Background:

In the September 24, 2017 review of the comments issued during document D037's ballot, six items were proposed and accepted by the assembled subcommittee. These items were considered substantive in nature, and thus, require formal approval.

This ballot contains the following items requiring approval.

Ballot Content:

To the approved content of Draft Document D037, to be formally identified as BICSI 008-18, do the following items:

Note: For all items, addition(s) are indicated by underline, with deletion(s) indicated by ~~strikethrough~~.

Item 1)

Make the following changes to Section 4.1 Definitions

dipole	An antenna formed by splitting two wires of a two-wire transmission line, and bending them back to form a single straight line. ~~The antenna feed is in the middle of the dipole antenna, where the split occurs. A dipole antenna is a resonant antenna. The optimal length of a dipole antenna is one half of the wavelength of the signal being received or transmitted by the antenna.~~ A dipole antenna is considered a narrowband antenna, operating efficiently in only a narrow band of frequencies. Typically, the antenna feed is in the middle where the split occurs.
adjacent channel interference	~~The radio frequency interference (RFI) caused by residual energy outside the nominal bandwidth of an adjacent channel signal spilling into the wanted channel signal on two systems operating in close proximity on side by side channels.~~ A condition that occurs when two or more access point radios are providing radio frequency (RF) coverage to the same physical area using overlapping frequencies. Simultaneous RF transmission by two or more access point radios in such a configuration can cause system latency issues and throughput degradation.
~~**morphology**~~	~~The relevant physical characteristics of the venue that cause the path loss to differ from the free space model. A radio frequency (RF) signal's propagation is unique to each venue, being impacted by numerous factors, including the type of venue (arena, stadium, offices, cubicles, tunnel, outdoor open space, etc.); the venue structural materials (concrete, steel, wood, etc.); the signal's frequency and the modulation method. Therefore, a simple calculation, such as free space loss, cannot accurately predict actual RF signal coverage, especially indoors.~~
isotropic	Radiating with uniformity in all directions from a single point. NOTE: Some objects described as isotropic (e.g., isotropic antenna) are considered an ideal rather than physically existing item.

Item 2)

Make the indicated changes in Section 6.5.6

6 Wireless LAN Systems
6.5 WLAN Personnel
6.5.6 Cabling Installer
6.5.6.1 Overview

The cabling installer installs and terminates the cables at the location in the buildings where the APs are to be installed (or close to the location with some flexibility to move the cable to the location). ~~The cabling needs to be done within the building specifications taking cabling pathways and, cabling standards into account (see Section 7)~~. Different types of cabling can be involved installing a WLAN solution (copper data cabling, copper power cabling, copper antenna cabling, and fiber optic cabling). Labeling of all cable and patching equipment installed is important for the follow up installation of WLAN devices. It is important that the cabling installer understands at a high level the wireless design concept from a cabling implementation perspective. If the cabling installer is also to mount the access points and/or external antennas they should be aware of any design or device placement limitations.

6.5.6.2 Requirements

The cabling installer ~~needs~~ shall possess and be able to apply knowledge of the different types of connectors used ~~(e.g.~~ for antenna cabling (e.g., if pigtail cables are required)~~. Also cabling is needed~~, and for other equipment (e.g., wireless controller) that needs to be installed~~ in the data center or computer room (e.g. a wireless controller)~~. The cabling installer shall perform cabling and pathway installation in accordance to national and local codes and cabling and pathway standards (see Section 7).

After the installation of the infrastructure the installer shall test and validate the cable plant. Documentation shall be submitted to the customer as part of the final commissioning report providing detail that the cable met the required specifications.

Item 3)

Make the indicated changes in Section 6.5.7

6 Wireless LAN Systems
6.5 WLAN Personnel
6.5.7 Wireless Installer

For the commissioning of the system, detailed configuration documents ~~need to~~ shall be provided by the wireless installer. ~~(including the RF environment, the configuration of the equipment, services tests (e.g., roaming, performance, security penetration).~~ This is ~~called~~ part of the ~~"~~as-built~~"~~ documentation and includes information such as the RF environment, the configuration of the equipment, and services tests (e.g., roaming, performance, security penetration).

Item 4)

Delete Section 7.3.2

Rationale: The content of this section is incorporated by reference in Section 7.3.1

7 WLAN Cabling Infrastructure Design
7.3 Spaces
7.3.1 General Requirements

~~**7.3.2 Telecommunications Enclosures**~~

~~**7.3.2.1 Introduction**~~

~~Telecommunications enclosures (TEs) provide a space for connections between backbone cabling and horizontal cabling, consolidation and horizontal connection points, and houses electronic equipment to support devices in the area served. TEs are typically intended to serve a portion of a floor in a building.~~

~~**7.3.2.2 Requirements**~~

~~TEs shall be sized and provisioned to accommodate enough space for all planned equipment, offering suitable access to the equipment for maintenance and administration, including planned growth based on a five to ten year plan. The TE shall be located as close as practicable to the center of the area served.~~

~~The design, provisioning, and environmental conditions of TEs shall be in accordance to applicable standards (e.g., TIA-569-D, ISO/IEC 14763-2).~~

~~TEs shall:~~

- ~~Comply with the requirements of applicable codes and standards (e.g., NFPA 70) for working space around electrical service equipment and enclosures.~~
- ~~Provide the ability to separate network and data equipment from equipment of other systems served by the TE.~~
- ~~Be designed to incorporate security measures to restrict unauthorized access to the space.~~
- ~~Provide a key control plan or other access control prior to installation, if locking boxes are required.~~

  ~~NOTE: Use mechanical tamper switches for enclosures in high security areas.~~

~~Enclosures installed outdoors shall be selected to meet or exceed the environmental conditions for the particular region. Additionally, outdoor enclosures supporting WLAN infrastructure shall meet the following:~~

- ~~Enclosures exposed to weather shall be corrosion resistant and meet applicable site specifications for resistance to moisture and dust entry.~~

  ~~NOTE: See standards, such as NEMA 250, *Enclosures for Electrical Equipment (1000 Volts Maximum)* and IEC 60529, *Degrees of protection provided by enclosures (IP Code)*, for more information concerning moisture and dust ingress ratings of enclosures.~~

- ~~Penetrations of enclosures shall maintain and not reduce the designated enclosure rating (i.e. IP or NEMA classification)~~
- ~~Outdoor enclosure penetrations shall be sealed with a sealant approved by the cable manufacturer to prevent moisture from entering.~~

~~TEs that support power and data transmission that are located in limited access spaces (e.g., above suspended ceiling, crawl spaces) shall be located so all enclosure doors or panels may open a minimum of 90 degrees. A working space shall be provided that has a minimum depth of 900 mm (36 in) and a minimum width being the greater value of the 760 mm (30 in) or the width of the equipment. An opening not smaller than 560 mm × 560 mm (22 in×22 in) shall be provided for TEs above suspended ceilings and an opening not smaller than 560 mm × 760 mm (22 in × 30 in) for TEs located in crawl spaces.~~

~~**7.3.2.3 Recommendations**~~

~~When multiple TEs are located on the same floor, they should be interconnected by a minimum of one metric designator 78 (trade size 3) conduit or equivalent pathway.~~

Item 5)

Within Section 7.4.4.2, make the following change:

7 WLAN Cabling Infrastructure Design
7.4 Cabling Pathways
7.4.4 Pathway Separation from Power and EMI Sources
7.4.4.2 Requirements

The separation guidelines offered by applicable codes, standards and regulations and enforced by the AHJ shall be followed. Several examples of applicable codes and standards that offer separation guidelines include:

- BS 6701, *Telecommunications equipment and telecommunications cabling. Specification for installation, operation and maintenance*
- BS 7671, *Requirements for Electrical Installations. IET Wiring Regulations*
- EN 50174-2, *Information technology – Cabling installation – Part 2: Installation planning and practices inside buildings*
- IEC 60364-5-52, *Electrical installations of buildings – Part 5-52: Selection and erection of electrical equipment – Wiring systems*
- ~~ISO/IEC 11801-1, *Generic cabling for customer premises – Part 1: General requirements*~~
- ISO/IEC 14763-2, *Information technology – Implementation and operation of customer premises cabling – Part 2: Planning and installation*
- NFPA 70®, *National Electrical Code®*
- ANSI/TIA-569-D, *Telecommunications Pathways and Spaces*
- ANSI/TIA-1005-A, *Telecommunications Infrastructure Standard for Industrial Premises*

Item 6)

Within Section 7.5.2.2, make the following change:

7 WLAN Cabling Infrastructure Design
7.5 Cabling
7.5.2 Horizontal Cabling
7.5.2.2 Requirements

For new installations, horizontal cabling supporting APs and antennas shall follow all applicable standards requirements and recommendations (e.g., ~~ANSI/TIA-568.1-D~~ ANSI/TIA-862-B, TIA-TSB-162-A, ISO/IEC 11801-6).