

## PART 1 GENERAL

### 1.01 SUMMARY OF WORK

- A. The extent and location of “Communications Standard for Labeling and Nomenclature” Work is shown in the Contract Documents. This section includes the label formatting and structure requirements, and is intended to work in conjunction with Port of Seattle specification Section 27 05 53 - Identification and Labeling and TIA-606 “The Administration Standard for the Telecommunications Infrastructure of Commercial Buildings”.

### 1.02 GOVERNING CODES, STANDARDS AND REFERENCES

- A. TIA-606 “The Administration Standard for the Telecommunications Infrastructure of Commercial Buildings”
- B. Table "Termination Hardware" TIA-606

### 1.03 SUBMITTALS

- A. Submit materials data in accordance with of Section 01 33 00 - Submittals. Furnish manufacturers' technical literature, standard details, product specifications, and installation instructions for all products.

### 1.04 ELEMENTS REQUIRING LABELS

- A. The following elements of the telecommunications infrastructure shall require identifiers and labels:
  - 1. Spaces
    - a. A telecommunications space shall refer to any area used for housing the installation and termination of telecommunications equipment and cable. Telecommunications spaces include, but are not limited to, entrance facilities, racks and cabinets, equipment rooms, work areas and hand holes.
  - 2. Pathways
    - a. A pathway shall refer to the facility or element used for the placement of telecommunications cable. Examples of pathways include cable tray, conduit and innerduct.
  - 3. Cabling
    - a. Cabling shall include all fiber and copper conductor media used for the transmission of voice, video and data signals. Examples of cable includes, backbone, tie and horizontal cables and jumpers.
  - 4. Termination Hardware
    - a. Termination hardware refers to the discrete point or element where telecommunications conductors are terminated. Termination hardware includes but is not limited to patch panels, punch down blocks, interconnections units, voice/data jacks and protector panels.
  - 5. Splices
    - a. A splice is any joining of fiber or copper conductors in a splice enclosure meant to be permanent.

6. Grounding System

- a. Grounding system elements include but are not limited to bonding conductors and grounding busbar.

1.05 TELECOMMUNICATIONS IDENTIFIERS

A. Spaces “sp”

1. Space labels shall take the following form: [sp.fczz.nnnnn]

- a. “sp” represents the unique space code as identified in section 1.05.A.2.
- b. “fc” represents the Port of Seattle (POS) facility code as identified in section 1.06.
- c. “zz” represents the level in the particular facility as identified in section 1.07.
- d. “nnnnn” represents a (5) five digit sequence number.

2. Space Codes “sp”

MD	Main Distribution room
ER	Equipment Room
TC	Telecommunications Closet
EQ	Equipment Rack or Cabinet
EF	Entrance Facility
WF	Wall Field
WA	Work Area
HH	Handhole
MH	Manhole
JT	Junction - cable Tray
PB	Pull Box

3. Space Label General Application Notes

- a. Main distribution room sequence numbers shall be unique. All other sequence numbers shall restart with each level of the facility.
- b. For Equipment Racks and Cabinets (space type EQ) located in a room a five digit number (ABCDE) shall be determined as follows:
  - (1) A: Is determined by the last digit of the room sequence number in which the rack or cabinet is located. For equipment racks or cabinets not within a room, “A” shall be represented by a “0”
  - (2) BC: Is the row designator for the room

- (3) DE: Is the sequence designator for the row.
  - c. For Wall Fields (space type WF) located in a room, a seven digit number (ABCDE.pp) shall be determined as follows:
    - (1) A: Is determined by the last digit of the room sequence number in which the rack or cabinet is located. For wall fields not within a room, "A" shall be represented by a "0"
    - (2) BC: Is the wall designator for the room (note that most rooms have 4 sides).
    - (3) DE: Horizontal position of the wall field
    - (4) pp: Vertical position of the wall field.
  - d. Additionally, a suffix ".pp" shall be appended to ABCDE to designate vertical position within the wall field. Example: ABCDE.pp
  - e. For Existing cable vaults, man holes or handholes, use the existing name if available.
- B. Pathways "ptw"
  - 1. Pathway labels shall take the following form: [ptw.fc.nnnnn]
    - a. "ptw" represents the unique pathway code as identified in section 1.05.B.2.
    - b. "fc" represents the POS facility code as identified in section 1.06.
    - c. "nnnnn" represents a (5) digit sequence number.
  - 2. Pathway Codes "ptw"
    - a. CDB ConDuit Backbone
    - b. CDO ConDuit Other
    - c. CTB Cable Tray Backbone
    - d. CTO Cable Tray Other
    - e. CDT ConDuit Telecom
    - f. CTT Cable Tray Telecom
    - g. DDO innerDuct Other
    - h. DDT innerDuct Telecom
    - i. SLT SLeeve Telecom
  - 3. Pathway Label Application Notes
    - a. For a pathway occupying two or more facilities use the facility code "fc" with the majority of the run in it.
- C. Cables "cb"
  - 1. Cable labels shall be identified by two or three text lines, as illustrated below.

- a. Composite (multimode and singlemode) Backbone Cables: The POS cable management system treats composite cable as if each cable type were an individual cables.
    - (1) 1st text line: cb.st.fc.nnnnn.ss (1st cable type)
    - (2) 2nd text line: cb.st.fc.nnnnn.ss (2nd cable type)
    - (3) 3rd text line: sp.fczz.nnnnn-sp.fczz.nnnnn (from- to)
  - b. Non-composite Backbone Cables:
    - (1) 1st text line: cb.st.fc.nnnnn
    - (2) 2nd text line: "Blank"
    - (3) 3rd text line: sp.fczz.nnnnn-sp.fczz.nnnnn (from- to)
  - c. Horizontal Cables:
    - (1) 1st text line: cb.st.fczz.nnnnn
    - (2) 2nd text line: "Blank"
    - (3) 3rd text line: sp.fczz.nnnnn-th.fczz.nnnnn (from- to)
    - (4) "cb" represents the cable type code identified as follows in section 1.05.C.2.
    - (5) "st" represents the cable subtype code identified as follows in section 1.05.C.3.
    - (6) "fc" represents the POS facility code identified as follows in section 1.06.
    - (7) "zz" represents the level in the particular facility identified as follows in section 1.07.
    - (8) "nnnnn" represent a (5) five digit sequence number
    - (9) "ss" represents the composite cable sub-subtype identified as follows in section 1.05.C.4.
2. Cable Type Codes "cb"
- a. CB Copper cable Backbone
  - b. FB\* Fiber cable Backbone (also used for composite fiber cable Backbone)
  - c. CH Copper cable Horizontal
  - d. FH Fiber cable Horizontal (also used for composite fiber cable Horizontal)
  - e. CO Copper cable Other
  - f. FO\* Fiber cable Other (also used for composite fiber cable Other)
  - g. \* Indicates cable types that require a unique sequence number
3. Cable Subtype Codes "st"
- a. XM composite cable

- b. M6 Multimode, 62.5 Micron fiber cable
    - c. M5 Multimode, 50 Micron fiber cable
    - d. SM Single mode, Matched clad
    - e. SD Single mode, Depressed clad
    - f. SA Single mode, Allwave
    - g. UT Uncategorized unshielded Twisted pair
    - h. U3 category 3 Unshielded twisted pair
    - i. U5 category 5 Unshielded twisted pair
    - j. U6 category 6 Unshielded twisted pair
    - k. ST Shielded Twisted pair
    - l. CX Co-axial copper cable
    - m. MU Unshielded multi-conductor copper cable
    - n. MS Shielded multi-conductor copper cable
    - o. RX Radiating Coax
    - p. US Universal Station cable
    - q. FX Fiber station cable
    - r. JS fiber Jumper, Simplex
    - s. JD fiber Jumper, Duplex
    - t. CC Copper cross Connect
    - u. WC Wireless Coax
  - 4. Composite Cable Sub-Subtype Codes “ss”
    - a. M5 Multimode, 50 Micron fiber cable
    - b. M6 Multimode, 62.5 Micron fiber cable
    - c. SM Single mode, Matched clad
    - d. SD Single mode, Depressed clad
    - e. SA Single mode, Allwave
  - 5. Cable Label General Application Notes
    - a. Backbone or riser cables do not require the level “zz” code; all other cables require it
    - b. For a cable occupying two or more facilities (or levels), use the facility “fc” and level “zz” where the cable originates or where most of the cable resides.
- D. Termination Hardware “th”
- 1. Termination hardware labels other than cross connects shall take the following form: [th.fczz.nnnnn]

- a. “th” represents the unique space code identified as follows in para. 1.05.D.2.
  - b. “fc” represents the POS facility code identified as follows in section 1.06.
  - c. “zz” represents the level in the particular facility as identified in section 1.07.
  - d. “nnnnn” represent a (5) five digit sequence number.
2. Termination Hardware Codes “th”
  - a. AT Antenna
  - b. CD Copper Data jack
  - c. FD Fiber Data jack
  - d. CV Copper Voice jack
  - e. FV Fiber Voice jack
  - f. CU Copper Universal Outlet
  - g. PP Protector Panel
  - h. TV Video
  - i. CM Intercom
  - j. VP Voice Paging
3. Cross connect termination hardware labels shall take the following form: [t.stc.fczz.nnnnn.nn]
  - a. t” represents the cross connect type code identified as follows in section 1.05.D.4.
  - b. “stc” represents the cross connect subtype code as identified in section 1.05.D.5.
  - c. “fczz.nnnnn is determined by the rack or cabinet where the termination hardware resides.
  - d. “nn” represents the (2) two digit sequence position within the rack or cabinet. The numbers shall be determined by labeling the equipment in sequential order starting at the top of the rack or cabinet.
4. Cross connect type code “t”
  - a. Main cross connect
  - b. Intermediate cross connect
  - c. Horizontal cross connect
5. Cross connect subtype code “stc”
  - a. CPP Copper Patch Panel (RJ45)
  - b. CPB Copper Punchdown Block (66, 110)
  - c. FPP Fiber optic Patch Panel

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- d. FSS Fiber Splice Shelf
  - e. XPP hybrid Patch Panel with copper RJ45 and fiber optic ports
  - f. FIU Fiber optic Interconnection Unit
  - g. CES Network Switch
  - h. CXP Coaxial Patch Panel
  - i. CPT CoPper Terminal block/strip
  - j. FCS Fiber optic Combination Shelf splice/termination or interconnection unit
- E. Splices “sc”
- 1. Splice labels shall take the following form: [sc.fczz.nnnnn]
  - a. “sc” represents the unique splice code identified as follows in section. 1.052.E.2.
  - b. “fc” represents the POS facility code identified as follows in section 1.06.
  - c. “zz” represents the level in the particular facility identified as follows in section 1.07.
  - d. “nnnnn” represent a (5) five digit sequence number.
  - 2. Splice Codes “sc”
  - 3. CS Copper Splice
  - 4. FS Fiber Splice
- F. Grounding System “gs”
- 1. Grounding system labels shall take the following form [gs.fczz.nnnn]
  - a. “gs” represents the unique grounding system code identified as follows in para. 1.05.F.2.
  - b. “fc” represents the POS facility code as identified in section 1.06.
  - c. “zz” represents the level in the particular facility identified as follows in section 1.07.
  - d. “nnnnn” represent a unique (5) five digit sequence number.
  - 2. Grounding System Codes “gs”
- |    |                                |
|----|--------------------------------|
| BC | Bonding Conductor              |
| EG | Equipment bonding conductor    |
| GB | Grounding Busbar               |
| TG | Telecom. Grounding busbar      |
| TM | Telecom. Main grounding busbar |
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1.06 Facility Codes “fc” - 2 characters as required for POS facility

MT	Main Terminal
AD	Admin Building
OT	Office Tower
PT	Parking Terminal
CA	Concourse A
CB	Concourse B
CC	Concourse C
CD	Concourse D
NS	North Satellite
SS	South Satellite
CT	Central Terminal
NZ	North Toll Plaza
RC	Rental car Facility
A4	Air Cargo 4
EX	Exterior

1.07 Facility Level Codes "zz" 2 digits as required for POS facility

A. MT Main Terminal

00	Utility Tunnel
01	Transit (STS)
02	Interstitial Space / GTX Tunnel
03	Baggage Claim
04	Bridge
05	Ticketing (Concourse)
06	Mezzanine
07	Mechanical Penthouse

B. AD Administration Building

00	Ground
01	Not Used

02	Second Floor
03	Third Floor
04	Fourth Floor
05	Fifth Floor
06	Sixth Floor
07	Seventh Floor
08	Eighth Floor
09	Ninth Floor

C. AD Office Tower

06	Mezzanine
07	Office Level 1
08	Office Level 2
09	Office Level 3
10	Office Level 4
11	Office Level 5
12	Penthouse Level

D. PT Parking Terminal

00	Basement
01	First Floor
02	Second Floor
03	Third Floor
04	Fourth Floor
05	Fifth Floor
06	Sixth Floor
07	Seventh Floor
08	Eighth Floor
09	Ninth Floor

E. CA Concourse A

	01	Transit (STS)
	02	Interstitial Space
	03	Baggage Claim
	04	Ramp/Bridge
	05	Concourse (Ticketing)
	06	Mezzanine
	07	Mechanical Penthouse
F.	CB	Concourse B
	01	Transit (STS)
	03	Ramp
	05	Concourse
	07	Mechanical Penthouse
G.	CC	Concourse C
	01	Transit (STS)
	03	Ramp
	05	Concourse
	07	Mechanical Penthouse
H.	CD	Concourse D
	01	Transit (STS)
	03	Ramp
	05	Concourse
	07	Mechanical Penthouse
I.	NS	North Satellite
	01	Transit (STS)
	03	Ramp
	05	Concourse

	07	Mechanical Penthouse
J.	SS	South Satellite
	00	Tunnel (Basement)
	01	Transit (STS)
	02	Mezzanine (FIS)
	03	Ramp
	04	International Corridor
	05	Concourse
	07	Mechanical Penthouse
K.	CT	Central Terminal
	01	Transit (STS)
	03	Baggage Claim
	04	Bridge
	05	Concourse (Ticketing )
	06	Mezzanine
	07	Mechanical Penthouse
L.	NZ	North Toll Plaza
	01	Floor 1
	02	Floor 2
M.	RC	Rental Car Facility
	01	Ground Level
	02	Floor 2
	03	Floor 3
	04	Floor 4
	05	Floor 5
N.	AC	Air cargo 4

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01	Grade Level
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O. EX Exterior location

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01	Grade Level
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## PART 2 APPLICATION

- 2.01 Labeling products shall be applied to spaces, pathways, cables, termination hardware, splices, grounding busbars, and grounding conductors as indicated in the table below:

FACILITIES AND INFRASTRUCTURE  
COMMUNICATIONS SYSTEMS STANDARDS  
SECTION 27 05 53.13 – COMMUNICATIONS STANDARD FOR LABELING AND NOMENCLATURE  
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IDENTIFIER CATEGORY	WHAT TO LABEL	PRODUCT TO USE	WHERE TO LABEL	HOW TO ATTACH	NOTES
Space	Entrance Facility (EF)	Phenolic space label	On backboard or wall in approved location	Screws	
	Equipment Rack (EQ) for open relay racks	Phenolic rack label and phenolic cabinet label	Rack label on front of top angle, centered horizontally.  Cabinet label on front of self-supporting base angle, centered horizontally and low on base.	Screws or metal rivets	
	EQ for cabinets and enclosures	Phenolic cabinet label	On front of all cabinet/enclosure doors, centered horizontally in door panel, 6" below top of door panel.	Screws or metal rivets	
	WF for wall fields	Phenolic	On wall, above wall field area.	Screws	
	Equipment Room (ER), Main Distribution Room (MD), and Telecommunications Closet (TC)	Phenolic space label	Above door on outside of room in approved location	Screws	
	Handhole (HH) and Manhole (MH)	Embossed, engraved, imprinted, or etched in cover	Integral to handhole or manhole cover		Submit method for approval
	Pull Box (PB)	Phenolic space	Space label: At top-front of outside of	Space label: Screws	

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SECTION 27 05 53.13 – COMMUNICATIONS STANDARD FOR LABELING AND NOMENCLATURE  
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		label	cover if cover is hinged; otherwise on body of box in approved location.		
		Pathway warning label	Pathway warning label: At center of outside of cover if cover is hinged and on inside of box where visible; otherwise on body of box on outside and inside where visible	Pathway warning label: Self adhesive	
	Work Area (WA)	None			Not applicable
Pathway	Conduit Backbone (CDB), Conduit Telecom (CDT)	Conduit label	Within 12" on both sides of penetrations, within 12" of box entry, at ends, at intervals of 25 feet	Self-adhesive with clear overlay	
	Cable Tray Backbone (CTB), Cable Tray Telecom (CTT)	Cable tray label	Cable tray label: Within 12" of tray ends, within 12" of intersections (tees, etc.), within 12" on both sides of penetrations, at each floor level in risers, where entering/exiting risers, at intervals of 25 feet.	Cable tray label: Self-adhesive with clear overlay	Place where visible on bottom of tray for overhead tray, or on both sides of tray at specified intervals where bottom of tray is not easily visible.
		Pathway warning label	Pathway warning label: At intervals of 25 feet for horizontal runs, at intervals of 6 feet for vertical runs.	Pathway warning label: Self-adhesive	
	Innerduct Telecom (DDT)	Innerduct label	Within 12" of end of run, in boxes, in manholes, in handholes, at tray intersections, at end of tray runs, where entering/exiting trays, within 12" of	Plastic cable tie	

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			penetrations, at each floor level in risers, where entering/exiting risers		
	Sleeve Telecom (SLT)	Sleeve label	Depends on field conditions. May be similar to conduit label, innerduct label, phenolic label, or other approved type.	Depends on field conditions	Submit proposed method for approval
Cable	All backbone cables, tie cables, outdoor cables, and cables of O.D. greater than 0.28"	Cable tag	At each end of cable, in boxes*, handholes <sup>1</sup> , and manholes <sup>1</sup> , at cable tray intersections <sup>1</sup> , where entering/exiting tray <sup>1</sup> or conduit <sup>1</sup> , where entering/exiting innerduct, and where entering/exiting ER <sup>1</sup> , MDR <sup>1</sup> , or TC <sup>1</sup> .	Plastic cable tie	
	All other cables with O.D. of 0.28" or less.	Cable label	At each end of cable, in boxes, handholes <sup>1</sup> , and manholes <sup>1</sup> , at cable tray intersections <sup>1</sup> , where entering/exiting tray <sup>1</sup> or conduit <sup>1</sup> , where entering/exiting innerduct, and where entering/exiting ER <sup>1</sup> , MDR <sup>1</sup> , or TC <sup>1</sup> .	Self-adhesive with clear overlay	
Termination hardware	CD, FD, CV, FV, CU, PP, TV, CM	Jack label	Use labels supplied with, or compatible with faceplates	Slip-in or self-adhesive	Use slip-in when label has plastic label cover on faceplate. Use self-adhesive only when faceplate is not used or has no label provision
Termination hardware	CPP, CPB, FIU, FCS, FPP, XPP, FSS	Termination label	For 110 blocks: Label block using label supplied with, or compatible with block.	Slip-in or self-adhesive	For all termination

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COMMUNICATIONS SYSTEMS STANDARDS  
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			<p>Label with block number and label all pairs.</p> <p>For RJ45 patch panels: Label patch panel using label supplied with, or compatible with patch panel. Label with patch panel number and label patch ports with outlet number on front, and label 110 terminations with outlet number on back.</p> <p>For fiber optic patch panels and protector panels: Label panel on front of cover and on inside of housing with panel number. Label protector panel positions with cable number(s) and pair(s).</p>	<p>Slip-in or self-adhesive</p> <p>Slip-in and self-adhesive</p>	<p>types:</p> <p>Use color-coded termination labels per color coding standards of TIA-606.</p> <p>Submit proposed products and labeling method for approval.</p>
Splice	Type CS	Wire tag	Within 6" of splice	Small plastic wire tie through pair twist	
	Type FS	As provided with or compatible with splice connector	Label splice block, cables, and pairs	Slip-in or self-adhesive	Submit proposed products and methods for approval
	Type FCG, FCN, FWG, FWN	Cable tag	Attached to closure or on cable within 6" of closure	Plastic cable tie	Obtain approval of attachment location

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	Type FCS, FSS	Termination label	Label enclosure on front of cover and on inside of housing.	Self-adhesive	
Grounding system	BC, EG	Cable label	At each end of conductor, in boxes*, handholes <sup>1</sup> , and manholes <sup>1</sup> , at cable tray intersections <sup>1</sup> , where entering/exiting tray <sup>1</sup> or conduit <sup>1</sup> , where entering/exiting innerduct, and where entering/exiting EF <sup>1</sup> , ER <sup>1</sup> , MDR <sup>1</sup> , or TC <sup>1</sup> .	Self-adhesive with clear overlay	
		Ground warning	Within 3" of each end of conductor, at any tee splice	Plastic cable tie	
	GB, TG, TM	Cable tag	Attached to busbar	Plastic cable tie	

\*If a conductor is within an innerduct or conduit that runs without interruption through these locations, the cable does not require a label at this location.

PART 3 EXECUTION - NOT USED

PART 4 MEASUREMENT AND PAYMENT

4.01 GENERAL

- A. No separate measurement or payment will be made for the Work required by this section. The cost for this portion of the Work will be considered incidental to, and included in the payments made for the applicable bid items in the [Schedule of Unit Prices] [Lump Sum price bid for the Project].

End of Section

Revision History:

05/01/2014 Conversion to 2004 CSI Numbering System

10/15/2014 Added Sole Source and Salient Characteristics Note to Part 2 and revisions

02/07/2017 Incorporated Office Tower Facility code