

ELAC & South Gate Educational Center- Campus Standards Matrix

Note: Campus preferences are indicated first followed by additional manufacturers which are being considered by the College and/or the District).

This Campus Standard Matrix is to be used as a guide. In case there is a valid need to deviate from these Standards, a request will need to be submitted in writing and a formal written approval will be required by the Campus Maintenance & Operations (M&O) and/or IT Department.

This is a living document and is updated regularly; therefore, one should check with the M&O Department for the most updated version before proceeding with usage of this document.

These design Standards are not to be deviated from and for the purpose of Value Engineering unless formally approved by M&O or IT.

.	STANDARD	CAMPUS ALTERNATIVES
1	DIV. 07: THERMAL & MOISTURE PROTECTION	
2	ROOFING	
3	GENERAL	Modified Bitumen 30-yr Warranty, 4- ply. Build-up roof multi-ply SARNAFIL , Tremco or Johns Manville Corporation,
4	FIREPROOFING	
5	GENERAL	Monokote, KAFCO, PDI
6	DIV. 08: OPENINGS	
7	DOORS & FRAMES	Metal doors and frames required
8	HARDWARE	
9	KEYS - *Coordinate/verify with locksmith*	Schlage SFIC, 7 Pin, Everest 29 R
10	CYLINDERS	ELAC uses Schlage housings prepped for Small Format Interchangeable Core (SFIC). Use Schlage brand only, do not substitute.
11	LEVER LOCKSETS	Avoid Cylindrical. Where possible, use Schlage mortise locksets with satin-stainless anti-microbial finish. Example: L9000-06N-630AM (L =mortise lockset, N =escutcheon, 630 = satin stainless, AM = anti-microbial).
12	CABINET LOCKSETS	OLYMPUS NOTE: Required at all cabinet door & drawers
13	HINGES	HAGER, IVES, MARKAR 300 SERIES, CONTINUOUS SS
14	EXIT DEVICES	VON DUPRIN-98 SERIES, CD, XP @ EXTERIOR AX (ADA Panic Device series) Avoid using Vertical Rods. Use Rim Exits from 98 series Von Duprin. All exit devices shall have: AX - ADA Compliant PA - Pushpad Armor 630AM finish For non-electrified locksets, have CD - cylindrical dogging
15	KEY REMOVABLE MULLION POST for double door exit device opening	(NON FIRE) VON DUPRIN KR4954, (FIRE RATED) VON DUPRIN KR9954
16	CLOSER	LCN-4040 EDA or HEDA, XP, Swing to Wall
17	ADA COMPLIANT PEDESTRIAN SWING DOOR OPERATOR**MUST BE INTEGRATED WITH LENEL	Record 8100 series automatic door opener, surface mount installed application, for doors weighing less than 350 LBS.**Must be integrated with Lenel access control system.
18	CARD READER	Card reader models shall be: 920PBPTK20000 (standard) and 921PBPTK20000 (keypad) HID-ICLASS SE 13.56 MGHZ, R40 Typ. Requires ICLASS Standard Capability, NOTE: Required at all building entries, classroom doors (if more than one door, then at least one required), all building utility rooms (electrical, mechanical, BDF/IDF, Janitorial closets), staff restrooms, staff/faculty offices. Refer to latest
19	ELECTRIC STRIKES: RIM EXIT DEVICES	HES-9500 FRAME MOUNTED, HES-9600 MULLION MOUNTED

	STANDARD	CAMPUS ALTERNATIVES
20	ELECTRIC CYLINDRICAL LOCKS	Avoid using Electrified Cylindrical and Electrified Strikes style locksets. Use Electrified mortise locksets and Quiet Electric Latching Rim Exit devices instead. All electronic access control equipment (except card reader) shall be connected with molex style connectors. Electrified locksets shall also have RX switch built in. NOTE: NO cutting Fire Door frame shall be PERMITTED
21	ELECTRIC STRIKES: MORTISE LOCKS	Avoid using Electrified Cylindrical and Electrified Strikes style locksets. Use Electrified mortise locksets and Quiet Electric Latching Rim Exit devices instead. All electronic access control equipment (except card reader) shall be connected with molex style connectors. Electrified locksets shall also have RX switch built in. NOTE: NO cutting Fire Door frame shall be PERMITTED
22	KEY SYSTEMS	See comments above. ELAC has standardized on Schlage key system.
23	DIV. 09: FINISHES	
24	FLOOR/ WALL FINISHES	
25	CARPET	Tandus 36X36 (District contract in effect)
26	RESILIENT FLOORING	FORBO, Estri, <i>Armstrong, Mannington, Parterre, International</i>
27	CARPET MODULES	Tandus 36X36 (District contract in effect)
28	RESILIENT TILES/SHEET FLOORING	FORBO, Estri, <i>Armstrong, Mannington, Parterre, International</i>
29	HARD SURFACE (GYMNASIUM)	MONDO, <i>Aacer, Noble House, Teraflex,</i>
30	WALL BASE	Roppe, <i>Burke</i>
31	RAISED FLOORING SYSTEMS	Tate, <i>Interface AR, Maxcess, Smith</i>
32	PORCELAIN TILE-CERAMIC	Specific to design standard
33	WALL COVERINGS	Ultra Hide, <i>Vista Paint, Benjamin Moore</i>
34	PAINT	Vista, Dulux, ICI, <i>Dunn Edwards, Frazee, Sherwin Williams</i>
35	COATINGS	Dulux, ICI, <i>Master Coating, Technologies, Scuffmaster</i>
36	CEILING SYSTEMS	
37	ACOUSTICAL TILE	Armstrong, <i>USG, Statfor, Acousticolor 2X4 preferred</i> NOTE: Required 2x4 tiles
38	GRID SYSTEM	Armstrong, <i>USG, Stratford, AcoustiColor 2X4 preferred</i>
39	DIV. 10: SPECIALTIES	
40	SOAP & PAPER TOWEL DISPENSERS	CLEA, <i>BRADLEY, BOBRICK</i>
41	HAND DRYER	BOBRICK, Trim Line-Surface-Mounted ADA dryer B-7120 (22-ga mild steel zinc plated w/ high-gloss white epoxy paint finish), Xlerator (ADA compliant), Saniflow (ADA compliant)
42	BATHROOM PARTITIONS	BOBRICK, Bradley, Trespa, Santana, Flush metal, Accurate NOTE: Required Water & Fire Resistant, Solid Color Reinforced Composite.
43	RESTROOM ACCESSORIES	BOBRICK, Bradley, Xlerator, American
44	LOCKERS	Debourgh, Lyon, Penco, Republic
45	STORAGE/TRANSFER	Tyga-Box System or EQUAL
46	FIRE EXTINGUISHERS/ CABINET W/LOCKS	
47	GENERAL	Larsens, Potter Roeme, JL Industries (KEY # LL24) NOTE: Required Semi or fully recessed cabinets
48	DIV. 11: EQUIPMENT	
49	FOOD SERVICE EQUIPMENT	Hobart, Wolfe, Dwyer WITH SERVICE WARRANTY 1-5 YRS
50	KITCHEN, APPLIANCES	KitchenAid, <i>Frigidaire, Samsung, Chambers,</i>
51	DIV. 12: FURNISHINGS	
52	BLEACHERS	

	STANDARD	CAMPUS ALTERNATIVES
53	INTERIOR, GYMNASIUM, TELESCOPIC, STND.	Irwin Telescopic, Studisteel, Southern Bleacher Company
54	WINDOW COVERING	
55	SOLAR SHADE	Mecho Shade, <i>Levolor, Suntec</i>
56	BLINDS - VERTICAL/ HORIZONTAL	Levelor, <i>Rivera, Hunter-Douglas</i>
57	BIKE RACK	
58	GENERAL	Brandir, Cycloops (frames to be of a lockable design)
59	DIV. 13: SPECIAL CONSTRUCTION	
60	MODULAR STRUCTURES	GE, Capital, Williams Scotsman, Aurora
61	DIV. 14: CONVEYING EQUIPMENT	
62	STANDARD ELEVATORS	Mitsubishi, Kone, Schindler
63	ELEVATOR CAMERA	<p>If elevator manufacturer offers CAT6 (or higher grade) network cable in travel cable options, that cable should be ordered with the elevator and an Axis camera for IP direct connection without media conversion used so long as the total cable run is under 290 ft from IDF to elevator camera. If the copper is over 290', SM fiber in the elevator travel cable with media conversion will also allow Axis IP camera usage.</p> <p>If elevator manufacturer does not offer either fiber or CAT6 (or higher grade) data travel cable options, use Sony or Panasonic analog camera with cable service loops, duplex power, and media converter located inside can mounted to wall in elevator machine room. In that can convert from analog (e.g. coax) to digital (e.g. CAT cable to match building CAT cable or SM fiber - either way homerun from can to floor's IDF).</p> <p>NOTE: Required in every elevator cab, including service elevator</p>
64	CONTROLLER	<p>MOTION CONTROLS.....</p> <p>NOTE: Required that controls are universal & not proprietary.</p>
65	ELEVATOR DOORS	GAL DOOR EQUIPMENT
66	ELEVATOR CAB LIGHT FIXTURE	ERIM FIXTURES
67	WHEELCHAIR LIFTS	Mitsubishi, Garaventa
68	EXIT STAIR EVACUATION CHAIRS	<p>Garaventa Evacuation chairs, EVACU-TRAC CD7 or better</p> <p>NOTE: Required at every exit stair, every floor.</p>
69	DIV. 21: FIRE SUPPRESSION	
70	HYDRANTS	James Jones or EQUAL
71	DIV. 22: PLUMBING	
72	PIPE	
73	DOMESTIC/POTABLE	C900 BLUE, COPPER K, #80 PVC
74	UNDERGROUND WATER IRRIGATION PIPING	Schedule 40 and Schedule 80 PVC ½" TO 3"
75	UNDERGROUND SANITARY PIPING	CAST IRON, SDR-35
76	ABOVE GROUND SANITARY PIPING	CAST IRON TYLER PIPE/DWV COPPER
77	PIPE TUBING AND FITTINGS	C-900, MEGA LUG FTGS APPROVED CI CONN FLANGE
78	STEEL PIPE FUEL GAS/NATURAL GAS	BLACK SCH 40 INDOOR ONLY W/ SIMILAR FTGS
79	STEEL PIPE WATER OR AIR	Galvanized Domestic Only NO SUBSTITUTE
80	BRASS PIPE	Red Brass, Schedule 40
81	COPPER TUBING	Type "K" or "TYPE L" GRADES ONLY, NO "M", No Substitutes
82	BRASS SCHEDULE 40 SOLDER JOINT FTG's	Domestic
83	SCREWED FITTINGS	Domestic

	STANDARD	CAMPUS ALTERNATIVES
84	GAS PIPING UNDERGROUND	POLY PIPE, STEEL TRANSITION, YELLOW TRACER WIRE, BUTT FUSION OR SOCKET
85	BUILDING DRAIN, WASTE & VENT	CAST IRON NO HUB, NO HUB COUPLINGS, CAST IRON, FTGS./DWV COPPER (Domestic ONLY)
86	PIPE AND FITTINGS	Standard D2751-88 Cast Iron, no-hub pipe and fittings (waste) (Domestic ONLY)
87	PLUMBING FIXTURES	
88	TOILET FIXTURES (Low Flow, Vitreous China)	American Standard, <i>Zurn, Kohler</i> , 1.28 GPF (Sloan valves-#111- 1.280ES0S-YO <i>Royal Optima</i>)
89	SINKS	American Standard, <i>Kohler, Zurn</i> (Vitreous China Lavatories)
90	KITCHEN SINKS	<i>Elkay, Kohler, Zurn, Franke</i> (Stainless Steel) (or as determined acceptable by ELAC)
91	SERVICE SINKS	Chicago Wall mount (Faucets & Sinks)
92	URINALS (Low Flow)	American Standard, <i>Sloan (valve) Kohler (china porcelain)</i>
93	URINALS (Waterless)	DO NOT USE
94	FAUCETS	Chicago/Brass Craft-automatic, OR MANUAL ONLY, NO ZURN OR SUBSTITUTE
95	FLUSH VALVES - TOILETS, URINALS	Sloan ONLY, MANUAL OR SENSOR...NO ZURN OR SUB, 1.28 GPF
96	DOMESTIC WATER HEATER	RHEEM, <i>BRADFORD WHITE</i> , Lochinvar NO AO SMITH
97	CIRCULATING PUMP	<i>GRUNDFOS</i> or <i>Honeywell</i> WITH EQUAL TIMERS IF NECESSARY/NO SUBSTITUTE
98	PLUMBING VALVES AND ACCESSORIES	
99	GENERAL	NIBCO, <i>Kohler, Sloan</i> , DOMESTIC PRODUCT ONLY, LEAD FREE WHERE APPLICABLE/ NO SUBSTITUTE
100	EXPANSION TANKS	<i>AMTROL, Watts</i>
101	BACKFLOW PREVENTERS	<i>Watts, Zurn/WILKINS</i>
102	EXTINGUISHERS/CABINETS	<i>Larsens, Potter Roeme, JL Industries</i> NOTE: Required Semi or fully recessed cabinets
103	CLEAN OUTS	<i>J.R. Smith, Zurn,</i>
104	FLOOR DRAINS	<i>J.R. Smith Model 2005Y (round top),</i>
105	TRAP PRIMERS	Sloan tail piece (use for system having low-flow fixtures) automatic or connect to flush valve
106	ROOF DRAINS	<i>J.R. Smith, Zurn, Josam</i>
107	BALL VALVES	NIBCO (BRASS, FULL PORT)
108	GATE VALVES	NIBCO (UNION BONNET, RAISED STEM)
109	GLOBE VALVES	NIBCO (BRASS)
110	CHECK VALVES	NIBCO (BRASS)
111	VALVES(WATER, BELOW GROUND)	STOCKHAM (CAST IRON FLANGED AWWA WITH OPERATING NUT)
112	BACKWATER VALVES	Zurn, JR Smith
113	DRAIN PUMPS	Well Pump, Peerless
114	PRESSURE REGULATOR	Watts
115	CHECK VALVES for 4" or larger line	Zurn
116	HOSE BIBB BOX	Stainless steel recessed w/ loose key handle, Acorn 8141/8102 NOTE: Required 2-3 exterior lockable hose bibs per elevation.
117	PISTON WATER HAMMER	MIFAB MWA Series
118	BOILER	Lockinvar, Raypack (NO Condensing Boilers)
119	EMERGENCY EYEWASH & SHOWER	
120	EMERGENCY EYEWASH & SHOWERS	<i>Haws, Bradley, Watersaver</i> NOTE: Floor drain required at every eye wash/emergency shower station.
121	WATER FOUNTAINS	

	STANDARD	CAMPUS ALTERNATIVES
122	DRINKING WITH BOTTLE FILLING	Haws, Halsey Taylor,
123	DIV. 23: HEATING, VENTILLATION & AIR CONDITIONING (HVAC)	(MUST HAVE BACNET CONTROL PANEL TO TALK TO CAMPUS NETWORK)
124	A/C UNITS, ROOF MOUNTED	(GAS ELECTRICS/HEAT PUMPS)CARRIER, YORK & TRANE, Daikin (McQuay)
125	A/C UNITS WALL MOUNTED	BARD, HEAT PUMPS, TRANE
126	AIR HANDLERS – CUSTOM	TEMTRON, UNITED METAL PRODUCTS, TRANE, ENERGY LABS, Daikin (McQuay)
127	AIR HANDLERS	CARRIER, YORK, TRANE, Daikin (McQuay)
128	HVAC HYDRONIC CONTROL VALVE	BELIMO TWO WAY
129	HVAC HEATING & COOLING CONTROL VALVE	BELIMO PICCV TWO WAY WITH RESERVING SWITCH
130	HVAC HYDRONIC PIPE FLANGE ADAPTER	OMNI,
131	MOTORS	BALDOR, GE, DAYTON
132	PUMPS	PACO, BELL & GOSSETT, ARMSTRONG
133	COOLING TOWERS	BALTIMORE AIR COIL, MARLEY, EVAPCO (STAINLESS STEEL)
134	OTHER FILTERS	AMERICAN, FAN & TRIDERN, 3-M
135	BOILER CONTROLS-HOT WATER	Lockinvar, Raypack, Parker
136	BOILER CONTROLS-STEAM	Parker
137	FAN COILS DX	Carrier, York, Trane,
138	COMPUTER ROOM AC UNITS	APC, LIEBERT, DATA AIRE
139	CHILLED WATER FAN COILS	Carrier, York, Trane, McQuay, Daikin
140	AIR COOLED CHILLER	Carrier, York, Trane, McQuay, Daikin
141	CENTRIFUGAL WATER-COOLED CHILLER	Carrier, York, Trane, McQuay, Daikin
142	SCREW-TYPE AIR COOLED CHILLER	Carrier, York, Trane, McQuay, Daikin
143	SCREW-TYPE WATER COOLED CHILLER	Carrier, York, Trane, McQuay, Daikin
144	SCROLL-TYPE AIR COOLED CHILLER	Carrier, York, Trane, McQuay, Daikin
145	CHILLER-GENERAL	Carrier, York, Trane, McQuay, Daikin
146	ABSORBTION CHILLER	Carrier, York, Trane, McQuay, Daikin
147	OTHER ABSORBTION CHILLER	BROAD, THERMAX
148	VENTILATORS AND EXHAUST FANS	COOK, GREENHECK
149	FIRE SMOKE DAMPER	BELIMO W/ END SWITCH TO COMMUNICATE TO EMS, RUSKIN AND KRUGER
150	VARIABLE FREQUENCY DRIVES	ABB, DANFOSS, TOSHIBA (With BACnet compatibility)
151	HYDRONIC PIPING	CARBON STEEL, SCH 80, INSULATED PVC PERMA PIPE, THERMACOR AND ROVANCO
152	AIR CONIDITIONING THERMOSTAT	TOTAL LINE, 3-HEATING/2-COOL/HEATPUM/DIGITAL 7 DAY PROGRAMMABLE PIN P 374-2800
153	THERMOSTAT LOCK BOX	HONEYWELL/LARGE OPQUE/PINTG 512B1007
154	DIV. 25: INTEGRATED AUTOMATION	
155	ENERGY MANAGEMENT SYSTEM	Alerton-Climattech (sole-source)
156	DIV. 26: ELECTRICAL	
157	ELECTRICAL FIXTURES	
158	INTERIOR LIGHT FIXTURES(florescent, LED, HID) No incandesce light fixture	Prudential, Lithonia, HE Williams, Lightolier
159	CONNECT WITH EMERGENCY LIGHTS	Alerton to emergency grid
160	EXIT SIGNS	LED, Active Safety™, Pentico, Lithonia, Exitronix
161	ELECTRONIC WIRELESS WALL CLOCKS	PRIMEX ONLY NO SUB
162	ELECTRICAL OUTLETS	NOTE: Required 2-3 dedicated lockable electrical outlets per elevation.
163	INTERIOR SUSPENDED LIGHTS	Prudential, Lithonia, Philips
164	LIGHTING/INDOOR-OUTDOOR	

	STANDARD	CAMPUS ALTERNATIVES
165	VANDAL PROOF LIGHTING FIXTURES	Rude, Stanco, Sequoia, BE, Lucalux, Matalux
166	LANDSCAPING FIXTURES	
167	EXTERIOR LIGHTS-PARKING LOT	LED (Lamp wattage to match existing)
168	LIGHT SENSORS	"Watt Stopper", LUTRON
169	PARKING LOT	Philips, Gardco, Gullwing LED GL 13 & GL 18
170	ATHLETIC FIELD	Musco, <i>Morris, Lithonia</i>
171	ELECTRICAL EQUIPMENT	
172	MAIN SWITCHBOARD	Square D, GE, Cutler Hammer. Selection to match existing
173	MAIN DISTRIBUTION SWITCHBOARDS	Square D, GE, Cutler Hammer. Selection to match existing
174	DRY TYPE TRANSFORMERS	Square D, GE, Cutler Hammer.
175	MAGNETIC MOTOR STARTERS	Square D, GE, Cutler Hammer.
177	SOFT START MOTOR STARTERS	Square D, GE, Cutler Hammer.
178	PANELBOARDS	Square D, GE, Cutler Hammer.
179	MCC (MOTOR CONTROL CENTERS)	Square D, GE, Cutler Hammer.
180	DRIVES	ABB, <i>Toshiba, Square D</i>
181	ELECTRICAL FINISH FACE PLATES	STAINLESS FINISH PLATES
182	ELECTRIC VEHICLES/ CHARGERS	
183	ELECTRICAL VEHICLES AND CHARGERS	STAINLESS FINISH PLATES
184	CHARGER Mfr	STAINLESS FINISH PLATES
185	EMERGENCY POWER SYSTEM-GRID MATRIX	
186	CONNECT WITH SUMP PUMPS	Alertron to emergency grid
187	CONNECT WITH CO2 SENSORS	Alertron to emergency grid
188	CONNECT WITH EMS/CMMMS	Alertron to emergency grid
189	EMERGENCY MANAGEMENT SYSTEM	
190	EMERGENCY MANAGEMENT SYSTEM	Alerton-Climatech
191	ENERGY MANAGEMENT SYSTEM	Alerton-Climatech
192	FIRE PROTECTION	
193	ELECTRONICS	Alerton
194	LIGHTING SUPPLIES	
195	LIGHT BULBS, FLOURESCNETS T-8's	Sylvania, GE, Phillips, 4100K, Min 80CRI, (Sylvania Preferred), LED
196	BALLASTS	Sylvania, <i>Phillips, GE</i> (Sylvania Preferred)
198	EMERGENCY POWER SYSTEMS	
199	GENERATORS	Onan, Caterpillar, APC, Kohler
200	UPS	APC, MGE, Schneider Electric (For BDF and IDFs, use rackmountable 5KVA APC or Eaton models with minimum 30min runtime at maximum UPS load, L6-30 plug, network card, 2 L6-30 rack PDUs per UPS, appropriate power cords, and all brackets).
201	DIV. 27: COMMUNICATIONS	
202	27 05 00 COMMON RESULTS FOR COMM	
203	Structured Cabling System Warranty	Minimum 25 year warranty
204	27 05 26 GROUNDING & BONDING	
205	Bus Bar	Lyncote XIT, <i>Chatsworth, Hargar</i>
206	27 05 28 PATHWAYS FOR COMM SYSTEMS	
207	EMT Conduits & Couplings & Connectors	Appleton, Crouse-Hinds
208	Conduit Supports	Kindorf, Unistrut, Thomas & Betts
209	Hangers & Cable Ties	Chatsworth Products, Cooper B-Line, Caddy, Mono
210	Metal Outlet Boxes - Double Gang, Extra Deep	Appleton, <i>Raco, Steel City</i>
211	Pull Boxes and Cabinets	Hoffman Enclosures, <i>Wire Guard</i>
212	Cable Tray	24" (MORE IF REQUIRED) CPI, Cooper B-Line, Panduit, Leviton, Homaco,

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213	27 05 43 UG DUCTS & RACEWAY FOR COMM	
214	Manholes	Utility Vault (Oldcastle), <i>Jensen, Brooks</i>
215	Pull boxes	Utility Vault (Oldcastle), <i>Jensen, Brooks</i> w/ Spring Loaded LID
216	MH/PB Hardware	INWESCO products
217	Conduits (Schedule 40 or Type C)	Carlson, Wiremold, Panduit
218	Detectable Warning Tape	Carlson
219	Pull, Rope 1700 lb tensile strength	Carlson
220	Bonding ribbon (In vaults)	INWESCO Cat 12A55
221	Bonding ribbon clamps (In vaults)	INWESCO Cat 12A56
222	Fargo Clamp	INWESCO Cat 12A57
223	Ground Rod	INWESCO Cat 12A60
224	Ground Inserts (Cast Bronze)	INWESCO Cat 12H69
225	Manhole Lids	Alhambra Foundry, <i>OPW manhole</i>
226	Manhole Ladders	Alhambra Foundry - Model A-3382 w/ A3383 Support bar
227	27 11 00 COMM EQUIP. ROOM FITTINGS	
228	Ladder Racks	24" CPI, Cooper B-Line, Panduit, Leviton, Homaco, Square D
229	Equipment Racks	APC NetShelter, <i>SIEMON VERSAPOD, V600, V800, Netshelter SX, Netshelter SV</i>
230	Wall-Mounted Cabinets	Cooper B-Line DAMAC
231	Cable Managers	VERTICAL MANAGERS: CPI 10" or 12" Evolution series; HORIZONTAL MANAGERS: SIEMON WM - 145-5, Chatsworth, Ortronics and APC
232	Fiber Optic Terminals (FOT's)-Housing	SIEMON RIC-3-72-01, <i>SIEMON RIC 3-48-01, SIEMON RIC 3-36-01, LIGHTSTACK LS-1V-01, LS-4V-01</i>
233	Fiber Terminal Adapters and Connectors	SIEMON RIC-FLC6-01, <i>LIGHTSTACK LS-12-LC-5V-01, LIGHTSTACK LS-12-LC-SM-01</i>
234	Plywood	Arch. Wood Protection, <i>Chemco, National Plywood Industries</i>
235	Fire Retardant Paint	Flamort Co., Inc., <i>FireNoMore International,</i>
236	Fire Retardant	International Fire Retardants, Inc. or EQUAL
237	Patch panels	PATCH PANELS: SIEMON ZXAS-PNL (F)-V48K, TERA Z6AS-PNL (A)-U48K, ZMAX ZSPNLAV48E
238	Cable Tags & Splice Labels	CABLE TAGS AND SPLICE LABELS: 3M, Panduit, Tech Products
239	Protector Panels	Circa, Emerson, CommScope, Cook
240	27 13 00 COMM BACKBONE CABLING	
241	Fiber Tube Cable (OSP and Riser)	SUMITOMO FUTUREFLEX: SM AND MM (MM ABF-50U OM4 or equal)
242	Fiber Cable - OSP and Riser	Sumitomo Electric FutureFLEX ABF-50U OM4 or equal
243	Copper OSP Cable	Siemon, General Cable, Superior Essex, CommScope
244	Splice Cases - Outside	Preformed, <i>3M, PSI</i>
245	Splice Cases - Inside	Reliable, <i>3M</i>
246	Splice Bay & Relay Labels	3M, 5000 Scotchlite Decal System
247	ABF Tube Clips	Sumitomo Electric FutureFLEX
248	27 15 00 COMM HORIZONTAL CABLING	
249	Station Cabling	MINIMUM 25 YEAR WARRANTY, CAT6A, shielded F/UTP (Siemon ZMAX 6A F/UTP), SIEMON 9T7R4E1006R1, TERA E109T7P4E1006R1, ZMAX 6AF-UTP-9A6P4A506RIA
250	Jacks	SIEMON Z6ASK01, <i>TERA T7F011, ZMAX Z6ASK03</i>
251	Faceplates	SIEMON, <i>TERA, ZMAX</i>
252	Emergency Phone (Blue light)	Talk-A-Phone WEBS ETP-WM & WEBS ETP-MT/R bases w/ VOIP 500D NOTE: Required - parking structures: 4-min. per floor, surface parking lots at every 50 ft radius (250 LF max from source)

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253	Elevator Phone	Talk-A-Phone VOIP 500D or as current future upgrade
254	CLASSROOM VOIP INTERCOM	Cisco Singlewire Informacast for Mass Notification, Valcom, Algo, Cyberdata, 2N
255	27 40 00 AUDIO VISUAL	
256	CONTROL SYSTEM	UTELOGY control on OFOI touchscreen monitor, Extron 1808 AV presentation switch for 4K images or Extron IN1608xi AV presentation switch for 1920x1200 projectors, 70V amp and ceiling speakers, ALS 72Mhz (infrared version for adjacent large lecture rooms), Cisco SG250 8 port switch from AV rack for connection to Utelogy server and connection to Utelogy controlled devices in room, Fusion 8X2 power conditioner, gooseneck microphone, Bluray, etc.
257	PROJECTOR	EPSON, PANASONIC, Minimum WUXGA (1920 x 1200) resolution, Laser/LED >=6000 Lumens, HDBase T Connectivity. Lens w/ image shift , 3-chip color processing (3xLCD or 3xDLP, no single-chip models)
258	PROJECTOR SCREEN	DA-LITE, ELITE SRM, Draper - use 16:10 with image starting a minimum of AFF 48" (113" diagonal 16:10 best matches traditional screen line-of-sight/size balance for most classrooms).
259	LECTERN	lectern
260	DOCUMENT CAMERA	EPSON, WOLFVISION
261	MICROPHONE	SHURE
262	NETWORK SWITCH	Cisco Catalyst 9300 IP Based-POE+, upgradable to latest technical advances; Cisco SG250-08 (for AV racks.)
263	ANNOTATION DEVICE	SMART TECHNOLOGIES
264	INTERACTIVE DISPLAY	Smart Technologies, Epson, Panasonic
265	CLASSROOM LIGHTING CONTROL	CLASSROOM LIGHTING CONTROL: LUTRON
266	SPEAKERS	JBL, EXTRON (70W mono for most classrooms)
267	PC COMPUTERS	HP ELITE 800 SERIES (16GB with BluRay for instructor stations)
268	LECTURE CAPTURE	Ensemble
269	ELECTRONIC QUEUEING SYSTEM	Q-Matic, Q-Less
270	DIV. 28: ELECTRONIC SAFETY & SECURITY	
271	28 10 00 ELECTRONIC ACCESS CONTROL	
272	Card Readers	Card reader models shall be: 920PBPTK20000 (standard) and 921PBPTK20000 (keypad) HID ICLASS SE 13.56 MGHZ, R40 Typ. Requires ICLASS Standard Capability. NOTE: Required at all building entries, classroom doors (if more than one door, then at least one required), all building utility rooms (electrical, mechanical, BDF/IDF, Janitorial closets), staff restrooms, staff/faculty offices. Refer to latest District Standards. Readers shall be connected via OSDP using Belden 658GMS composite cable.
273	Software	Lenel OnGuard
274	Controllers	LNL X4420 installed inside LifeSafety Power prewired enclosure FPO150/250-3D8P2M8NL4E8M2/P16-
272	CARD READER	HID Global 920NMPTEKMA007, 921NMPTEKMA008 (use OSDP communication only) NOTE: Required at all building entries, classroom doors (if more than one door, then at least one required), all building utility rooms (electrical, mechanical, BDF/IDF, Janitorial closets), staff/faculty office suite entrances. Refer to latest District Standards. Readers shall be connected via OSDP using Belden 658GMS composite cable.
273	CREDENTIALS	HID Global 5006PGGAN with LACCD Corporate 1000 Format: H800003

	STANDARD	CAMPUS ALTERNATIVES
274	ACCESS CONTROL CABLE	Belden 658GMS
275	ACCESS CONTROL PANEL	Lenel LNL-X4420
276	POWER SUPPLY	LifeSafety Power FPO150/250-3D8P2M8NL4E8M2/P16 with BDM or FPO250/250-3D8P5M8PNLXE12M
277	DOOR POSITION SENSOR	Schlage 7764
278	LOCKDOWN BUTTON	STI SS2026LD-EN with 6/18 cable to Access Control Panel
279	ACCESS CONTROL SYSTEM	Lenel OnGuard Enterprise
280	28 20 00 ELECTRONIC SURVEILLANCE	
281	Security Cameras	High Definition 8 MEGA Pixel Axis P-Series + Q-Series w/zipstream
282	ANALOG VIDEO to IP ENCODER	AXIS: Q74 Series
283	System Server	BCD Video System for Storage and Milestone XProtect Corporate for VMS
284	Recording System	BCD Video System for Storage and Milestone XProtect Corporate for VMS
285	WIRELESS ACCESS POINTS	
286	Indoor Access Points	Cisco Aironet 4200 Series ; Cisco Aironet 1800? E Series W/NEMA 4
287	Outdoor Access Points	Cisco Aironet 3802E Series W/NEMA 4 ENCLOSURE + Ext antennas
288	FIRE ALARM SYSTEM	
289	GENERAL	Edwards (EST 4) with Mass Notification
290	FIRE ALARM PULL STATION	EST CAT 45 KEY
291	SPEAKER/STROLL AMBER ALERT	Edwards (EST 4) with Mass Notification
292	DIV. 32: EXTERIOR IMPROVEMENTS	
293	IRRIGATION SYSTEMS	
294	IRRIGATION CONTROLLER	Toro TMC-424E Series, Irritol TMC 424 Series
295	CONTROLLER REMOTE SITE MANAGEMENT	Toro TriComm Site Management
296	CONTROLLER HAND-HELD REMOTE CONTROL	Toro TMR-1
297	CONTROLLER ENCLOSURE	V.I.T. Strong Box SB-xxSS with QP, CSA, RGVRS Options
298	RAIN SENSOR	Toro TRS
299	CONTROL WIRE - COMMON	Paige P7001D 12 AWG White
300	CONTROL WIRE - HOT	Paige P7001D 14 AWG Colored
301	WATERPROOF WIRE CONNECTOR	Spears DS-500 Dri-Splice
302	GROUNDING ROD	Paige 182007 with Paige 1820037P Connection
303	DIELECTRIC CONNECTION	Approved by Electrical Engineer
304	BOOSTER PUMP	Barrett Irriboost with Variable Speed Drive and SS Enclosure
305	BASKET STRAINER	Yardney SBx-T Series, Purple
306	BASKET STRAINER ENCLOSURE	V.I.T. Strong Box SBBC-xxSS with QP Option
307	PRESSURE REGULATOR	Wilkins 500 Series
308	MASTER VALVE	Toro 220 Brass or Toro P-220S Platic, or Rainbird P220 Brass series with Pressure regulator
309	FLOW SENSOR	Toro TFS Series
310	FERTILIZER INJECTOR	EZ-FLO EZ Series
311	GATE VALVE (2" and SMALLER)	Nibco T-113 Series
312	GATE VALVE (2 1/2" and LARGER)	Nibco F-619-SON Series
313	BALL VALVE (2" and SMALLER)	Nibco T-585-70 Series
314	AIR RELEASE VALVE	Cla-Val #33-A Series
315	QUICK COUPLING VALVE	Rain Bird #44-NP or TORO #44 NP Series
316	ELECTRIC CONTROL VALVE	Toro 220 Brass, Toro P-220S PlaticM, or Rainbird P-220 brass series
317	DRIP ZONE VALVE KIT	Toro TPV Series

	STANDARD	CAMPUS ALTERNATIVES
318	VALVE BOX	NDS Pro Plus Series (green plastic with purple bolt-down cover)
319	MAINLINE PIPING (6" and LARGER)	Pacific Plastics or equal CL200 PVC Gasketed - Purple
320	MAINLINE PIPING (2" - 4")	Pacific Plastics or equal CL315 Solvent-Weld PVC - Purple
321	MAINLINE PIPING (1 1/2" and SMALLER)	Pacific Plastics or equal SCH 40 Solvent-Weld PVC – Purple or Sch 80 PVC
322	LATERL LINE PIPING	Pacific Plastics or equal SCH 40 Solvent-Weld PVC – Purple, or SCH 80 PVC
323	PIPE / WIRE SLEEVING	Pacific Plastics or equal SCH 40 Solvent-Weld PVC
324	PIPE FITTINGS (MAINLINE)	Spears or equal SCH 80 PVC
325	PIPE FITTINGS (LATERAL LINES)	Spears or equal SCH 40 PVC
326	ARTIFICIAL TURF COOLING SYSTEM HEADS	Toro TS90TP Series
327	LARGE TURF ROTOR HEADS	Toro TR70P Series
328	MEDIUM ROTOR HEADS	Toro T5 Series
329	SMALL ROTOR HEADS	Toro 570Z-PRX-COM-E with Tor Precision Rotating Nozzle
330	FIXED SPRAY HEADS	Toro 570Z-PRX-COM-E with Toro Precision Spray Nozzle
331	FLOOD BUBBLER	Toro 570Z-PRX-COM-E with Toro FB-PC Nozzle
332	TREE ROOT WATERING SYSTEM	Rain Bird RWS Series
333	DRIP LINE SYSTEMS	Toro DL2000 RGP-xxx-xx-E Series
334	DRIP SYSTEM FITTINGS / ACCESSORIES	Toro - Miscellaneous
335	LANDSCAPE DESIGN	
336	LARGE TREES	Ceadrus deodora, Deodar cedar
337	LARGE TREES	Platanus racemosa, California sycamore
338	LARGE TREES	Quercus agrifolia, Coast live oak
339	MEDIUM TREES PRIMARILY FOR SHADE	Cinnamomum camphora, Camphor tree
340	MEDIUM TREES PRIMARILY FOR SHADE	Jacaranda mimosifolia, Jacaranda
341	MEDIUM TREES PRIMARILY FOR SHADE	Liriodendron arnoldii, Tulip tree
342	MEDIUM TREES PRIMARILY FOR SHADE	Platanus acerifolia 'Yarwoodii', Yarwood plane tree
343	MEDIUM TREES PRIMARILY FOR SHADE	Podocarpus gracilior, Fern pine
344	MEDIUM TREES PRIMARILY FOR SHADE	Quercus ilex, Holly oak
345	MEDIUM TREES PRIMARILY FOR SHADE	Ulmus parvifolia 'Drake', Drake Chinese elm
346	SMALL TREES FOR FLOWERS & FRAGRANCE	Agonis flexusa, Peppermint tree
347	SMALL TREES FOR FLOWERS & FRAGRANCE	Arbutus 'Marina', Marina strawberry tree
348	SMALL TREES FOR FLOWERS & FRAGRANCE	Bauhinia 'Blakeana' Hong Kong orchid tree
349	SMALL TREES FOR FLOWERS & FRAGRANCE	Callistemon viminalis, Weeping bottle brush
350	SMALL TREES FOR FLOWERS & FRAGRANCE	Cassia leptophylla, Gold medallion tree
351	SMALL TREES FOR FLOWERS & FRAGRANCE	Eucalyptus erythricorys, Red cap gum
352	SMALL TREES FOR FLOWERS & FRAGRANCE	Eucalyptus torquata, Coral gum
353	SMALL TREES FOR FLOWERS & FRAGRANCE	Lagerstromia indica, Crape myrtle
354	SMALL TREES FOR FLOWERS & FRAGRANCE	Laurus nobolis, Sweet bay
355	SMALL TREES FOR FLOWERS & FRAGRANCE	Lyonothamus asplenifolius, Catalina ironwood
356	SMALL TREES FOR FLOWERS & FRAGRANCE	Magnolia "Little gem", Little gem magnolia
357	SMALL TREES FOR FLOWERS & FRAGRANCE	Pistacia chinensis, Chinese pistace
358	SMALL TREES FOR FLOWERS & FRAGRANCE	Tabebuia lpe, Pink trumpet tree
359	PALMS	Brahea armata, Mexican blue palm
360	PALMS	Chamaerops humilis, Meditteranean fan palm
361	PALMS	Cycas revoluta, Sago palm
362	PALMS	Trachycarpus fortunei, Winmill palm
363	PALMS	Washingtonia filifera, California fan palm
364	PALMS	Washingtonia robusta, Mexican fan palm
365	SHRUBS INACTIVE AREAS	Achillea sp., Yarrow

	STANDARD	CAMPUS ALTERNATIVES
366	SHRUBS INACTIVE AREAS	Arctostaphylos 'Sunset', Sunset manzanita
367	SHRUBS INACTIVE AREAS	Berberis 'Golden abundance' Oregon grape
368	SHRUBS INACTIVE AREAS	Carpenteria Calif., Bush anemone
369	SHRUBS INACTIVE AREAS	Fremontedendron 'California gold', California fremontia
370	SHRUBS INACTIVE AREAS	Garrya elliptica, Coast silk tassle
371	SHRUBS INACTIVE AREAS	Heteromeles arbutifolia, Toyon
372	SHRUBS INACTIVE AREAS	Heuchera sp., Alum root
373	SHRUBS INACTIVE AREAS	Penstemon 'Margarita BOP', Penstemon
374	SHRUBS INACTIVE AREAS	Rhamnus calif. 'San Bruno's mound', Coffeeberry
375	SHRUBS INACTIVE AREAS	Rhus integrifolia, Lemonade berry
376	SHRUBS INACTIVE AREAS	Ribes sanguineum, Pink flowering currant
377	SHRUBS INACTIVE AREAS	Ribes viburnifolium, Catalina evergreen currant
378	SHRUBS INACTIVE AREAS	Romneya coulteri, Matilija poppy
379	SHRUBS IN IRRIGATED AREAS	Agave attenuata, Fox tail agave
380	SHRUBS IN IRRIGATED AREAS	Anigozanthus sp., Kangaroo paw
381	SHRUBS IN IRRIGATED AREAS	Baccharis pilularis 'Pigeon point', Coyote bush
382	SHRUBS IN IRRIGATED AREAS	Callistemon 'Little John' Little John bottlebrush
383	SHRUBS IN IRRIGATED AREAS	Cistus sp., Rockrose
384	SHRUBS IN IRRIGATED AREAS	Coelonema pulchrum, Pink breath of heaven
385	SHRUBS IN IRRIGATED AREAS	Cotoneaster sp., Cotoneaster
386	SHRUBS IN IRRIGATED AREAS	Elaeagnus pungens, Silverberry
387	SHRUBS IN IRRIGATED AREAS	Hemerocallis sp., Daylily
388	SHRUBS IN IRRIGATED AREAS	Juniperus sp., Juniper
389	SHRUBS IN IRRIGATED AREAS	Lantana sp., Lantana
390	SHRUBS IN IRRIGATED AREAS	Leptospermum sp., Australian tea tree
391	SHRUBS IN IRRIGATED AREAS	Ligustrum texanum, Texas privet
392	SHRUBS IN IRRIGATED AREAS	Myrtus communis, Myrtle
393	SHRUBS IN IRRIGATED AREAS	Osmanthus fragrans, Sweet olive
394	SHRUBS IN IRRIGATED AREAS	Phormium tenax, Flax
395	SHRUBS IN IRRIGATED AREAS	Pittosporum tobira sp., Tobira
396	SHRUBS IN IRRIGATED AREAS	Raphiolepis indica sp., Indian hawthorne
397	SHRUBS IN IRRIGATED AREAS	Rosmarinus officinalis, Rosemary
398	SHRUBS IN IRRIGATED AREAS	Viburnum tinus sp., Laurustinus
399	SHRUBS IN IRRIGATED AREAS	Westringia fruticosa, Coast rosemary

.	STANDARD	CAMPUS ALTERNATIVES
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