City of Puyallup
Fire
REVIEWED FOR COMPLIANCE
DDrake
07/29/2024
7:55:39 AM

THE APPROVED CONSTRUCTION PLANS AND ALL ENGINEERING MUST BE POSTED ON THE JOB AT ALL INSPECTIONS IN A VISIBLE AND READILY ACCESSIBLE LOCATION.

Approval of submitted plans is not an approval of omissions or oversight by this office or noncompliance with any applicable regulations of local government. The contractor is responsible for making sure that the building complies with all applicable building codes and regulations of the local government.

City of Puyallup
Development & Permitting Services
ISSUED PERMIT
Building | Planning
Engineering | Public Works
Fire | Traffic

Hampton Inn, Puyallup

Emergency Responder Radio Coverage
Distributed Antenna System

1515 S. Meridian Street
Puyallup, WA 98371

CLEARLINE ENGINEERING
19219 68th Ave S, Suite M 109
Kent, WA 98032

Plan Notes:

Pathway Identification:

Communication and signal circuits will be identified by a distinctive color on covers or doors. "Emergency Communications-Signal Circuit" will be clearly marked on all terminal and junction boxes.

Rooftop Antenna Mast:

Affix a 2" rigid conduit mast, with grounding and weather-head, extending a minimum 4' above the highest point on the roof for a 360° azimuth rotation.

Headend Requirements:

1. 20A 120VAC power hardwired to BBU
2. Dedicated breaker with lockout at panel
3. 6 N/O dry contact fire alarm connections
4. Fire rated plywood board
5. Grounding busbar for 6 AWG grounding conductors

Headend Alarm Requirement:

1. Loss of Normal AC Power supply
2. Low-battery capacity at 70 percent reduction of operating capacity
3. System battery charger failure
4. Failure of active RF device
5. Malfunction of the donor antenna
6. Active system component malfunction

Designed By:

CLEARLINE ENGINEERING

Lance Stafford
iBwave Designer
FCC General Radio Operator's License:
PG00048282

Phone: 509-714-6711
Email: lstafford@clearline-engineering.com

Building and applicable codes based on IBC 2018 but deferred to local AHJ.

2020 iBwave DESIGN CERTIFIED LEVEL 3

Revision history

Rev	Date	Author
1	5/14/2024	ELT

Moved HE and Riser

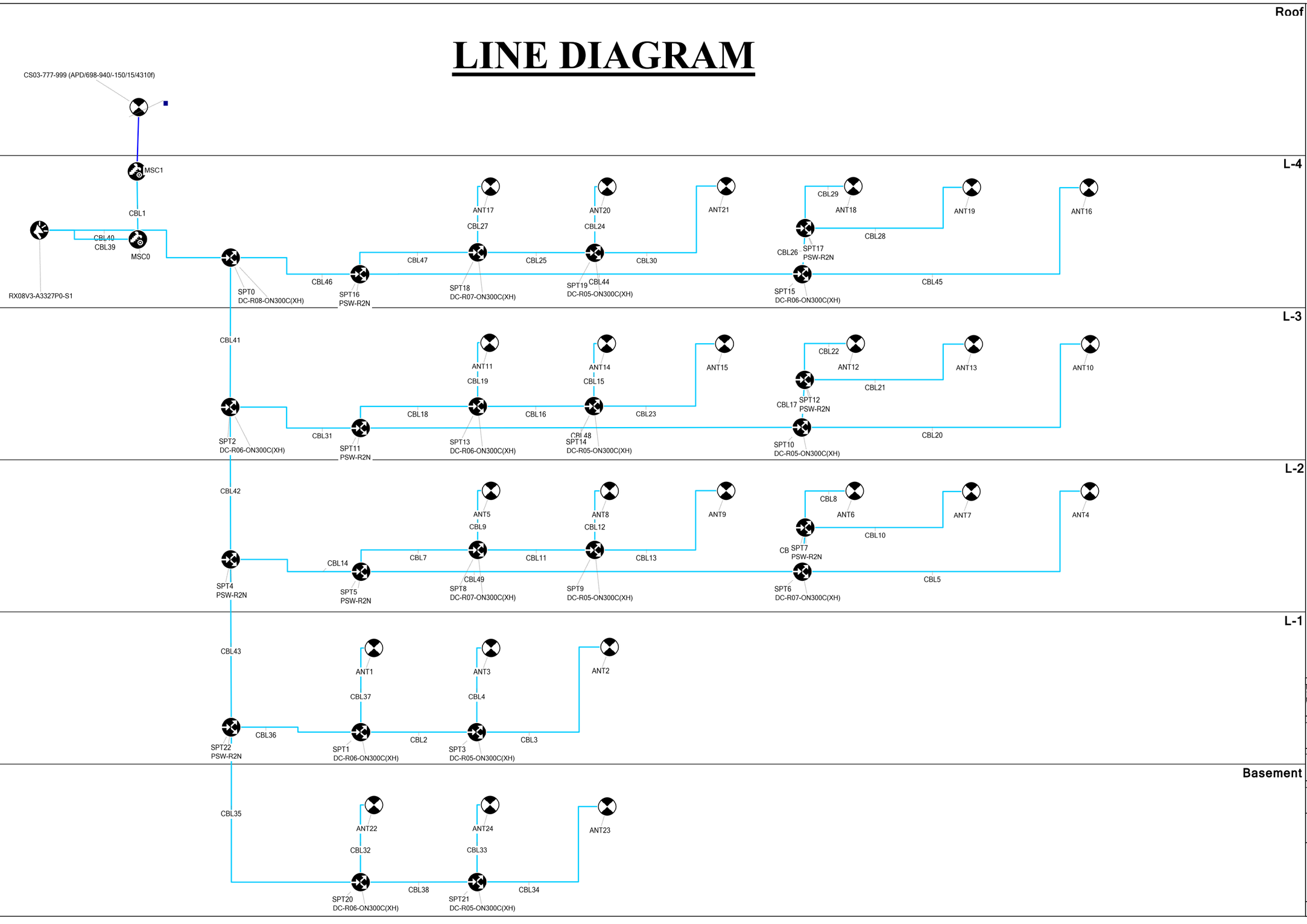
Project name
Hampton Inn

Address
1515 S Meridian Street
Puyallup WA
98371

Designer name
Clearline Engineering

Design plan

LINE DIAGRAM



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Comba

CriticalPoint™ Version 3 / Next Generation Public Safety Solution

Public Safety 700/800MHz Class A/B 27/33dBm Bi-directional Amplifier and Battery Backup Unit

Features

Public Safety Standards Compliance

- Compliance with IFC / NFPA / UL2524
- FCC Class A: PX8RX78V2F-A / Class B: PX8RX78V2F-B
- UL 2524 Standard Certified – SGS Certificate No.: TBD
- ISED (IC): TBD
- UL50E Type 4 / NEMA 4 enclosure for BDA / BBU

Bi-directional Amplifier

- Supports P25 P1/P2, digital and conventional analog communications simultaneously
- Built-in cavity filtering to protect the unit from interference from FirstNet and other neighbor bands
- Up to 64 channels per band on single band models; up to 96 channels shared across bands on dual band models (maximum of 64 on individual band) (Class A)
- Channelized Auto Level Control (ALC) supported (Class A)
- Channelized Downlink and Uplink squelch supported (Class A)
- Uplink PA shutdown during no traffic periods to minimize noise being introduced to the network (Class A)
- Built-in mandatory isolation test to prevent BDA oscillation
- Auto shutdown with alarm upon oscillation detection
- Expandable to 700/800MHz V3/NG fiber system
- Web based GUI for intelligent configuration, SNMP supported
- Integrated Battery Charger Unit, Comba BBU V2 / BBU V3/NG supported
- License based switching between Class A or Class B, Single band or Dual band, 0.5W or 2W configurations
- NFPA / IFC / UL 2524 compliant dry contact alarms, with LED displays
- External Comba Annunciator Panel supported

Battery Backup Unit

- Optional dedicated Battery Backup Solution for BDA V3/NG platform
- Supports Lithium Iron Phosphate (LiFePO4) batteries
- Supports 12 hours backup power with 30AH battery option
- Supports 24 hours backup power with 60AH battery option
- Provides connections for EPO (Emergency Power Off) switch
- Provides AC convenience outlet inside BBU

Comba

Specifications - BDA

BDA		700MHz	800MHz
Passband (Downlink / Uplink)	MHz	Configuration S0 – 700MHz: 758-775 / 788 – 805, 800MHz: 851-861 / 806-816 Configuration S1 – 700MHz: 769-775 / 799 – 805, 800MHz: 851-851 / 806-816 Configuration C0 – 700MHz: 768-776 / 798 – 806, 800MHz: 851-869 / 806-824	
Total Output Power, Uplink	dBm	27	
Total Output Power, Downlink	dBm	27 / 33	27 / 33
Maximum System Gain (Uplink / Downlink)	dB	90	90
Gain Adjustment Range (1dB step) *	dB	60-90 / 35-65 / 10-40 (Under different gain limit modes)	60-90 / 35-65 / 10-40 (Under different gain limit modes)
Pass Band Ripple, p-p (Uplink / Downlink)	dB	S0: ≤3, S1: ≤7	S0: ≤3, S1: ≤7
Uplink Noise Figure	dB	<5 (90dB Uplink Gain), <9 (67dB Uplink Gain)	
Intermodulation	dBm	≤ -13	≤ -13
Spurious	dBm	FCC Compliance	FCC Compliance
Maximum RF Input Level without Damage	dBm	0	0
Maximum RF Input Level without Overdrive	dBm	-10	-10
Input VSWR		≤ 2	≤ 2
Impedance	Ω	50	50

Class A / Class B Specialized Filtering			
Number of Filters Downlink			64 per band
Number of Filter Uplink			96 Shared between 700/800MHz
Filter Bandwidth		KHz	12.5/25/75 (Class A) 75/100/150 (Class B Specialized Filtering) Additional 10MHz (LTE) for FirstNet
Filter	Bandwidth (kHz)	Delay(μs)	Out-of-Band Suppression
High rejection Filter Set	12.5	≤48	≥ 60dBc @ filter edge + 30KHz
	25	≤30	≥ 60dBc @ filter edge + 50KHz
	75	≤18	≥ 60dBc @ filter edge + 130KHz
	75 LD	≤15	≥ 60dBc @ filter edge + 200KHz
Low Delay Filter Set	12.5	≤30	≥ 60dBc @ filter edge + 65KHz
	25	≤27	≥ 60dBc @ filter edge + 75KHz
	37.5	≤26	≥ 60dBc @ filter edge + 75KHz
	50	≤26	≥ 60dBc @ filter edge + 100KHz
	75	≤15	≥ 60dBc @ filter edge + 200KHz
	100	≤14	≥ 60dBc @ filter edge + 200KHz
	150	≤13	≥ 60dBc @ filter edge + 205KHz

*Actual delay number is various according to version

Class B Wide Band		
Filter Bandwidth	MHz	0.6-10
Number of Filters		3
System Group Delay	μsec	≤ 14
Out-of-Band Suppression	dBc	≥ 60 @ filter edge + 1MHz

Comba

Mechanical - BDA

BDA				
Dimensions, H x W x D		mm / in	330 x 490 x 199 / 13.0 x 19.3 x 7.8	
Weight (without bracket)		kg / lbs	25 / 55.1	
Power Supply Input		VAC	100-240V / 50-60Hz / 0-4.5A	
Power Supply Output		VDC	40-60V (Typical: 53.5V) / 0-7.5A	
Maximum Charging Current		A	5	
Power Consumption		W	27 dBm	33 dBm
	Single Band		<75	<90
	Dual Band		<85	<100
Enclosure Cooling			Convection	
RF Connectors * 2			N-Female (MT, DT), SMA-Female (FOU DL, FOU UL)	
Test Port * 2			SMA-Female (DT-Test, MT-Test)	
LED * 10			Dry Contact Alarm LED 1 - 8, ALM/RUN	
Communication port *2			RJ45 (LAN, OMT)	
Reserved knock outs			3/4-inch hole x 1, 1/2-inch hole x 3, 1-inch hole x2	
Operating Temperature		°C	-40 to +55	
Operating Humidity			≤ 95%	
Environmental Class			UL50E Type 4 / NEMA 4	
MTBF		Hr	100,000	

Battery Backup Unit

BBU				
Dimensions, H x W x D		mm / in	605 x 500 x 272.9 / 23.8 x 19.7 x 10.7	
Weight (without battery)		Kg / lbs	26 / 57.3	
LiFePO4 Output		VDC	Per Battery	
LiFePO4 Battery Communication Port			Serial port (RS485)	
Knockouts			3/4-inch hole x 4, 1/2-inch hole x 6	
Operating Temperature		°F (°C)	32 to 104 (0 to 40)	
Operating Humidity			≤ 95%	
Enclosure Environmental Class			UL50E Type 4 / NEMA 4	

Battery				
Battery Type		(Lithium Iron Phosphate) LiFePO4		
System Required Quantity	pcs	1	1	1
Amp/Hour (Discharge at XC)		30AH	60AH	100AH
Nominal Voltage		51.2V	51.2V	51.2V
Battery Weight	lb(kg)	52.9 (24)	79.8 (36.2)	123.5 (56)
Battery Electrolyte Counts		0.456 Gallons / 4.6 lbs	0.913 Gallons / 9.1 lbs	1.758 Gallons / 17.6 lbs

Note: Gain adjusts down to 10dB total gain but is no longer FCC compliant for NF at that level
Note: Typical specifications at room temperature

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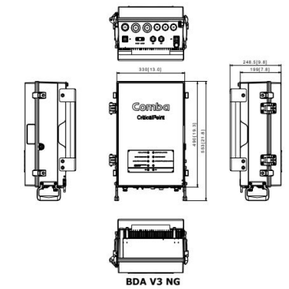
Page 3 of 11

Outline Drawing

Comba



Westell® | 698-940 MHz Panel Antenna

General Information

Westell's high gain hurricane rated panel antenna is ideal for both public safety and commercial cellular applications where a high degree of control over the donor signal is required.

Product Highlights

- Ideal for high gain outdoor site applications
- Tested to withstand hurricane force winds of 170 mph*
- Narrow beamwidth

Applications

- As a donor antenna for Public Safety BDAs requiring high gain
- Supports 698-940 MHz, which includes 700 LTE, FirstNet, 700 PS, 800 PS, and 850 MHz
- Public Safety, 3G, 4G, and 5G DAS systems
- Ideal for coastal areas subject to hurricane force winds

Model CS03-777-999

Electrical Specifications

Frequency Band (MHz)	698-806	790-880	860-940
Polarization (°)	Vertical		
Half-Power Horizontal Beamwidth (°)	45 ± 5	40 ± 5	35 ± 5
Half-Power Vertical Beamwidth (°)	36 ± 5	37 ± 5	35 ± 5
Gain (dBi)	13 ± 0.75	14 ± 0.75	15 ± 0.75
Front-to-Back Ratio (dB)	> 20		
Sidelobe Suppression (dB)	> 20		
Cross Polarization Level (dB)	> 20		
VSWR	< 1.5		
IM.3rd Order (2 × 43 dBm)	< -156 dBc		
Impedance (Ω)	50		
Maximum Input Power (W)	300		
Lightning Protection	DC Ground		

Environmental Specifications

Operating Temperature °C	-40 – +70
Product Environmental Compliance	RoHS
Windload, Survival Rating mph - [km/h]	Windload 170 [273.59]*
Effective Projected Area (EPA)	3.24 ft²

*Tested per ANSI/TIA-222.

Ordering Information

Part Number	Description
CS03-777-999	Panel Antenna 698-940 MHz 30° 15dBi

Mechanical Specifications

Connector:	
Connector Type	4.3-10 Female
Connector Position	Side
Connector Quantity	1
Antenna:	
Antenna Dimensions: Length, Width, Depth in - [mm]	19.69 x 19.69 x 7.08 [500 x 500 x 180]
Antenna Weight lb - [kg]	38.58 [17.5]
Radome Material	Fiber Glass
Radome Color (RAL)	Off White
Mounting Bracket:	
Diameter of Installation Pole in - [mm]	1.5-5.25 [38-133]
Mechanical Adjustable Tilt Range [°]	±20
Bracket / Mount Weight lb - [kg]	13.22 [6.0]
Installation Kit Material	Galvanized Steel
Packaging:	
Packing Dimensions: Length, Width, Depth in - [mm]	32.68 x 32.68 x 14.96 [830 x 620 x 380]
Shipping Weight lb - [kg]	55 [25]

All specifications subject to change without notice.

WESTELL — WESTELL.COM

Economy Multiband Omnidirectional Antenna

Model Numbers

- Ant-O\698-2.7k/NF) Econ (CS03-019-429)
- Ant-O\698-2.7k/4.3-10 Econ (CS03-019-429-02)

Frequency Range

- 698-960/1710-2700

Features & Benefits

- Low Cost
- Multiband Design
- Covers CDMA, GSM, DCS, 3G/UMTS, LTE
- In-building coverage

Multiband Omnidirectional Antenna

Electrical Specifications

Frequency Range	698-960/1710-2700
Polarization	Vertical
Gain (dBi)	1±0.5/5±1.0
Half-power Beam Width	Hor: 360/ Ver: 60/30
Impedance (Ω)	50
VSWR	≤2.0/≤1.5
Maximum Input Power (W)	50

Mechanical Specifications

Connector	N (f) or 4.3-10 (f)
Size (in)	7.3x3.4
Weight (lb)	0.5
Wind Loading Area (m2)	≤0.2
Rated Wind Velocity (mph)	82
Reflector Material	Aluminum
Radome Material	ABS
Radome Color	White
Operating Temperature (F/C)	-40~131 (-40~55)

Specifications subject to change without notice.

WESTELL — WESTELL.COM

AirCell® In-Conduit Cable

TRILOGY Communications

Product Specification

50 Ohm In-Conduit Cable, 1/2" - AC012J50

Description	Product Number
Standard Cable	
1/2", Corrugated, Black Polyethylene Jacket	AC012J50
Physical Dimensions	
Center Diameter, in (mm)	0.188 (4.78)
Diameter Over Outer Conductor, in (mm)	0.550 (13.97)
Maximum Diameter Over Jacket, in (mm)	0.63 (16.00)
Center Conductor	Copper Clad Aluminum
Outer Conductor	Corrugated Aluminum
Jacket Color	Black
Electrical Characteristics	
Maximum Frequency, GHz	10
Peak Power Rating, KW	35
DC Resistance, Ohms/1,000 ft (1,000 m)	
Center	0.46 (1.51)
Outer	0.51 (1.67)
DC Breakdown, kV	2
Capacitance, pF/ft (m)	22 (72.12)
Inductance, mH/ft (m)	0.057 (0.187)
Jacket Spark, kV RMS	8
VSWR min, (dB)	1.25 (19.0)
VSWR typical, 700-960 / 1700-2200 MHz (dB)	1.13 (24.3)
Impedance, Ohms	50 ± 2
Velocity of Propagation	84%
Mechanical Characteristics	
Minimum Bend Radius, in (mm) - Single	2 (50.8)
Minimum Bend Radius, in (mm) - Multiple	5 (127)
Cable Weight, lb/ft (kg/m)	0.11 (0.16)
Bending Moment, ft lb (N m)	1 (1.4)
Tensile Strength, lb (kg)	250 (114)
Flat Plate Crush, lb/in (kg/mm)	78 (1.39)
Number of Bends, minimum	15
Recommended Install Temp., °F (°C)	-10° to 170° (-23° to 77°)
Recommended Storage Temp., °F (°C)	-40° to 170° (-40° to 77°)
Recommended Operating Temp., °F (°C)	-40° to 170° (-40° to 77°)
Standard Conditions	
For Attenuation: VSWR 1.0, Ambient Temperature 20°C (68°F)	
For Average Power: VSWR 1.0, Ambient Temperature 40°C (104°F), Inner Conductor Temperature 100°C (212°F), No Solar Loading	
Regulatory Compliance/Certifications	
RoHS 2011/65/EU Compliant	
TL 9000 H-V - All Cables designed and manufactured under this quality management system	

Attenuation and Average Power

Frequency, MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power kW
100	0.70	2.30	3.86
450	1.50	4.92	1.85
500	1.59	5.22	1.75
600	1.75	5.74	1.58
700	1.87	6.14	1.47
800	1.96	6.43	1.37
900	2.14	7.02	1.29
960	2.23	7.32	1.24
1000	2.30	7.55	1.21
1500	2.85	9.35	0.96
1700	3.05	10.01	0.90
1800	3.14	10.30	0.88
1950	3.24	10.63	0.85
2000	3.35	10.99	0.84
2100	3.42	11.22	0.82
2200	3.50	11.48	0.80
2300	3.59	11.78	0.78
2400	3.67	12.04	0.77
2500	3.75	12.30	0.75
2700	3.90	12.80	0.72
3000	4.14	13.58	0.68
3300	4.33	14.21	0.61
3400	4.45	14.60	0.60
4000	4.91	16.11	0.55
4900	5.61	18.41	0.50
5000	5.69	18.67	0.49
5200	5.92	19.42	0.48
5300	6.03	19.78	0.47
5800	6.37	20.90	0.46
5825	6.83	22.41	0.45

Trilogy AirCell® Cable

Proud to be 100% Made in the USA

AirCell® Plenum Cable

TRILOGY Communications

Product Specification

50 Ohm Plenum Cable, 1/2" - AP6012J50

Description	Product Number
Plenum Rated Cable	
1/2", Corrugated (6 GHz) Jacketed CMP, Conforms to NFPA-262, UL-444, Canadian CSA 22.2 I-16	AP6012J50
Physical Dimensions	
Center Diameter, in (mm)	0.188 (4.78)
Diameter Over Outer Conductor, in (mm)	0.550 (13.97)
Maximum Diameter Over Jacket, in (mm)	0.63 (16.00)
Center Conductor	Copper-Clad Aluminum
Outer Conductor	Corrugated Aluminum
Jacket Color	Off White
Electrical Characteristics	
Maximum Frequency, GHz	10
Peak Power Rating, KW	35
DC Resistance, Ohms/1,000 ft (1,000 m)	
Center	0.46 (1.51)
Outer	0.51 (1.67)
DC Breakdown, kV	2
Capacitance, pF/ft (m)	22 (72.12)
Inductance, mH/ft (m)	0.057 (0.187)
Jacket Spark, kV RMS	8
VSWR min, (dB)	1.25 (19.0)
VSWR typical, 700-960 / 1700-2200 MHz (dB)	1.13 (24.3)
Impedance, Ohms	50 ± 2
Velocity of Propagation	94%
Mechanical Characteristics	
Minimum Bend Radius, in (mm) - Single	2 (50.8)
Minimum Bend Radius, in (mm) - Multiple	5 (127)
Cable Weight, lb/ft (kg/m)	0.13 (0.20)
Bending Moment, ft lb (N m)	1 (1.4)
Tensile Strength, lb (kg)	250 (114)
Flat Plate Crush, lb/in (kg/mm)	78 (1.39)
Number of Bends, minimum	15
Recommended Install Temp., °F (°C)	+5° to 194° (-15° to 90°)
Recommended Storage Temp., °F (°C)	+5° to 194° (-15° to 90°)
Recommended Operating Temp., °F (°C)	+5° to 194° (-15° to 90°)
Standard Conditions	
For Attenuation: VSWR 1.0, Ambient Temperature 20°C (68°F)	
For Average Power: VSWR 1.0, Ambient Temperature 40°C (104°F), Inner Conductor Temperature 100°C (212°F), No Solar Loading	
Regulatory Compliance/Certifications	
RoHS 2011/65/EU Compliant	
TL 9000 H-V - All Cables designed and manufactured under this quality management system	

Attenuation and Average Power

Frequency, MHz	Attenuation dB/100 ft	Attenuation dB/100 m	Average Power kW
100	0.70	2.30	3.86
450	1.50	4.92	1.85
500	1.59	5.22	1.75
600	1.75	5.74	1.58
700	1.87	6.14	1.47
800	1.96	6.43	1.37
900	2.14	7.02	1.29
960	2.23	7.32	1.24
1000	2.30	7.55	1.21
1500	2.85	9.35	0.99
1700	3.05	10.01	0.89
1800	3.14	10.30	0.88
1950	3.24	10.63	0.85
2000	3.35	10.99	0.84
2100	3.42	11.22	0.82
2200	3.50	11.48	0.80
2300	3.59	11.78	0.78
2400	3.67	12.04	0.77
2500	3.75	12.30	0.75
2700	3.90	12.80	0.72
3000	4.14	13.58	0.69
3300	4.33	14.21	0.61
3400	4.45	14.60	0.60
4000	4.91	16.11	0.55
4900	5.61	18.41	0.50
5000	5.69	18.67	0.49
5200	5.92	19.42	0.48
5300	6.03	19.78	0.47
5800	6.37	20.90	0.46
5825	6.83	22.41	0.45

Trilogy AirCell® Cable

Proud to be 100% Made in the USA

AirCell® Connectors & Tools

TRILOGY Communications

Connector Specification

NMP01250 AirCell® 50 Ohm Connectors

For use with AirCell® 1/2" 50 Ohm Plenum, Conduit and In-Conduit Cables

Description	NMP01250
General Specifications	
Interface	N Male
Body Style	Straight
Electrical Specifications	
Impedance, Ohms	50
Operating Frequency Band	0.3 MHz to 6 GHz
Dielectric Withstand Voltage	2 kV DC
3rd Order IMD	-140 dBc minimum, -150 typical
3rd Order IMD, Test Method	2 x 20 Watt carriers
Average Power	0.6 kW
Peak Power, maximum	10 kW
Insertion Loss, typical	0.05
Shielding Effectiveness	-130 dB
Return Loss (VSWR)	
DC to 1 GHz	30 dB (1.06)
1 GHz to 2 GHz	31 dB (1.06)
2 GHz to 3 GHz	32 dB (1.06)
3 GHz to 4 GHz	25 dB (1.12)
4 GHz to 5 GHz	20 dB (1.22)
5 GHz to 6 GHz	15 dB (1.43)
Mechanical Specifications	
Outer Contact Plating	Silver
Inner Contact Plating	Silver
Interface Durability	500 cycles
Interface Durability Test Method	IEC 16916
Minimum Connector Pull-off Force	200 lbs
Environmental Specifications	
Operating Temperature, °F (°C)	-40° to 158° (-40° to 70°)
Storage Temperature, °F (°C)	-40° to 158° (-40° to 70°)
Installation Temperature, °F (°C)	23° to 122° (-5° to 50°)
Immersion Test Method	IEC60529:2001 IP68
Corrosion Test Method	MIL-STD-1344A
Thermal Shock Test Method	MIL-STD-202F
Vibration Test Method	MIL-STD-202F
Regulatory Compliance/Certifications	
RoHS 2011/65/EU Compliant	
TL 9000 H-V - All Cables designed and manufactured under this quality management system	

Notice: Trilogy disclaims any liability or responsibility for the results of improper or unsafe installation, inspection, maintenance or removal practices

Wideband Directional Coupler

Comba keeps you connected

DC-Rxx-ON300C(XH)

Low PIM(-153dBc), 698-2700MHz, N-Female, 300W

- Wideband design covering 698-2700MHz
- Available 5, 6, 7, 8, 10, 13, 15, 20, 30 & 40dB values
- Suitable for indoor/outdoor environment
- High Reliability and Low Insertion Loss

Electrical Specification

Product Model	DC-R05-ON300C (XH)	DC-R06-ON300C (XH)	DC-R07-ON300C (XH)	DC-R08-ON300C (XH)	DC-R10-ON300C (XH)	DC-R13-ON300C (XH)	DC-R15-ON300C (XH)	DC-R20-ON300C (XH)	DC-R30-ON300C (XH)	DC-R40-ON300C (XH)
Frequency (MHz)	698-2700									
Coupling (dB)	5.0	6.0	7.0	8.0	10.0	13.0	15.0	20.0	30.0	40.0
Coupling Tolerance (dB)	± 0.8	± 0.8	± 0.8	± 0.8	± 0.8	± 1.0	± 1.0	± 1.2	± 1.5	± 1.5
Loss (dB)	≤ 2.1	≤ 1.7	≤ 1.4	≤ 1.2	≤ 0.7	≤ 0.5	≤ 0.4	≤ 0.3	≤ 0.2	≤ 0.2
Isolation (dB)	≥ 25	≥ 26	≥ 27	≥ 28	≥ 30	≥ 33	≥ 35	≥ 40	≥ 45	≥ 55
VSWR @ Input port	≤ 1.25									
PIM (dBc)	<-153 @ 2 x 43dBm									
Average Power, max (W)	300									
Peak Power, max (W)	1000									
Impedance (ohm)	50									

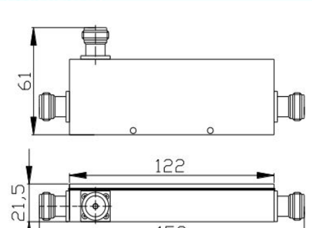
Mechanical Specification

Dimension (in/mm)	6.2x2.4x0.8 / 158x61x21.5
Weight (lb/kg)	0.75 / 0.34
Connector	N-Female

Environment & Compliance

Application	Outdoor / Indoor
Operating Temperature	-40°C to +80°C
Environment	IP65
Relative Humidity	Up to 95%
RoHS	Compliant

Outline Drawing



Wideband Power Splitter

Comba keeps you connected

PSW-R2N / PSW-R3N / PSW-R4N

2/3/4Way, 698-2700MHz, N Female, 50W

- Wilkinson power splitter
- Wideband design covering 698-2700MHz
- Suitable for indoor/outdoor environment
- High reliability and low insertion loss

Electrical Specification

Product Model	PSW-R2N 2-Way	PSW-R3N 3-Way	PSW-R4N 4-Way
Frequency (MHz)		698-2700	
Split Loss (dB)	3.0	4.8	6.0
Insertion Loss (dB)	≤ 0.4	≤ 0.6	≤ 0.7
Isolation (dB)	≥ 20	≥ 20	≥ 18
VSWR @ all ports	≤ 1.2	≤ 1.25	≤ 1.3
Average Power, max (W)		50	
Impedance (ohm)		50	

Mechanical Specification

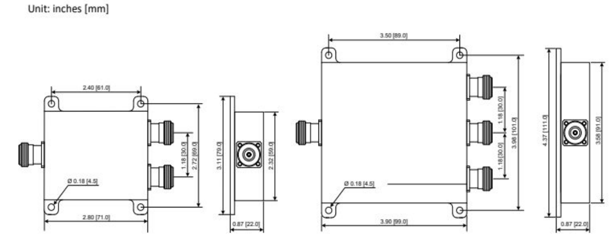
	PSW-R2N	PSW-R3N	PSW-R4N
Dimension (in/mm)	2.80x2.32x0.87 / 71.0x59.0x22.0	3.90x3.58x0.87 / 99.0x91.0x22.0	3.66x4.76x0.87 / 93.0x121.0x22.0
Weight (lb./Kg)	0.55 / 0.25	1.12 / 0.51	1.32 / 0.60
Shipping Dimension (in/mm)	4.96x3.86x1.50 /126.0x98.0x38.0	6.22x5.04x1.50 / 158.0x128.0x38.0	6.22x6.22x1.50 / 158.0x 158.0x38.0
Shipping Weight (lb./Kg)	0.62 / 0.28	1.21 / 0.55	1.43 / 0.65
Connector Type	N Female	N Female	N Female

Environment & Compliance

Application	Indoor / Outdoor	Operating Temperature	-40°C to +85°C
Environment	IP65	Relative Humidity	Up to 95%
RoHS	Compliant		

Outline Drawing

Unit: inches [mm]



PSW-R2N PSW-R3N

PolyPhaser

an INFINITE brand

Type N M/F Coaxial RF Surge Protector, 125MHz - 1GHz, DC Block, 375W, 220uJ, 50kA, Blocking Cap, Bracket Up, Hole Mount

IS-50NX-C2-MA

Features

- Surge current of 20kA
- Max Power 375W
- Frequency range from 125 MHz to 1000 MHz
- N Male to N Female connectors
- VSWR <1.1:1
- Multi-strike capability
- CE & RoHS compliant

Applications

- HF, UHF and VHF radios
- Ham radios
- Remote industrial monitoring

Description

RF surge protector (also known as lightning arrester or surge arrestor) IS-50NX-C2-MA from PolyPhaser, integrating a RF blocking capacitor with a gas tube (GT or GDT). This RF surge protector component is manufactured in a coaxial in-line design with wide operating frequency range. All PolyPhaser RF surge protector products are available in stock with same day shipping.

Electrical Specifications

Surge Protector Type — Blocking Cap and Gas Tube

DC Handling — DC Block

Description	Minimum	Typical	Maximum	Units
Frequency Range	125		1,000	MHz
Impedance		50		Ohms
VSWR			1.1:1	
Insertion Loss			0.1	dB
Input Power, CW			375	Watts
375W @ 125MHz TO 220MHz				
125W @ 220MHz TO 700MHz				
50W @ 700MHz TO 1000MHz				
Surge Current			50	kA
IEC 61000-4-5 8/20μs WAVEFORM				
Turn On Voltage		600 20%		Volts
Throughput Energy			220	uJ
@ 3kA, 8/20μs WAVEFORM				

Click the following link (or enter part number in "SEARCH" on website) to obtain additional part information including price, inventory and certifications: Type N M/F Coaxial RF Surge Protector, 125MHz - 1GHz, DC Block, 375W, 220uJ, 50kA, Blocking Cap, Bracket Up, Hole Mount IS-50NX-C2-MA

CLEARLINE ENGINEERING

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

19219 68th Ave S, Suite M 109
Kent, WA 98032

Revision history

Rev	Date	Author
1	5/14/2024	ELT

Moved HE and Riser

Project name: Hampton Inn

Address: 1515 S Meridian Street, Puyallup WA 98371

Designer name: Clearline Engineering

Design plan

CLEARLINE ENGINEERING

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

19219 68th Ave S, Suite M 109
Kent, WA 98032

Revision history

Rev	Date	Author
1	5/14/2024	ELT
Moved HE and Riser		

Project name

Hampton Inn

Address

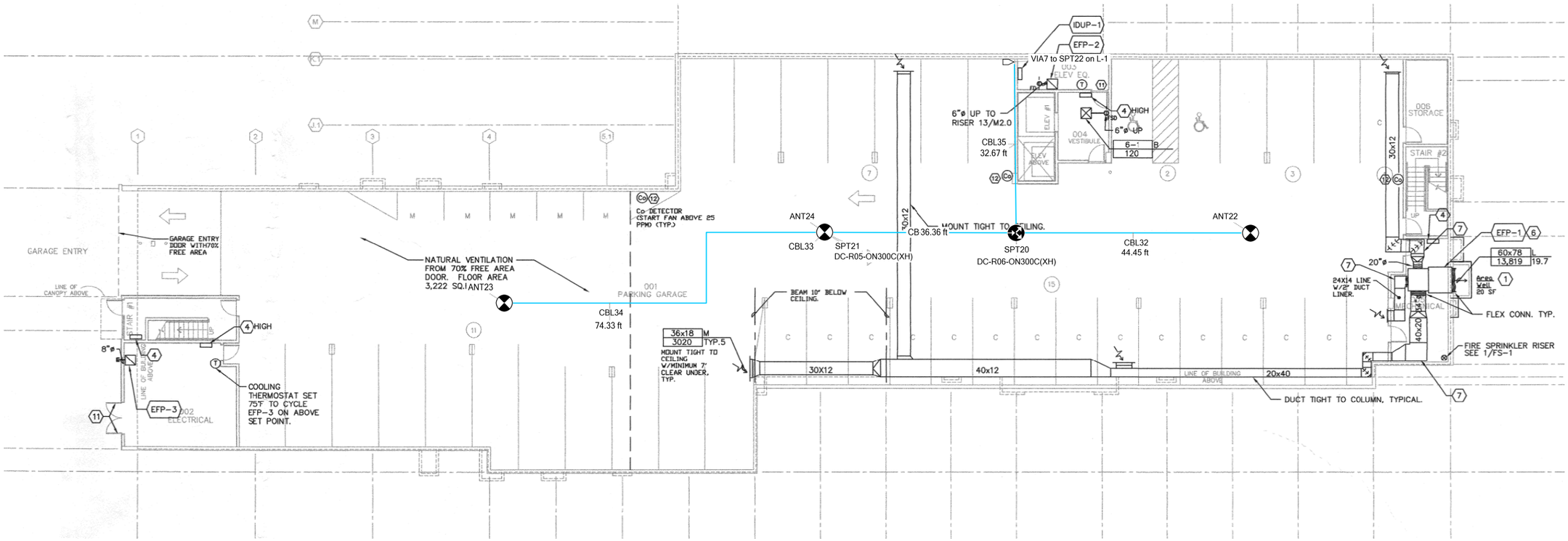
1515 S Meridian Street
Puyallup WA

98371

Designer name

Clearline Engineering

Design plan



CLEARLINE ENGINEERING

City of Puyallup
Development & Permitting Services
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Building	Planning
Engineering	Public Works
Fire	Traffic

19219 68th Ave S, Suite M 109
Kent, WA 98032

Pictograms legend
- Antenna
- Splitter
- Via

10.00 ft

Cables legend
- AP6012J50

Revision history

Rev	Date	Author
1	5/14/2024	ELT
Moved HE and Riser		

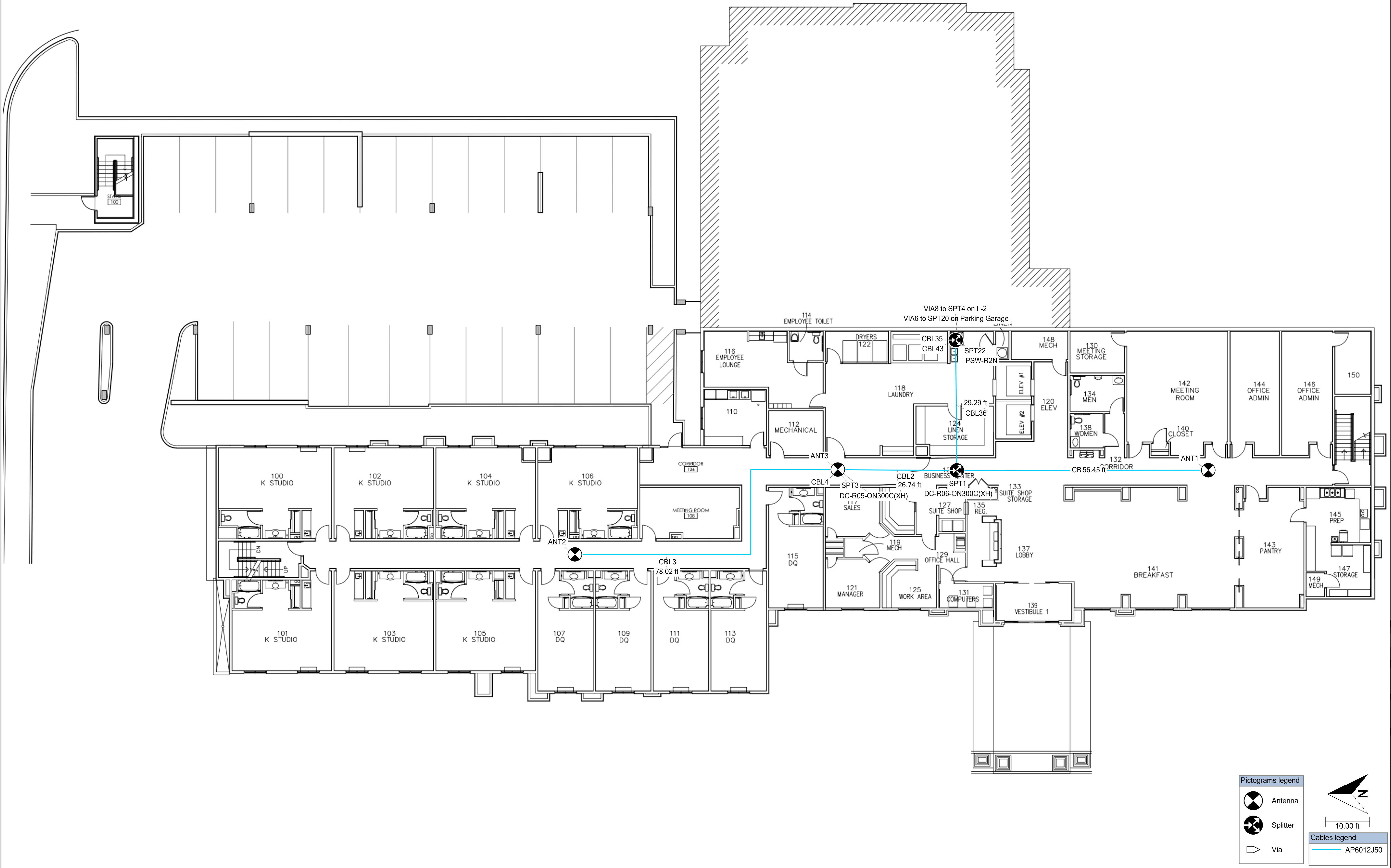
Project name
Hampton Inn

Address
1515 S Meridian Street
Puyallup WA
98371

Designer name
Clearline Engineering

Parking Garage

Architectural Plan Reference:
Overall Floor Plan Progress Set
Issued: 09/25/23 - Rev.: 02/26/23


VIA8 to SPT4 on L-2
VIA6 to SPT20 on Parking Garage
114 EMPLOYEE TOILET
116 EMPLOYEE LOUNGE
DRYERS 122
CBL35
CBL43
SPT22
PSW-R2N
148 MECH
130 MEETING STORAGE
142 MEETING ROOM
144 OFFICE ADMIN
146 OFFICE ADMIN
150
118 LAUNDRY
29.29 ft
CBL36
120 ELEV
134 MEN
110
112 MECHANICAL
124 LINEN STORAGE
138 WOMEN
140 CLOSET
ANT3
ANT1
132 CORRIDOR
CB 56.45 ft
CBL2
26.74 ft
CBL4
SPT3
DC-R05-ON300C(XH)
SPT1
DC-R06-ON300C(XH)
133 SUITE SHOP STORAGE
127 SUITE SHOP
135 REG.
100 K STUDIO
102 K STUDIO
104 K STUDIO
106 K STUDIO
CORRIDOR 136
MEETING ROOM 108
ANT2
CBL3
78.02 ft
115 DQ
119 MECH
129 OFFICE HALL
137 LOBBY
141 BREAKFAST
143 PANTRY
145 PREP
147 STORAGE
149 MECH
121 MANAGER
125 WORK AREA
131 COMPUTERS
139 VESTIBULE 1
101 K STUDIO
103 K STUDIO
105 K STUDIO
107 DQ
109 DQ
111 DQ
113 DQ
Pictograms legend
Antenna
Splitter
Via
10.00 ft
Cables legend
AP6012J50

CLEARLINE ENGINEERING

City of Puyallup
Development & Permitting Services
ISSUED PERMIT

Building	Planning
Engineering	Public Works
Fire	Traffic

19219 68th Ave S, Suite M 109
Kent, WA 98032

Revision history

Rev	Date	Author
1	5/14/2024	ELT
Moved HE and Riser		

Project name

Hampton Inn

Address

1515 S Meridian Street
Puyallup WA

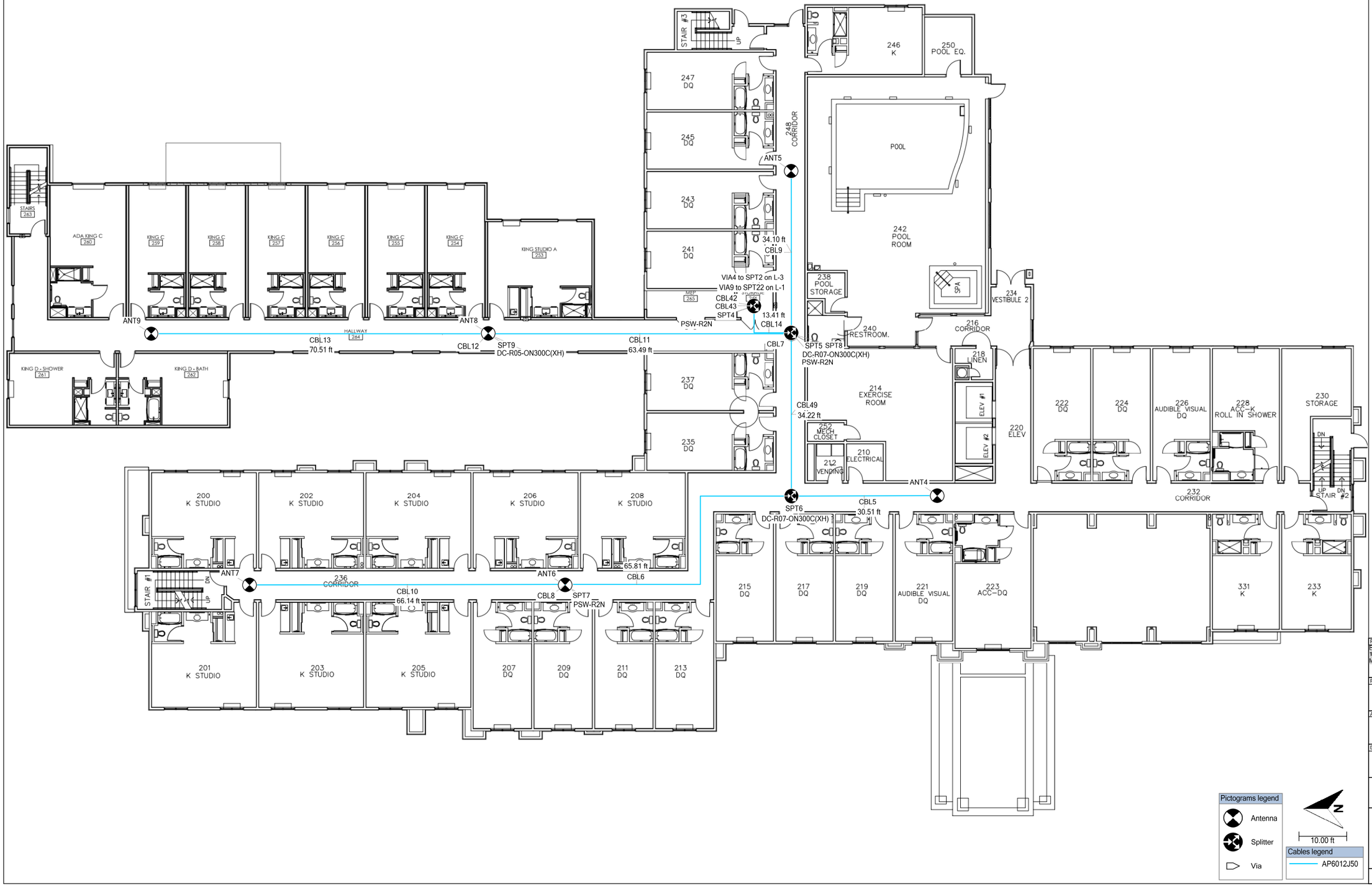
98371

Designer name

Clearline Engineering

L-1

Architectural Plan Reference:
Overall Floor Plan Progress Set
Issued: 09/25/23 - Rev.: 02/26/23



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City of Puyallup
Development & Permitting Services
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Building	Planning
Engineering	Public Works
Fire	Traffic

19219 68th Ave S, Suite M 109
Kent, WA 98032

Revision history

Rev	Date	Author
1	5/14/2024	ELT
Moved HE and Riser		

Project name

Hampton Inn

Address

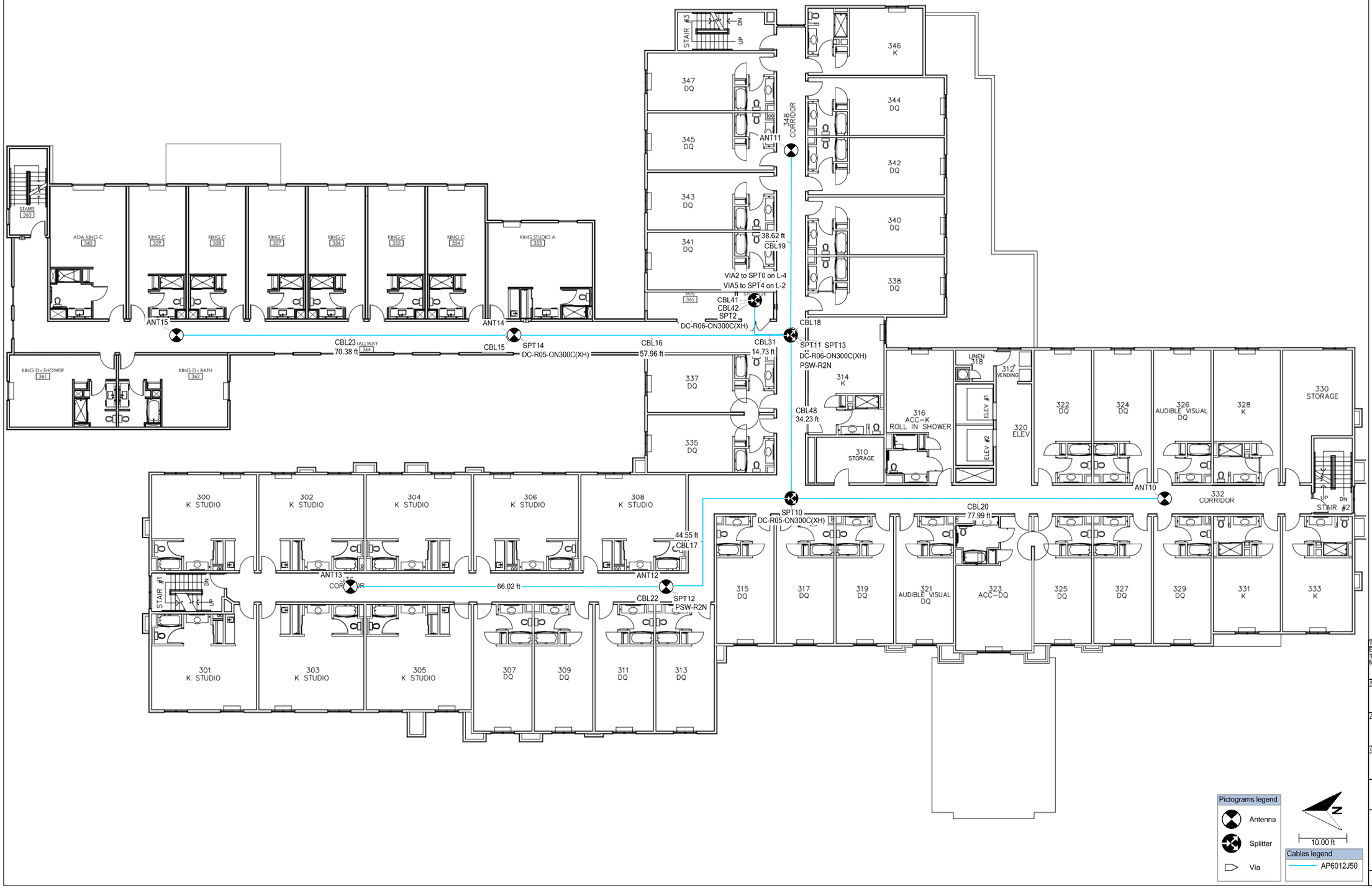
1515 S Meridian Street
Puyallup WA
98371

Designer name

Clearline Engineering

L-2

Architectural Plan Reference:
Overall Floor Plan Progress Set
Issued: 09/25/23 - Rev.: 02/26/23



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City of Puyallup
Development & Permitting Services
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Building	Planning
Engineering	Public Works
Fire	Traffic

19219 68th Ave S, Suite M 109
Kent, WA 98032

Pictograms legend

- Antenna
- Splitter
- Via

10.00 ft

Cables legend

- AP6012J50

Revision history

Rev	Date	Author
1	5/14/2024	ELT
Moved HE and Riser		

Project name

Hampton Inn

Address

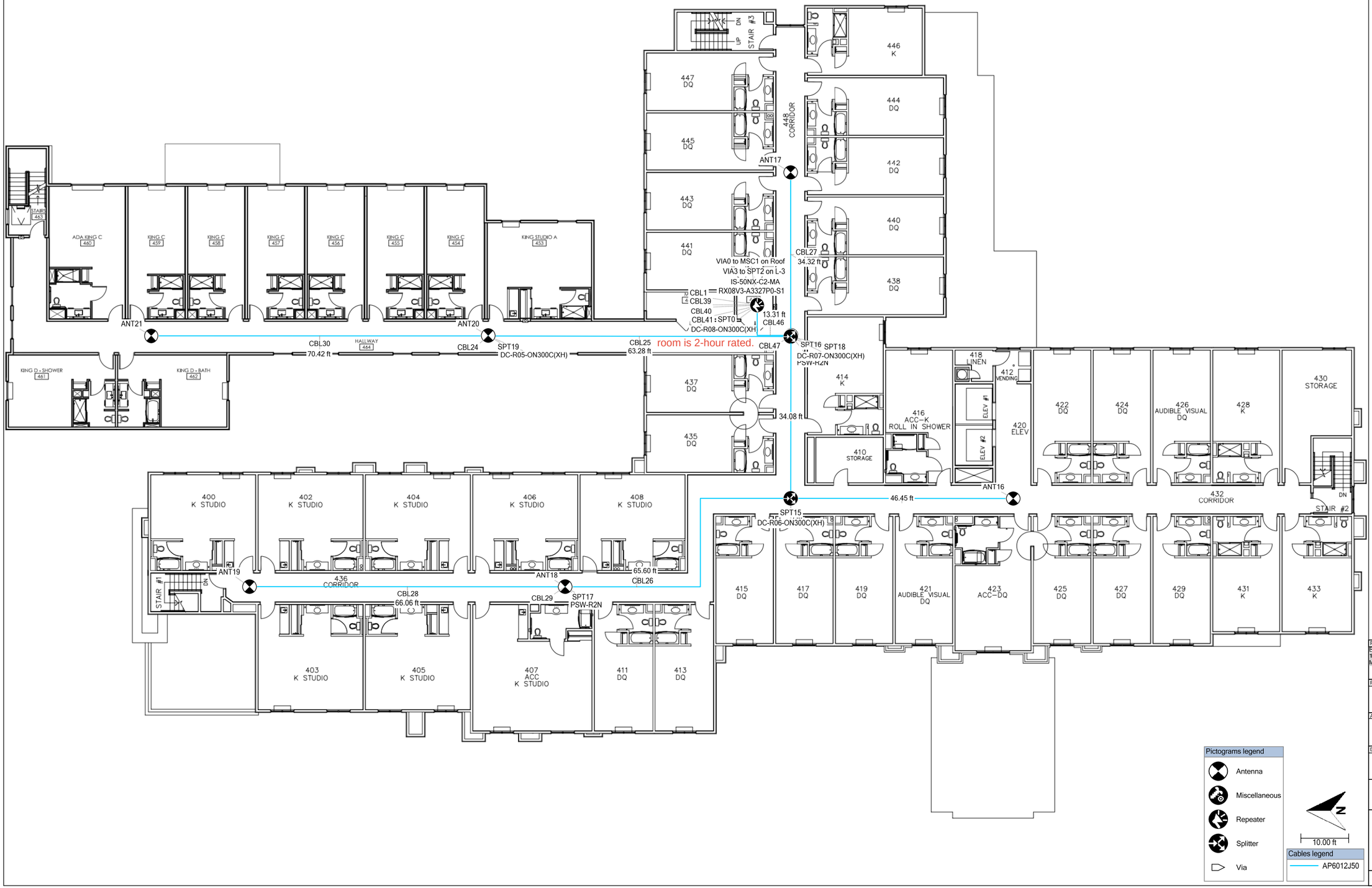
1515 S Meridian Street
Puyallup WA
98371

Designer name

Clearline Engineering

L-3

Architectural Plan Reference:
Overall Floor Plan Progress Set
Issued: 09/25/23 - Rev.: 02/26/23



Pictograms legend

- Antenna
- Miscellaneous
- Repeater
- Splitter
- Via

N

10.00 ft

Cables legend

- AP6012J50

City of Puyallup
Development & Permitting Services
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Building | Planning
Engineering | Public Works
Fire | Traffic

CLEARLINE ENGINEERING

19219 68th Ave S, Suite M 109
Kent, WA 98032

Revision history

Rev	Date	Author
1	5/14/2024	ELT
Moved HE and Riser		

Project name

Hampton Inn

Address

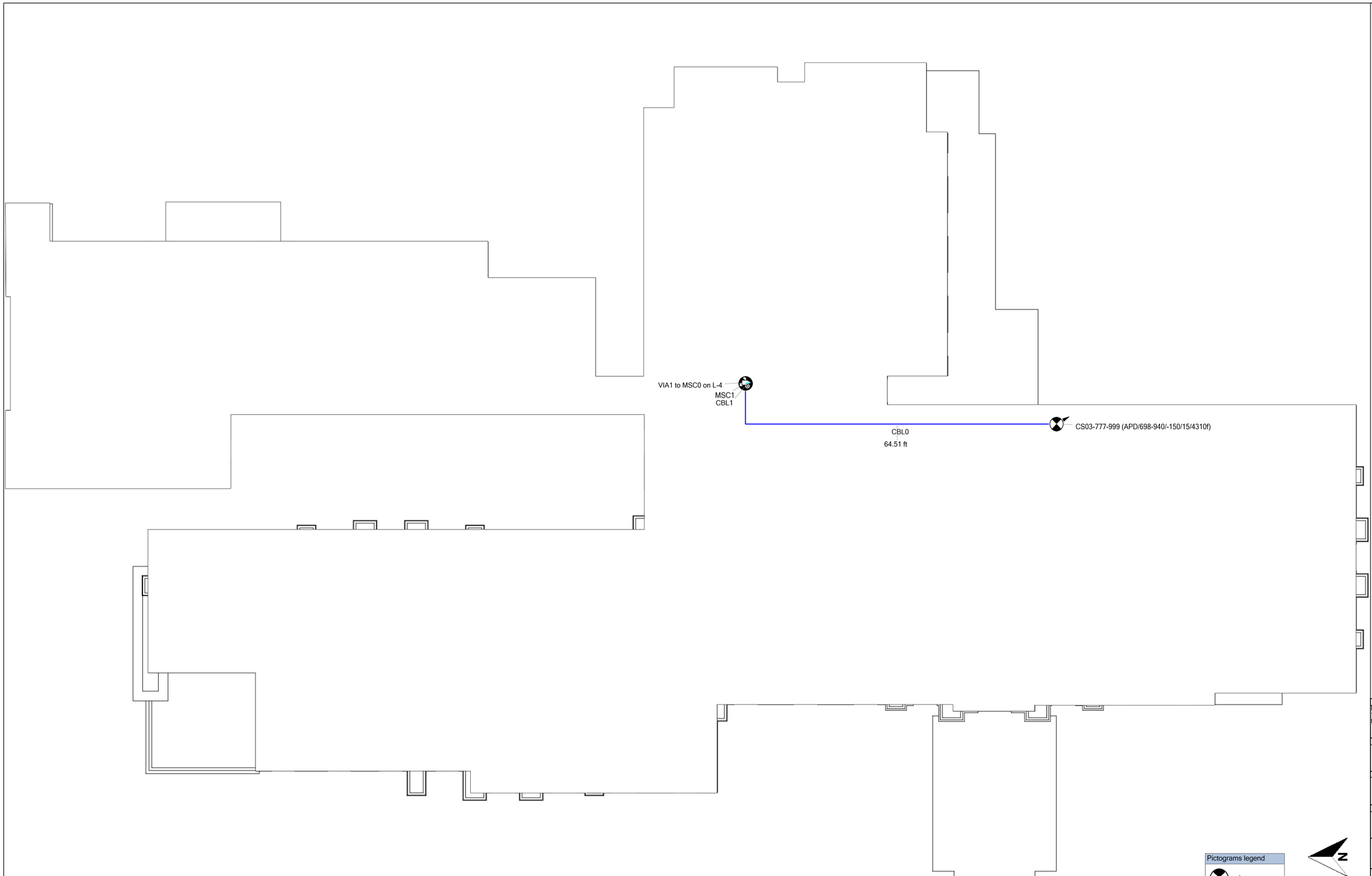
1515 S Meridian Street
Puyallup WA
98371

Designer name

Clearline Engineering

L-4

Architectural Plan Reference:
Overall Floor Plan Progress Set
Issued: 09/25/23 - Rev.: 02/26/23



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City of Puyallup
Development & Permitting Services
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Building	Planning
Engineering	Public Works
Fire	Traffic

19219 68th Ave S, Suite M 109
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Revision history

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1	5/14/2024	ELT
Moved HE and Riser		

Project name

Hampton Inn

Address

1515 S Meridian Street
Puyallup WA
98371

Designer name

Clearline Engineering

Roof

Architectural Plan Reference:
Overall Floor Plan Progress Set
Issued: 09/25/23 - Rev.: 02/26/23