KONE Outline Specification

KONE EcoSpace™ MRL Traction			
Capacity (lbs.)	3,500 Stretcher Compliant	Full Suspended Ceiling	KONE LF88 Brushed Stainless Steel
Number of Landings	4	Lighting	Six (6) Round LED Spots
Number of Openings	4 Total 4 Front / 0 Rear	Rear/Side Walls	KONE Flat Wall Panels Standard Laminate Selection Or Brushed Stainless Steel
Speed (FPM)	150	Front Return	Brushed Stainless Steel
Total Travel	33'- 0"	Car Door	Brushed Stainless Steel
Clear Overhead Required	13'- 10" 14'- 6" (total with beam)	Handrail @ Rear/Side Walls	Round Aluminum
Pit Depth	5'- 0"	Entrance Frames (All Floors)	Brushed Stainless Steel
Clear Hoistway Size (W x L)	8'- 6" x 6'- 11"	Entrance Doors (All Floors)	Brushed Stainless Steel
Clear Car Size (W x L x H)	6'- 8" x 5'- 6" x 8'- 0" (7'- 4" clear to ceiling)	½" Finished Flooring	Not Included
Door Size (W x H)	3'- 6" x 7'- 0"	ADA Telephone Instrument	Included
Door Type	Single Speed Side Opening	Protective Pads & Hooks	KONE Standard Included
Control Room Location	KONE Integrated Controls No extra room needed	Certificate Frame	Included
Pit Ladders	Included	Exhaust Fan	Included
Fire Caulking, Patching	Included	Car Sills	Extruded Aluminum
Grouting of Entrance Sills	Not Included	Hall Door Sills	Extruded Aluminum
Sill Angles (EZ Grout Type)	Included	Cab Base	Stainless Steel
Counterweights Safeties	Not Included	Reveals	Extruded Aluminum
Independent Service	Included	Vent Slots	Non-Visible
Non Proprietary Equipment	Controls - KONE KCM831 Included Hoisting Means – Standard Steel Hoist Ropes Included	ADA Signage/Requirements	Included
Hoistway Access Switches	Top & Bottom Floor Included	Security Provisions	Not Included
Hoist & Safety Line Beams	Raw Material Included Install by Contractor	Fixtures	KONE KSS570 LED Fixtures, Car Direction Signs, Digital Car Position Indicator, Locked Service Cabinet, Door Hold Button, Independent Service Operation, Hall Position Indicator on Main Landing, Jamb Directional Lanterns
Emergency Power Provisions	Not Included	Fire Status Panel	Available
Regenerative Drive	Not Included	Remote Monitoring	Included
Manufacturer's Warranty	1 Year	Warranty Maintenance	12 Months Included
Wireless Phone Connection	Available	Initial Phone Monitoring	Included

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Site Safety Requirements/ Work by Others

Purchaser to provide the following in accordance with code requirements-
NOTE: All site preparation that is required to be in place prior to KONE's start must be ready two (2) weeks prior to the start of installation.

General

1. Provide sufficient on-site refuse containers for the disposal of the elevator packing material. Should sufficient containers not be provided, the removal of the elevator packing material shall become the responsibility of others.
2. Provide forklift for KONE's exclusive use during the unloading of the elevator at time of delivery.
3. Provide any cutouts to accommodate the elevator equipment (see notes below).
4. Provide and install finished elevator cab flooring prior to balancing cabs (coordinate with KONE). Cab flooring/weight allowance shall be in accordance with KONE's approved layouts. Owner must provide certification (to the elevator inspector at time of inspection) that flooring meets flame spread and smoke density requirements. (ASME A17.1/CSA B44 sec 2.14.2.1)
5. Provide permanent elevator lobby lighting, ceiling and flooring prior to inspection date.
6. Owner must provide certification (to the elevator inspector at time of inspection) that owner-supplied elevator interior finishes meet flame spread and smoke density requirements (ASME A17.1/CSA B44 sec. 2.14.2.1). In the case of using glass, transparent or translucent plastic panels for car interiors, they shall meet the requirements of ASME A17.1/CSAB44 sec. 2.14.1.8, ANSI Z97.1/ CGSB 12.1 in Canada.
7. Provide cutting/ coring of all openings and penetrations required to install hall push buttons, signal fixtures, wiring duct and piping, and sleeves. Sleeves will be required in the hoistway wall for EACH elevator.
8. Provide any repairs such as grouting, patching and painting made necessary by such cutting/ coring. Provide fire caulking around all fixtures and as needed to satisfy NFPA 70 article 300.21, or any applicable local code.
9. Please note that none of the elevator components are weather-proof and that the elevator entrances do not seal the hoistway from inclement weather. The entire elevator, hoistway, and controls must remain protected from inclement weather prior to and throughout the installation.

Safety

10. Provide adequate, roll-able access (clear path without obstructions, walls, etc.) into the building for delivery of the elevator material. Clean, safe, secure and dry storage is required adjacent to the hoistway at grade level with minimum space of 20'x 20' [6m x 6m] per elevator.
11. Provide free-standing, removable, OSHA-compliant barricades capable of withstanding 200lb (890N) of force in all directions around all hoistway openings per OSHA 29 CFR 1926.502, and/or any applicable local code.
12. Provide and install full-covering entry protection as per local requirements and manufacturer's requirements. Protection to be made of nylon mesh or reinforced plastic, at all hoistway openings to prevent materials or tooling from falling into the elevator shaft during installation per Federal OSHA requirements listed in 29 CFR 1926.502(j). In Canada, where required by Provincial regulation, enclose the front of the hoistway with removable hoarding or screening to prevent material from entering the hoistway. Design and install entrance protection in such a way as to allow quick accessibility in and out of the hoistway.
13. Provide two (2) lifeline attachments at the top, front of the hoistway. Each must be capable of withstanding a 5000 lb [2250 Kg] load per OSHA 29 CFR 1926.502, or any applicable local code. For machine-room-less applications, provide attachments as described above, or install KONE-provided 5" x 5" x 3/8" (127mm x 127mm x 9.6mm) tube steel lifeline beam in the elevator hoistway overhead 10 inches (254 mm) from front of hoistway to center line, with bottom of lifeline beam at same elevation as bottom of hoisting I-beam. Lifeline tube steel supplied by KONE by request at no additional cost. Engineering details, attachment details and/or modifications, or any beam(s) alterations in the field for installation is by others.
14. Provide proper lighting in all work areas and stairways, including access to all floors and machine rooms per OSHA 29.CFR1926.1052 or any applicable local code.
15. Provide and maintain 6-foot (1800 mm) clear work area in front of all entrance openings per OSHA 29.CFR1926.502 or any applicable local code.

Hoistway

16. Provide a clear and plumb hoistway of size shown on approved KONE final layout drawings. Any variations from the detailed dimensions may not exceed 2" [50 mm] greater and may not be less than the clear dimensions detailed. (Tolerance: -0" + 2" [-0 mm +50 mm]).
17. Provide hoistway ventilation per code requirements (eg, IBC sec 3004.1). For proper equipment operation, the machine space in machine room or at the top of the hoistway must maintain a temperature between 41° F [5° C] and 104° F [40° C]. Maximum allowed humidity is 95% non-condensing.
18. Provide any partitions between common hoistways if applicable.
19. In cases where multiple elevators are in a common hoistway, and the counterweights are located between elevators, the entire length of counterweight runway must be guarded. The guard shall extend at least 6 inches (150mm) horizontally beyond each counterweight rail. The guard shall be made from wire-mesh material equal to or stronger than .048-inch diameter wire with openings not exceeding 1/2 inch (13 mm), securely fastened to keep the guard taut and plumb. (ASME A17.1/CSA B44: §3141.7. General Requirements.)
20. On applications where working platforms are required, working platforms provided shall comply with the

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requirements of the current ASME A17.1 / CSA-B44 code edition in effect at the time of installation and /or any applicable local code.

21. Provide adequate support for guide rail brackets from pit floor to the top of the hoistway. Locate rail backing per KONE final approved layout drawings. When maximum bracket span is exceeded, additional support shall be provided at purchaser's expense. Any bracket mounting surface that is not in line with the clear hoistway dimension detailed on the approved KONE final layout drawings may need to be corrected to meet the proper dimension at purchaser's expense.
22. If guide rail brackets are to attach to steel, ensure all brackets are installed prior to applying fireproofing to the steel. Otherwise, removal and reapplication of fireproofing will be at purchaser's expense.
23. All offsets, ledges or projections within the hoistway shall be addressed in accordance with applicable local code. All offsets, ledges or projections within the hoistway greater than 4 inches (100mm) must be tapered to not less than 75 degrees (ASME A17.1/CSA B44 sec 2.1.6.2). Maximum ledge or projection is 2 inches (50mm) in California and District of Columbia.
24. If concrete block wall construction, refer to the approved KONE final approved layout drawings for proper installation of rail bracket attachments. Inserts provided by KONE unless otherwise noted on the approved KONE final approved layout drawings. Insert type must be approved by KONE. Concrete masonry units, mortar and grout, shall conform to IBC 2000 or any applicable local code. Concrete masonry units shall have a minimum compressive strength of 1500 PSI (10.5 MPa). Mortar and grout shall have a minimum compressive strength of 2000 PSI (13.8 MPa).
25. KONE entrance jambs are non-ferrous and material may not be attached to them (i.e. fire doors/curtains).
26. Arrange for entrance walls to be constructed at the time doorframes and sills are installed to facilitate timely installation of hall fixture faceplates. Entire front wall must be left open at top and bottom landings until elevator equipment is installed. Intermediate landings must have rough openings of the size and location shown on KONE final approved layout drawings to allow installation of entrances. All entrance openings must be aligned vertically. Adequate support for entrance attachment points shall be provided at all landings. Any marble, stone or similar wall material must be prepared after the entrance frames are installed. Provide corridor lines for any marble or "special finish" walls.
    NOTE: If concrete block wall construction- to prevent overloading entrance frames, top of entrances should not receive more than one row of block. A lintel must be installed to support additional rows of block.
27. Provide elevator landings suitably prepared to accept entrance sill installation per KONE final layout drawings. Grouting to be done by purchaser after sills are installed.
    NOTE: Traditional angle or concrete sill support is not required.
28. Provide finished-floor height marks visible from hoistway openings at all landings minimum one week prior to beginning entrance installation. Placing floor height mark on hoistway wall is desirable. Complete "Contractor Verification Form of Sill to Sill Heights and Remote Machine Piping," CONSTR-07-0675.
29. Fire service access elevators per code requirement (IBC 406.3.1) shall be provided with hoistway lighting per code requirement (IBC 3007.6.2). The hoistway lighting shall illuminate the entire height of the hoistway and shall be located such that it does not interfere with the operation of the elevator or reduce any clearances below applicable code requirements. (applicable only in jurisdictions enforcing the IBC Building Code)
30. For elevators installed in jurisdictions enforcing IBC 2012 and later editions: Fire Service Access Elevators require both a Normal Power Source and a Type 60/Class 2/Level 1 Standby Power Source for the following: elevator equipment, elevator hoistway lighting, elevator machine room HVAC equipment and elevator controller cooling equipment (per IBC 406.3.1 and 3007.9).
31. Provide suitable, permanent lighting for control space with light switch located within 18" [457 mm] of strike jamb side of control space door where practical. Electric lighting shall have a minimum lighting intensity of 200 lx (19 fc) at the floor level. When permitted by state and local code the light switch should also control the machine space lighting if control space is adjacent to the hoistway at the top landing.
32. If the control space is located remote from the elevator hoistway top landing the following may apply:
    a. If applicable, provide machine space access door of the size and in the location shown on the KONE final layout drawings. The access door shall be secured against unauthorized access. It shall be self-closing, self-locking and operable from the inside without a key.
    b. Provide suitable lighting in or above the machine space access with light switch located within 18" [457 mm] of strike jamb side of access space door where practical. When permitted by state and local code the light switch should also control the machine space lighting.
    c. Conductors and cables located outside of the elevator hoistway, machine space and control space, that provide normal or standby power, car lighting power, car ventilation power, car heating power, car air conditioning power, control signals, communication with the car and fire/heat-detecting systems control signals to Fire Service Access Elevators, shall be protected by construction having a fire-resistance rating of not less than 2 hours. (APPLICABLE ONLY IN JURISDICTIONS ENFORCING THE IBC BUILDING CODE OR ANY APPLICABLE LOCAL CODES.)
    d. In cases where a battery lowering device is provided, control closet may not be adequate. Please consult KONE representative.
33. Provide and install GFCI-type receptacle located at machine in the top of the hoistway or in machine room as applicable

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(NFPA 70 article 620.85 or CEC article 38.85 whichever is applicable).

34. Provide and install light switch located at manual brake release location: may also be required in control space per local jurisdiction.
35. Where a single elevator is installed in a hoistway and a portion of the travel extends higher that 11m (36 ft.) between entrances (single blind hoistway), emergency door(s) must be provided. Emergency doors and their electrical contacts shall comply with the current ASME A17.1/CSA-B44 code edition in effect at the time of installation and/or any applicable local code. ASME A17.1/CSA-B44 Section 2.11.1.2 covers "Emergency Doors in Blind Hoistways" and Section 2.26.2 covers "Electrical Protective Devices". Each emergency door must be provided with an electrical contact with minimum UL/CSA NEMA A300 rating suitable for use in a 230VAC @ 3 amp circuit. Consult KONE representative if there are any questions concerning the code requirements.

Pit

36. Provide a legal, dry and clean pit with level pit floor, built per KONE final layout drawings. Pit shall be reinforced to sustain vertical forces detailed on KONE final layout drawings (vertical forces detailed are two times the static loads.)
37. Sumps and/or sump pumps (where permitted) located within the pit may not interfere with the elevator equipment. Sumps to be covered with flush mounted, non-combustible cover capable of withstanding 150 lbs per square foot (7 kPa). The sump pump/drain must, at minimum, remove 3,000 gal/h (11.4 m3/h) per elevator.
38. Provide a pit light fixture with switch and guards with an illumination level equal to or greater than that required by ASME A17.1/CSA B44 2000, or applicable version. Recommended to provide minimum 4-foot double tube fluorescent fixture, with suitable guard and mounted to rear wall of pit per KONE installation representative's direction.
39. Provide a dedicated pit circuit with GFCI-protected 15 or 20-amp 120V AC duplex outlet. Location to be coordinated with the KONE project team using the KONE final approve layout drawings (NFPA 70 article 620.850R; CEC article 38.85 whichever is applicable).
40. Provide non-GFCI-protected single receptacle for sump pumps (NFPA 70 article 620.85, NFPA 70 article 620.85 or CEC article 38.85 whichever is applicable).
41. Pit ladder to be constructed of non-combustible material extending from pit floor to 48" [1200 mm] above the sill of the access landing. Pit ladder is supplied by KONE with EcoSpace units; provided by purchaser on other KONE products unless otherwise noted on the layout drawing. Locate per KONE final layout drawings. Coordinate ladder sizing and location with KONE representative to assure proper fit in hoistway.

Electrical

42. US Applications - Purchaser provides in accordance with National Electrical Code, NFPA 70 (NEC) Article 620 or any applicable local code.
43. Canadian Applications – Purchaser provides in accordance with Canadian Electrical Code, C22.1 Section 38 or any applicable local code.
44. Provide for all electrical branch circuits/disconnects to be labeled (NFPA 70 article 620.54 / 620.53 / 620.51d , CEC articles 38.54/ 38.53/ 36.51d).
45. Provide 480/208 VAC (USA) or 575/208 VAC (Canada) three-phase permanent power, including piping, wiring and fused disconnect, to controller location to facilitate elevator installation prior to start of project.
46. Provide 220 VAC single-phase temp. power and 115 VAC single-phase temp. power, of permanent characteristics at each elevator landing for lighting and installation method tools. Locate connection points at elevator hoistway. Consult your KONE representative for confirmation of location and type of temporary power.
47. When generator is used to provide 3-phase 480/ 208 VAC (USA) or 575/208 VAC (Canada) power for installation, purchaser to accept change notice for additional costs, estimated locally by installing office, to cover inefficiencies and any damages resulting from installing without permanent power present.
    NOTE: Our elevator controllers require Wye configuration transformers. It is also the responsibility of the purchaser to provide consistent three-phase voltages balanced within +/-10% when measured phase-to-phase and +/-10% when measured phase-to-ground.
48. Provide a dedicated 115VAC, 20 amp circuit in the fire command room piped and wired to the lobby panel where applicable.
49. Provide two (2) dedicated 15 amp 120V AC fused service with ground (supplied through automatic emergency lighting supply if available in building) connected to each elevator signal control cabinet; one for car lighting, and one for system communications device. Must include the means to disconnect this service and lock-off in the "open" position (NFPA 70 article 620.22 and 620.53 or CEC article 38.22 and 38.53).
50. Provide separate 115 VAC 15 amp branch circuit for KGC (KONE Group Control), when specified, powered by building emergency power system, when applicable.
51. Provide separate 115 VAC 15 amp branch circuit for Polaris (Destination Control System) shaft power when specified, powered by building emergency power system, when applicable.

Control Space/ Machine Room

52. Provide a legal control space/ machine room with access as indicated on the KONE final layout drawings. To include a temporary or permanent door that can be locked from outside. Permanent door must be self-closing, self-locking, and require a key to open from outside. Must have adequate temporary or permanent lighting for installation purposes. For

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proper equipment operation, the temperature in the control space must maintain between 41° F [5° C] and 104° F [40° C]. Maximum allowed humidity is 95% non-condensing.

53. Provide safe and convenient access to control space/machine room including provisions for necessary lighting for access path (ASME A17.1/CSA B44 sec 2.8.1, ASME A17.1/CSA B44 sec 2.7.3)
54. If control space is adjacent to the hoistway, provide all applicable sleeves, or penetrations, located per control space plan view on the KONE final layout drawings.
55. Provide a clean and dry elevator machine room.
56. If applicable, provide a governor access door of size and location shown on the KONE final layout drawings. The access door shall be secured against unauthorized access. It shall be self-closing, self-locking and operable from the inside without a key.
57. Provide suitable lighting for control space with light switch located within 18" [457 mm] of strike jamb side of control space door where practical. When permitted by state and local code the light switch should also control the machine space lighting if control space is adjacent to the hoistway at the top landing.
58. Provide dedicated GFCI-protected 120VAC 20-amp duplex (15 amp in Canada) outlet next to each signal control cabinet.
59. KONE KRMS form shall be fully executed and returned to KONE one (1) week prior to inspection.
60. Provide a single means of disconnecting all ungrounded main power conductors for each elevator by an enclosed, externally operable, fused motor circuit switch with UL/CSA Class RK1 fuses. Must be lockable in the open position. This disconnecting means shall disconnect the normal power service as well as emergency power service, when provided.
    Note 1: If a battery-powered rescue device is required, the above-mentioned disconnect must have an auxiliary contact monitored by elevator controller that is positively opened mechanically and is normally closed (NC) when the main power is in the ON position, and is normally open (NO) when power is in the OFF position.
    Note 2: If a battery-powered rescue device is required and a separate shunt trip breaker which is subject to either the hoistway or control space sprinkler system is provided, the shunt trip breaker must have an auxiliary contact that is positively opened mechanically and is NC when the main power is in the ON position. NOTE: Shunt trip not allowed in Canada and some US jurisdictions
61. Provide a Direct-in-dial (DID) analog phone line, activated at least one week prior to inspection, terminated at the appropriate phone jacks in the elevator machine room. GC/ Owner may elect to have a separate analog line installed (one per elevator), or GC/ Owner may elect to provide DID lines from an Analog Station Card in the building's PBX system. If GC/Owner provides a Direct-in-Dial analog phone line or lines off an existing PBX phone system, a backup power source must also be provided. All phone and associated equipment provided by GC/ Owner shall be in compliance with the requirements of ASME A17.1/ CSA B44, local codes and applicable law, as amended.
62. Provide all fire alarm initiating signals as required by all national, state and local codes for termination at the primary elevator signal control cabinet in each group.
63. Provide emergency power transfer switch and power change pending signals as required; 2 normally open dry contacts from transfer switch to controller (2 pairs plus ground wire). One contact closes to signal emergency power is present, the other contact closes to give 30 second pre-signal prior to transfer switch change. Termination of these wires is at the primary elevator signal control cabinet in each group (2 pairs plus ground wire.)
64. Furnish and install smoke detectors and fire operation per ASME A17.1/CSA B44 sec 2.27.3.2, NFPA 72; one for lobby detector, machine room detector, hoistway detector (hoistway detector requirement determined by local code), and one for all grouped non-lobby detectors are required. Provide normally-closed dry contacts, with wiring, to controller for each group listed above.
65. Provide and install smoke detector in hoistway as required per local codes, and in all elevator lobbies, machine room and controller space.
66. Provide heat detectors and "shunt-trip operation" when sprinklers are to be provided in machine room or hoistway, (ASME A17.1 sec 2.8.2.1.2, NFPA 13 sec 4-13.5, ASME A17.1 sec 2.8.2.3.1, ASME A17.1 sec 2.8.2.3.2, NFPA 72).
67. If Fire Status Panel or Security panels are required, all remote conduit runs from elevator equipment room/machine space to these panels shall be by others.
68. Non-elevator related piping and equipment is prohibited in machine room or hoistway (ASME A17.1/CSA B44 sec 2.8.1, ASME A17.1/CSA B44 sec 2.8.2).
69. Provide and mount at minimum a 10-pound, ABC-type fire extinguisher in control space (ASME A17.1 sec 8.6.1.6.5). (Not required in Canada)

KONE Integrated Control Solution (ICS)

70. Provide a completely open front wall at top landing with access as indicated on the KONE final layout drawings. Must have adequate temporary or permanent lighting for installation purposes. NOTE: The lobby side of the ICS control cabinet must be faced with 2 layers of dry wall to comply with UL certification, regardless of front top FALD for details and wall type and minimum dimensions.
71. Provide environment for proper equipment operation during installation and after acceptance, the temperature at the top floor elevator lobby must maintain between 41° F [5° C] and 104° F [40° C]. Maximum allowed humidity is 95% non-condensing.
72. Provide safe and convenient rollable access to top floor elevator lobby area. (ASME A17.1/CSA B44 sec 2.8.1, ASME A17.1/CSA B44 sec 2.7.3)
73. Provide all applicable sleeves, or penetrations, located per ICS panel plan view on the KONE final approved layout drawings.
74. Provide a clean and dry elevator lobby at top landing.
75. If applicable, provide an access door of size and location shown on the KONE final layout drawings. The access door shall be secured against unauthorized access. It shall be self-

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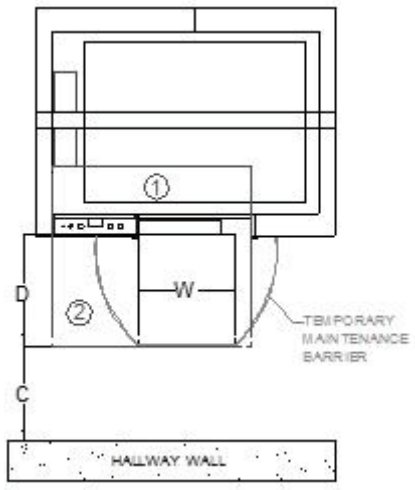
closing, self-locking and operable from the inside without a key (if seismic conditions exist)

76. Provide suitable lighting for ICS panel area with light switch located within 18" [457 mm] of elevator entrance door where practical. When permitted by state and local code the light switch should also control the machine space lighting.
77. Provide dedicated GFCI-protected 120VAC 20-amp duplex (15 amp in Canada) outlet next to each ICS panel control cabinet located as shown on layouts.
78. Provide a single means of disconnecting all ungrounded main power conductors for each elevator by an enclosed, externally operable, fused motor circuit switch with UL/CSA Class RK1 fuses. Must be lockable in the open position. This disconnecting means shall disconnect the normal power service as well as emergency power service, when provided. Note 1: If a battery-powered rescue device is required and a separate shunt trip breaker which is subject to either the hoistway or control space sprinkler system is provided, the shunt trip breaker must have an auxiliary contact that is positively opened mechanically and is NC when the main power is in the ON position. NOTE: Shunt trip not allowed in Canada and some US jurisdictions.
79. Provide 480/208 VAC (USA) or 575/208 VAC (Canada) three-phase permanent power, including piping, and wiring from fused disconnect, to junction box located in hoistway at top landing to facilitate elevator installation.
80. Provide a Direct-in-dial (DID) analog phone line, activated at least one week prior to inspection, terminated at the top landing ICS location. GC/ Owner may elect to have a separate analog line installed (one per elevator), or GC/ Owner may elect to provide DID lines from an Analog Station Card in the building's PBX system. If GC/Owner provides a Direct Dial analog phone line or lines off an existing PBX phone system, a backup power source must also be provided. All phone and associated equipment provided by GC/ Owner shall be in compliance with the requirements of ASME A17.1/ CSA B44, local codes and applicable law, as amended.
81. Provide all fire alarm initiating signals as required by all national, state and local codes for termination at the primary elevator ICS Panel in each group.
82. Provide emergency power transfer switch and power change pending signals as required- 2 Normally open dry contacts from transfer switch to primary elevator ICS panel (2 pairs plus ground wire). 1 Contact closes to signal emergency power is present, 1 contact closes to give 30 second pre-signal prior to transfer switch change.
83. Furnish and install smoke detectors and fire operation per ASME A17.1/CSA B44 sec 2.27.3.2, NFPA 72; one for lobby detector, machine room detector, hoistway detector, and one for all grouped non-lobby detectors are required. Provide normally-closed dry contacts, with wiring, to primary elevator ICS Panel for each group listed above.
84. Provide and install smoke detector in hoistway as required per local codes, and in all elevator lobbies.
85. Provide heat detectors and "shunt-trip operation" when sprinklers are to be provided in top floor elevator lobby or hoistway, (ASME A17.1 sec 2.8.2.1.2, NFPA 13 sec 4-13.5, ASME A17.1 sec 2.8.2.3.1, ASME A17.1 sec 2.8.2.3.2, NFPA 72).
86. Non-elevator related piping and equipment is prohibited in hoistway (ASME A17.1/CSA B44 sec 2.8.1, ASME A17.1/CSA B44 sec 2.8.2).

87. Fire Alarm Initiating Device (FAID). FAID is a requirement of A17.1/B44, rules 2.27.3.2.1 (b) and 2.27.3.2.2 (b).



	USA	CANADA	COMMENT
W	30"	1m	NEC2014, CEC2015
D	36"	1m	NEC2014, CEC2015
C	min 36"	min 914mm	Minimum recommended. Consult ADA requirements for exact building clearance

1. ICS Control Enclosure is vented into the hoistway; therefore, a Fire Alarm Initiating Device (FAID) is required in this portion of the control space.
2. A Fire Alarm Initiating Device (FAID) is required in the lobby area to protect the control space when ICS Control is open.

KONE Access Control (If provided)

88. Provide two (2) dedicated 15 amp 120VAC fused service with ground in the control space connected to designated ACS cabinet(s) per the ACS wiring diagrams. Must include the means to disconnect this service and lock-off in the 'open' position (NFPA 70 article 620.22 and 620.53or CEC article 38.22 and 38.53).
89. If Mobile Device feature is provided, the customer provides the site-specific configuration cards and two valid mobile credentials for testing to KONE during installation.
90. Provide IP addresses per KONE LAN schedule. IP addresses are required, but not limited to, KONE Group controllers (KGC), KONE Interface Controllers (KIC), LAN Destination

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Operating Panels (DOP), LAN Destination Guidance Displays (DGD) and LAN Infoscreen

Turnstile Integration for KONE Destination (If provided)

91. Provide one (1) dedicated GFCI protected 120VAC 20-amp (15 am in Canada) duplex outlet for PeopleFlow Servers per the wiring diagrams.
92. KONE recommends a minimum 100 Mbit/s Ethernet for each of the following application(s): Security Integrated Touchscreen/Keypad Destination Operating Panels, Monitoring System, Multi-Media Equipment, and Card Readers.
93. Provide IP addresses per KONE LAN schedule. IP addresses are required, but not limited to, KONE Group controllers (KGC), KONE Interface Controllers (KIC), LAN Destination Operating Panels (DOP), LAN Destination Guidance Displays (DGD) and LAN Infoscreen.
94. Provide and install the required number and size conduit runs from elevator hoistways to turnstile banks. See turnstile integration specifications for site specific requirements. .

3rd Party Access Integration/Security (If provided)

95. Our proposal includes KONE logic and provisions for the specified Touchscreen(s), Keypad Destination Operating Panel(s), Monitoring System(s) and Multi-Media Equipment.
96. Card Readers and/or any additional required hardware & software for proper functionality of access control/security system(s) shall be furnished and installed by others.
97. A designated 115V 15A circuit is required at each of the remote monitoring stations.
98. Any required interface software to ensure proper communication between KONE control system(s) and building system(s) shall be the responsibility of others.
99. KONE recommends a minimum 100 Mbit/s Ethernet for each of the following application(s): Security Integrated Touchscreen/Keypad Destination Operating Panels, Monitoring System, Multi-Media Equipment, and Card Readers.

KONE Destination Dispatching (If provided)

100. Provide one (1) dedicated 15 amp 120V AC fused service with ground (supplied through automatic emergency lighting supply if available in building) connected to each elevator signal control cabinet for shaft power. Must include the means to disconnect this service and lock-off in the "open" position (NFPA 70 article 620.22 and 620.53 or CEC article 38.22 and 38.53).
101. When Polaris (Destination Dispatch) is used, provide one (1) separate 115 VAC 15 amp branch circuit for KGCs (KONE Group Controls), one for each KGC, powered by building emergency power system, when applicable.
102. Provide IP addresses per KONE LAN schedule. At a minimum, provide two IP addresses for each elevator group.

KONE E-Link (If provided)

103. A designated 115V 15A circuit is required at each of the remote monitoring stations.
104. KONE recommends a minimum 100 Mbit/s Ethernet for each of the following application(s): Security Integrated Touchscreen/Keypad Destination Operating Panels, Monitoring System, Multi-Media Equipment, and Card Readers.
105. Provide IP addresses per KONE LAN schedule. IP addresses are required, but not limited to, KONE Group controllers (KGC), KONE Interface Controllers (KIC), LAN Destination Operating Panels (DOP), LAN Destination Guidance Displays (DGD) and LAN Infoscreen.

KONE RemoteCall (If provided)

106. Provide one (1) dedicated CFCI protected 120VAC 20- amp duplex (15 am in Canada) outlet per the RemoteCall wiring diagrams.
107. KONE recommends a minimum 100 Mbit/s Ethernet for each of the following application(s): Security Integrated Touchscreen/Keypad Destination Operating Panels, Monitoring System, Multi-Media Equipment, and Card Readers.
108. Provide one (1) public IP v4 address that can be accessed via the Internet.
109. Provide IP addresses per KONE LAN schedule. IP addresses are required, but not limited to, KONE Group controllers (KGC), KONE Interface Controllers (KIC), LAN Destination Operating Panels (DOP), LAN.