Pair Protector; Circa or Equivalent
260	Protector Modules	NWN0137- OT	Provide and Install Surge Protector Modules; Circa or Equivalent
261	BIX Mount 250-pair	NWN0138- OT	Provide and Install BIX Mount 250- pair
262	BIX Connector	NWN0139- OT	Provide and Install BIX Connector
263	BIX Ring	NWN0140- OT	Provide and Install BIX Ring
264	66-Type Block 50 Pair	NWN0141- OT	Provide and Install 66- Type Block 50 Pair with stand off bracket; Leviton or Equivalent
265	110-Style Block 100 Pair Kit	NWN0142- OT	Provide and Install 110- Style Block 100 Pair Kit; Leviton or Equivalent
266	Rack Mount Fiber Cabinet, 2 Panel Capacity, 24 Fiber	NWN0143- OT	Provide and Install Rack Mount Fiber Cabinet, 2 Panel Capacity, 24 Fiber; Corning or Equivalent
267	Rack Mount Fiber Cabinet, 4 Panel Capacity, 48 Fiber	NWN0144- OT	Provide and Install Rack Mount Fiber Cabinet, 4 Panel Capacity, 48 Fiber; Corning or Equivalent



<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
268	Wall Mount Fiber Cabinet, 2 Panel Capacity, 24 Fiber	NWN0145- OT	Provide and Install Wall Mount Fiber Cabinet, 2 Panel Capacity, 24 Fiber; Corning or Equivalent
269	Wall Mount Fiber Cabinet, 4 Panel Capacity, 48 Fiber	NWN0146- OT	Provide and Install Wall Mount Fiber Cabinet, 4 Panel Capacity, 48 Fiber; Corning or Equivalent
270	6-Strand Connector Panel MM 50/125 SC	NWN0147- OT	Provide and Install 6- Strand Connector Panel MM 50/125 SC; Corning or Equivalent
271	6-Strand Connector Panel MM 50/125 LC	NWN0148- OT	Provide and Install 6- Strand Connector Panel MM 50/125 LC; Corning or Equivalent
272	6-Strand Connector Panel MM 62.5/125 SC	NWN0149- OT	Provide and Install 6- Strand Connector Panel MM 62.5/125 SC; Corning or Equivalent
273	6-Strand Connector Panel MM 62.5/125 LC	NWN0150- OT	Provide and Install 6- Strand Connector Panel MM 62.5/125 LC; Corning or Equivalent
274	12-Strand Connector Panel MM 50/125 SC	NWN0151- OT	Provide and Install 12- Strand Connector Panel MM 50/125 SC; Corning or Equivalent
275	12-Strand Connector Panel MM 50/125 LC	NWN0152- OT	Provide and Install 12- Strand Connector Panel MM 50/125 LC; Corning or Equivalent
276	12-Strand Connector Panel MM 62.5/125 SC	NWN0153- OT	Provide and Install 12- Strand Connector Panel MM 62.5/125 SC; Corning or Equivalent
277	12-Strand Connector Panel MM 62.5/125 LC	NWN0154- OT	Provide and Install 12- Strand Connector Panel MM 62.5/125 LC; Corning or Equivalent
278	6-Strand Connector Panel SM SC	NWN0155- OT	Provide and Install 6- Strand Connector Panel SM SC; Corning or Equivalent
279	6-Strand Connector Panel SM LC	NWN0156- OT	Provide and Install 6- Strand Connector Panel SM LC; Corning or Equivalent
280	12-Strand Connector Panel SM SC	NWN0157- OT	Provide and Install 12- Strand Connector Panel SM SC; Corning or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
281	Multimode 62.5/125 SC To SC 1 Meter Patch Cable	NWN0165- OT	Provide and Install Multimode 62.5/125 SC To SC 1 Meter Patch Cable
282	Multimode 62.5/125 SC To SC 3 Meter Patch Cable	NWN0166- OT	Provide and Install Multimode 62.5/125 SC To SC 3 Meter Patch Cable
283	Multimode 62.5/125 SC To LC 1 Meter Patch Cable	NWN0167- OT	Provide and Install Multimode 62.5/125 SC To LC 1 Meter Patch Cable
284	Multimode 62.5/125 SC To LC 3 Meter Patch Cable	NWN0168- OT	Provide and Install Multimode 62.5/125 SC To LC 3 Meter Patch Cable
285	Multimode 62.5/125 LC To LC 1 Meter Patch Cable	NWN0169- OT	Provide and Install Multimode 62.5/125 LC To LC 1 Meter Patch Cable
286	Multimode 62.5/125 LC To LC 3 Meter Patch Cable	NWN0170- OT	Provide and Install Multimode 62.5/125 LC To LC 3 Meter Patch Cable
287	Multimode 62.5/125 SC To SC 1 Meter Patch Cable	NWN0171- OT	Provide and Install Multimode 62.5/125 SC To SC 1 Meter Patch Cable
288	Multimode 62.5/125 SC To SC 3 Meter Patch Cable	NWN0172- OT	Provide and Install Multimode 62.5/125 SC To SC 3 Meter Patch Cable
289	Multimode 62.5/125 SC To LC 1 Meter Patch Cable	NWN0173- OT	Provide and Install Multimode 62.5/125 SC To LC 1 Meter Patch Cable
290	Multimode 62.5/125 SC To LC 3 Meter Patch Cable	NWN0174- OT	Provide and Install Multimode 62.5/125 SC To LC 3 Meter Patch Cable
291	Multimode 62.5/125 LC To LC 1 Meter Patch Cable	NWN0175- OT	Provide and Install Multimode 62.5/125 LC To LC 1 Meter Patch Cable
292	Multimode 62.5/125 LC To LC 3 Meter Patch Cable	NWN0176- OT	Provide and Install Multimode 62.5/125 LC To LC 3 Meter Patch Cable
293	Multimode 50/125 SC To SC 1 Meter Patch Cable	NWN0177- OT	Provide and Install Multimode 50/125 SC To SC 1 Meter Patch Cable

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
294	Multimode 50/125 SC To SC 3 Meter Patch Cable	NWN0178- OT	Provide and Install Multimode 50/125 SC To SC 3 Meter Patch Cable
295	Multimode 50/125 SC To LC 1 Meter Patch Cable	NWN0179- OT	Provide and Install Multimode 50/125 SC To LC 1 Meter Patch Cable
296	Multimode 50/125 SC To LC 3 Meter Patch Cable	NWN0180- OT	Provide and Install Multimode 50/125 SC To LC 3 Meter Patch Cable
297	Multimode 50/125 LC To LC 1 Meter Patch Cable	NWN0181- OT	Provide and Install Multimode 50/125 LC To LC 1 Meter Patch Cable
298	Multimode 50/125 LC To LC 3 Meter Patch Cable	NWN0182- OT	Provide and Install Multimode 50/125 LC To LC 3 Meter Patch Cable
299	Copper Cable Termination per Pair	NWN0183- OT	Copper cable termination per pair (25 pair and larger); Does not include cable preparation time or grounding
300	Copper Cable Splicing per Pair	NWN0184- OT	Copper cable splicing per pair (25 pair and larger); Does not include cable preparation time or grounding
301	Copper cable Testing per Pair	NWN0185- OT	Copper cable testing per pair (25 pair and larger)
302	Fiber Termination per Strand	NWN0186- OT	Fiber termination per strand
303	Fiber Splicing per Pair	NWN0187- OT	Fiber splicing per pair
304	Fiber Testing per Strand	NWN0188- OT	Fiber testing per strand
305	4-Pair CAT5e Termination and Testing	NWN0189- OT	4-pair CAT5e termination and testing
306	4-Pair Cat 6 Termination and Testing	NWN0190- OT	4-pair Cat 6 termination and testing
307	4-Pair Cat 6 Jacking	NWN0191- OT	4-pair Cat 6 jacking

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
308	4-Pair Cat 6 Termination	NWN0192- OT	4-pair Cat 6 termination
309	4-Pair Cat 6 Testing	NWN0193- OT	4-pair Cat 6 testing
310	4-Pair Cat 6A Termination and Testing	NWN0194- OT	4-pair Cat 6A termination and testing
311	4-Pair Cat 6A Jacking	NWN0195- OT	4-pair Cat 6A jacking
312	4-Pair Cat 6A Termination	NWN0196- OT	4-pair Cat 6A termination
313	4-Pair Cat 6A Testing	NWN0197- OT	4-pair Cat 6A testing
314	Single 4-Pair Cat 6 PVC Cable	NWN0198- OT	BerkTek or Equivalent
315	Single 4-Pair Cat 6 Plenum Cable	NWN0199- OT	BerkTek or Equivalent
316	Single 4-Pair Cat 6 OSP Cable	NWN0200- OT	BerkTek or Equivalent
317	Single 4-Pair Cat 6A PVC Cable	NWN0201- OT	BerkTek or Equivalent
318	Single 4-Pair Cat 6A Plenum Cable	NWN0202- OT	BerkTek or Equivalent
319	Single 4-Pair Cat 6A OSP Cable	NWN0203- OT	BerkTek or Equivalent
320	24-Port Unloaded Cat 6A Patch Panel	NWN0204- OT	Provide and Install 24- Port Unloaded Cat 6A Patch Panel; Leviton or Equivalent
321	48-Port Unloaded Cat 6A Patch Panel	NWN0205- OT	Provide and Install 48- Port Unloaded Cat 6A Patch Panel; Leviton or Equivalent
322	New 24-Port Cat 6 Patch Panel	NWN0206- OT	Provide and Install New 24-Port Cat 6 Patch Panel; Leviton or Equivalent
323	New 48-Port Cat 6 Patch Panel	NWN0207- OT	Provide and Install New 48-Port Cat 6 Patch Panel; Leviton or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
324	New 12-Port Cat 6 Patch Panel	NWN0210- OT	Provide and Install New 12-Port Cat 6 Patch Panel; Leviton or Equivalent
325	Face Plate Plastic	NWN0211- OT	Provide and Install Face Plate Plastic; Leviton or Equivalent
326	Modular Furniture Device Plate	NWN0212- OT	Provide and Install Modular Furniture Device Plate; Leviton or Equivalent
327	4-Port Stainless Steel Faceplate	NWN0213- OT	Provide and Install 4-Port Stainless Steel Faceplate; Leviton or Equivalent
328	6-port Stainless Steel Faceplate	NWN0214- OT	Provide and Install 6-port Stainless Steel Faceplate; Leviton or Equivalent
329	Cat 6 Jack Insert	NWN0215- OT	Provide and Install Cat 6 Jack Insert; Leviton or Equivalent
330	Cat 6A Jack Insert	NWN0216- OT	Provide and Install Cat 6A Jack Insert; Leviton or Equivalent
331	3' Cat 5e Patch Cord	NWN0217- OT	Provide and Install 3' Cat 5e Patch Cord; Leviton or Equivalent
332	10' Cat 5e Patch Cord	NWN0218- OT	Provide and Install 10' Cat 5e Patch Cord; Leviton or Equivalent
333	3' Cat 6 Patch Cord	NWN0219- OT	Provide and Install 3' Cat 6 Patch Cord; Leviton or Equivalent
334	10' Cat 6 Patch Cord	NWN0220- OT	Provide and Install 10' Cat 6 Patch Cord; Leviton or Equivalent
335	Velcro Ties	NWN0221- OT	Provide and Install Velcro Ties - 25 Yard Roll; Panduit or Equivalent
336	6.5" Coyote Fiber Splice Closure	NWN0222- OT	Provide and Install Fiber Splice Closure; Preformed or Equivalent
337	Fiber Splice Tray	NWN0223- OT	Provide and Install Fiber Splice Tray; Preformed or Equivalent
338	Copper Splice Case 4.0x25	NWN0224- OT	Provide and Install Copper Splice Case 4.0x25; Preformed or Equivalent
339	Copper Splice Case 6.5x28	NWN0225- OT	Provide and Install Copper Splice Case 6.5x28; Preformed or Equivalent
340	Rod & rope conduit	NWN0227- OT	Rod & rope conduit and leave 3/8" rope in conduit to pull; Pull String &

Line Item	Feature Name	Bidder's Product Identifier	Bidder's Product Description, Restrictions and Limitations
			Rope provided by NWN. Rope to be approximately ly sized to conduit size
341	Stick (10') of 1" EMT	NWN0228- OT	Provide and Install Stick (10') of 1" EMT
342	Stick (10') of 1 1/4" EMT	NWN0229- OT	Provide and Install Stick (10') of 1 1/4" EMT
343	Stick (10') of 2" EMT	NWN0230- OT	Provide and Install Stick (10') of 2" EMT
344	Stick (10') of 1" Rigid	NWN0231- OT	Provide and Install Stick (10') of 1" Rigid
345	Stick (10') of 1 1/4" Rigid	NWN0232- OT	Provide and Install Stick (10') of 1 1/4" Rigid
346	Stick (10') of 2" Rigid	NWN0233- OT	Provide and Install Stick (10') of 2" Rigid
347	1" EMT Stub	NWN0234- OT	Provide and Install 1" EMT Stub - From Device Box to Ceiling - Includes Straps, Connector and Bushing
348	6"x6"x4" NEMA 1 indoor Surface Mount Box	NWN0235- OT	Provide and Install 6'x6"x4" NEMA 1 Surface Mount Box
349	1" 2-Hole Strap, EMT	NWN0236- OT	Provide and Install 1" 2- Hole Strap, EMT
350	1" Bushing, EMT	NWN0237- OT	Provide and Install 1" Bushing, EMT
351	1" Compression Connector, EMT	NWN0238- OT	Provide and Install 1" Compression Connector, EMT
352	1" Compression Coupler, EMT	NWN0239- OT	Provide and Install 1" Compression Coupler, EMT
353	1" Unistrut Clamp, EMT	NWN0240- OT	Provide and Install 1" Unistrut Clamp, EMT
354	2" 2-Hole Strap, EMT	NWN0241- OT	Provide and Install 2" 2- Hole Strap, EMT
355	2" Bushing	NWN0242- OT	Provide and Install 2" Bushing, EMT

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
356	2" Compression Connector, EMT	NWN0243- OT	Provide and Install 2" Compression Connector, EMT
357	2" Compression Coupler, EMT	NWN0244- OT	Provide and Install 2" Compression Coupler, EMT
358	2" Unistrut Clamp, EMT	NWN0245- OT	Provide and Install 2" Unistrut Clamp, EMT
359	3" 2-Hole Strap, EMT	NWN0246- OT	Provide and Install 3" 2- Hole Strap, EMT
360	3" Bushing	NWN0247- OT	Provide and Install 3" Bushing, EMT
361	3" Compression Connector, EMT	NWN0248- OT	Provide and Install 3" Compression Connector, EMT
362	3" Compression Coupler, EMT	NWN0249- OT	Provide and Install 3" Compression Coupler, EMT
363	3" Unistrut Clamp, EMT	NWN0250- OT	Provide and Install 3" Unistrut Clamp, EMT
364	4" 2-Hole Strap, EMT	NWN0251- OT	Provide and Install 4" 2- Hole Strap, EMT
365	4" Bushing	NWN0252- OT	Provide and Install 4" Bushing, EMT
366	4" Compression Connector, EMT	NWN0253- OT	Provide and Install 4" Compression Connector, EMT
367	4" Compression Coupler, EMT	NWN0254- OT	Provide and Install 4" Compression Coupler, EMT
368	4" Unistrut Clamp, EMT	NWN0255- OT	Provide and Install 4" Unistrut Clamp, EMT
369	1" 2-Hole Strap, Rigid	NWN0256- OT	Provide and Install 1" 2- Hole Strap, Rigid
370	1" Bushing	NWN0257- OT	Provide and Install 1" Bushing, Rigid
371	1" Compression Connector, Rigid	NWN0258- OT	Provide and Install Connector - 1" Compression Connector, Rigid
372	1" Compression Coupler, Rigid	NWN0259- OT	Provide and Install Coupler - 1" Compression Coupler, Rigid

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
373	1" Unistrut Clamp, Rigid	NWN0260- OT	Provide and Install 1" Unistrut Clamp, Rigid
374	2" 2-Hole Strap, Rigid	NWN0261- OT	Provide and Install 2" 2- Hole Strap, Rigid
375	2" Bushing	NWN0262- OT	Provide and Install 2" Bushing, Rigid
376	2" Compression Connector, Rigid	NWN0263- OT	Provide and Install Connector - 2" Compression Connector, Rigid
377	2" Compression Coupler, Rigid	NWN0264- OT	Provide and Install Coupler - 2" Compression Coupler, Rigid
378	2" Unistrut Clamp, Rigid	NWN0265- OT	Provide and Install 2" Unistrut Clamp, Rigid
379	2" J-Hook w/ Multi-Purpose Clip	NWN0266- OT	Provide and Install 2" J- Hook w/ Multi-Purpose Clip
380	2 Gang weatherproof Bell Box	NWN0267- OT	Provide and Install 2 Gang Bell Box
381	NEMA1 8"x8"x6" Pull Box	NWN0268- OT	Provide and Install 8"x8"x6" NEMA1 Pull Box
382	12"x12"x8" NEMA 1 Junction Box	NWN0269- OT	Provide and Install 12"x12"x8" NEMA 1 Junction Box
383	12"x12"x8" NEMA 3 Junction Box	NWN0270- OT	Provide and Install 12"x12"x8" NEMA 1 J-Box
384	Install Customer Provided WAP (Wireless Access Point)	NWN0271- OT	Install Customer Provided 12"x12"x8" NEMA 3 J- Box; Labor Only Does not include Configuration
385	WAP (Wireless Access Point)Enclosure	NWN0272- OT	Install Customer Provided WAP (Wireless Access Point); Labor Only
386	Install Customer Provided Camera	NWN0273- OT	Install Customer Provided Camera; Does not include Configuration
387	Install Customer Provided Paging Speaker	NWN0274- OT	Install Customer Provided WAP (Wireless Access Point) Enclosure; Oberon or Equivalent



<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
388	Unistrut slotted 7/8"	NWN0275- OT	Provide and Install Customer Provided Camera;
389	1" unistrut straps EMT	NWN0276- OT	Provide and Install Paging Speaker - Drop Tile Ceiling;
390	2" unistrut straps EMT	NWN0277- OT	Provide and Install Unistrut slotted 7/8"
391	1"x12" EMT Sleeve	NWN0278- OT	Provide and Install 1" unistrut straps EMT
392	2"x12" EMT Sleeve	NWN0279- OT	Provide and Install 2" unistrut straps EMT
393	3"x12" EMT Sleeve	NWN0280- OT	Provide and Install 1" EMT Sleeve; Core or Penetration not Included
394	4"x12" EMT Sleeve	NWN0281- OT	Provide and Install 2" EMT Sleeve; Core or Penetration not Included
395	8"x8"x6" Pull Box NEMA3R	NWN0282- OT	Provide and Install 3" EMT Sleeve; Core or Penetration not Included
396	Raceway: Core Drilling, 1" Hole	NWN0292- OT	Install Core Drilling, 1" Hole; Labor Only
397	Raceway: Core Drilling, 2" hole	NWN0293- OT	Install Core Drilling, 2" hole; Labor Only
398	Raceway: Core Drilling, 3" hole	NWN0294- OT	Install Core Drilling, 3" hole; Labor Only
399	Raceway: Core Drilling, 4" hole	NWN0295- OT	Install Core Drilling, 4" hole; Labor Only
400	Raceway: 1"x8" EMT sleeve for Drywall - Wall Penetration	NWN0296- OT	Install 1"x8" sleeve for Wall Penetration - Drywall; Labor Only
401	Raceway: Scissor Lift Rental (20')	NWN0297- OT	Provide Scissor Lift Rental (20') - Includes Daily Rate, Pickup and Delivery Fees.; For NWN use in support of SRI.
402	Raceway: Fire Seal Penetration, 1" Hole	NWN0298- OT	Provide and Install Fire Seal Penetration, 1" Hole

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
403	Raceway: Fire Seal Penetration, 2" Hole	NWN0299- OT	Provide and Install Fire Seal Penetration, 2" Hole
404	Raceway: Fire Seal Penetration, 3" Hole	NWN0300- OT	Provide and Install Fire Seal Penetration, 3" Hole
405	Raceway: Fire Seal Penetration, 4" Hole	NWN0301- OT	Provide and Install Fire Seal Penetration, 4" Hole
406	Installation of Equipment Ground – Rods and Wire	NWN0302- OT	Provide and Install Equipment Ground 1 8' x 5/8" Ground Rod and # 6 Ground Wire; Includes All Material, Terminations and Labor
407	Installation of Equipment Ground – Wire Only	NWN0303- OT	Provide and Install Equipment Ground, # 6 Ground Wire; Includes All Material, Terminations and Labor
408	Relocate Existing Telephone Handset	NWN0304- OT	Relocate Existing Telephone Handset - same HC/TC on Existing Cabling; Includes Cross- Connect, Testing, and Documentation
409	Install New Cross-Connect	NWN0305- OT	Provide Installation New Cross-Connect
410	Locate and Identify Circuit	NWN0306- OT	Locate and Identify Circuit - Includes Tone, Tag and Document; Labor Only
411	Install Customer Provided UPS	NWN0092- SH	Install Customer Provided Rack Mount UPS; Labor Only
412	48-Port Switch (Patch Cords)	NWN0093- SH	Provide and Install 48- Patch Cords from switch to patch panel); Leviton or Equivalent
413	7' 2-Post Rack	NWN0094- SH	Provide and Install 7' 2 post rack; CPI or Equivalent
414	7' 4-post seismic rack	NWN0095- SH	Provide and Install 7' 4- Post seismic Rack; CPI or Equivalent
415	Install Customer Provided Rack	NWN0096- SH	Install Customer Provided Rack; Labor Only
416	2RU Horizontal Wire Manager	NWN0097- SH	Provide and Install 2RIU Horizontal Wire Manager; Leviton or Equivalent
417	Double Sided Vertical Wire	NWN0098- SH	Provide and Install Double Sided Vertical Wire Manager for 7' rack; CPI or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
	Manager for 7' Rack		
418	Install Customer Provided Vertical Wire Manager for 7' Rack	NWN0307- SH	Install Customer Provided 7' vertical wire manager; Labor Only
419	Install Customer Provided 2RU Horizontal Wire Manager	NWN0099- SH	Install Installation of Customer Provided 2RU Horizontal Wire Manager; Labor Only
420	Shelf (Single sided 3U)	NWN0100- SH	Provide and Install Single-sided 3U Shelf; CPI or Equivalent
421	Install Customer Provided Single Sided 3U Shelf	NWN0101- SH	Install Customer Provided Single Sided 3U Shelf; Labor Only
422	Hinged Wall Bracket	NWN0102- SH	Provide and Install Hinged Wall Bracket; Allen Tel
423	Install 4' x 4' x 3/4" Painted Plywood Backboard	NWN0103- SH	Provide and Install Fire Treated 4' x 4' x 3/4" Painted Plywood Backboard
424	Power Strip (4 outlets)	NWN0104- SH	Provide and Install Power Strip - Up to 4 Outlets; CPI or Equivalent
425	Install up to 10' x 12" Ladder Rack With 9" Rungs	NWN0105- SH	Provide and Install Ladder Rack – Up to 10'x12" with 9" rungs (includes Support Hardware); CPI or Equivalent
426	Communication Pole 10 feet	NWN0106- SH	Provide and Install Communication Pole – Up to 10 feet; Wiremold or Equivalent
427	6-Strand MM ISP Fiber	NWN0107- SH	Provide and Install 6- Strand MM 50/125um ISP Fiber; Corning or Equivalent
428	6-Strand SM ISP Fiber	NWN0108- SH	Provide and Install 6- Strand SM ISP Fiber; Corning or Equivalent
429	2-Strand MM ISP Fiber	NWN0109- SH	Provide and Install 2- Strand MM 50/125 ISP Fiber; Corning or Equivalent
430	2-Strand SM ISP Fiber	NWN0110- SH	Provide and Install 2- Strand SM ISP Fiber; Corning or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
431	6-Strand MM 50/125um OSP Underground Fiber	NWN0111- SH	Provide and Install 6- Strand MM 50/125um OSP Underground Fiber; Corning or Equivalent
432	6-Strand SM OSP Underground Fiber	NWN0112- SH	Provide and Install 6- Strand SM OSP Underground Fiber; Corning or Equivalent
433	12-Strand MM 50/125um OSP Underground Fiber	NWN0113- SH	Provide and Install 12- Strand MM 50/125um OSP Underground Fiber; Corning or Equivalent
434	12-strand SM OSP Underground Fiber	NWN0114- SH	Provide and Install 12- strand SM OSP Underground Fiber; Corning or Equivalent
435	24-Strand MM 50/125um OSP Underground Fiber	NWN0115- SH	Provide and Install 24- Strand MM 50/125um OSP Underground Fiber; Corning or Equivalent
436	48-Strand SM OSP Underground Fiber	NWN0116- SH	Provide and Install 48- Strand SM OSP Underground Fiber
437	24-Strand SM OSP Underground Fiber	NWN0116B- SH	Provide and Install 24- Strand SM OSP Underground Fiber or Equivalent
438	48-Strand SM OSP Underground Fiber	NWN0117- SH	Provide and Install 48- Strand SM OSP Underground Fiber or Equivalent
439	1" innerduct Underground in Existing Duct	NWN0118- SH	Provide and Install Underground in Existing Duct - All 1" Innerduct
440	1 1/4" Innerduct Underground in Existing Duct	NWN0119- SH	Provide and Install Underground in Existing Duct - All 1 1/4" Innerduct
441	25-Pair Copper ISP	NWN0120- SH	Provide and Install 25- Pair Copper ISP
442	25-Pair Copper Underground OSP	NWN0121- SH	Provide and Install 25- Pair Copper Underground OSP
443	50-Pair Copper ISP	NWN0122- SH	Provide and Install 50- Pair Copper ISP
444	50-Pair Copper Underground OSP	NWN0123- SH	Provide and Install 50- Pair Copper Underground OSP
445	100-Pair Copper ISP	NWN0124- SH	Provide and Install 100- Pair Copper ISP

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
446	100-Pair Copper Underground OSP	NWN0125- SH	Provide and Install 100- Pair Copper Underground OSP
447	Cat 6 Copper ISP Circuit Extension	NWN0126- SH	Provide and Install Cat 6 Copper ISP Circuit Extension - Up to 300'
448	Cat 6 Copper OSP Circuit Extension	NWN0127- SH	Provide and Install Cat 6 Copper OSP Circuit Extension - Up to 300'
449	25-pair Copper ISP Circuit Extension	NWN0128- SH	Provide and Install 25- pair Copper ISP Circuit Extension - Up to 300'
450	25-pair Copper OSP Circuit Extension	NWN0129- SH	Provide and Install 25- pair Copper OSP Circuit Extension - Up to 300'
451	RG58 COAX ISP	NWN0130- SH	Provide and Install RG58 COAX ISP - Up to 300'
452	RG62 COAX ISP	NWN0131- SH	Provide and Install RG62 COAX ISP - Up to 300'
453	RG6 COAX ISP	NWN0132- SH	Provide and Install RG6 COAX ISP - Up to 300'
454	25-Pair Protector	NWN0133- SH	Provide and Install 25- Pair Protector
455	50-Pair Protector	NWN0134- SH	Provide and Install 50- Pair Protector
456	100-Pair Protector	NWN0135- SH	Provide and Install 100- Pair Protector
457	4-Pair Protector	NWN0136- SH	Provide and Install 4-Pair Protector
458	Protector Modules	NWN0137- SH	Provide and Install Protector Modules
459	BIX Mount 250-pair	NWN0138- SH	Provide and Install BIX Mount 250- pair
460	BIX Connector	NWN0139- SH	Provide and Install BIX Connector
461	BIX Ring	NWN0140- SH	Provide and Install BIX Ring
462	66-Type Block 50 Pair	NWN0141- SH	Provide and Install 66- Type Block 50 Pair

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
463	110-Style Block 100 Pair Kit	NWN0142- SH	Provide and Install 110- Style Block 100 Pair Kit
464	Rack Mount Fiber Cabinet, 2 Panel Capacity, 24 Fiber	NWN0143- SH	Provide and Install Rack Mount Fiber Cabinet, 2 Panel Capacity, 24 Fiber
465	Rack Mount Fiber Cabinet, 4 Panel Capacity, 48 Fiber	NWN0144- SH	Provide and Install Rack Mount Fiber Cabinet, 4 Panel Capacity, 48 Fiber
466	Wall Mount Fiber Cabinet, 2 Panel Capacity, 24 Fiber	NWN0145- SH	Provide and Install Wall Mount Fiber Cabinet, 2 Panel Capacity, 24 Fiber
467	Wall Mount Fiber Cabinet, 4 Panel Capacity, 48 Fiber	NWN0146- SH	Provide and Install Wall Mount Fiber Cabinet, 4 Panel Capacity, 48 Fiber
468	6-Strand Connector Panel MM 50/125 SC	NWN0147- SH	Provide and Install 6- Strand Connector Panel MM 50/125 SC
469	6-Strand Connector Panel MM 50/125 LC	NWN0148- SH	Provide and Install 6- Strand Connector Panel MM 50/125 LC
470	6-Strand Connector Panel MM 62.5/125 SC	NWN0149- SH	Provide and Install 6- Strand Connector Panel MM 62.5/125 SC
471	6-Strand Connector Panel MM 62.5/125 LC	NWN0150- SH	Provide and Install 6- Strand Connector Panel MM 62.5/125 LC
472	12-Strand Connector Panel MM 50/125 SC	NWN0151- SH	Provide and Install 12- Strand Connector Panel MM 50/125 SC
473	12-Strand Connector Panel MM 50/125 LC	NWN0152- SH	Provide and Install 12- Strand Connector Panel MM 50/125 LC
474	12-Strand Connector Panel MM 62.5/125 SC	NWN0153- SH	Provide and Install 12- Strand Connector Panel MM 62.5/125 SC
475	12-Strand Connector Panel MM 62.5/125 LC	NWN0154- SH	Provide and Install 12- Strand Connector Panel MM 62.5/125 LC

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
476	6-Strand Connector Panel SM SC	NWN0155- SH	Provide and Install 6- Strand Connector Panel SM SC
477	6-Strand Connector Panel SM LC	NWN0156- SH	Provide and Install 6- Strand Connector Panel SM LC
478	12-Strand Connector Panel SM SC	NWN0157- SH	Provide and Install 12- Strand Connector Panel SM SC
479	12-Strand Connector Panel SM LC	NWN0158- SH	Provide and Install 12- Strand Connector Panel SM LC
480	Multimode 62.5/125 SC To SC 1 Meter Patch Cable	NWN0165- SH	Provide and Install Multimode 62.5/125 SC To SC 1 Meter Patch Cable
481	Multimode 62.5/125 SC To SC 3 Meter Patch Cable	NWN0166- SH	Provide and Install Multimode 62.5/125 SC To SC 3 Meter Patch Cable
482	Multimode 62.5/125 SC To LC 1 Meter Patch Cable	NWN0167- SH	Provide and Install Multimode 62.5/125 SC To LC 1 Meter Patch Cable
483	Multimode 62.5/125 SC To LC 3 Meter Patch Cable	NWN0168- SH	Provide and Install Multimode 62.5/125 SC To LC 3 Meter Patch Cable
484	Multimode 62.5/125 LC To LC 1 Meter Patch Cable	NWN0169- SH	Provide and Install Multimode 62.5/125 LC To LC 1 Meter Patch Cable
485	Multimode 62.5/125 LC To LC 3 Meter Patch Cable	NWN0170- SH	Provide and Install Multimode 62.5/125 LC To LC 3 Meter Patch Cable
486	Multimode 50/125 SC To SC 1 Meter Patch Cable	NWN0171- SH	Provide and Install Multimode 50/125 SC To SC 1 Meter Patch Cable
487	Multimode 50/125 SC To SC 3 Meter Patch Cable	NWN0172- SH	Provide and Install Multimode 50/125 SC To SC 3 Meter Patch Cable
488	Multimode 50/125 SC To LC 1 Meter Patch Cable	NWN0173- SH	Provide and Install Multimode 50/125 SC To LC 1 Meter Patch Cable

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
489	Multimode 50/125 SC To LC 3 Meter Patch Cable	NWN0174- SH	Provide and Install Multimode 50/125 SC To LC 3 Meter Patch Cable
490	Multimode 50/125 LC To LC 1 Meter Patch Cable	NWN0175- SH	Provide and Install Multimode 50/125 LC To LC 1 Meter Patch Cable
491	Multimode 50/125 LC To LC 3 Meter Patch Cable	NWN0176- SH	Provide and Install Multimode 50/125 LC To LC 3 Meter Patch Cable
492	Single Mode 9/125 SC To SC 1 Meter Patch Cable	NWN0177- SH	Provide and Install Single Mode 9/125 SC To SC 1 Meter Patch Cable
493	Single Mode 9/125 SC To SC 3 Meter Patch Cable	NWN0178- SH	Provide and Install Single Mode 9/125 SC To SC 3 Meter Patch Cable
494	Single Mode 9/125 SC To LC 1 Meter Patch Cable	NWN0179- SH	Provide and Install Single Mode 9/125 SC To LC 1 Meter Patch Cable
495	Single Mode 9/125 SC To LC 3 Meter Patch Cable	NWN0180- SH	Provide and Install Single Mode 9/125 SC To LC 3 Meter Patch Cable
496	Single Mode 9/125 LC To LC 1 Meter Patch Cable	NWN0181- SH	Provide and Install Single Mode 9/125 LC To LC 1 Meter Patch Cable
497	Single Mode 9/125 LC To LC 3 Meter Patch Cable	NWN0182- SH	Provide and Install Single Mode 9/125 LC To LC 3 Meter Patch Cable
498	Copper Cable Termination per Pair	NWN0183- SH	Install Copper Cable Termination - 25 Pair and Larger
499	Copper Cable Splicing per Pair	NWN0184- SH	Install Copper Cable Splicing - 25 Pair and Larger
500	Copper cable Testing per Pair	NWN0185- SH	Install Copper cable Testing - 25 Pair and Larger
501	Fiber Termination per Strand	NWN0186- SH	Provide and Install Fiber Termination
502	Fiber Splicing per Pair	NWN0187- SH	Provide and Install Fiber Splicing



<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
503	Fiber Testing per Strand	NWN0188- SH	Install Fiber Testing
504	4-Pair CAT5e Termination and Testing	NWN0189- SH	Install 4-Pair CAT5e Termination and Testing
505	4-Pair Cat 6 Termination and Testing	NWN0190- SH	Install 4-Pair Cat 6 Termination and Testing
506	4-Pair Cat 6 Jacking	NWN0191- SH	Install 4-Pair Cat 6 Jacking
507	4-Pair Cat 6 Termination	NWN0192- SH	Install 4-Pair Cat 6 Termination
508	4-Pair Cat 6 Testing	NWN0193- SH	Install 4-Pair Cat 6 Testing
509	4-Pair Cat 6A Termination and Testing	NWN0194- SH	Install 4-Pair Cat 6A Termination and Testing
510	4-Pair Cat 6A Jacking	NWN0195- SH	Install 4-Pair Cat 6A Jacking
511	4-Pair Cat 6A Termination	NWN0196- SH	Install 4-Pair Cat 6A Termination
512	4-Pair Cat 6A Testing	NWN0197- SH	Install 4-Pair Cat 6A Testing
513	Single 4-Pair Cat 6 PVC Cable	NWN0198- SH	Provide and Install Single 4-pair Cat 6 PVC Cable – or Equivalent
514	Single 4-Pair Cat 6 Plenum Cable	NWN0199- SH	Provide and Install Single 4-Pair Cat 6 Plenum Cable – or Equivalent
515	Single 4-Pair Cat 6 OSP Cable	NWN0200- SH	Provide and Install Single 4-Pair Cat 6 OSP Cable – or Equivalent
516	Single 4-Pair Cat 6A PVC Cable	NWN0201- SH	Provide and Install Single 4-Pair Cat 6A PVC Cable – or Equivalent
517	Single 4-Pair Cat 6A Plenum Cable	NWN0202- SH	Provide and Install Single 4-Pair Cat 6A Plenum Cable – or Equivalent
518	Single 4-Pair Cat 6A OSP Cable	NWN0203- SH	Provide and Install Single 4-Pair Cat 6A OSP Cable – or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
519	24-Port Unloaded Cat 6A Patch Panel	NWN0204- SH	Provide and Install 24- Port Unloaded Cat 6A Patch Panel
520	48-Port Unloaded Cat 6A Patch Panel	NWN0205- SH	Provide and Install 48- Port Unloaded Cat 6A Patch Panel
521	New 24-Port Cat 6 Patch Panel	NWN0206- SH	Provide and Install New 24-Port Cat 6 Patch Panel
522	New 48-Port Cat 6 Patch Panel	NWN0207- SH	Provide and Install New 48-Port Cat 6 Patch Panel
523	Rod & rope conduit	NWN0227- SH	Provide and Install Rod & rope conduit; Pull String & Rope provided by NWN. Rope to be approximately sized to conduit size
524	Stick (10') of 1" EMT	NWN0228- SH	Provide and Install Stick (10') of 1" EMT
525	Stick (10') of 1 1/4" EMT	NWN0229- SH	Provide and Install Stick (10') of 1 1/4" EMT
526	Stick (10') of 2" EMT	NWN0230- SH	Provide and Install Stick (10') of 2" EMT
527	Stick (10') of 1" Rigid	NWN0231- SH	Provide and Install Stick (10') of 1" Rigid
528	Stick (10') of 1 1/4" Rigid	NWN0232- SH	Provide and Install Stick (10') of 1 1/4" Rigid
529	Stick (10') of 2" Rigid	NWN0233- SH	Provide and Install Stick (10') of 2" Rigid
530	1" EMT Stub	NWN0234- SH	Provide and Install 1" EMT Stub - From Device Box to Ceiling - Includes Straps, Connector and Bushing
531	6"x6"x4" NEMA1 indoor Surface Mount Box	NWN0235- SH	Provide and Install 6'x6"x4" NEMA1 Surface Mount Box
532	1" 2-Hole Strap, EMT	NWN0236- SH	Provide and Install 1" 2- Hole Strap, EMT
533	1" Bushing, EMT	NWN0237- SH	Provide and Install 1" Bushing, EMT

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
534	1" Compression Connector, EMT	NWN0238- SH	Provide and Install 1" Compression Connector, EMT
535	1" Compression Coupler, EMT	NWN0239- SH	Provide and Install 1" Compression Coupler, EMT
536	1" Unistrut Clamp, EMT	NWN0240- SH	Provide and Install 1" Unistrut Clamp, EMT
537	2" 2-Hole Strap, EMT	NWN0241- SH	Provide and Install 2" 2- Hole Strap, EMT
538	2" Bushing, EMT	NWN0242- SH	Provide and Install 2" Bushing, EMT
539	2" Compression Connector, EMT	NWN0243- SH	Provide and Install 2" Compression Connector, EMT
540	2" Compression Coupler, EMT	NWN0244- SH	Provide and Install 2" Compression Coupler, EMT
541	2" Unistrut Clamp, EMT	NWN0245- SH	Provide and Install 2" Unistrut Clamp, EMT
542	3" 2-Hole Strap, EMT	NWN0246- SH	Provide and Install 3" 2- Hole Strap, EMT
543	3" Bushing, EMT	NWN0247- SH	Provide and Install 3" Bushing, EMT
544	3" Compression Connector, EMT	NWN0248- SH	Provide and Install 3" Compression Connector, EMT
545	3" Compression Coupler, EMT	NWN0249- SH	Provide and Install 3" Compression Coupler, EMT
546	3" Unistrut Clamp, EMT	NWN0250- SH	Provide and Install 3" Unistrut Clamp, EMT
547	4" 2-Hole Strap, EMT	NWN0251- SH	Provide and Install 4" 2- Hole Strap, EMT
548	4" Bushing, EMT	NWN0252- SH	Provide and Install 4" Bushing, EMT
549	4" Compression Connector, EMT	NWN0253- SH	Provide and Install 4" Compression Connector, EMT
550	4" Compression Coupler, EMT	NWN0254- SH	Provide and Install 4" Compression Coupler, EMT

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
551	4" Unistrut Clamp, EMT	NWN0255- SH	Provide and Install 4" Unistrut Clamp, EMT
552	1" 2-Hole Strap, Rigid	NWN0256- SH	Provide and Install 1" 2- Hole Strap, Rigid
553	1" Bushing, Rigid	NWN0257- SH	Provide and Install 1" Bushing, Rigid
554	1" Compression Connector, Rigid	NWN0258- SH	Provide and Install Connector - 1" Compression Connector, Rigid
555	1" Compression Coupler, Rigid	NWN0259- SH	Provide and Install Coupler - 1" Compression Coupler, Rigid
556	1" Unistrut Clamp, Rigid	NWN0260- SH	Provide and Install 1" Unistrut Clamp, Rigid
557	2" 2-Hole Strap, Rigid	NWN0261- SH	Provide and Install 2" 2- Hole Strap, Rigid
558	2" Bushing, Rigid	NWN0262- SH	Provide and Install 2" Bushing, Rigid
559	2" Compression Connector, Rigid	NWN0263- SH	Provide and Install Connector - 2" Compression Connector, Rigid
560	2" Compression Coupler, Rigid	NWN0264- SH	Provide and Install Coupler - 2" Compression Coupler, Rigid
561	2" Unistrut Clamp, Rigid	NWN0265- SH	Provide and Install 2" Unistrut Clamp, Rigid
562	2" J-Hook w/ Multi-Purpose Clip	NWN0266- SH	Provide and Install 2" J- Hook w/ Multi-Purpose Clip
563	Bell Box	NWN0267- SH	Provide and Install Bell Box NEMA 1 or Equivalent
564	8"x8"x6" Pull Box	NWN0268- SH	Provide and Install 8"x8"x6" Pull Box NEMA 1 or Equivalent
565	12"x12"x8" NEMA 1 Junction Box NEMA 1	NWN0269- SH	Provide and Install 12"x12"x8" NEMA 1 or Equivalent Junction Box NEMA 1 or Equivalent
566	12"x12"x8" NEMA 1 Junction Box NEMA 3	NWN0270- SH	Provide and Install 12"x12"x8" NEMA 1 or Equivalent Junction Box NEMA 3 or Equivalent

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
567	Install Customer Provided WAP (Wireless Access Point)	NWN0271- SH	Provide Installation of Customer Provided WAP (Wireless Access Point); Labor Only Does not include Configuration
568	WAP (Wireless Access Point) Enclosure	NWN0272- SH	Provide and Install WAP (Wireless Access Point) Enclosure
569	Install Customer Provided Camera	NWN0273- SH	Provide Installation Customer Provided Camera; Labor Only
570	Install Customer Provided Paging Speaker	NWN0274- SH	Provide Installation Customer Provided Paging Speaker; Labor Only
571	Unistrut slotted 7/8"	NWN0275- SH	Provide and Install Unistrut slotted 7/8"
572	1" unistrut straps	NWN0276- SH	Provide and Install 1" unistrut straps
573	2" unistrut straps	NWN0277- SH	Provide and Install 2" unistrut straps
574	1" EMT Sleeve	NWN0278- SH	Provide and Install 1" EMT Sleeve; Core or Penetration not Included
575	2" EMT Sleeve	NWN0279- SH	Provide and Install 2" EMT Sleeve; Core or Penetration not Included
576	3" EMT Sleeve	NWN0280- SH	Provide and Install 3" EMT Sleeve; Core or Penetration not Included
577	4" EMT Sleeve	NWN0281- SH	Provide and Install 4" EMT Sleeve; Core or Penetration not Included
578	8"x8"x6" Pull Box	NWN0282- SH	Provide and Install 8"x8"x6" Pull Box NEMA R3 or Equivalent
579	Core Drilling, 1" Hole	NWN0292- SH	Install Core Drilling, 1" Hole; Labor Only
580	Core Drilling, 2" hole	NWN0293- SH	Install Core Drilling, 2" hole; Labor Only
581	Core Drilling, 3" hole	NWN0294- SH	Install Core Drilling, 3" hole; Labor Only

<b>Line Item</b>	<b>Feature Name</b>	<b>Bidder's Product Identifier</b>	<b>Bidder's Product Description, Restrictions and Limitations</b>
582	Core Drilling, 4" hole	NWN0295- SH	Install Core Drilling, 4" hole; Labor Only
583	Wall Penetration - Drywall	NWN0296- SH	Install Wall Penetration - Drywall; Labor Only
584	Scissor Lift Rental (20')	NWN0297- SH	Install Scissor Lift Rental (20') - Includes Daily Rate, Pickup and Delivery Fees.; For NWN use in support of SRI.
585	Fire Seal Penetration, 1" Hole	NWN0298- SH	Provide and Install Fire Seal Penetration, 1" Hole
586	Fire Seal Penetration, 2" Hole	NWN0299- SH	Provide and Install Fire Seal Penetration, 2" Hole
587	Fire Seal Penetration, 3" Hole	NWN0300- SH	Provide and Install Fire Seal Penetration, 3" Hole
588	Fire Seal Penetration, 4" Hole	NWN0301- SH	Provide and Install Fire Seal Penetration, 4" Hole
589	Installation of Equipment Ground – Rods and Wire	NWN0302- SH	Provide Installation of Equipment Ground of 2 - 8' x 5/8" Ground Rods and # 6 Ground Wire; Includes All Material, Terminations and Labor
590	Installation of Equipment Ground – Wire Only	NWN0303- SH	Provide Installation of Equipment Ground of # 6 Ground Wire; Includes All Material, Terminations and Labor
591	Relocate Existing Telephone Handset	NWN0304- SH	Provide Relocation of Existing Telephone Handset - same HC/TC on Existing Cabling; Includes Cross-Connect, Testing, and Documentation
592	Install New Cross-Connect	NWN0305- SH	Provide Installation New Cross-Connect
593	Locate and Identify Circuit	NWN0306- SH	Locate and Identify Circuit - Includes Tone, Tag and Document; Labor Only

### 23.4.3 Services Related Hourly Support

The Contractor shall provide labor for the diagnosis and/or repair of services listed in this Contract and all costs for repair are the responsibility of the service provider

unless it is specifically determined that the cause of service failure is outside the scope of the Contractor's responsibilities. Work performed under this Section 23.4.3 is authorized only for situations where the Contractor has dispatched personnel to diagnose a service problem that is discovered to be caused by factors outside the responsibility of the Contractor or no trouble is found.

**Bidder understands this Requirement and shall meet or exceed it? Yes**

In Cost Worksheet 23.4.3, the Contractor shall provide a fixed hourly rate schedule for the labor classifications required to diagnose and/or repair the contracted services. The rates identified shall only be used for the diagnosis and/or repair of contracted services and no materials shall be included in the rates. The total amount of labor hours permitted to be performed is ten hours per dispatch/occurrence.

**Bidder understands this Requirement and shall meet or exceed it? Yes**

The Contractor shall offer emergency restoration services as detailed in Table 23.4.3.3.

**Table 23.4.3.3 – Services Related Hourly Support**

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
1	Field Service Repair Technician Regular Hours	Field technician properly trained to an expert level for the service being dispatched to diagnose and/or repair a CALNET DNCS service problem that turns out to be caused by factors outside the		ATS-PRO-ASE-S	Yes

Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
		responsibility of the Contractor.			
2	Field Service Repair Technician Overtime Hours	Field technician properly trained to an expert level for the service being dispatched to diagnose and/or repair a CALNET DNCS service problem that turns out to be caused by factors outside the responsibility of the Contractor.		ATS-PRO-ASE-AH	Yes
3	Field Service Repair Technician Sunday and Holiday Hours	Field technician properly trained to an expert level for the service being dispatched to diagnose and/or repair a CALNET DNCS service problem that turns out to be caused by factors outside the		ATS-PRO-ASE-AHW	Yes



Line Item	Feature Name	Feature Description	Bidder's Product Description, Restrictions and Limitations	Bidder's Product Identifier	Bidder Meets or Exceeds? Yes or No
		responsibility of the Contractor.			

### 23.5 SERVICE LEVEL AGREEMENTS (SLA)

The Contractor shall provide Service Level Agreements (SLAs) as defined below. The intent of this section is to provide Customers, CALNET Program and the Contractor with requirements that define and assist in the management of the SLAs. This section includes the SLA formats, general requirements, stop clock conditions, and the Technical SLAs for the services identified in this solicitation.

#### 23.5.1 Service Level Agreement Format

The Contractor shall adhere to the following format and include the content as described below for each Technical SLA added by the Contractor throughout the Term of the Contract:

1. SLA Name – Each SLA Name must be unique;
2. Definition - Describes what performance metric will be measured;
3. Measurements Process - Provides instructions how the Contractor will continuously monitor and measure SLA performance to ensure compliance. The Contractor shall provide details describing how and what will be measured. Details should include source of data and define the points of measurement within the system, application, or network;
4. Service(s) - All applicable services will be listed in each SLA;
5. Objective(s) – Defines the SLA performance goal/parameters; and,
6. Rights and Remedies
7. Per Occurrence: Rights and remedies are paid on a per event basis during the bill cycle; and,
8. Monthly Aggregated Measurements: Rights and remedies are paid once during the bill cycle based on an aggregate of events over a defined period of time.

The Contractor shall proactively apply a credit or refund when a SLA objective is not met. CALNET SLA Rights and Remedies do not require the Customer to submit a request for credit or refund.

**Bidder understands this Requirement and shall meet or exceed it? Yes**

23.5.2 Technical Requirements versus SLA Objectives

Sections 23.2 (Ethernet Services), 23.3 (Network Disaster/Operational Recovery) and 23.4 (Other Services) define the technical requirements for each service. These requirements are the minimum parameters each Bidder must meet in order to qualify for Contract award. Upon Contract award the committed technical requirements will be maintained throughout the remainder of the Contract.

Committed SLA objectives are minimum parameters which the Contractor shall be held accountable for all rights and remedies throughout Contract Term.

**Bidder understands this Requirement and shall meet or exceed it? Yes**

23.5.3 Methods of Outage Reporting: Customer or Contractor

There are two methods in which CALNET service failures or quality of service issues may be reported and Contractor trouble tickets opened: Customer reported or Contractor reported.

The first method of outage reporting results from a Customer reporting service trouble to the Contractor's Customer Service Center via phone call or opening of a trouble ticket using the on-line Trouble Ticket Reporting Tool (SOW Business Requirements Section G.10.4, Trouble Ticket Reporting Tool (TRT)).

The second method of outage reporting occurs when the Contractor opens a trouble ticket as a result of network/system alarm or other method of service failure identification. In each instance the Contractor shall open a trouble ticket using the Trouble Ticket Reporting Tool (SOW Business Requirements Section G.10.4) and monitor and report to Customer until service is restored.

**Bidder understands this Requirement and shall meet or exceed it? Yes**

23.5.4 Bidder Response to Service Level Agreements

Many of the Service Level Agreements described below include multiple objective levels – Basic, Standard and Premier. Bidders shall indicate one specific objective level they are committing to for each service in space provided in the "Objective" section of each SLA description.

**Bidder understands this Requirement and shall meet or exceed it? Yes**

23.5.5 Contractor SLA Management Plan

Within 90 calendar days of Contract award, the Contractor shall provide CALNET CMO with a detailed SLA Management Plan that describes how the Contractor

will manage the Technical SLAs for services in this IFB. The SLA Management plan shall provide processes and procedures to be implemented by the Contractor. The SLA Management Plan shall define the following:

1. Contractor SLA Manager and supporting staff responsibilities;
2. Contractor's process for measuring objectives for each SLA. The process shall explain how the Contractor will continuously monitor and measure SLA performance to ensure compliance. The Contractor shall provide details describing how and what will be measured. Details should include source of data and define the points of measurement within the system, application, or network;
3. Creation and delivery of SLA Reports (SOW Business Requirements Section G.10.5). The Contractor shall include a sample report in accordance with SOW Business Requirements Section G.10.5, SLA Reports for the following: SLA Service Performance Report (SOW Business Requirements Section G.10.5.1), SLA Provisioning Report (SOW Business Requirements Section G.10.5.2), SLA Catastrophic Outage Reports (SOW Business Requirements Section G.10.5.3), and Trouble Ticket and Provisioning/SLA Credit Report (SOW Business Requirements Section G.10.5.4). The Contractor shall commit to a monthly due date. The reports shall be provided to the CALNET Program via the Private Oversight Website (SOW Business Requirements Section G.10.2);
4. SLA invoicing credit and refund process;
5. Contractor SLA problem resolution process for SLA management and SLA reporting. The Contractor shall provide a separate process for Customers and CALNET Program; and,
6. Contractor SLA Manager to manage all SLA compliance and reporting. The Contractor shall include SLA Manager contact information for SLA inquiries and issue resolution for Customer and CALNET Program.

**Bidder understands this Requirement and shall meet or exceed it? Yes**

### 23.5.6 Technical SLA General Requirements

The Contractor shall adhere to the following general requirements which apply to all CALNET Technical SLAs (Section 23.5.8):

1. With the exception of the Provisioning SLA (Section 23.5.8.9), the total SLA rights and remedies for any given month shall not exceed the sum of 100% of the Total Monthly Recurring Charges (TMRC). Services with usage charges shall apply the Average Daily Usage Charge (ADUC) in addition to any applicable TMRC rights and remedies;

2. If a circuit or service fails to meet one or more of the performance objectives, only the SLA with the largest monthly Rights and Remedies will be credited to the Customer, per event;
3. The Contractor shall apply CALNET SLAs and remedies for services provided by Subcontractors and/or Affiliates;
4. The Definition, Measurement Process, Objectives, and Rights and Remedies shall apply to all services identified in each SLA. If a Category or Subcategory is listed in the SLA, then all services under that Category or Subcategory are covered under the SLA. Exceptions must be otherwise stated in the SLA; and,
5. TMRC rights and remedies shall include the service, option(s), and feature(s) charges.

**Bidder understands this requirement and shall meet or exceed it? Yes**

6. The Contractor shall proactively and continuously monitor and measure all Technical SLA objectives.

**Bidder understands this requirement and shall meet or exceed it? Yes**

7. The Contractor shall proactively credit all rights and remedies to the Customer within 60 calendar days of the trouble resolution date on the trouble ticket or within 60 calendar days of the Due Date on the Service Request for the Provisioning SLA.

**Bidder understands this requirement and shall meet or exceed it? Yes**

8. To the extent that Contractor offers additional SLAs, or SLAs with more advantageous rights and/or remedies for same or similar services offered through tariffs, online service guides, or other similarly situated government contracts (Federal, State, County, City), The State will be entitled to the same rights and/or remedies therein. The Contractor shall present the SLAs to CALNET Program for possible inclusion via amendments;
9. The Contractor shall apply CALNET DNCS SLAs and remedies to services provided in all areas the Contractor provides service and/or open to competition (as defined by the CPUC). Any SLAs and remedies negotiated between Contractor and Incumbent Local Exchange Carriers in territories closed to competition shall be passed through to the CALNET DNCS Customer;
10. The election by CALNET Program of any SLA remedy covered by this Contract shall not exclude or limit CALNET Program or any Customer's rights and remedies otherwise available within the Contract or at law or equity;

11. The Contractor shall apply rights and remedies when a service fails to meet the SLA objective even when backup or protected services provide Customer with continuation of services;
12. The Contractor shall act as the single point of contact in coordinating all entities to meet the State's needs for provisioning, maintenance, restoration and resolution of service issues or that of their Subcontractors, Affiliates or resellers under this Contract;
13. The Customer Escalation Process and/or the CALNET CMO Escalation Process shall be considered an additional right and remedy if the Contractor fails to resolve service issues within the SLA objective(s);
14. Trouble reporting and restoration shall be provided 24x7 for CALNET services;

**Bidder understands this requirement and shall meet or exceed it? Yes**

15. SLAs apply 24x7 unless SLA specifies an exception;
16. Contractor invoices shall clearly cross reference the SLA credit to the service Circuit ID in accordance with SOW Business Requirements Section G.6;

**Bidder understands this requirement and shall meet or exceed it? Yes**

17. The Contractor shall provide a CALNET DNCS SLA Manager responsible for CALNET DNCS SLA compliance. The SLA Manager shall attend regular meetings and be available upon request to address CALNET Program SLA oversight, report issues, and problem resolution concerns. The CALNET DNCS SLA Manager shall also coordinate SLA support for Customer SLA inquiries and issue resolution;
18. The Contractor shall provide Customer and CALNET Program support for SLA inquiries and issue resolution; and,
19. Any SLAs and remedies negotiated between Contractor and third party service provider in territories closed to competition shall be passed through to the CALNET DNCS Customer.

**Bidder understands the requirements and shall meet or exceed them? Yes**

**23.5.7 Trouble Ticket Stop Clock Conditions**

Only the following conditions shall be allowed to stop the duration of the Service Level Agreements. The Contractor shall document durations using the Stop Clock Condition (SCC) listed in Table 23.5.7, which must include start and stop time stamps in the Contractor's Trouble Ticket Reporting Tool (SOW Business Requirements Section G.10.4) or Customer provisioning Service Request for each application of an SCC.

**Bidder understands the requirements and shall meet or exceed them? Yes**

The Contractor shall not consider “cleared while testing” or “no trouble found” as a SCC.

**Bidder understands the requirements and shall meet or exceed them? Yes**

Contractor observation timeframes, not requested by End-User, after incident resolution shall not be included in Outage Duration reporting.

**Bidder understands the requirements and shall meet or exceed them? Yes**

Note: The Glossary (SOW Appendix A) defines term “End-User” as the “individual within an Entity that is receiving services and/or features provided under the Contract.”

**Table 23.5.7 Stop Clock Conditions**

Line Item	Stop Clock Condition (SCC)	SCC Definition
1	END-USER REQUEST	Periods when a restoration or testing effort is delayed at the specific request of the End-User. The SCC shall exist during the period the Contractor was delayed, provided that the End-User's request is documented and time stamped in the Contractor's trouble ticket or Service Request system and shows efforts are made to contact the End-User during the applicable Stop Clock period.
2	OBSERVATION	Time after a service has been restored but End-User request ticket is kept open for observation. If the service is later determined by the End-User to not have been restored, the Stop Clock shall continue until the time the End-User notifies the Contractor that the Service has not been restored.
3	END-USER NOT AVAILABLE	Time after a service has been restored but End-User is not available to verify that the Service is working. If the service is later determined by the End-User to not have been restored, the Stop Clock shall apply only for the time period between Contractor's reasonable attempt to notify the End-User that Contractor believes the service has been restored and the time the End-User notifies the Contractor that the Service has not been restored.

Line Item	Stop Clock Condition (SCC)	SCC Definition
4	WIRING	Restoration cannot be achieved because the problem has been isolated to wiring that is not maintained by Contractor or any of its Subcontractors or Affiliates. If it is later determined the wiring is not the cause of failure, the SCC shall not apply.
5	POWER	Trouble caused by a power problem outside of the responsibility of the Contractor.
6	CUSTOMER PROVISIONING DELAY	Delays to Provisioning caused by lack of Customer's building entrance Facilities, conduit structures that are the Customer's responsibilities or Extended demarcation wiring. If the Service Providing Contractor has been contracted by the Customer for extended demarcation, this SCC shall not apply to missed dates/times. The Customer Provisioning Delay SCC is restricted to Provisioning SLAs only.
7	ACCESS	<p>Limited access or contact with End-User provided the Contractor documents in the trouble ticket several efforts to contact End-User for the following:</p> <ul style="list-style-type: none"> <li>a. Access necessary to correct the problem is not available because access has not been arranged by site contact or End-User representative;</li> <li>b. Site contact refuses access to technician who displays proper identification;</li> <li>c. Customer provides incorrect site contact information which prevents access, provided that Contractor takes reasonable steps to notify End-User of the improper contact information and takes steps to obtain the correct information; or,</li> <li>d. Site has limited hours of business that directly impacts the Contractor's ability to resolve the problem.</li> </ul>

Line Item	Stop Clock Condition (SCC)	SCC Definition
		If it is determined later that the cause of the problem was not at the site in question, then the Access SCC shall not apply.
8	STAFF	Any problem or delay to the extent caused by End-User's staff that prevents or delays Contractor's resolution of the problem. In such event, Contractor shall make a timely request to End-User staff to correct the problem or delay and document in trouble ticket.
9	APPLICATION	End-User software applications that interfere with repair of the trouble.
10	CPE	Repair/replacement of Customer Premise Equipment (CPE) not provided by Contractor if the problem has been isolated to the CPE. If determined later that the CPE was not the cause of the service outage, the CPE SCC will not apply.
11	NO RESPONSE	Failure of the trouble ticket originator or responsible End-User to return a call from Contractor's technician for on-line close of trouble tickets after the Service has been restored as long as Contractor can provide documentation in the trouble ticket substantiating the communication from Contractor's technician.
12	MAINTENANCE	An outage directly related to any properly performed scheduled maintenance or upgrade scheduled for CALNET DNCS service. Any such stop clock condition shall not extend beyond the scheduled period of the maintenance or upgrade. SLAs shall apply for any maintenance caused outage beyond the scheduled maintenance period. Outages occurring during a scheduled maintenance or upgrade period and not caused by the scheduled maintenance shall not be subject to the Maintenance SCC.
13	THIRD PARTY	Any problem or delay caused by a third party not under the control of Contractor, not preventable by Contractor, including, at a minimum, cable cuts not caused by the Contractor. Contractor's Subcontractors and Affiliates shall be deemed to



Line Item	Stop Clock Condition (SCC)	SCC Definition
		be under the control of Contractor with respect to the equipment, services, or Facilities to be provided under this Contract.
14	FORCE MAJEURE	Force Majeure events, as defined in the eVAQ General Provisions - Telecommunications, Section 28 (Force Majeure).
15	CUSTOMER ENVIRONMENTAL	An outage directly caused by customer premise environmental conditions, which are outside the control and responsibility of the Contractor. This includes a non-secured location, excessive heat or lack of cooling. If determined later that the environmental conditions were not the cause of the service outage, or a result of the Contractor modifying Contractor provided equipment without Customer's approval, the Customer Environmental SCC will not apply.

**Bidder understands the requirements and shall meet or exceed them? Yes**

The Contractor shall provide and manage the following Technical SLAs.

23.5.8 Technical Service Level Agreements (SLA)

23.5.8.1 Availability (M-S)

**SLA Name:** Availability

**Definition:**

The percentage of time a CALNET MAE service is fully functional and available for use each calendar month.

**Measurement Process:**

The monthly Availability Percentage shall be based on the accumulative total of all Unavailable Time derived from all trouble tickets closed, for the individual affected service (per Circuit ID or Service ID), per calendar month. The monthly Availability Percentage equals the Scheduled Uptime per month less Unavailable Time per month divided by Scheduled Uptime per month multiplied by 100. Scheduled Uptime is based on 24 x number of days in the month. All

Unavailable Time applied to other SLAs, which results in a remedy, will be excluded from the monthly accumulated total.

**Services:**

MAE Services

**Objectives:**

The objective will be based on the access type identified in the table below:

<b>Access Type</b>	<b>Basic (B)</b>	<b>Standard (S)</b>	<b>Premier (P)</b>	<b>Bidder's Objective Commitment (B, S or P)</b>
EPL and EVPL MAE Service 10/100 Mbps	≥ 99.2%	≥ 99.5%	≥ 99.9%	P
EPL and EVPL MAE Service 1 Gbps	≥ 99.2%	≥ 99.5%	≥ 99.9%	P
EPL and EVPL MAE Service 10 Gbps	≥ 99.2%	≥ 99.5%	≥ 99.9%	P

**Rights and Remedies:**

1. Per Occurrence:

- End-User Escalation Process
- CALNET CMO Escalation Process

2. Monthly Aggregated Measurements:

- First month to fail to meet the committed SLA objective shall result in a 15% credit or refund of the TMRC.
- The second consecutive month to fail to meet the committed SLA objective shall result in a 30% credit or refund of TMRC.
- Each additional consecutive month to fail to meet the committed SLA objective shall result in a 50% credit or refund of the TMRC.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.5.8.2 Catastrophic Outage 1 (CAT 1) (M-S)

**SLA Name:** Catastrophic Outage 1 (CAT 1)

**Definition:**

The total loss of service at a single address based on a common cause resulting in the failure of five UNIs or any cumulative UNI failure equal to, or greater than, 10 Gbps.

**Measurement Process:**

The Outage Duration begins when a network alarm is received by the Contractor from an outage-causing event or the opening of a trouble ticket by a Customer, or the Contractor, whichever occurs first. The Contractor shall open a trouble ticket for each service (Circuit ID or Service ID) affected by the common cause. Each End-User service is deemed out of service from the first notification until the Contractor determines the End-User service (Circuit ID or Service ID) is restored minus SCC. Any service reported by a Customer as not having been restored shall have the outage time adjusted to the actual restoration time.

**Services:**

MAE Service

**Objectives:**

The objective restoral time will be:

Access Type	Basic (B)	Standard (S)	Premier (P)	Bidder's Objective Commitment (B, S or P)
MAE Service	≤ 3 hours	≤ 2 hours	≤ 1 hour	P

**Rights and Remedies:**

1. Per Occurrence:
  - 100% credit or refund of the TMRC for each End-User service not meeting the committed objective for each CAT 1 fault.
2. Monthly Aggregated Measurements:
  - N/A

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.5.8.3 Catastrophic Outage 2 (CAT 2) (M-S)

**SLA Name:** Catastrophic Outage 2 (CAT 2)

**Definition:**

Any service affecting failure in the Contractor's (or subcontractor's or Affiliate's) network up to and including the Provider Edge (PE) equipment.

**Measurement Process:**

The Outage Duration begins when a network alarm is received by the Contractor from the outage-causing event or the opening of a trouble ticket by the Customer or Contractor, whichever occurs first. Upon notification from the Customer or network alarm, the Contractor shall compile a list for each End-User service affected by the common cause for tracking and reporting of the SLA rights and remedies. Outage Duration shall be measured on a per-End-User service (Circuit ID or Service ID) basis from information recorded from the network equipment/system or a Customer reported trouble ticket. Each End-User service (Circuit ID or Service ID) is deemed out of service from the first notification until the Contractor determines the End-User service is restored. Any End-User service reported by the End-User/Customer as not having been restored shall have the outage time adjusted to the actual restoration time.

**Services:**

MAE Service

**Objectives:**

The objective restoral time will be:

<b>Access Type</b>	<b>Basic (B)</b>	<b>Standard (S)</b>	<b>Premier (P)</b>	<b>Bidder's Objective Commitment (B, S or P)</b>
MAE Service	≤ 1 Hour	≤ 30 Minutes	≤ 15 Minutes	P

**Rights and Remedies:**

1. Per Occurrence:
  - 100% credit or refund of the for each End-User service not meeting the committed objective per occurrence objective for a single CAT 2 fault.
2. Monthly Aggregated Measurements:

- N/A

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.5.8.4 Catastrophic Outage 3 (CAT 3) (M-S)

**SLA Name:** Catastrophic Outage 3 (CAT 3)

**Definition:**

The total loss of more than one service type in central office, or the loss of any service type on a system wide basis.

**Measurement Process:**

The Outage Duration begins when a network alarm is received by the Contractor from an outage-causing event or the opening of a trouble ticket by the Customer or the Contractor, whichever occurs first. Upon notification from the Customer or network alarm, the Contractor shall open a trouble ticket and compile a list for each End-User service (Circuit ID or Service ID) affected by the common cause for tracking and reporting of the SLA rights and remedies. Outage Duration shall be measured on a per-End-User service (Circuit ID or Service ID) basis from information recorded from the network equipment/system or trouble ticket. Each End-User service (Circuit ID or Service ID) is deemed out of service from the first notification until the Contractor determines the End-User service is restored. Any End-User service reported by the End-User/Customer as not having been restored shall have the outage time adjusted to the actual restoration time.

**Services:**

MAE Service

**Objectives:**

The objective restoral time will be:

Access Type	Basic (B)	Standard (S)	Premier (P)	Bidder's Objective Commitment (B or P)
MAE Service	≤ 30 Minutes	N/A	≤ 15 Minutes	P

**Rights and Remedies:**

1. Per Occurrence:
  - 100% credit or refund of the TMRC for each service (Circuit ID or Service ID) not meeting the committed objective for each Cat 3 fault.
2. Monthly Aggregated Measurements:
  - N/A

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.5.8.5 Excessive Outage (M-S)

**SLA Name:** Excessive Outage

**Definition:**

Any failure that prevents full functionality of the service that remains unresolved for more than the committed objective level.

**Measurement Process:**

This SLA is based on trouble ticket Unavailable Time. The circuit or service is not fully functional during the time the trouble ticket is reported as opened until restoration of the service, minus SCC. If the Customer reports a partial or complete service that is not fully functional and remains unresolved after the closure of the trouble ticket by the Contractor, the Unavailable Time shall be adjusted to the actual restoration time.

**Services:**

MAE Service

**Objectives:**

The Unavailable Time objective shall not exceed:

<b>Access Type</b>	<b>Basic (B)</b>	<b>Standard (S)</b>	<b>Premier (P)</b>	<b>Bidder's Objective Commitment (B, S or P)</b>
MAE Service	≤ 16 Hours	≤ 12 Hours	≤ 8 Hours	P

**Rights and Remedies:**

1. Per Occurrence:

- 100% credit or refund of the TMRC for each service (Circuit ID or Service ID) out of service for a period greater than the committed objective level.
- Upon request from the Customer or the CALNET Program, the Contractor shall provide a briefing on the excessive outage restoration.

2. Monthly Aggregated Measurements:

- N/A

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.5.8.6 Notification

**SLA Name:** Notification

**Definition:**

The Contractor notification to the CALNET Program and designated stakeholders in the event of a CAT 2 or CAT 3 failure, terrorist activity, threat of natural disaster, or actual natural disaster which results in a significant loss of telecommunication services to CALNET DNCS End-Users or has the potential to impact services in a general or statewide area. The State understands initial information requiring the nature of the outage may be limited.

**Measurement Process:**

The Contractor shall adhere to the Network Outage Response requirements (SOW Business Requirements Section G.3.3, Network Outage Response) and notify the CALNET Program and designated stakeholders for all CAT 2 and CAT 3 Outages or for network outages resulting in a significant loss of service. Notification objectives will be based on the start time of the outage failure determined by the opening of a trouble ticket or network alarm, whichever occurs first. For events based on information such as terrorist activity or threat of natural disaster, the Contractor shall notify the CALNET Program and designated stakeholder when information is available for dissemination to the Customers.

**Services:**

All services

**Objectives:**

Within 60 minutes of the above mentioned failures' start time, the Contractor shall notify the CALNET Program and designated stakeholders using a method defined in SOW Business Requirements, Network Outage Response.

At 60-minute intervals, updates shall be given on the above-mentioned failures via the method defined in SOW Business Requirements, Network Outage Response.

This objective is the same for Basic, Standard and Premier Commitments.

**Rights and Remedies:**

1. Per Occurrence:
  - Senior Management Escalation
2. Monthly Aggregated Measurements:
  - N/A

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.5.8.7 Latency (M-S)

SLA Name: Latency

**Definition:**

Latency is the amount of time necessary for a typical Ethernet frame to traverse one way from the originating UNI, across the Contractor's, Affiliate, or Subcontractor's network, to the remote UNI(s) on each EVC identified by the Customer.

**Measurement Process:**

End-User/Customer is responsible for opening a trouble ticket with the Contractor's Customer Service Center (helpdesk) when the Latency exceeds the committed level. Latency shall be measured from the first bit of and Ethernet frame entering the ingress UNI to when the last bit of the same frame leaves the egress UNI. The problem requires timely verification, consistent with industry standards, by the Contractor. Tickets identified as a Latency issue shall not count in Availability or Time-to-Repair measurements unless and until the End-User reports service as unusable for its intended uses.



This measurement includes the local loop transport under the control of the Contractor and any local loops acquired from a third party by the Contractor.

**Services:**

MAE Service

**Objectives:**

The Unavailable Time objective shall not exceed:

Access Type	Basic (B)	Standard (S)	Premier (P)	Bidder's Objective Commitment (B, S or P)
MAE Service	≤ 75ms	≤ 50ms	≤ 25ms	P

**Rights and Remedies:**

1. Per Occurrence:

- First month the service fails to meet the committed SLA objectives shall result in a 15% credit or refund of the TMRC for the reported service.
- Next consecutive month to fail to meet the committed SLA objectives shall result in a 25% credit or refund of the TMRC.
- Each additional consecutive month to fail to meet the committed SLA objective shall result in a 35% credit or refund of the TMRC.

2. Monthly Aggregated Measurements:

- N/A

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.5.8.8 Packet Loss (M-S)

**SLA Name:** Packet Loss

**Definition:**

A measurement of lost or dropped packet traveling across the Contractor's, Affiliate's or Subcontractor's network. Packet loss is the difference between the number of packets transmitted at the ingress UNI and the total number of packets received at the egress UNI.

**Measurement Process:**

End-User/Customer is responsible for opening a trouble ticket with the Contractor’s Customer Service Center (helpdesk) when the packet loss exceeds the committed level. The problem requires timely verification, consistent with industry standards, by the Contractor. Tickets identified as a packet loss issue shall not count in Availability or Time-to-Repair measurements unless and until the End-User reports service as unusable for its intended uses.

This measurement includes the local loop transport under the control of the Contractor and any local loops acquired from a third party by the Contractor.

**Services:**

MAE Service

**Objectives:**

The Unavailable Time objective shall not exceed:

<b>Access Type</b>	<b>Basic (B)</b>	<b>Standard (S)</b>	<b>Premier (P)</b>	<b>Bidder’s Objective Commitment (B, S or P)</b>
MAE Service	≤ .7% Packet Loss	≤ .5% Packet Loss	≤ .2% Packet Loss	P

**Rights and Remedies:**

1. Per Occurrence:

- First month the service fails to meet the committed SLA objectives shall result in a 15% credit or refund of the TMRC for the reported service.
- Next consecutive month to fail to meet the committed SLA objectives shall result in a 25% credit or refund of the TMRC.
- Each additional consecutive month to fail to meet the committed SLA objective shall result in a 35% credit or refund of the TMRC.

2. Monthly Aggregated Measurements:

- N/A

**Bidder understands the requirements and shall meet or exceed them? Yes**

### 23.5.8.9 Provisioning (M-S)

**SLA Name:** Provisioning

**Definition:**

Provisioning shall include new services, moves, adds and changes, completed by the Contractor on or before the due dates. The Provisioning SLA shall be based on committed installation intervals established in this SLA or due dates negotiated between the Customer and the Contractor documented on the Contractor's order confirmation notification or Contracted Project Work SOW in accordance with SOW Business Requirements Section G.2.5.4, Provisioning and Implementation. The Contractor shall meet the committed interval dates or due date negotiated with the Customer. If the Customer agrees to a negotiated due date, the negotiated due date supersedes the committed interval. At the Customer's discretion, if the scope of the Service Request(s) meets the Coordinated or Managed Project criteria, negotiated due dates will be established and documented in the Project Timeline per SOW Business Requirements Section G.8, Contracted Service Project Work.

**Provisioning SLAs have two objectives:**

Objective 1: Individual service installation; and,

Objective 2: Successful Install Monthly Percentage by service type.

Note: Provisioning timelines include extended demarcation wiring when appropriate.

**Measurement Process:**

Objective 1: Individual Service Installations: Install intervals are based on the committed installation intervals established in this SLA or due dates negotiated between the Customer and the Contractor. This objective requires the Contractor to meet the due date for each individual service installation. This includes individual circuit/service level installations for Coordinated and Managed Projects.

Objective 2: Successful Install Monthly Percentage per Service Type: The Contractor shall sum all individual installations per service, as listed below, meeting the objective in the measurement period and divide by the sum of all individual service installations due per service in the measurement period and multiply by 100 to equal the percentage of service installations completed on

time. The Contractor must meet or exceed the objective below in order to avoid the rights and remedies.

**Services:**

Features must be installed in conjunction with the service except when listed below:

Service (Features must be installed with service except when listed below.)	Committed Interval Days	Coordinated/Managed Project
MAE Service	30	Coordinated/Managed Project

**Objectives:**

Objective 1: Individual service installation: Service provisioned on or before the due date per installation Service Request.

Objective 2: Monthly Average percent by service type:

Access Type	Basic (B)	Standard (S)	Premier (P)	Bidder's Objective Commitment (B or P)
MAE Service	≥ 90%	N/A	≥ 95%	P

**Rights and Remedies:**

1. Per Occurrence:

- Objective 1: Individual service installations: 50% of installation fee credited to the Customer for any missed committed objective.

2. Monthly Aggregated Measurements:

- Objective 2: 100% of the installation fee credited to the Customer for all service installations (per service type) that did not complete within the committed objective during the month if the Successful Install Monthly Percentage is below the committed objective.

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.5.8.10 Time to Repair (M-S)

**SLA Name:** Time to Repair

**Definition:**

Any failure that prevents full functionality of the service that remains unresolved for more than the committed objective level.

**Measurement Process:**

This SLA is based on trouble ticket Unavailable Time per service (Circuit ID or Service ID). The circuit or service is not fully functional during the time the trouble ticket is reported as opened until restoration of the service, minus SCC. If the Customer reports a service that is not fully functional and remains unresolved after the closure of the trouble ticket by the Contractor, the Unavailable Time shall be adjusted to the actual restoration time. This SLA is applied per occurrence.

**Services:**

MAE Service

**Objectives:**

The Unavailable Time objective shall not exceed:

Access Type	Basic (B)	Standard (S)	Premier (P)	Bidder's Objective Commitment (B, S or P)
MAE Service	≤ 6 Hours	≤ 5 Hours	≤ 4 Hours	P

**Rights and Remedies:**

1. Per Occurrence:
  - 25% credit or refund of the TMRC for each service (Circuit ID or Service ID) out of service for a period greater than the committed objective level.
2. Monthly Aggregated Measurements:
  - N/A

**Bidder understands the requirements and shall meet or exceed them? Yes**

23.5.8.11 Managed Service Proactive Notification

**SLA Name:** Managed Service Proactive Notification

**Definition:**

The proactive outage notification SLA provides credits if the Contractor fails to open a trouble ticket and notify Customer of an Outage for a managed service. Notification to the Customer shall occur through means agreed to by Contractor and CALNET Program.

An Outage is defined as an unscheduled period in which the managed service interrupted and unavailable for use by Customer for 60 continuous seconds or more than 60 cumulative seconds within a 15-minute period measured by the Contractor.

**Measurement Process:**

The Outage Duration start shall be determined by the first Contractor network alarm resulting from the outage-causing event or the opening of a trouble ticket by the Customer, whichever occurs first. The Contractor has fifteen minutes (Notification Period) to open a trouble ticket and notify the Customer from the start point of the first network alarm. The Contractor is in compliance with the proactive outage notification SLA if the Customer opened the trouble ticket prior to the network alarm or Customer is notified by the Contractor within the Notification Period.

**Services:**

MAE Services with Managed Router or IP Enabled Routing Device

**Objectives:**

15 Minutes

**Rights and Remedies:**

1. Per Occurrence:
  - Customer will receive a credit or refund equal to 10% of the TMRC for each Contractor Managed Service (Circuit ID) that was impacted during an outage if the Customer was not proactively notified within the notification period
2. Monthly Aggregated Measurements:
  - N/A

**Bidder understands the requirements and shall meet or exceed them? Yes**

#### 23.5.8.12 Unsolicited Service Enhancement SLAs

All unsolicited service enhancements shall be considered a feature of the service, and therefore shall be included as such under the SLAs as defined in this Section.

**Bidder understands the requirements and shall meet or exceed them? Yes**

#### 23.5.8.13 Proposed Unsolicited Offerings

The Contractor shall provide SLAs as defined in SLA Section 23.5.8 for each unsolicited offering determined by the CALNET Program not to be a feature of a service or a component of an unbundled service identified in the technical requirements. SLA tables shall be amended after Contract award to include all new unsolicited services.

**Bidder understands the requirements and shall meet or exceed them? Yes**

#### 23.5.8.14 Contract Amendment Service Enhancement SLAs

All Contract amendment service enhancements shall be considered a feature of the service, therefore included as such under the SLAs as defined in Section 23.5.8.

**Bidder understands the requirements and shall meet or exceed them? Yes**