



## OAKLAND UNIFIED SCHOOL DISTRICT

Summary of OUSD Architectural and Material Standards

Updated: August 11, 2021

<p>Facilities, Planning, and Management Department</p>	<p>INTRODUCTION: Create "a Full Service Community School District that serves the whole child, eliminates inequity, and provides each child with excellent teachers for every day." Sustainability is a guiding principle for all projects. OUSD's Design Guidelines align with design criteria established by the Coalition for High Performance Schools (CHPS) best practices. New Construction projects should adhere to all relevant specifications and design teams should actively engage the school community to gather additional input on the desired outcomes. Renovations/Modernizations shall adhere to these specifications so much as meeting the required specifications does not result in prohibitively high project costs. If a site or facility has features that make full implementation infeasible, design teams may explore alternative options in consultation with the District's Facilities Division and school leadership.</p>	<p>The architect is to include in the Construction Documents a new site egress map for posting at the site and inclusion in the site safety plans. <b>NO EXCEPTIONS</b></p>	<p><b>Any modernization/new construction projects, designer needs to include new/updated Emergency Egress Maps including water/gas shut off areas. Evacuation map shall be posted in ALL classrooms, conference rooms, offices, and stairwells; provide a small storage room or 150-200 SF at each new or renovated building for B&amp;G materials only - review requirement with OUSD; embodied carbon sentence Brendan; site plan showing PIV/FDC/FH locations,</b></p>
<p><b>REFERENCES</b></p>			
<p>Facilities Master Plan 2012</p>			
<p>OUSD Design Guidelines - MK Think (October 9, 2013) - DRAFT</p>			
<p>Educational Specifications Elementary School Level - MK Think (October 9, 2013) - DRAFT</p>			
<p>Essential Outdoor Classroom Elements - Park Guthrie (Garden-Education Specialist/Garden Council Facilitator) - May 2013</p>			
<p>Door Hardware Specification Guideline (December 4, 2014) - B&amp;G</p>			
<p><b>Hydraulic Elevator Standards (August 2017)</b></p>			
<p>OUSD Minimum Wheelchair Lift Standards (January 8, 2011), <a href="#">Syska Hennessy Group</a></p>			
<p><b>Fire Alarm Standards (February 2019)</b></p>			
<p><b>Intrusion Alarm System Standards (February 2019)</b></p>			
<p><a href="#">Combination Fire Alarm and Intrusion Alarm System Standards (December 13,2015)</a></p>			
<p>OUSD Standard Network Build Specification (4/16/14)</p>			
<p><a href="#">OUSD Material Standards (December 01, 2016)</a></p>			
<p><a href="#">OUSD Material Standards (January 2018)</a></p>			
<p><a href="#">OUSD Material Standards (July 2019)</a></p>			
<p><a href="#">Technology Services Data &amp; Communications Standards (June 2019)</a></p>			
<p><a href="#">OUSD Material Standard Updates August 2021</a></p>			

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Spec Section	Spec Section Name	Ed Specs and Design Guidelines	Item	Manufacturer / Model / Size	Facilities Standards	Substitute Allowed		Board Resolution	Building & Grounds (B&G), Custodial (CS), and Internet Technology (IT) Standards
						Y	N		
<b>DIVISION 01 - GENERAL REQUIREMENTS</b>									
01 33 00	Submittal Requirements				Provide a Submittal Schedule 15 working days prior to initial submittal and coordinating it with the Construction Schedule. No submittal will be reviewed until the Submittal Schedule is approved. Substitutions are to comply with the requirements of Document 00 71 00-2, Special Conditions - Section 4 "Substitution for Specified Items".		X		
01 50 00	Temporary Facilities and Security Control				Provide temporary fencing to isolate construction from occupants. Provide protection to ALL existing structures and its fixed contents of finishes and grounds.		X		
01 60 00	Product Requirements				All projects to include this section.		X		
01 74 19	Construction Waste Management and Disposal				All projects pursuant to OUSD Resolution No.: 0001-0051 are to comply with City of Oakland Construction and Demolition Debris Waste Reduction and Recycling Ordinance #12253 and the Alameda County Waste Management Authority's direction.		X		
01 74 23	Final Cleaning				All projects to include this section. Conduct cleaning and waste disposal in compliance with City of Oakland - Ordinance #12253. The contractor is responsible for the removal and disposal of ALL packaging for furniture whether furniture is provided by OUSD or the contractor. Coordinate requirements with the Project Manager. All existing vinyl flooring shall be thoroughly stripped of old wax and have at least four (4) medium coats of wax. Contractor shall submit for prior approval manufactures information on floor finish to be applied. All new floors shall have their factory seal <b>lightly scrubbed</b> and shall have a floor finish applied according to the requirements of Custodial Service. Coordinate all work including material with Custodial Services prior to commencement of work.		X		CS: Destiny Floor Finish. New floor shall have six (6) even coats so long as it does not void the warranty; review types of flooring (i.e. LVT or other)
<b>DIVISION 02 - EXISTING CONDITIONS</b>									
02 41 19	Selective Building Demolition				Salvage of material: Design profession is to review and coordinate with B&G items to be removed and to determine if salvage is desired. Deliver salvaged material to location in District as directed. <b>Abatement of Hazardous Material: Coordinate with recommendation of District environmental consultant for abatement of hazardous material. District preference is for abatement of asbestos versus encapsulating.</b>				
<b>DIVISION 03 - CONCRETE</b>									
03 30 00	Cast in Place Concrete				Regular Weight - 2,500 PSI; Light Weight - 3000 PSI; Steel Re-bars: ASTM 615 Grade 60; WWM: ANSI/ASTM A-185 plain type, coil rolls, uncoated finish; Vapor Barrier: ASTM E-1745 meet or exceed Class C; Structural Concrete Mix Design shall yield specified strength prior to 28 days; Exposed slabs: non slip medium broom finish; Non-exposed slabs: per requirement for finish floor material; <b>Design strength of concrete and all material are to be provided per the Structural Engineer's design and specifications.</b>				Exposed slabs may NOT have broom or trowel finish; polished concrete floors to be provided at locations to be approved by OUSD
<b>DIVISION 04 - MASONRY</b>									

04 01 20	Masonry Restoration and Cleaning			Proscoco		X			B&G: Exterior CMU walls (site and building walls) shall be covered with anti-graffiti sealant on split faced to 10' high; graffiti resistant coating not required on painted walls
04 22 00	Concrete Unit Masonry				Provide a mockup before install; provide scaffolding both sides of masonry wall so joints are clean	X			
<b>DIVISION 05 - METALS</b>									
05 50 00	Metal Fabrication		Downspouts		Galvanized Schedule 40 steel pipe. All downspouts to have welded joints. Threaded and other collar joints are not acceptable.		X		NO LEADER PIPES INSIDE WALLS Per B&G
			Exterior Metal		Hot-dipped galvanized with no paint		X		Handrails, etc.
			Interior Metal		DTM primer with an epoxy topcoat	X			Handrails, etc.
			Misc Metals		Hot-dipped galvanized with no paint				Screens, etc.
			Metal Stair Nosings	American Safety Tread Co. Tapered "Feracast" Style 4702		X			B&G recommends no uncovered metal/concrete stair systems. Concrete Stairs are okay. Not Metal Pan Stairs.
<b>DIVISION 06 - WOOD, PLASTICS, and COMPOSITES</b>									
06 10 00	Rough Carpentry				Mill stamped S-Dry. Maximum Moisture 19% prior to installation. Lumber shall exhibit no growth of fungus when installed.		X		
06 20 00	Finish Carpentry				All Lumber to be Kiln Dry.		X		Primed and painted
06 41 16	Plastic Laminate Clad Architectural Cabinets	All rooms shall have a variety of permanent storage options and a variety of lockable, securable, and easily accessible storage base and wall cabinets and closets.	General	General	WIC "Custom Grade" certification required. Formaldehyde free and low VOC adhesive. Shelving - 3/4 inch plywood core; Drawer bottoms to be fully let-in glued and blocked with Applewood 5-ply.		X	1415-0161	Extra Materials are to be delivered to the B&G Carpentry Department. Label all boxes with the site location. Cabinet countertops NO Formica/Laminate tops. Recommended Solid Surface Such as Phenolic; countertops shall have a rolled backsplash; provide grommets at reception and computer locations, verify with facilities on locations
			Hinges	Blum	Knuckle hinges. Extra Material: 5% of each type hinges provided.		X	1415-0161	B&G recommends Blum be the standard for ALL cabinet hinges. Extra Materials are to be delivered to the B&G Carpentry Department. Label all boxes with the site location.
			Shelving Clips	Accuride or Blum	Use seismic (or earthquake) rated clips	X			
			Locks	CompX National	All cabinet locks in each room shall be keyed alike. Use BHMA certified dead bolt style locks; <a href="http://compX.com/national.html">http://compX.com/national.html</a>	X			Use Grade 2 locks with slide bolt. ALL cabinets in each room shall be keyed alike (B&G)
			Drawer Slides	Accuride or Blum	Heavy duty ball bearing drawer glides. Full extension with +1.5" extension ball bearing captured slides	X			Drawer backsides should be designed to sustain heavy use.
			Pulls	Hafele stainless steel U-shaped wire pull	Extra Material: 5% of each type pulls provided.	X			Extra Materials are to be delivered to the B&G Carpentry Department. Label all boxes with the site location.
<b>DIVISION 07 - THERMAL and MOISTURE CONTROL</b>									
07 13 13	Waterproofing		Under Slab Vapor Barrier	Fortifiber Corp.: "Moistop Ultra" or Stego Industries: "Stego Wrap" or American Standard Coatings	Requirements dependent on condition of site. Consult with Soils Engineer / Architect and water proofing consultant if required. Seal ALL seams and penetrations.	X			
07 19 00	Water Repellants			Rainstopper	Heavy Duty clear masonry sealer	X			

07 21 00	Thermal Insulation		Wall	Owens Corning	R-20 minimum	X		Architect to confirm requirements with performance method energy calculations
			Roof	Owens Corning	R-30 minimum	X		Architect to confirm requirements with performance method energy calculations
07 31 13	Asphalt Shingles				"30 Years" Nail Fasteners - NO Staples. Installation guaranteed against wind failure up to 60 MPH.		X	Existing asphalt shingle roofs can be matched with shingles. Other roof options on roofs not flat are at the director's discretion.
07 41 00	Standing Seam Metal Roofing			Metal Sales, AEP, or Tremco			X	Preference is asphalt comp shingles, but in some cases will accept metal standing seam roofing - review with OUSD; provide edge protection to prevent fall accidents; use two layers of peel-and-stick; provide tie-off points
07 51 00	Built-Up Bituminous Roofing (BUR)				Three Ply, Type VI glass fiber sheets with modified bitumen cap sheet with granular surfacing. Rating: Factory Mutual I-60 rating. Perlite insulation to taper roof slopes to drain at low slope installation. General Note - Roofing: All roof drains are to be tested prior of roofing work. Provide for complete tear off of existing roofing. Roof mounted equipment and lines are to be supported in manner as to permit roof replacement without their removal. Warranties: Contractor 2 yrs. and 15 years for material.		X	Three base plies covered with a modified bitumen membrane cap sheet. Product to meet or exceed cool roof standards for roof type. BUR shall apply to flat roofs only. Other roof options on roofs not flat are at the director's discretion. BUR spec to be non-proprietary. No brand restriction language permitted. Base sheet to cover roof deck or insulation with 3-ply fiberglass mop sheet (each ply individual with asphalt hot mop) with modified cap sheet. Include foam blocks for any roof mounted conduit, ductwork, or unistrut; provide edge protection to prevent fall accidents; provide appropriate crickets for drainage, especially in low slope locations; provide details for pitch pockets, roof drains, and non-slip material on finished roofing
07 62 00	Sheet Metal and Flashing				Hot dipped galvanized 24 gauge minimum. Downspouts to be galvanized Schedule 40 steel pipe. See Division 5 - Metal Fabrication		X	
07 72 33	Roof Hatches				Aluminum construction with mill finish - 11 gauge. Review and coordinate Intrusion Alarm requirements. Provide door contact or motion sensor.			Provide roof hatches at ALL roofs (flat and pitch) for renovation and new projects. Provide railings around roof hatches. Tie-offs where appropriate, confirm locations/need with OUSD. Single story buildings may not require hatches, confirm with OUSD.
07 84 00	Fire Stopping				Fire Marshall approved - UL or WH classified systems.			
07 92 00	Joint Sealers		Exterior at concrete, masonry, glazing, and door frames	Tremco	Silicon		X	
			Interior	Pecora Corp: "AC-20"; Sonneborn: "Sonclac"; Tremco: "Tromco Acrylic Latex 834"	Provide appropriate type of sealant for material in contact. Acrylic-emulsion, one part, non-sag, mildew resistant.		X	
			Sanitary	Dow Corning Corp: "786 Mildew Resistant"; Sonneborn: "Scholastic Ominplus"	One part mildew resistant silicone, formulated with fungicide; for sealing non-porous substrates around ceramic tile, plumbing fixtures and showers.		X	





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						Y	N		
<b>DIVISION 08 - OPENINGS</b>									
08 11 13	Steel Doors and Frames	All classroom doors should provide a view panel, either within the door itself or adjacent to the strike side of the door.		Curries, Steelcraft	HM Doors and Frames: 14 gauge: Hot dipped galvanized; Seamless welded edges and faces. Hardware Reinforcement: Hinges #7 gauge; Locksets #10 and surface applied hardware #12 gauge. Door Reinforcement : 14 gauge, Fabricate with welds at ALL ends and at 3 inches on center.	X			
08 14 00	Wood Doors	All classroom doors should provide a view panel, either within the door itself or adjacent to the strike side of the door.			<b>INTERIOR APPLICATION ONLY:</b> Solid Core - 1-3/4" or as required. All internal frame edges bonded to core, solid stave wood core.		X		
08 16 13	High Abuse Doors			Special - Lite SL-17	FRP finished foam core doors with reinforced metal frames and continuous hinges. Provide at all secondary school entries and other high use areas. See Outline Specs - Section 8710 - "Hinges" for limitation of use; <a href="https://special-lite.com/">https://special-lite.com/</a>			X	B&G: All exterior doors (in high traffic areas to be verified by OUSD) should be FRP finished doors with continuous hinges and Norton closers. <b>If doors are equipped with vision lights, they should also be equipped with vandal screens and they should also have adjustable door sweeps. For vandal screens, Special-Lite provides all of the additional required specs.</b>
08 33 23	Overhead Non-Insulated Doors			R&S Overhead Door	<a href="https://www.rsdoors.com/rs-overhead-garage-door-inc">https://www.rsdoors.com/rs-overhead-garage-door-inc</a>	X			Provide motorized and keyed switch; depending on size of rollup door, small (8' wide max) at kitchens should be manual
08 33 33	Overhead Insulated Doors			R&S Overhead Door	<a href="https://www.rsdoors.com/rs-overhead-garage-door-inc">https://www.rsdoors.com/rs-overhead-garage-door-inc</a>	X			Provide motorized and keyed switch
08 41 00	Aluminum Doors and Frames	<b>At all Aluminum doors and storefront applications no glazing panels shall be installed below 24" or 30" from adjacent ground level.</b>		Kawneer Series #500 with 12 inch bottom rail	Monumental wide style, wide rail entrance doors.	X			
08 51 13	Aluminum Windows	Fit windows with shading systems to reduce glare and solar heating effects throughout the day. Maximize the utility of operable windows for passive ventilation. Integrate non-glare windows in designs. <b>At all aluminum doors and storefront applications no glazing panels shall be installed below 24" or 30" from adjacent ground level.</b>	Window	Blomberg, Vista Wall, Kawneer or Efco	Window: Single glazed from interior - all welded or factory sealed corners. Factory applied Class 1 anodized finish. Wall sections - 1/8" thick or 2" tubular sections. Tubular type sections at windows 4 feet or greater in width. Provide restrictor blocks with maximum 5 inch opening for hung windows. <b>PM to request Director's approval to eliminate window guards if project team can validate.</b>	X			Provide sheet metal pan around entire window for waterproof protection; where possible, standardize size of windows
			Hardware		Handles: Cam Type; Hinges: S/S 4 bar hinges. Provide with "restrictor blocks"; Remote Operation: Provide 7 foot long pole/hook with rubber end. Catches: Spring type at Transom hopper vents. Fasteners: Stainless Steel. Window Guards: Perforated metal, 63% open, powder coated galvanized steel. <b>All installed windows fixed and/or operable are to be field tested for water filtration pursuant to ASTM E1105.</b>			X	
08 51 13	Aluminum Windows - Portable Buildings Only				Extruded anodized with fixed and operating sash, minimum AAMA Grade C-60. Minimum section depth - 1-1/2" thick. One hopper vent per sash.			X	
08 62 00	Skylights	Maximize the utility of operable skylights for passive ventilation.		Kalwall 12" X 12" "Tuckerman Grid. Alternate to be considered for daylight efficiency.	Flat panel skylight system. Retro fit existing skylights with sloped curb. <b>Skylight to provide effective daylighting with robust structural system. Solar tubes are acceptable. All installed windows fixed and/or operable are to be field tested for water filtration pursuant to ASTM E1105.</b>	X			Never install over stairwells; polycarbonate or translucent panels and vandal resistance

Finish		Finish: 626 (Satin Chrome) or as required to match existing uniform site standard.		X		See B&G - OUSD Door Hardware Specifications Guidelines dated December 2014 for all door hardware.
Hinges: Continuous	Ives 224HD - Finish clear (CL)	FRP Doors - full length, mortised heavy duty continuous hinges. For labeled doors - specify S/S hinge. If an obstruction of more than 2-13/16" prevents the door from opening 180 degrees or against the adjoining wall, than specify wide throw butts. <b>All new exterior doors on secondary school campus are to be full length mortised continuous hinge.</b>		X		See B&G - OUSD Door Hardware Specifications Guidelines dated December 2014 for all door hardware.
Hinges: Butt	Hager #BB1168 x 626 X NFP	Heavy duty ball bearing. Specify (4) wide throw butts for a standard height door with ability to open 180 degrees or against adjacent wall. ALL HINGES TO HAVE NON-REMOVABLE PINS and TAMPER PROOF SCREWS		X		
Cylindrical Locks	Schlage ND Series x Rhodes with "Vandalguard" lever			X		US26D Finish
Passage Lock	ND10S			X		
Privacy Lock	ND40S			X		
Faculty Restroom Lock	ND85PD	"Hotel" function lockset with modification to enable only a "push" function and disable the "push and turn" function		X		
Interior Office Lock	ND94PD	"Classroom function" lockset with no button function inside and keyed cylinder on other side		X		ND92PD - Push Button; B&G acceptable with ND94PD per Facilities standards
Classroom Security Lock	<b>ND97PD</b>			X		
Storage Lock	ND96PD	Storage rooms to have lockset that has a lever that locks automatically when door is shut, but releasable from interior and keyed cylinder on other side. Storeroom lock is for TRUE Storage Rooms only (i.e. room designated solely for storage usage.		X		
Student Toilet Room	Push Plate: Trimco #1001-3; Pull Plate: Trimco #1017-3 Pull Plate (punched for cylinder turn piece); Deadbolt: Schlage B663P with ADA thumb latch	Provide push plates and fixed pull handles with a separate deadbolt with accessible thumb latch for egress function only. All doors with this requirement shall have a label that requires door to remain unlocked when building is occupied. Students must not be able to lock themselves in the toilet rooms		X		B&G preference is for applying the deadbolt (B663P) at restrooms with exterior access door only. <b>Coordinate and review with Buildings and Grounds Locksmith.</b>
Exit Devices	VonDuprin	Positive Latching NOT Required: CD 98 NL x 990 NL or CD 98 NL x 990 NL x CD98 EO; Positive Latching REQUIRED: 98L-2-F x 994L or 98L-2-F x 994L x 98EO-2-F; Provide with <b>hex dogging</b> and with pull trim at exterior entrances. All paired doors to have removable keyed mullion with only one heavy duty handle on exterior and no dummy trim. <b>ALL DOUBLE DOORS ARE TO HAVE MULLIONS. ALL EXTERIOR DOORS WITH VISION LITES TO BE MAXIMUM SIZE OF 7" x 22"</b>		X		B&G - Provide exit devices on exterior perimeter doors and portables. HEX DOGGING ONLY - No cylindrical dogging. All mullions to have a set of #154 stabilizers. Von Duprin: X99NLx990NL "Trim Pull"; X99NLx990NL "Trim Pull" x XP99PT x 990DT; "Dummy Trim" x SNB X KR4954 Mullion x 154 (at pairs); 99L-2-F-996L-NL-R (F rated single doors); 99L-2-F-996L-NL-R x 99Eo - F x KR9954 Mullion x 154 (F pairs)

08 71 00

Door Hardware

B&G wants all locks changed to Primus in new a

Keying System	Schlage	All keying is to be keyed into District restrictive, Schlage Everest 29 T - no substitutions. Interior doors shall utilize the same keyway with blank side bitting. All cylinder cores in "D: series handles are to be fixed (removable only after the lockset has been disassembled). All cylinder cores in deadbolts/panic hardware that required disassembly of latch mechanism shall be interchangeable core. All cylinders to be factory keyed and shipped with split construction key system. A/E to include key schedule in bid specifications. <b>Keying requirements are to be coordinated and verified with B&amp;G Locksmith manager.</b> Extra Material: Provide minimum 2 full boxes of key blanks. Deliver key blanks to B&G Locksmith department.			X	Verify with B&G for the keyway to be provided at specific sites. <b>(Everest 29 T Series)</b> All cylinder cores in "ND" series handles are to be fixed. All cylinder cores in dead bolts/panic hardware shall be interchangeable cores. Keying by contractor. ND Series: 20-765 Cylinder; Exit Device Outside Trim: 20-757 IC Rim Cylinder; Keyed Removable Mullion: 20-771 1C Mortise Cylinder; <b>Keying Schedule is to be reviewed and approved by B&amp;G Locksmith Department.</b> Sample of OUSD Keying Standard: Grand Master; Site Master; Maison Staff Rest Rooms; Boy's and Girl's Rest Rooms to be keyed to Site Master and Grand Master Key ONLY. Key Rooms with assigned bittings, site master and grand master ONLY; Exterior Entry and Interior Fire Doors, Boiler Rooms, and Store Rooms are to be keyed to Site Master and Grand Master Keys ONLY. Stamp Keys with the Bitting Label ONLY. Bitting schedule will be provided by OUSD B&G Locksmith. Final Keying Schedule is to be reviewed and approved by B&G Locksmith.
Coordinator						PROVIDE COORDINATOR ONLY WHEN REQUIRED BY FIRE CODE. Ives COR x FL x MD (Storage and utility rooms)
Flush Bolts					X	Ives FB31P (Automatic / Metal Doors / Storage & Utility Rms); Ives FB41P (Automatic / Wood Doors / Storage & Utility Rms); Ives FB51P (Manual / Metal Drs / Storage & Utility Rms); Ives FB61P (Manual / Wd Drs / Sto. Rms) <b>B&amp;G preference is NOT to utilize Flush Bolts as they are high maintenance hardware.</b>
Closers	Norton 7575				X	Norton: 7500; Provide long arms where required to accommodate wide throw hinges. Door Silencer: Ives SR64; ALL DOOR FRAMES ARE TO BE REINFORCED AT FRAME, SOFFIT, AND FACE. NO EXTRA DUTY ARMS.
Stops / Holders	Floor Mount: Trimco #1283-2S or #1283-3S; Wall Mount: Trimco #1283-4S or #1283-5S; Model # depending on required length of strike. NO KNOWN EQUAL	All exterior doors to have door hold-opens where code permits. All primary interior doors on campuses with interior corridors shall have door hold-opens. For Floor mounted holders, mount within 3" of wall.			X	Holders: Ives WS45 or FS43 (Automatic Holders & Stops) Door Stops: Ives FS436/R435 (Interior Floor Stop); FS18S (Security Floor Stops); WS401/WS402 (Wall Stops). PROVIDE SOLID BACKING at WALL HOLDER LOCATIONS; FLOOR MOUNT WHEN WITHIN 3 INCHES OF WALL.
Bumpers	Glynn-Johnson	Provide in locations where a stop is necessary and Stops / Holders will not work.			X	

			Thresholds	Pemko or approved equal.	Provide shape as required or approved equal.		X		National Guard Products (NGP) - Standard 1/2" x Jamb Depth x Full width of opening. 322 (1/2" x 3") at Carpet and Floor Mats. Threshold Notes - Architect to coordinate with project conditions. Set thresholds in a full bed of butyl-rubber or polyisobutylene mastic sealant complying with requirements in Division 7 - "Thermal and Moisture Protection". Use 1/4" fasteners, red-head flat heat sleeve anchors (SS/FHSL).
			Weatherstripping	New: Pemko 90100CP or approved equal; Existing: Pemko 309AP or approved equal; Exterior Pemko #45041CP or approved equal	New Door Application: Utilize concealed brush door sweeps for HM doors with inverted bottom channel. Existing Door Application: Utilize a surface mounted brush sweep. Exterior Doors: All exterior doors to be fitted with 45 degree, brush style weather stripping.			X	Door Sweep: NGP 600A (Surface Mount Brush Sweep) Smoke/Weather Seal: NGP A626A (@ Jamb) x 706A (@ Headers on doors with closers); Smoke Seal: 2525B (1/4 x 3/8 Silicone Bulb with adhesive tape); Mullion Seal: NGP 5100 - Black Finish; Door Sweep: NGP 600A (Surface Mount Brush Sweep) Smoke/Weather Seal: NGP A626A (@ Jamb) x 706A (@ Headers on doors with closers); Smoke Seal: 2525B (1/4 x 3/8 Silicone Bulb with adhesive tape); Mullion Seal: NGP 5100 - Black Finish
			Latch Protectors		Provide at all exterior lever set doors				Ives LG12
			Astragals		Avoid where possible.				Astragal: NGP 600 set (Surface Mount Brush Astragal Set); NGP 139SS (Where required by Fire Code) Astragal/Edge set may be by HM doors manufacturer. Mullion Seal: NGP 5100
			Kick Plates	Ives 8400 Series	Armor plates - 10 inches high				
			Pull and Push Plates	Ives 8200/8300 Series	Cast alloy - ADA complying				
			Louvers	Anemostat PLSL heavy duty louver with 12 gauge grill.	All exterior door louvers to be heavy duty vandal resistant				
08 80 00	Glazing	Integrate non-glare windows in design. <b>There will be no glazing panels below 30" from adjacent ground level.</b>			<b>Standard Glazing - 3/8 inch tempered glass on the exterior face with cavity and 1/4 inch laminated glass on interior face consisting of 2 layers minimum 1/8 inch thick float glass with 0.030 inch thick tinted polyvinyl butyral interlayer.</b> Type of glazing will vary by elevation and location as determined by consultant. Provide wired or tempered glass per code. Replace ALL polycarbonate and Plexiglas with 1/4 inch laminated glass. All installed windows and glazing are to be field tested for water infiltration pursuant to ASTM E1105. <b>U-value 0.30 minimum</b>				<b>Provide window film at specific interior classrooms for safety and security, review locations with OUSD</b>
<b>DIVISION 09 - FINISHES</b>									
09 24 00	Metal Lath and Portland Cement		General		Gypsum/Keenes Cement Finishes - to match existing building finish for interiors of toilet rooms			X	<b>3-part system with acrylic finish and painted</b>
			Metal Lath	Structa Wire Corp - 17 ga. X 1-1/2" SF CR TT (twin track)			X		
			Corner Bead	Amico - X-2 (outside corner)			X		
			Soffit Drop	Stockton Products - #5 drip, NFD			X		
			Control Joints	Amico - griplock "J"			X		
			Casing Bead	Amico - X-66			X		
			Expansion Joints	Amico - 2-piece expansion joint (#40 type)			X		
			Window/Door Head Drip	Stockton Products - WTP 1" (x Dim) - 4" flange (y dim)			X		

			Base of Wall Drip	Stockton Products - J-bead w/ 1/4" dia. Weep holes		X			
			Cement Plaster Mix - Lime Substitute	Gibco - RPF		X			
			Admixtures - Enhancing Emulsion	BASF - Acryl 60		X			
			Wall Penetration Boot/Collar Flashing	Quickflash Weatherproofing Products, Inc. - P series (pipe and conduit penetration) and E series (electrical boxes)		X			
09 28 19	Tackable Wall Board				Fiber Insulation Board: 1/2" thick; ASTM C208 Class A Commercial Std CS42 Class A beveled edge; Vinyl Wall Covering: Calendared base color, backing shall be sheeting or non-woven fabric; Class III Flame Spread		X		Provide on Z-clips for ease of replacement; trim out if not full height; provide attic stock for VWC finish; no exposed edges
09 29 00	Gypsum Board					X			B&G: When possible, avoid using drywall joint compounds that require more than 24 - 48 hours to dry completely. Joint compounds that take longer to dry are typically covered by paint before fully dry, leaving the joint compound extra vulnerable to cracking; provide high impact gym board up to 8' at corridors, MPR's, and gymnasiums
09 30 13	Ceramic Tile	Ceramic tiles or other waterproofing materials should be used on restroom walls from floor to ceiling.		American Olean or Dal Tile	Specify recycled content products. At Middle Schools and High School - ceramic tile walls to be full height from floor to ceiling; At Elementary Schools - ceramic tile to be wainscot height. Floors: Slip resistant finish; Walls: Gloss finish - NO matte or textured finish. Provide latex-epoxy mortar and grout in toilet rooms. <b>Extra Material:</b> Provide 5% of amount installed or minimum 1 carton of field and half carton of accent tile in full size units for each type, composition, color, pattern, shape and size. Ceramic tile to be 4"x4", 6"x6" or 12"x12". <b>PM's to request Director's approval if material is not ceramic tile.</b>	X			B&G: Preferred finish for kitchens. Provide epoxy grout. <b>Extra Materials</b> are to be stored on site in designated secured area; <b>if no designated secured storage area available on site, please transport extra materials to 955 High St.</b>
09 51 13	Acoustical Panel Ceilings		Grid and Panels	Armstrong - "Ultima" or "Ultima High NRC" or "Fire Guard" where fire rating is required.	Grid: Exposed heavy duty 24" X 48" grid; Ceiling Panels: Mineral Ceiling Panels, NRC Range 0.50 - 0.60; STC Range 30 - 34, white fissured finish; CHPS Projects: NRC Range 0.80. Architect to confirm and specify required product. <b>Extra Material:</b> Ceiling tile - 5% of amount installed with a maximum of 10 cartons in original packaging of each type, pattern, and size provided. Provide 2% of amount installed for suspension system components of each exposed component and size installed.	X			B&G: Recommends that Armstrong 895 ceiling panels be established as the standard for OUSD. <b>Extra Materials</b> are to be stored on site in designated secured area; <b>if no designated secured storage area available on site, please transport extra materials to 955 High St. If wood panel or suspended ceiling is used, include proper access hatches</b>
09 64 00	Wood Athletic Flooring			Connor	To be installed at MS and HS gymnasiums; <a href="https://connorsports.com/products/hardwood">https://connorsports.com/products/hardwood</a>	X			Coordinate striping with OAL (Oakland Athletic League) for necessary sports

09 65 00	Resilient Flooring	Flooring material should be durable and scratch resistant. Flooring should promote furniture mobility.		Mohawk: LVT; Forbo: "Marmoleum" (Forbo Installers to be "Master Mechanic" certified); Tarkett: "Veneto" or approved equal.	Plank (LVT) glue-down; Sheet Flooring (Linoleum): To have fully fused seams and treated with 2 coats LinoBase sealer prior to traffic. Specify low VOC adhesives and seam sealers. Factory trained and certified installers are required. <b>Extra Material:</b> Linoleum - 5% in roll form with minimum less than 10 LF. Furnish in full roll width form of each different composition, color and pattern. VCT - 1 box for every 50 boxes or fraction thereof with minimum 100 SF. Provide full size units of each type, color, pattern and size installed. Rubber Base - 10 LF for every 500 LF or fraction thereof. Furnish in standard full length for each color. Rubber Stair Treads: 1 box for every 50 boxes or fraction thereof. Furnish in full size units for each color, pattern and size installed.	X			CS: All (N) flooring shall have their factory seal stripped off and shall have a floor finish applied according to the above requirements pursuant to the requirements of OUSD. B&G: VCT is the preferred resilient flooring. <b>VCT may be used with approval by the Director of Facilities. Extra Materials to be completely manufacturer sealed</b> and are to be stored on site in designated secured area; <b>if no designated secured storage area available on site, please transport extra materials to 955 High St. All Concrete Floors should be properly sealed before installation of new flooring materials;</b> use higher level adhesive for glue-down installs
09 65 66	Resilient Athletic Flooring			Tarkett Sports EcoPure 4.6mm foam backed linoleum sports surfacing with XF X-treme performance finish; welding rod supplied by MFR with color to blend with surfacing color; use multi-poxy adhesive and an approved game line paint primer		X			To be used in spaces that don't have furniture or tables sitting on floor all the time (to prevent dimpling)
09 66 00	Terrazzo Flooring	Waterproof materials should be used on restroom floors.		Dex O Tex Cheminert Terrazzo Flooring or approved equal	Epoxy Terrazzo per NTMA guidelines. Provide terrazzo with integral base. Use in conjunction with a U/L listed "slip resistant" sealer. <b>Preferred flooring for restrooms.</b>		X		
09 67 00	Fluid Applied Epoxy Flooring				Self leveling urethane mortar system designed for monolithic application. Provide integral cove base. Include chemical, heat and skid resistant epoxy novolac coating over flooring. Flooring to be applied at all kitchens. Application for restrooms requires approval by Director of Facilities.		X		B&G: Preferred flooring for kitchens. <b>Minimize sand factor to prevent damage to mops</b>
09 68 13	Carpeting	Avoid carpeting and rugs in classrooms.		Patcraft "New Ground" collection; Shaw Commercial "altered collection"; Tandus Centiva "powerbond 04468"	Specify low VOC adhesive and seam sealers. Provide carpet-seaming layout. Use largest sections possible to minimize seams. Carpet Tile is preferred over sheet / roll products. Modular Tiles - 24 inches square tile. Carpet to comply with Sustainable Carpet Assessment Standard (NSF/ANSI 140) Platinum Level. <b>Extra Material:</b> Carpet Tiles - 5% of amount installed but not less than 30 square yards. Provide full modular tiles of each type and color installed. Carpet (Glue Down) - Extra Material is not required.		X		B&G: Rolled carpet is not recommended. Preference is for Carpet Tiles. <b>Extra Materials</b> are to be stored on site in designated secured area. <b>Adhesive: Shaw 5900 Carpet tile adhesive or equal. While B&amp;G uses special adhesive all contractors shall use LokDots or equivalent.</b>
09 84 00	Acoustical Wall or Ceiling Panels			Certaiteed or Armstrong		X			Ensure design is coordinated with CHPS requirements; panels can be applied to hard ceilings;

09 91 00	Painting		General	PPG, Dunn Edwards, Benjamin Moore, Kelly Moore, Pittsburgh and Sherwin Williams	Specify low VOC paints and primers only. Do not paint over existing transparent finishes. Existing transparent finishes shall be refinished to match existing. ALL colors are to be selected by District from District standard color palette <b>with the possible exception of continued use of existing color scheme at a given school.</b> Existing (E) surfaces to be repaired and prepared prior to painting. Three coat system over (E) painted surfaces or New (N) finishes to be 1 coat prime and 2 finish coats. All shop-primed items are to be fully re-primed in the field. Acid wash all galvanized materials. Etch and prime prior to finish painting and rinse thoroughly. Specify mildew retardant admixtures. <b>On exterior stuccoed surfaces, finish coat to be back rolled. Extra Material: 5 gallons unopened per color and sheen installed and properly labeled. Provide non-flammable cabinet to store extra paint required by the Oakland Fire Department.</b>	x			B&G preference is Kelly Moore. <b>Contractor to provide "As Built Brush Outs with Manufacturer's formula". Please refer to B&amp;G paint booklet for color palettes. Reference OUSD paint color standards. Coordinate extra material delivery location with OUSD</b>
			Interior	PPG, Dunn Edwards, Benjamin Moore, Kelly Moore, Pittsburgh and Sherwin Williams; OUSD Standard Kelly Moore 1650 Interior Semi-gloss	Interior Plaster/ Gypsum Board: Interior Acrylic Enamel. Corridors: Semi-gloss. Classrooms: Semi-gloss. Offices: <b>Semi-Gloss.</b> Toilet Rooms: Semi-Gloss. Service Areas: <b>Semi-Gloss.</b> Kitchens: Semi-gloss enamel Wood: Opaque Finish - Semi Gloss Acrylic Enamel. Transparent Finish - specify product compatible with existing finish and if possible low VOC. Refinish to match existing. Interior Metal Doors and Frames: Acrylic Semi-gloss Enamel. <b>Handrails: for all interior handrails, use water based epoxy.</b> Interior Misc. Metals: Sheen to fit circumstances. <b>Extra Material: 5 gallons unopened per color and sheen installed and properly labeled. Provide non-flammable cabinet to store extra paint required by the Oakland Fire Department.</b>	X			B&G: Exterior CMU walls shall be protected with anti-graffiti sealant. Store all paint extra material on site in designated secured area. Label all Extra Material containers including but not limited to the following: Manufacturer's name, product name, stock number and/or generic type of paint, color with instruction for reducing where applicable. Label to include color, texture, and room locations. Provide "as built" brush outs on 8-1/2" X 11" labeled with manufacturer color/formula and location. Attic stock is to be stored on site at designated secured area. <b>Coordinate extra material delivery location with OUSD</b>
			Exterior	PPG, Dunn Edwards, Benjamin Moore, Pittsburgh, Sherwin Williams, Kelly Moore exterior 100% acrylic 1250; Kelly Moore DTM; Sherman Williams water based epoxy.	Exterior Stucco: Semi-gloss, 100% Acrylic Latex. Wood (opaque): Gloss, 100% Acrylic Latex. Misc. Ferrous Metals: 100% Acrylic, Semi-gloss Enamel. Ferrous Metal Gutters, Downspouts, Doors, Flashing, etc.: 100% Acrylic, Semi-gloss Enamel. Exterior Guardrails and Handrails: Aliphatic Urethane, Gloss Enamel. Aluminum: 100% Acrylic Latex, sheen to match existing. <b>Extra Material: 5 gallons unopened per color and sheen installed and properly labeled.</b> Provide non-flammable cabinet to store extra paint required by the Oakland Fire Department.	X			<b>Coordinate extra material delivery location with OUSD</b>
<b>DIVISION 10 - SPECIALTIES</b>									
10 11 16	Markerboards	Dry erase markerboards should utilize non-toxic low VOC/no odor markers and thus not require chemical board cleaners. Provide magnetic whiteboards.		Heavy duty map rails: Rand McNally	Porcelain Enamel Markerboards are standard replacement. Provide both standard and heavy duty map rails. Heavy duty map rails are to be mounted above board. No seams in boards up to 16 feet in length.	X			B&G: Do not recommend specifying sliding white board systems as they are hard to maintain.
10 11 23	Tackboards			Fabricmate		X			
10 14 00	Signage	Clearly identify/label all buildings on the exterior and rooms on the interiors.	Room	ASI "Incast"	All signage to comply with ADA & Title 24 requirements. Integral color with fussed raised lettering and California Braille. Install with vandal resistant fasteners. Room and building designations are required to be approved by designated District Representative.	X			B&G: Coordinate location of sign and identity/label for all rooms on the interiors.
10 14 19	Dimensional Letter Signage	Install lit signage that clearly identifies the main entry point to a campus. Post a campus map that highlights and provides clear directions for spaces commonly used by the community.							B&G: Coordinate location of sign and identity/label for all buildings on the exterior; <b>ensure signage is provided where appropriate by code</b>



10 14 63	Digital Marquee Sign	Provide display space or electronic signage to communicate school news and information.		Stewart Signs		X			Substitution needs approval by district
10 21 16	Solid Composite Toilet Compartment			Bobrick Sierra - 1090 Series	Solid Color Reinforced Composite Partitions (SCRC) with "GraffitiOff" surface. Hardware: 18-8, type 304 S/S with satin finish. Partitions to utilize head-rail brace mount system. Fasteners to be either factory installed threaded brass inserts or through bolted, S/S pin in head Torx sex bolt fasteners and shall withstand direct pull force exceeding 1,500 pounds per fastener; <a href="https://www.bobrick.com/products/toilet-partitions-cubicle-systems/traditional-partitions/sierra-scr/">https://www.bobrick.com/products/toilet-partitions-cubicle-systems/traditional-partitions/sierra-scr/</a>	X			25 Year Warranty scratch/dent/moisture/impact resistant SCRC - solid core reinforced concrete.
10 26 13	Corner Guards			Construction Specialties: "Acrovyn"	Molded corner guards with closure caps top and bottom.	X			
10 28 00	Toilet Accessories	All toilet accessories are to be surface mounted and installed with concealed fasteners where possible or vandal resistant fasteners when fasteners are exposed.	Toilet Paper Dispenser	Bobrick B-2888; For ADA, provide Bobrick B-6999 for surface mounted with theft resistant spindle and Bobrick B-3888 for semi-recessed.	Stainless steel multi-roll				
			Seat Cover Dispenser	James River #25131500/4001 Bobrick B-221	1/2 fold chromed metal. Provide at Staff Restrooms ONLY		X		
			Grab Bars	Bobrick B-6806	Heavy duty, 15 gauge, S/S tubing, welded 11 gauge flanges, concealed mounting. Safety grip finish, no peening.	X			
			Sanitary Napkin Disposal	Bobrick B-270		X			
			Soap Dispenser	Bobrick B-2112	S/S, Install above sink	X			
			Paper Towel Dispenser	Bobrick B-2860 -to be mounted in front access; unit projects too far for side access compliance.	Staff Restrooms Only - Roll Towel Dispenser. Architect to also specify and locate ADA compliant paper towel dispenser.	X			CS: pull paper towels as individual folds; American Standard as possible substitute
			Hand Dryers	Dyson Airblade V Hand Dryer.	Hand Dryers (at student restrooms).				
			Mirror - Student	Bobrick B-1556	Student Toilet Room - Omit shelf in student bathroom; S/S mirror with backing plates.	X			
			Mirror - Staff	Bobrick B-166	Staff Toilet Room with Shelf.	X			
			Trash Receptacles		NIC Furnished and installed by District		X		
ADA Shower Seat	American Standard "Pressalit"		X						
10 44 00	Fire Protection Specialties				If battered, replace with units using minimal glass lite. Adhere to the local fire code for placement of cabinets in certain areas		X		Follow code if evacuation carts are required at stairwells
10 51 13	Metal Lockers				All steel construction with powder coat finish. Provide hasps for padlocks. Install with concealed fasteners and vandal resistant fasteners where exposed. Provide Gym Lockers ONLY. No hallway lockers are to be provided.	X			
10 57 00	Wardrobe			Eagle Flammable Safety Cabinet, 45 gal. Model #1947	Safety Cabinets for storing flammable content.	X			
10 75 00	Flagpoles			Pole-Tech - PT306BIC commercial ground set with 30' exposed height; provide old anodized aluminum ball					Ropes either internal or external with locking case; OUSD will provide American and California flags
<b>DIVISION 11 - EQUIPMENT</b>									
								X	Nutritional Services: Design team shall consult with Nutrition Services on ALL kitchen projects. All equipment are to be commercial grade and shall meet Energy Star requirements. All kitchen and food service projects are to comply with Alameda County Health Department requirements. Provide paper towel dispensers that meet Custodial Services requirements.

11 40 00

Food Service Equipment

All fixtures, appliances, and equipment shall meet OUSD CHPS standards and Energy Star requirements for low energy and water use. Ovens, stoves, steamers, and other equipment shall have sufficient capacity and power to fully cook meals as described in OUSD Nutrition Service "Nutrition Service Master Plan".

Concession Stands						Review equipment with nutrition services
Hand Sink	Eagle Group, HSAP-14-FW					Confirm with Nutritional Services before final approval of all Food Service Equipment.
Dry Storage Shelving	Metro, BR Series					Confirm with Nutritional Services before final approval of all Food Service Equipment.
Trash Container	Rubbermaid, 2632					Confirm with Nutritional Services before final approval of all Food Service Equipment.
1-DR Reach in Refrigerator	True, STR1R-1S					Confirm with Nutritional Services before final approval of all Food Service Equipment.
1-DR Reach in Freezer	True, STR1F-1S					Confirm with Nutritional Services before final approval of all Food Service Equipment.
20 GA. S/S Wall Flashing	Custom Fabricated					Confirm with Nutritional Services before final approval of all Food Service Equipment.
Combi Oven w/ Stand	Angelo PO, FX122G3T/TBFXAB12					Confirm with Nutritional Services before final approval of all Food Service Equipment; Height for stand?
Exhaust Hood (Type-I)	Streivor Air Systems, WCBD-CR 150 55 57 22.5					Confirm with Nutritional Services before final approval of all Food Service Equipment.
Fire Suppression System	Streivor Air Systems, Pyro Chem					Kitchen Hoods: Provide Fire Suppression System for New and Renovation Projects per Nutritional Services directive in Section 21 00 00 Fire Suppression System. Confirm with Nutritional Services before final approval of all Food Service Equipment.
Mobile Hot Cabinet	Crescor, H-137-UA-12d; Metro Unit					Confirm with Nutritional Services before final approval of all Food Service Equipment.
Mobile Tray Counter	Duek, Thurmaduke					Confirm with Nutritional Services before final approval of all Food Service Equipment.
Cold Food Serving Line	Duke, TST-88SS/ADI-4MD-N7/TS-461-74					Confirm with Nutritional Services before final approval of all Food Service Equipment.
Hot Food Serving Line	Duke, TST-74SS/ADI-4E-SW/TS-461-74					Confirm with Nutritional Services before final approval of all Food Service Equipment.
Milk Cooler	Beverage Air, SMF49Y-1-S					Confirm with Nutritional Services before final approval of all Food Service Equipment.
Mobile Cashier Counter	Duek, TCS-30SS					Confirm with Nutritional Services before final approval of all Food Service Equipment.
Condensate Food Hood (Type II)	Streivor Air Systems, CH 150 42 42 22.5					Confirm with Nutritional Services before final approval of all Food Service Equipment.
Dish machine	Hobart, AM-15T					Confirm with Nutritional Services before final approval of all Food Service Equipment.
Booster Heater	Hobart, AM-15T					Confirm with Nutritional Services before final approval of all Food Service Equipment.

			Wall Shelf/Utensil Rack	Advance Tabco, DT-6R-108				Confirm with Nutritional Services before final approval of all Food Service Equipment.
			Tray Drying Racks	Channel Manufacturing, ATDR-4				Confirm with Nutritional Services before final approval of all Food Service Equipment.
11 52 00	Audio Visual							Reference current IT standards at <a href="https://docs.ousd.org/specs/">https://docs.ousd.org/specs/</a>
11 66 23	Interior Gymnasium Equipment		Basketball	Porter center strut ceiling hung folding front braced 900 series; wall mounted side or up-fold acceptable also where applicable; type of backboard to be glass at main court and fiberglass at side courts; include break-away hoop with keyed switch in lockable box	<a href="https://www.gillporter.com/porter/porter-court-sports/basketball/ceiling-suspended-backstops/900-series-backstops.html">https://www.gillporter.com/porter/porter-court-sports/basketball/ceiling-suspended-backstops/900-series-backstops.html</a> ; Height adjustable?			Include pads around backboards; provide shatterproof backboards
			Volleyball	Porter Powr Trak end standards with pads and stanchions with sleeves and closure plate	<a href="https://www.gillporter.com/porter/powr-trak-vb-end-standards-w-pads.html">https://www.gillporter.com/porter/powr-trak-vb-end-standards-w-pads.html</a> ; Stanchions in floor?			
			Divider Curtain	Draper				Site specific - review with OUSD
			Pickle Ball					
			Badminton	Porter				Provide with poles, nets, stanchions, and floor sleeves
			Bench Seating					Site specific - review with OUSD
			Striping					Each sport with different color. Provide striping plan to OUSD facilities and athletic groups for review
			Wall Pads	Porter Supersafe with mounting clips	<a href="https://www.gillporter.com/porter/supersafe-wall-pads.html">https://www.gillporter.com/porter/supersafe-wall-pads.html</a>			Minimum height of 6'
11 66 43	Interior Scoreboards and Shot Clocks			Nevco	<a href="https://nevco.com/scoreboards/">https://nevco.com/scoreboards/</a>	X		B&G: Interior Gymnasium scoreboards should be wireless or have integrated scoreboard systems to avoid surface routing of cords across gymnasium floor. <b>Coordinate with OAL Director</b> ; shot clocks is site specific and shall be reviewed by OUSD; provide controls for scoreboard and shot clocks
11 68 13	Playground Equipment	Specific to each grade level	Basketball	Porter gooseneck backboard with goal and net; extension based on site constraints	<a href="https://www.gillporter.com/porter/gooseneck-basketball-systems-4'-extension.html">https://www.gillporter.com/porter/gooseneck-basketball-systems-4'-extension.html</a>			Provide with removable pole cushions
			Tetherball	Posts with tether ball	<a href="https://www.gillporter.com/porter/tetherball.html">https://www.gillporter.com/porter/tetherball.html</a>			
			Ball Walls	Park Planet with LA steelcraft - PC approved with DSA	<a href="https://www.parkplanet.com/ball-walls">https://www.parkplanet.com/ball-walls</a>			Size to be verified with OUSD and comes in 16'x8', 16'x12', and 24'x12'
			Maps	US map and world map			Site specific	
			Bench Seating				Exterior field sports (i.e. football, track, etc.); site specific review with OUSD	
			Soccer Goals		Provide for HS only fields when permitted			Provide a means to fasten goal to ground to prevent tipping
			Tennis Courts		HS only where needed			
			Track and Field		HS only where needed and shall be coordinated with OAL			Review specific needs with OUSD (i.e. shotput, long jump, etc.)
Goal Posts		HS only at field			Powder coated finish			
			Game Striping	Hopscotch, four-square, and dots for student lineup				Verify with OUSD which striped items are appropriate for each project and campus

11 68 16	Playground Structures	Locate play structures on the periphery of the school yard, but with buffer zones so that they are not immediately adjacent to property fence lines or buildings. Do not create "islands" that interfere with play courts.		Game Time	Play Structures provided are to meet specific age and grade requirements <b>and based on enrollment and number of recesses;</b> <a href="https://www.gametime.com/">https://www.gametime.com/</a>	X			B&G Preference is for playground equipment that are manufactured in the U.S. <b>NO KOMPAN STRUCTURES. Buildings and Grounds Department reserves the right to approve other vendors, if necessary; check for utilities prior to install and do not install over utility lines; see section 32 18 16 for playground surfacing; where appropriate, provide shade as part of equipment design</b>
<b>DIVISION 12 - FURNISHINGS</b>									
12 24 00	Window Treatment	Fit windows with shading systems to reduce glare and solar heating effects throughout the day.		Blinds: Levelor "Century" with 2 inch metal blade.	Blinds: Provide new blinds at all new windows. Evaluate existing window coverings and replace as necessary to match existing. Provide heavy duty hardware and control cord and vinyl coated cloth tape. Shades: Provide one shade per lite. Cords - seine line; Slats - 1/2 inch mahogany; Pulleys - Sop pulley on all shades; Rollers - single notch; wooden. <b>Extra Material:</b> Horizontal Louver Slats - 5% of operating hardware and slats installed for each size units. Window Shades - 5% of full size units installed. Package ALL with protective covering for storage and identified with labels clearly describing contents and site location.	X			<b>B&amp;G: Window coverings should NOT be installed in gymnasiums. Extra Materials</b> are to be stored on site in designated secured area; <b>if no designated secured storage area available on site, please transport extra materials to 955 High St. NO VERTICAL BLINDS WHEN POSSIBLE PER B&amp;G</b>
12 35 19	In-Wall Tables and Benches	Provide comfortable, age appropriate furniture. Strongly consider reconfigurable furniture that supports group activities and can also be easily and safely collapsed and stored by a single adult. Provide storage for furniture, including tables - space requirement varies by grade level.		Nelson Adams or Palmer Snyder: (No known equals) - Recessed mounted, 2 table unit, NRM-6 TB-2 Unit. Provide with anti-jackknife device and compression of torsion springs to prevent table from lowering rapidly and assisting with raising table. Pockets to be 16 gauge steel.	Provide new tables and benches at all new MP rooms and cafeterias. Evaluate condition of existing tables and benches and replace as necessary to match existing configuration. Field verification is required before ordering tables and benches. Install with vandal resistant fasteners.	X			<b>B&amp;G strongly recommends no wall recessed tables or benches. New construction: provide storage room for roll-away tables. Existing construction: remove wall recessed tables.</b>
12 36 53	Laboratory Casework			Taylor or Cambellrhea	Hardwood frame with 1 inch epoxy resin tops. Provide safety lip or wire at all lab and lab supply storage shelves. <b>Extra Material:</b> 5% of each type locks, hinges and pulls provided.	X			<b>Extra Materials</b> are to be delivered to the B&G Carpentry Department. Label all boxes with the site location.
12 66 13	Telescopic Bleachers			Hussey or Irwin		X			B&G: Gymnasium retractable seating are to be motorized <b>for 4 or more rows; deliver minimum of 2 controls per bleacher set</b>
<b>DIVISION 14 - CONVEYING EQUIPMENT</b>									
14 24 00	Hydraulic Passenger Elevator				<b>REF: OUSD Minimum Hydraulic Elevator Standards dated 11/25/10;</b> Type: Conventional holed hydraulic. (Roped hole less elevator is NOT permitted); Capacity: 4000 / 4500 pounds; Type Loading: Class A; Door Opening: 2 speed side - 48 inch wide X 84 inch high; Cart Platform: 6' - 0" W X 8' - 4" D; Speed: 150 FPM; Key: Recall switch - Innovation EX 516 barrel type key switch; Cathodic Protection: Provide cathodic protection of Jack Cylinder Assembly. Provide certification that electrical neutrality of the cylinder is satisfied with a Galvanometer permanently wired and mounted in the controller; <b>WARRANTY:</b> The Warranty period shall commence on the date of the issuance of the temporary operating permit by the State of California		X		<b>See Elevator Standards; provide 2-way communication to meet code</b>

14 42 00	Vertical Wheelchair Lift			National Wheel-O-Vator Model BC	<p>Type: Drive shall be a ball bearing nut and screw or hydraulic pump and ram; Capacity: 750 pounds; Doors: End Door - Minimum 32 inch clear opening; Side Door - Minimum 42 inch clear opening; Platform: 38 to 40 inch width on loading side and 51 - 60 inches long; Switches: Key Operated; <b>New Construction:</b> Set in recessed pit for flush transition; <b>Modernization Projects:</b> Utilize manufacture ramp, upper and lower gates. REFERENCE: OUSD Minimum Wheelchair Standards dated January 8, 2011; <b>WARRANTY:</b> The Warranty period shall commence on the date of the issuance of the temporary operating permit by the State of California.</p>	X			

Spec Section	Spec Section Name	Ed Specs and Design Guidelines	Item	Manufacturer / Model / Size	Facilities Standards	Substitute Allowed		Board Resolution	Building & Grounds (B&G), Custodial (CS), and Internet Technology (IT) Standards
						Y	N		
<b>DIVISION 21 - FIRE SUPPRESSION</b>									
21 00 00	Fire Suppression (At Kitchen Hoods)				Provide fire suppression system per code for all commercial kitchen hoods.		X		Nutritional Services: <b>New Construction</b> - Provide fire suppression system for all new Kitchen Hoods. <b>Renovations / Modernization Projects</b> - Upgrade existing Fire Suppression System in existing Kitchen Hood to all current code requirements.
21 13 13	Fire Sprinklers (throughout buildings)		Code and Standards		Codes and Standards: Latest editions of CBC, CFC, NFPA Standards 13, 20, and 24. Consultant design to include hydraulic design, hydraulic calculations, <b>signage</b> , labor and material for a complete automatic wet pipe type fire sprinkler per NFPA 123 and applicable codes. Determine actual static and residual pressure for the campus. Include site backflow prevention, PIV, FDC, and fire sprinkler riser assembly. Coordinate all supervision wiring from tamper switches, flow switches, water flow indicators, and wiring to fire alarm system.		X		
			Heads	Star, Central Heavy Duty		X			Flex heads are preferred if acceptable to code
			Piping		Schedule 40 black steel. ASTM A-135 or A-53, with UL approved ductile iron or cast iron threaded fittings. UL approved grooved fittings and associated coupling may be used. Schedule 10 UL approved pipe with UL approved groove fittings associated coupling may be used in pipe size 3 inches or larger except where exposed in gymnasium. General Notes for Piping: HVAC ducts and gravity flow plumbing piping shall have right of way over sprinkler piping. Grade piping for drainage and provide drain valves as required by Code. Piping shall be thoroughly flushed and proved clean before final connection are made.				Enclosure for all standpipes when allowed by code; or gate valve lockout required
<b>DIVISION 22 - PLUMBING</b>									
			Water Closets	American Standard, Kohler	Floor mounted flush valve type when feasible. <b>Wall mount fixture requires approval by Facilities Director.</b>	X			B&G - American Standard: Madera (Floor Mount) / Afwall (Wall Mount) . <b>Install wall cleanouts at end of run of sinks, toilets &amp; urinals at restrooms and classrooms. Clean outs on wall at a min of 18" above floor.</b>
			Urinals	American Standard, <b>Kohler (strainer built in).</b>	Wall mounted flush valve type when feasible.	X			B&G - <b>Install wall cleanouts at end of run of sinks, toilets &amp; urinals at restrooms and classrooms. Clean outs on wall at a min of 18" above floor.</b>
			Flush Valves	Sloan Royal Flushometer	<b>Flush Valves, threaded connection only from inner wall to outer wall, not soldered, with brass nipples</b>		X	1415-0161	

22 00 00

Plumbing Systems

Comply with East Bay Municipal Utility district (EBMUD) Section 31 - "Water Efficiency Requirement" guidelines for water efficient fixtures and reclaimed water (where available) to reduce sewage conveyance from toilets and urinals. All classrooms should be equipped with a sink and running water. Refer to the Materials Standards as well as the California Code of Regulations for details. Plumbing consultant is responsible to complete the application for "EBMUD Water Service Requirement - Section 31 Water Efficiency Requirements Checklist".

Lavatory and Sinks	American Standard, (Elkay T-K)	Provide CW only except for staff and severely disabled. <b>For disabled use, add mixing valve.</b> At Kindergarten, T-K and CDC Classrooms - provide sinks appropriately-sized for both students and teachers.	X			<b>B&amp;G - American Standard: Comrade or Roxalyn (without concealed arms). Install wall cleanouts at end of run of sinks, toilets &amp; urinals at restrooms and classrooms. Clean outs on wall at a min of 18" above floor. Sinks and Drinking fountains, provide clean out on vents above sinks; provide one shut-off per sink</b>
Faucets	Chicago			X	1415-0161	<b>Delta soft touch for metering faucets is easier for earlier grade levels.</b>
Drinking Fountains	<b>Interior: Haws 1119-14 heavy duty S/S; Exterior: Haws 1430 or 1431 cast aluminum or cast iron</b>		X			<b>B&amp;G - Provide clean out on vents above sinks.</b>
Hydration Station	Elkay - E2H2O or Most Dependable Fountains 10485WMSS or similar	Locate hydration stations at Cafeteria/Multi-Purpose Rooms. Exterior stations provide as follows: Elementary: Qty. 1- 2, Middle: Qty. 2- 3, High School: Qty: 3- 4. Locate throughout campus and adjacent to drinking fountains when available. They shall be non-filtered and non-refrigerated.	X			<b>Bottle station to be provided on pedestal where building is not nearby</b>
Hose Bibb				X		B&G - At ALL public and exterior locations - provide brass hose bibb with loose key. Locate hose bibbs in close proximity to Outdoor Classroom Gardens. <b>Add hose bibbs at restrooms with floor drains.</b>
Domestic HW and CW Piping		Type L copper tubing, hard temper with wrought copper fittings at inside of building. Provide separate EBMUD meters for Domestic Water, Irrigation Water and Fire Service (Fire Sprinklers and Hydrants.). On all CW, irrigation and fire systems, backflow preventors should be added.		X		B&G: Provide isolation valves to allow for school to continue to operate if maintenance is required; <b>DHW to be provided at all staff restrooms, kitchens, reheat kitchens, nurse offices, staff lunch rooms, and showers</b>
Gas Piping (inside building)		Schedule 40 black steel with malleable iron threaded fittings for pipes 2 inch or smaller. Class 150 welded fittings for pipes 2-1/2 inches or larger. Label pipe for "Natural Gas" in accordance with CPC. Also label water and re-circulation lines to indicate direction, and provide a consistent color coding scheme.		X		Provide and number isolation valves to allow for school to continue to operate if maintenance is required.
Gas Piping (Site Underground)		Polyethylene with ASTM D2513, ASTM D3261, and ASTM D2683 fittings with fusion welded joints.		X		B&G: Provide and <b>number</b> isolation valves to allow for school to continue to operate if maintenance is required.
Soil, storm, and Sewer (Site Underground)	Underground couplings: Anaco, Husky, Clamp All, or Mission Heavyweight couplings for joints underground	Piping underground and to 6 inches above ground, and soil piping above ground: Service weight no-hub cast iron soil pipe <b>or PVC</b> and fittings, asphaltic coated, CISPI Std. 301 stamped.		X		<b>B&amp;G: Provide cleanouts for waste and storm drainage systems every 75' and for every change of direction.</b>
Sewer (above ground)		Waste pipe above ground from lavatories and sinks, rainwater leaders and overflows inside and outside buildings above grade: <b>Cast iron or PVC pipe with black cast iron drainage fittings.</b>		X		
Vent Piping		Service weight cast iron soil pipe and fittings for piping 3 inch and larger, <b>cast iron</b> with black cast iron drainage fittings for piping 2-1/2 inch or smaller.		X		
Domestic Water Heaters		Gas fire preferred. Electric tank for under counter or electric instantaneous type only for remote areas or small loads. Install per code and with ample clearance for service.	X			<b>Source shall not be connected to a boiler system, but rather standalone with tank. Insta-hot water heaters acceptable with approval from district maintenance department</b>

			Mop Sink	Florestone Model 85 24"x24"x12"; Faucet: American Standard 8350.243 wall mounted	Florestone model terrazzo mop sink. Tan and white marble chip cast in white Portland cement. Faucet: American Standard, wall mounted, cast brass body, metal lever handles with hot and cold indicators, vandal resistant screws, vacuum breaker spout with bucket hook and threaded hose.				
			Grease Interceptor	Schier GB-35 Seamless Rotational Molded Polyethylene	Seamless rotational molded polyethylene, built-in flow control and test caps, 35 gpm flow rate, 142 lbs. capacity.				
			Floor Drain	Zurn #Z415B floor drain	Floor drain dura-coated cast iron body with bottom outlet, combination invertible membrane clamp and adjustable collar with seepage slots and "type b" polished nickel bronze, light duty strainer.				All floor drains with trap primers; No cleanouts allowed
			Floor Sink	Zurn #Z1910 floor sink	Dura-coated cast iron body with bottom outlet, combination membrane clamp and adjustable collar and medium duty grate.				

**DIVISION 23 - HEATING, VENTILATING, and AIR CONDITIONING (HVAC)**

			Code and Standards		Latest editions of CBC, CMC, CPC, CEC, ASHRAE Standards, NFPA Standards, SMACNA Standards.				
23 00 00	General Mechanical Requirements	Sustainability is a guiding principle for all projects with design criteria established by the Collaboration for High Performance Schools (CHPS), in order to "protect student and staff health, and enhance the learning environments of school children everywhere; conserve energy, water, and other natural resources, and reduce waste, pollution, and environmental degradation." Moreover, these elements should be made visible and prominent so that facilities become teaching tools. <b>OUSD resolution to reduce or eliminate fossil fuels.</b>	Valves - ball	<b>Nibco, Hammond, Stockham, Belimo</b>	Ball valves are preferred for shutoff duty	X			
			Valves - balance	Bell and Gossett "Circuit Setter"	Calibrated Balance Valves - provided for balancing	X			
			Steam Traps	Armstrong Hoffman; <b>Honeywell</b>		X			
			Steam Radiators		Pneumatic thermostats or manually operated valves are preferred.		X		B&G - TP970 Thermostat Modernization Kit with Universal Adaptor. Not to be controlled with self contained thermostatic control valve. Provide heavy duty / student proof thermostat covers. Provide wire cages for ALL devices located in Multi Purpose Room and Gymnasiums.
			Gauges	Marsh, Danton, U.S. Gauge		X			
			Thermometers	Rochester, Palmer		X			
			Access Doors	Milcor, Newman		X			<b>B&amp;G requires minimum 12X12 -- but 24X24 preferred.</b>
			Expansion Loops	Metraflex, Metraloop		X			
			Pumps	Bell and Gossett, Paco, Taco, Armstrong		X			
			Motors - Premium efficient types	General Electric, Gould, Lincoln, Central Electric		X			
			Motors - Starters	Square D, Allen Bradley in NEMA enclosure		X			
23 07 00	Thermal Insulation Mechanical Systems				Domestic HW & CW outside of building insulation envelope; Heating HW piping, steam and steam condensate return piping, chilled water piping, refrigerant suction piping, HW storage tanks, chiller barrels and supply and return ductwork. Ductwork insulation - R values as required by code.		X		
			General						Label ceiling grid where items exist above ceiling that require regular maintenance
			Boilers	<b>1) Weil McLain;</b> <b>2) Peerless;</b> <b>3) Cleaver-Brooks;</b>	See manufacturer's listed. <b>Modernization Projects:</b> If existing system is steam and it is not feasible to change the entire school to hot water, remain with steam and replace existing boiler with new cast iron sectional boiler. Use forced draft burners where necessary.	X			B&G: Locate Boilers at ground floor or first floor only. Do not locate Boilers on second floor. Must be high efficiency. Must be reviewed and approved by B&G. <b>90% or higher efficiency.</b>



23 30 00

Heating, Ventilating, and Air Conditioning

Classroom ventilation should provide comfortable temperatures. Use passive ventilation and sustainable design options when possible. Avoid placing fans under lights to eliminate flicker. Avoid A/C when possible. All Classroom should have independent control of heating systems. Install interlock system that would turn off heating and cooling when doors and windows are opened. Consider methods to improve air quality.

Roof Top Packaged Heating and Ventilating (HV) Units	Trane, York, <b>Coleman</b> , Reznor, Sterling, or approved equal. <b>Carrier is NOT an approved equal.</b>	Units shall be gas fired with minimum 80% AFUE. Provide with manufacturer's roof curb and economizer.	X			B&G - ALL HV & HVAC units provided must be compatible with the Alerton BACnet System with NO EXCEPTIONS; Roof Top units are preferred. Split Systems are NOT to be provided. Carrier is NOT recommended as it is not compatible with the OUSD EMS controls without major modifications.
Roof Top Packaged Gas-Electric HVAC Units	Trane, York, <b>Goodman, Daikin</b> or approved equal. <b>Carrier is NOT an approved equal.</b>	Gas fired with minimum 82% AFUE. Cooling EER/SEER shall be not less than that required by Title 24. Provide with manufacturer's roof curb and economizer.	X			
Air Handlers	Trane, York, <b>Coleman, Daikin, Goodman</b> or approved equal. <b>Carrier is NOT an approved equal.</b>	Provide with manufacturer's HW heating coil, economizer mixing box section, filter section, internal spring vibration isolation, and roof curb (for rooftop installations).	X			
Indoor Furnaces	Trane, York, <b>Coleman, Daikin, Goodman</b> or approved equal. <b>Carrier is NOT an approved equal.</b>	High efficiency condensing type furnace. Provide with minimum 20 year Burner warranty	X			
Outdoor Air Cooled Condensing Units	Trane, York, or approved equal. <b>Carrier is NOT an approved equal.</b>	EER/SEER shall not be less than that required by Title 24	X			
Fans	Penn, Greenheck, Cook, or approved equal.	Provide rooftop, cabinet, in-line or ceiling type as required. Provide manufacturer's roof curbs, back draft dampers, bird screens, etc. as applicable. For toilet room applications - provide two-speed fan with light on at high speed and light off at low speed.	X			
Hot Water, Chilled Water, and up to 15 PSI steam piping above grade	Victaulic or equal - cut or roll grooved type fittings for chilled water piping only is permitted.	Schedule 40 black steel pipe, ASTM A-53, threaded malleable iron fittings for 2 inches and smaller, standard weight ANSA B 16.28 welding fittings for sizes 2-1/2 inches and larger.		X		
Steam Piping Greater Than 15 PSI Above Grade		Schedule 40 black steel pipe, ASTM A-53 with Schedule 40 ANSI B 16.9 welded fittings.		X		
Steam Condensate Return Piping, Including Pumped Return and Steam Vent Piping		Type K hard copper tubing with wrought copper solder fittings. Exposed piping at Boiler Room to be Schedule 80 black steel pipe with Schedule 80 ANSI B16.9 welded fittings.		X		
Air Conditioning Condensate Drain Piping		Type DWW copper tubing with wrought copper fittings.		X		
<b>Ceiling Fans</b>	<b>Big Ass Fans</b>		<b>X</b>			<b>Site specific and review locations with OUSD; must be integrated with mechanical system</b>
Refrigeration Piping		Type L hard drawn ACR copper tubing with wrought copper fittings. All joints shall be made with Sil-fos.		X		
Ductwork		Galvanized sheet metal; aluminum sheet metal in wet areas and when handling moist air. Duct gauges as required by Code, SMACNA and ASHRAE Standards.				<b>Provide sound traps and/or silencers in applicable projects requiring acoustical separation - confirm with OUSD which types of projects apply; architect to provide an acoustician as needed for recommendations</b>
Filtration	"Farr" 30/30 or approved equal	Provide all HV and HVAC equipment with 2 inch thick, U.L. Class II, 25 - 30% efficient pleated media disposable filters.	X			
Air Distribution Devices	Titus, Krueger, Metalair, Tuttle, Bailey or approved equal	Diffusers, registers, and grilles	X			

			Execution		Provide expansion loops or expansion joints in piping with proper anchors for thermal and building expansion. Provide anti-vibration bases and hangers to insure systems will operate without objectionable vibration. Provide chemical treatment systems for all hot water and chilled water piping systems. Add conditioning treatment system for all mechanical water systems.		X		
			Commissioning		Provide testing and balancing reports for all air and water systems. Instruct District Personnel on operation and maintenance requirements for all systems. Commission all temperature control systems.		X		Specs shall require GC to start gathering documentation early (i.e. checklists, startup, forms, etc.). Be proactive during project versus waiting till end of project
<b>DIVISION 25 - INTEGRATED AUTOMATION</b>									
25 50 00	Temperature Controls and Energy Management and Control System (EMCS)	HVAC systems should be centrally controlled and individual rooms should have controls to adjust this temperature up or down within a set range. During non-school hours, administrative custodial staff must be able to control the HVAC system for special events or community use. Climate controls should be compatible with the district energy management system. Install interlock system that would turn off heating and cooling when doors and windows are opened.	Temperature Controls	Honeywell VP525A & TP970 Thermostat Modernization Kit with Universal Adaptor; <b>Honeywell 5000 Pro Digital Controls</b>	Work includes temperature controls for all HV, HVAC systems and equipment. Provide electric/electronic programmable time clocks, controllers, room temperature sensors, bypass timers, damper actuators, valve actuators, etc.		X	1415-0161	B&G - EMCS: Alerton BACnet System (No substitution Board Resolution #1415-0161); <b>provide lockable covers for thermostats</b>
			EMCS	Alerton BACnet System	Provide Title required sequences, include but not limited to night set-back and set-up, and pre-occupancy purge cycle. All temperature control wiring shall be in conduit. All contract drawings and documents are to specify that the Contractor is responsible for the installation of conduits and cabling connecting the EMCS to the network switch located at the MDF and/or IDF Rooms.		X		
			Commissioning		Commission all temperature control systems and instruct District Personnel on proper operation and maintenance.		X		<b>Alerton provides controls; Syserco installs; Honeywell provides previous controls.</b>

Spec Section	Spec Section Name	Ed Specs and Design Guidelines	Item	Manufacturer / Model / Size	Facilities Standards	Substitute Allowed		Board Resolution	Building & Grounds (B&G), Custodial (CS), and Internet Technology (IT) Standards
						Y	N		
<b>DIVISION 26 - ELECTRICAL</b>									
26 05 00	Basic Materials and Methods	All C10 Licensed Electrical Contractors shall adhere to the installation guidelines of the NFPA 70 (National Electrical Code). Local, state and federal guidelines for seismic and building codes included for fire life and safety, shall also be adhered for all installations. C-10 Contractors will be held liable per State Law licensing board upon proof of violating and of or negligence of unsafe and code violating installations. Buildings & Grounds Electrical Standards are for the sole purpose of preferred location & product installation methods per code to minimize maintenance distractions.	Conduit		Rigid Steel; Intermediate Metallic (IMC); Coated Rigid Steel; PVC Type 40; Electrical Metallic Tubing (EMT); Flexible Conduit.		X		No conduit of ½ inch or smaller to be installed from electrical equipment panels or as a homerun feed. No underground installation of ½ inch electrical conduit permitted anywhere. A minimum of ¾ inch conduit shall be installed; follow code
			Outlet Boxes		Pressed Steel Type; Cast Metal Type.		X		
			Wire		Copper ONLY; Type THW or XHHW insulation for feeders; type THHN or THWN for branch circuits; 90 degrees centigrade insulation for high temperature areas; #8 AWG and larger - stranded.		X		All wiring, including low voltage lighting control cable is to be installed in conduit. No exposed wiring.
			Wal Switches		AC rated; heavy duty 20 amperes specification grade; 277 volts AC		X		
			Floor Outlets		Adjustable, cast metal body type for ground level; steel type for above ground level. Single or multi compartment as needed for power, data, and telephone.		X		
			Convenience Outlets		Shall be rated 20 amperes at 125 volts, specification grade. Weatherproof cover; GFCI type.		X		
			Panel Boards		Copper busses; Bolt-on molded case breakers; Breakers with pad-locking tabs.		X		
			Switches		"HD" Heavy Duty		X		
			Pull Line		1/8 inch diameter braided line of polypropylene or pull rope; 200 pound break strength.		X		
			Pull Boxes		Concrete Box with concrete lid and hold-down bolts. Steel lids for larger boxes.		X		
			Backboards		3/4 inch plywood, AC grade.		X		
			Terminal Cabinets		Metal cabinet with hinged door and lock.		X		
			Lighting Contactors		Rated 30 Amps lighting load.		X		
			Ground Rods		3/4" x 10 feet copper clad.		X		
			Transient Voltage Surge Suppressors (TVSS)				X		
Device Plates		Plates shall be 0.040 inch S/S, satin finish; Smooth plastic nylon.		X					
			Metal Raceway	Wiremold 4000 type metallic or AL 4000 series	Metallic surface mounted raceway with full compliment of fittings. Non metallic raceway is NOT permitted.		X		IT: Provide metallic surface mounted raceway where applicable. Wiremold 4000 series or Hubbell 4750 Series. Color shall blend in with wall color, confirm with OUSD facilities; should only be needed in renovation projects as new shall have conduit concealed in walls; where appropriate, raceway may be used in new construction for future flexibility, review with OUSD
26 12 16	Dry Type Transformers				General purpose, dry type, aluminum core, rated 480 Volts primary to 120/208 Volts secondary, 3 phase, 4 wires, 150 degrees C rise, ss0 degrees C insulation. Transformers to be K-Rated and shielded for areas with heavy computer use.		X		Exterior transformers to be made inaccessible by means of fencing, in order to insure public safety.

26 13 00	Switchgear			Square D, <b>Siemens</b> ITE, Westinghouse, General Electric	Freestanding switchgear with pull section, main section and distribution system. UL listed per UL 891; NEMA PB-2. Completely self supporting, 90 inches high, NEMA-1 or NEMA-3R. Rated (481/277) (120/208) Volts, 3 phase, 4 wires. A/C rating as required. Bus bracing at 65,000 RMS Symm. Amps. Tin plated aluminum bussing. Thermal magnetic breakers. Ground fault protected main breaker where required. Thermostat.		X		External panels or junction boxes capable to be locked, fenced in, with ability of tapping to intrusion system to limit copper theft.	
26 31 00	Photovoltaic Collectors	All roofs shall be made solar-ready with consideration for roof pitch, orientation, and equipment locations.			<b>Metal standing seam roofing is idea for PV installation. Whether solar is installed in initial phase or not, provide necessary solar infrastructure and readiness including, but not limited to capped conduit from utility room to solar location, space in utility rooms for additional transformers, and space on the switchgear for the meter</b>		X		Reference: Solar Photovoltaic (PV) Guidance dated June 11, 2021. For renovation projects, provide a new roof for solar install projects	
26 50 00	Lighting	Lighting should provide a comfortable classroom environment with appropriate visual conditions. Where possible there will be a combination of natural and artificial lighting. Artificial lighting should have brightness controls and zoned variable lighting controls. Outdoor space shall be well lit. <b>Security lights outdoors to be on dusk till dawn. Outdoor lighting to meet Title 24 and controlled dusk to dawn by means of standalone on site time clock. ( Intermatic Digital ET2805C preferred ) OR photocell.</b>	Lighting		<b>All lighting shall be LED at all locations.</b>		X		B&G: Up lights are not a good source of light and are difficult to maintain. Up lights need to be readily accessible with high efficiency bulbs (LEDs). Pendant light fixtures tends to accumulate dust and requires regular cleaning. Surface mounted light fixtures are preferred or provide pendant light fixtures with top covers. <b>LED lighting only.</b> Preference is for no motion detectors at student restrooms. Provide motion sensors in corridor lighting except for N.L. Prefer locating lighting control system in central area such as Elec Room by the Main Panel. Provide ID of fixture location when power packs are installed within the fixture. Avoid placing power packs <b>in ceilings</b> . Motion detectors will be installed in student restrooms but set with a minimum operating time of 20 minutes. <b>Color Temp is 4100K and CRI shall be minimum of 85.</b> Lighting in stairwells and auditoriums should be accessible enough to allow for repairs and routine maintenance.	
			Lighting Controls	Wattstopper is the preferred on site standalone lighting control system						<b>Contractors should be responsible for completely removing old lighting control systems when they are engaged in installing new lighting control systems during school modernization. Lighting Control Relays will no longer be inside the ceilings where maintenance becomes a distraction. Relays should be installed either inside the room on a wall or cabinet of some kind. Please confirm location with Electrical Dept.</b>
			Ballasts		Electronic fluorescent ballasts, HPF >98%, <15% THD, NO PCB's, Class A, Thermally Protected, CBM Label; HID Ballasts, HPF, regulated.					
			Lamps	<b>LED only 4k</b>	Fluorescent T8 and T5HO type; 25 watt; Clear HID type. Luminaries shall be UL labeled.					
			Light Poles		Minimum 90 MPH wind rated with 1.3 gust factor.					

			Exit Signs - High Level		High level EXIT signs shall be Back mounted and electrically (120/277 volts) illuminated. <b>Surface mounts only are allowable in combination with emergency lighting systems.</b> Signs are to be vandal resistant with polycarbonate shields. Secure sign with tamper resistant fasteners. <b>All lighting shall be LED at all locations. Provide hard wired exit signs / emergency light combo title 20 compliant in all classrooms.</b>				
			Exit Signs - Low Level		Floor Level Exit signs are to be back mounted with vandal and tamper resistant fasteners. <b>NEW Construction</b> - EXIT signs are to be hot wired with NO Exceptions unless approved by the Director of Facilities. <b>Renovation and Modernization Projects</b> - Non powered self luminous Photo luminescent EXIT signs are permitted. <b>Radioactive Tritium EXIT signs are NOT permitted.</b>				

**DIVISION 27 - COMMUNICATIONS**

27 20 00	Data Communications System	Appropriate cabling and outlets will be installed in each classroom to provide for a variety of network technologies and stand alone equipment. At least one wall will have power and outlets running along the entire length of the room. Grounded outlets should be provided when possible. All classrooms should have network access. It is OUSD's goal that all students should have access to Wi-Fi. Server rooms (MDF and IDF rooms) must be secure, and separate from other school functions and must be well-ventilated & temperature controlled to manage over heating and enable proper maintenance.					X		<p><b>IT: Non-metallic raceway is NOT permitted.</b></p> <p><b>B&amp;G: Preference is for the MDF Room to be located directly adjacent to an exterior roof to allow placement of a HVAC roof top unit. A split system HVAC unit is not permitted;</b></p> <p><b>Reference current IT standards February 2021 at <a href="https://docs.ousd.org/specs/">https://docs.ousd.org/specs/</a></b></p>
27 30 00	Telephone System	Equip classrooms with a phone and paging system that can make and receive calls, and enables communication with other classrooms and administrators.		Avaya IP-500	Furnish and install a complete Telephone System. Verify with <b>OUSD</b> if site will be converting to VOIP. Outside Plant Cables: Multi-conductor gel filled cable. Station Cables: Standard multi-pair twisted cable. Connectors: RJ-11 standard telephone connector. Accessories: Terminal blocks, cross connect cables, equipment cabinets, wire management and plywood backboard. All cabling are to be installed in steel conduits. Coordinate the installation of the telephone system with the Rauland TeleCenter <b>U</b> where applicable. <b>ALL projects shall be coordinated with B&amp;G and IT.</b>		X	1415-0161	<p>B&amp;G: Project Manager is responsible for notifying B&amp;G - TeleCom Dept. on any new and additions to the telephone system. B&amp;G TeleCom Dept. is to confirm with AT&amp;T if the existing service is sufficient and whether additional service is required and order additional service as required. Design Team is to confirm, coordinate and identify with AT&amp;T the responsible party for the installation of all and any trenching, conduit and cabling that will be required to the MPOE. <b>B&amp;G is not responsible for any equipment malfunction repairs or operation training to school sites with IT projects affecting existing Telecom equipment. Reference current IT standards February 2021 at <a href="https://docs.ousd.org/specs/">https://docs.ousd.org/specs/</a></b></p>

27 50 00	Intercom / Paging / Clock / Signal Controls	Equip classrooms with an intercom and bell system that allows administrators to deliver school-wide announcements and implement a bell schedule and a phone and paging system that can make and receive calls and enables communications with other classrooms & administrators.		Rauland - Telecenter U	Fully operable communication system for ALL schools - CDC/Elementary/MS/HS. <b>ALL projects shall be coordinated with B&amp;G and IT.</b>		X	1415-0161	B&G: Telecenter U may be tied in with OUSD networking system at OUSD option. Speakers - provide 14 gauge shielded copper wiring. Cables - Cat 5e or Cat 6 cable. All cabling are to be installed in steel conduits. <b>Cables will be color coded as follows: fiber: orange; phones and speakers: gray; data: blue; alarm systems: red (in conduit).</b> B&G is not responsible for any equipment malfunction repairs or operation training to school sites with IT projects affecting existing intercom equipment. Reference current IT standards February 2021 at <a href="https://docs.ousd.org/specs/">https://docs.ousd.org/specs/</a>	
27 51 26	Assistive Listening Device				Wireless Large Area ALD System		X		Reference current IT standards February 2021 at <a href="https://docs.ousd.org/specs/">https://docs.ousd.org/specs/</a>	
<b>DIVISION 28 - ELECTRONIC SAFETY and SECURITY</b>										
28 20 00	Cameras				Provide cameras and coordinate with B&G and IT.				Reference current IT standards February 2021 at <a href="https://docs.ousd.org/specs/">https://docs.ousd.org/specs/</a>	
28 31 00	Intrusion Alarm System	Intrusion alarm shall feature multiple control zones , allowing certain zones to be secured while others are open.		Bosch/Radionics B9512G. No substitution. <b>Installed and programed by Bosch Certified Technicians only.</b>	Furnish and install a complete intrusion alarm system including but not limited to all cables, motion detectors, wire guards, glass break detectors, alarm contacts, arming stations, central control unit, RJ31X phone jacks, sounders, etc. All wires and cabling are to be installed in steel conduits. Provide magnetic door contacts at all roof top hatches. Key Pad: Verify and coordinate location of the Key Pad with Buildings and Ground. Key Pad is NOT to be located in any public areas.		X	1415-0161	B&G: Reference - <b>OUSD Intrusion Alarm System Standards (March 9, 2021) and Combination Fire Alarm and Intrusion Standards (December 11, 2013 and Revision dated 2/13/2014)</b> Installer must be ACE (Alarm Company Employee) licensed through the State of California Bureaus of Investigative Services, Department of Consumer Affairs. <b>Warranty Requirements: One month prior to the expiration of the warranty period, the installer shall provide a factory trained service representative to conduct a 100 percent test of the work performed. Any deficiencies found during that testing shall be corrected under the warranty agreement. No T-tapping allowed of intrusion alarm circuit wiring per Bulletin 21-01.</b>	
28 46 00	Fire Alarm System			Simplex 4100ES - District Standard	Fully operable addressable automatic fire detection and alarm system. All wiring are to be installed in conduits. Provide "red" conduit in concealed areas. Note: Heat detectors are required at ALL student toilet rooms. <b>Confirm approval by DSA.</b>		X	1415-0161	B&G: Reference - <b>OUSD Fire Alarm Standards (dated March 9, 2021) &amp; Combination Fire Alarm and Intrusion Alarm System Standards (dated 12/10/15).</b> <b>Warranty Requirements: One month prior to the expiration of the warranty period, the installer shall provide a factory trained service representative to conduct a 100 percent test of the work performed. Any deficiencies found during that testing shall be corrected under the warranty agreement. No T-tapping allowed of fire alarm circuit wiring per Bulletin 21-02 and Bulletin 21-03 addresses POPIT module point assignments; provide Knox boxes with OUSD approval</b>	

Spec Section	Spec Section Name	Ed Specs and Design Guidelines	Item	Manufacturer / Model / Size	Facilities Standards	Substitute Allowed		Board Resolution	Building & Grounds (B&G), Custodial (CS), and Internet Technology (IT) Standards
						Y	N		
<b>DIVISION 32 - EXTERIOR IMPROVEMENTS</b>									
32 12 16	AC Paving	At schoolyards/athletic courts that are being used for parking, provide higher density asphalt sections on areas that will be driven on by vehicles.			Conform with city of Oakland Public Works sidewalk code. Repaving: Incorporate paving fabric in overlay or in replacement A/C over compacted fill. AB is to be Certified as being free of hazardous material. Striping is to comply with ADA standards. AC section to comply with Geotechnical Report recommendations.		X		
32 14 00	Unit Pavers				<b>Extra Material:</b> 2% of amount installed but no fewer than 10 insert units. Full size units for each size, color and pattern provided.				B&G: <b>Extra Materials</b> are to be stored on site in designated secured area.
32 17 23	Pavement Markings				All signage to comply with ADA & Title 24 requirements. Parking Lot: 0.125" aluminum panel with baked porcelain enamel finish mounted to 3" galvanized steel post set in 12" diameter X 36" deep concrete footing.				
32 18 13	Synthetic Grass Surfacing				Use at sports field applications.				
32 18 16	Synthetic Resilient Surfacing			Softtile by Soft Surface Tiles.	<b>SoftTILE Premium Series. Test Results: Impact Attenuation test results shall be provided to OUSD or OUSD's representative. These test results shall be certified by and submitted on independent testing laboratory letterhead. Test results shall meet or exceed USCPSC guidelines for impact attenuation. The cost for the testing is to be paid by the contractor.</b>		X	1415-0161	<b>The architect, landscape architect or design team are to avoid placing decomposed granite material adjacent to playground safety surfaces. Use stabilizer as part of decomposed granite.</b>
32 18 23.33	Running Track Surfacing								Architect to suggest product
32 31 13	Chain Link Fence and Gates	Provide appropriate fencing to establish and secure the campus boundary while welcoming community use.			10 ft high with 1 inch mesh - 9 gauge wire with padlock hasp at gates. Provide knuckled top and bottom with end closed.		X		
32 31 19	Decorative Metal Fence and Gates	Provide appropriate fencing to establish and secure the campus boundary while welcoming community use.			8 ft high that prohibits climbing. Locate fencing around building compound.		X		
32 32 13	Cast-in-Place Concrete Retaining Walls								Apply graffiti coating all surfaces
32 33 00	Site Furnishings	Provide storage racks and dedicated lanes for bikes, scooters, and skateboard to meet the <u>CHPS criteria for Human Powered Transportation</u> . Locate racks directly off bike paths near an area with frequent foot traffic, preferably near the main entrance to the school grounds.	Skateboard Racks	BoardLoch Spartan 14 or approved equal.			X		
			Benches	Architect to propose	<b>Extra Material:</b> Bench Replacement Planks: Not less than 2 full size units for each type and size provided		X		B&G: <b>Extra Materials</b> are to be delivered to the B&G Carpentry Department. Label material with site location of benches. <b>B&amp;G highly recommends using metal, in lieu of wood, benches;</b> Review with OUSD whether this item is appropriate for a given campus and/or project; if wood is used, review suggested finished and/or coatings with OUSD
			Bike Racks	<a href="https://www.ribbonrack.com/">https://www.ribbonrack.com/</a>	Cal Green/CHPS requires enclosed lockable units and ribbon style		X		Site specific for quantities and follow CHPS requirements; only use locking compartment if required by code (maintenance and vandalism issues)

			Picnic Tables	Architect to propose		X			Review with OUSD whether this item is appropriate for a given campus and/or project; should be metal with plastic/rubber coating
			Garbage Receptacles	Architect to propose		X			Review with OUSD whether this item is appropriate for a given campus and/or project
32 80 00	Irrigation		Controller	Irritrol	Comply with EBMUD Section 31 Water Efficiency Requirements. No spray system is permitted in area equal to or less than 8 feet. Bubblers are required. The Landscape Architect/Designer is responsible for completion and certification of the applicable section of EBMUD "Water Service - Section 31 Water Efficiency Requirements Checklist"				Review and coordinate requirements with B&G Grounds Department Manager. <b>Request by B&amp;G plumbing to have copper irrigation lines installed under all paved areas. B&amp;G does not want installation of subsurface irrigation installed; provide quick coupler at regular intervals for hose connections</b>
32 90 00	Planting	Comply with OUSD Vegetation Policy 09-2949. Comply with water conservation and paving surfaces per CHPS. Consider Implementing principles of environmentally friendly landscaping in the Bay Area, as established by the Bay Friendly Landscape (BFL) Guidelines. Include measures to protect landscaping areas from general foot traffic and student activities.			All plant materials are to be indigenous to the climate zone, low water consumption, drought resistant and low maintenance. Avoid plants with stickers or thorns. All trees to be deep rooted. Do not locate trees near fences or buildings. Utilize deciduous shade trees to provide summer shading of buildings and parking lots. NO shallow rooting trees. Provide root barrier to prevent spread of roots under paving and buildings; <b>small sod areas around campus shall be synthetic turf with weed barrier</b>		X		Review landscape plans with B&G Grounds Department prior to implementation. Avoid hiding areas in landscaping. Reduce use of plants that require a high-level of shearing. Non-fruit bearing trees in open areas is preferred. Fruit bearing trees may be planted in secured "Outdoor Classroom Gardens". Olive trees are NOT recommended as they drop seeds, pollen and fruits to the ground which creates a hazardous condition for the staff and students. <b>NO LARGE BOULDERS and no loose rocks. See approved Plant/Tree List from Garden Dept.</b>
N/A	Outdoor Classroom Gardens	Design school gardens as educational tools. Engage school teachers and the OUSD Garden Coordinator to develop individualized plans for using each school garden. Provide a variety of outdoor garden spaces used for instruction, play and exploration. Garden areas should receive ample direct sunlight. Consider the effects of water drainage on school buildings and athletic fields. Locate gardens away from kitchen waste enclosures or other pest-prone areas. Approximate Values for a Single Class (20 - 30 students): Area - 1000 SF; Planter Boxes - 8 each; Compost or organic planting needed material per yard - 1.5 cubic yards. <b>Coordinate with the district's "Garden Coordinator" for suggested plant material list and other guidance.</b>							