

PIEDMONT UNIFIED SCHOOL DISTRICT

FACILITY

DESIGN STANDARDS

Piedmont Unified School District
760 Magnolia Avenue
Piedmont, CA 94611-4088

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PART 1 PREFACE

Background

The Piedmont Unified School District is conducting a renovation and building program to address the condition of aging facilities and to address seismic deficiencies throughout the District.. In a building program of this magnitude that involves many different projects, architects, engineers and other design professionals, it is imperative to take steps to ensure uniformity of approach to the projects by the various design teams. The District needs to express its needs and desires with respect to quality and type of materials and systems to be incorporated into the various designs. These specific needs are identified in this document, the Piedmont Unified School District's *Facility Design Standards* (Facility Standards).

These design standards were developed through a series of meetings with the assistance of the Assistant Superintendent and the District's maintenance staff. Additionally, the team met with many different manufacturer's representatives and specialty contractors to determine the best and most current product selections to ensure accuracy of the Facility standards. Finally, the draft documents were forwarded to all of the Design Professionals presently working for the Piedmont Unified School District to enlist their comments, thoughts and ideas.

The items included in these facility standards have been selected based upon life cycle cost, durability, ease of maintenance and value. We have modeled and coordinated many of the requirements based upon the *Collaborative for High Performance Schools, Best Practice Manual* (CHPS), *Volumes I-V*.

This document applies to all projects. However, the Project Manager will edit this document to be project specific and will incorporate into the Owner-Architect Agreement for each project.

Objective

The goal of the Facility Standards is to provide the various Design Professionals working on each of the different projects for the Piedmont Unified School District with direction that will produce a uniform and consistent product. It is not the intent of these standards to dictate the project work scope. These standards include procedural requirements and desired products for items that may be included in the specific scope statement. The specific scope statement supersedes all implied project scope from the standards.

Compliance with Standards

The District welcomes any suggestions to improve these standards; however, deviations from these standards need to be specifically approved, in writing, by the Assistant Superintendent or designated District representative. It is the objective that continued input from the Design Professionals, District staff, and other stakeholders will result in continuous improvement of the Facility Standards. Please direct all questions, comments and suggestions via e-mail to the designated District Representative for the specific project. Please refer to Appendix F for revision protocol process. As a result of enlisting comments from users and changing codes and products, this document will be continuously evolving. Please consult with the designated District representative to ensure you have the most current edition of the Facility Standards and are on the

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distribution list for changes. In the event that a change to these standards affects your contract in terms of time or money, notify in writing the designated District representative immediately.

Facility Standards Organization

The Facility Standards is formatted with facility standards and outline specifications for renovation work projects.

- **Renovation Projects**

The designated District representative will provide the Design Professionals with a specific scope statement that will include all work that needs to be incorporated into the construction contract documents. The District will also provide a copy of all available original plans and record drawings. The Facility Standards shall be used in conjunction with the specific scope statement for building design standards, product standards and drawing standards.

- **Document Standards**

All documents prepared for use on any of the project types shall comply with the District document standards.

- **Outline Specifications**

The Design Professionals are to incorporate the information contained in the outline specification section into their company master specifications for all project types as appropriate.

-End of Part 1-

PART 2 RENOVATION DESIGN STANDARDS

I. General Renovation Project Items

- A. The following design standards are the goal for the District's renovation projects when the budget permits. The designated District representative may alter these requirements to accommodate budget constraints. Refer to specific project scope statement.
- B. The designated District representative will provide the Design Professionals with a specific scope state that will list the required scope to be incorporated into the contract documents. It is important to note that the renovation scope of work extends to portable classroom buildings, but only to the extent that is included in the specific scope statement. The typical renovation scope in portable classrooms includes door hardware, student computer stations similar to permanent classrooms and sinks in elementary schools.
- C. The designated District representative will provide the Design Professionals with a copy of all available original plans, record drawings and maintenance projects records to the Design Professionals for their use.
- D. Areas that have been modified without DSA application number (e.g. added walls, air conditioning units with unapproved structural support, lofts, storage areas and freestanding storage sheds, etc.) should be identified and discussed with designated District representative for possible removal, modification or other appropriate action.
- E. Other minor modifications requested by the site should be identified and discussed with designated District representative prior to taking any action. Under no circumstance should site staff be left with the impression that work outside the above-indicated scope will be included in the project.
- F. The District will employ a hazardous materials consultant and will determine the impact of the scope on existing materials and test those materials. This consultant will be preparing exhibits to the construction contract for the abatement procedures necessary to complete the renovation scope of work. They also will be monitoring the abatement work that will be performed under the General Contractor's contract. The Architect is not responsible for determining if materials contain hazardous particles, determining scope of abatement necessary or monitoring the abatement procedures, but should reference the abatement exhibits where appropriate.
- G. The District is participating in PG & E's Savings by Design program. The Design Professionals are required to utilize the program which influences design teams to exceed current Title 24 standards. For more information about the program, contact Loralyn Perry by phone, 415/973-3840 or LPR2@pge.com by e-mail. General information can also be obtained by going to the PG&E website at www.pge.com.
- H. Construct buildings primary structure with permanent materials such as concrete, concrete block and steel. Use of wood framing shall be limited to non-structural items.

- I. The exterior design must be simple with durability and low maintenance as primary considerations, but also provide an aesthetically pleasing architectural style.
- J. Design to incorporate indirect, defused, natural day lighting. Provide sun protection of windows to avoid direct sunlight during the summer months. Address glare concerns during winter months.
- K. Design to provide protection of doors and windows from direct rain.
- L. Architectural acoustical treatment is to be incorporated into the design at all occupied spaces.
- M. All projects are to include an informal building-commissioning requirement. See outline specifications for specific section requirements.
- N. All contracts are to include final cleaning requirement section 01742.
- O. See outline specifications for product requirements.

II. Site Work for Renovated Campuses

- A. Design Professionals must verify existing site conditions. The existing site conditions must be investigated and documented. Design Professionals to review the “Record Drawings” provided by the District and incorporate the verified, relative information on the construction documents.
- B. If specific scope of work necessitates excavation, the Design Professional shall ensure that the contractor is responsible to employ an underground locator service to identify all underground utilities of select areas. The construction contract is to require the contractor to be wholly responsible for any damage to existing underground utilities.
- C. If a new electrical service transformer and switchgear are required, locate new equipment in an area that will allow existing equipment to remain in operation to minimize required time of power outage. The new location should be as discrete as possible. The new utility yard shall have a concrete pad and CMU enclosure with locked gates. Specify dual pad lock for fencing to allow District access. Design Professional to review proposed location with the Designated District representative and PG&E and obtain approval prior to proceeding with construction documents.
- D. If a new seismic shut-off valve is required on the gas service, a chain link enclosure is required around the valve complete with a chain link lid and locked gate.

- E. Landscaping:
 - 1. Design Professional to provide District with recommendations and shall approve all planting legends on all landscape drawings.
 - 2. No new areas of turf to be planted.
 - 3. Avoid plants that attract bees.
 - 4. Coordinate design of raised planters with architectural site drawings to be non-removable cast-in-concrete to discourage skateboarders.
 - 5. Refer to the appendices for the Tree Planting, Shrub Planting and Ground Cover planting details for District standard deep bubbler detail for trees.
- F. Landscaping Plant Selection:
 - 1. Design Professional to propose all plantings to designated District representative for approval prior to proceeding with design.
 - 2. Select plantings that are indigenous to the climate zone, low water consumption / drought resistant and low maintenance. Avoid plants with stickers or thorns.
 - 3. All varieties of trees specified shall be deep rooted. No shallow rooting trees.
- G. Landscape Design:
 - 1. Specify areas of ground cover in small areas around buildings to eliminate small areas that require mowing.
 - 2. Avoid hiding areas in landscaping.
 - 3. Maintain visibility through landscaping from street for police patrol.
 - 4. Coordinate location of landscaping with night lighting.
- H. Tree Locations:
 - 1. Locate trees in a manner that avoids the mature canopy from overhanging the buildings.
 - 2. Coordinate location of trees with underground utilities. Do not plant trees where underground utilities are present.
 - 3. Do not locate trees within 15 feet of fences.
 - 4. Design separation between trees and paving surfaces to prevent mature roots from damaging walkways, hardcourts, parking lots or specify root barriers to prevent spread of roots under paving.
 - 5. Utilize deciduous shade trees to provide summer shading around ball fields and hardcourts.
 - 6. Where trees are located in planter areas or at existing tree, specify groundcover or mulch under drip line.
- I. Irrigation:

1. Refer to the appendices for the Tree Planting, Shrub Planting and Ground Cover planting details for District standard deep bubbler detail for trees.
2. Separate landscape water meter to be installed in accordance with the City of Standard Specifications and be used as the point of separation from all site domestic water use and irrigation water use.
3. Verify anticipated water pressure and include pressure reducer in contract if anticipated to be needed at time of completion.
4. Irrigation Design: (See outline specifications for materials required)
 - a. Irrigate trees with deep bubbler irrigation system per attached detail.
 - b. Irrigate shrubs and groundcover with drip system.
 - c. Specify caution tape to be labeled on conduit to avoid making contact when trenching.
 - d. Specify multiple smaller time clocks with maximum capacity of twenty-four (24) stations rather than one larger time clock. Allow for four (4) of the stations per clock to be for future use. Specify separate time clocks for shrubs and turf areas.

III. Architectural Items for Renovation Projects

A. Accessibility for Renovation Projects

1. Design Professionals to evaluate the existing site and building conditions and make recommendations to the designated Owner representative for scope to be included to comply with current code requirements for ADA compliance.
2. Organize the scope list by site and by building in a recommended priority order.
3. Include with the proposed scope of work an estimate compared to the budget.
4. If during the plan review process, DSA requires additional scope of work to be included to obtain approval, forward specific requests and code references to designated District representative to address.
5. Accessibility for Renovation Projects – Site:
 - a. Design Professional to coordinate and employ the services of an independent land surveyor to establish existing grades to determine optimum design solution for accessible path of travel.
 - b. Specify handicapped parking stalls with appropriate pavement markings and signage.
 - c. Design curb ramps, other ramps, and handrails as appropriate to allow access to all areas of site.
 - d. Include rebar dowels for new concrete ramps abutting existing concrete.

- e. Coordinate location of new work with existing infrastructure (e.g. underground utilities, storm drain inlets and sewer clean-outs).
 - f. If necessary, repair existing concrete or asphalt paving as needed for accessible path of travel.
 - g. Include keynotes and details as appropriate for transitions, base rock, preparation of sub-base, seal coats, striping, etc.
 - h. Include specific direction for removal of existing stripping where spaces have been modified for handicapped spaces.
 - i. All non-structural concrete flatwork should be specified at 2,500 p.s.i. with no mix design submittals required.
 - j. Wood ramps are unacceptable. They need to be either concrete or metal.
6. Accessibility for Renovation Projects - Buildings:
- a. All occupants used doors to be handicap accessible (storage and equipment rooms are not required to be accessible).
 - b. Reconfigure all toilet rooms to be handicap accessible.
 - c. The District's preference is for ramps, however where impractical, specify wheelchair lifts.
 - d. Design wall and floor mounted rails at exterior drinking fountains for accessibility.
 - e. Specify CBC compliant room and building signage. Design Professional to propose room designations for approval of the designated District representative and site principal prior to starting construction documents. Renovation plans are required to use same room designations as used on site. Signage is to be installed inside of all classrooms.
7. Design modifications to casework with sinks to accommodate accessibility. Replace adjoining casework to match if budget permits.
8. Other potential site-specific requirements requested by DSA or identified by the Design Professional should be discussed with designated District representative for appropriate action prior to incorporating into the design.
- B. Low Voltage/Technology Room:
- 1. School's MDF will require approximately a secure 10' x 10' space that will house other low voltage head-end equipment for the phones, cable TV, clocks/bells, fire alarm and HVAC/exterior lighting control.
 - 2. Design Professionals to coordinate size, layout and location of room with the District Technology Consultant.
 - 3. Design to minimize dust intrusion into room.
 - 4. Design to have separate air conditioning.

5. Fire alarm system to be replaced with a campus-wide integrated system
- C. Existing Building Exteriors and Finishes:
1. All exterior surfaces of buildings are to be free of peeling paint and in general good condition free of discoloration and graffiti.
 2. Exposed masonry exteriors are to be cleaned, repaired, sealed and treated with anti-graffiti coating. All loose or unstable masonry shall be repaired or replaced.
 3. The wall surfaces need to be paintable or treated with anti-graffiti coating.
 4. Traditional stucco with full scratch and brown coats, thin brick veneer, ceramic tile are all acceptable exterior finish.
 5. Soffits are to have durable finish.
 6. Exterior Finish Insulated System (EFIS) assemblies are not permitted.
 7. Exterior wood siding or trim are not acceptable.
 8. Concrete block is acceptable only if it sealed and painted. Split face block with clear finish is not allowed.
- D. Existing Roofs:
1. The ability to climb on the roof should be minimized. Therefore, rainwater leaders and overhangs that can be climbed on should be modified as practical. If roof replacement is included in the scope statement, Design Professional to survey existing conditions and advise designated District representative if these conditions exist and pose possible resolution.
 2. Survey existing areas designated in scope to be replaced and evaluate condition of existing roof accessories (vents, flashings, gutters, downspouts, sleepers, curbs, skylights, etc.) and indicate replacement or modification as necessary. Note that existing curbs may need to be modified or replaced to accommodate new roof warranty requirements. Provide details for any necessary modifications or replacement work that will be required.
 3. Survey existing condition of substrate (from underside where possible), fascia, trim and alike and indicate replacement as necessary. If selective demolition is necessary to investigate an area suspect of dry rot or termite damage, notify designated District representative for authorization of extra services. Include in base contract all known structural repairs. Determine anticipated amount of unknown structural repairs and estimated costs. Include as a bid allowance with standard structural repair details.
 4. Require in contract the removal of all roofing material to structural substrate and the replacement or repair of the existing structural substrate as required.
 5. On flat roofed areas design positive drainage in ponding areas with tapered insulation. Specify tapered non-CFC and non-HCFC insulation as necessary to eliminate all ponding water.

6. On low-sloped roofs ($\frac{1}{2}$ " in 12" to 3" in 12") use the specified Tremco Built-up roofing material.
 7. On sloped roofs (3" in 12" or greater) use a combination of 40-year composition single tile and asphalt shingles to match existing.
 8. Include $\frac{1}{4}$ " "densdeck" drywall material as required for Class A roof assembly.
 9. Where ceiling is exposed underside of metal roof deck, indicate that fasteners for roofing are to be limited to penetration of top flutes.
 10. Asbestos abatement for existing roofs will be designed by separate consultant hired by the District. Design Professional to coordinate and reference abatement exhibits that will be included in construction contract.
- E. Existing Gutters and Downspouts:
1. Remove and replace as necessary the existing rain gutters and downspouts. Detail gutter and downspouts as follows:
 - a. External 22 gauge, fully soldered, rain gutters shall be specified at all roof edges. For the High School, install the 40 gallon tube steel with downspout
 - b. Gutter profile shall be a minimum of 4" x 4" with $\frac{3}{4}$ " reveal at lip. Detail with outer edge $\frac{1}{2}$ " lower than roof plane.
 - c. Rainwater leaders to be exposed on exterior and constructed of schedule 40 galvanized steel pipe.
 - d. Design indirect connection to storm drain system via drain inlet at downspout discharge where practical.
 2. Where roof is being replaced, gutters and downspouts are to be replaced as well.
 3. Where no gutters presently exist, add new gutters to roof design where practical to do so.
- F. Painting of Renovation Projects:
1. If scope statement includes requirement to repaint buildings, include in scope complete painting of all existing items previously painted and any new items included under this contract. Specifically indicate painting of new and existing unpainted conduits, pull boxes, fascias, doors and frames, flashings, gutters, downspouts, etc., and restoration/touchup of any areas adjacent to work installed. If scope statement does not include requirement to repaint buildings, include in scope painting of all new items included under this contract.
 2. All paint colors to be from District standard color schemes, already chosen by maintenance staff, please coordinate with District.
 3. Interior painting to include all walls, ceilings, clerestories, doors, frames, and trim.

4. Include repainting of all casework including the interiors, only if previously painted.
5. Interior CMU and brick to be cleaned and painted.
6. Color of all ceilings and underside of canopies and overhangs to be painted per District standard color schemes.
7. Interiors of gyms, libraries, theaters, multipurpose rooms, and other special use rooms may have existing custom colors (not in District standard colors) and multiple tones with graphics or logos. Design Professional to indicate existing color scheme and layout to be replicated.
8. Exterior surface preparation to include sandblasting of metal surfaces where required, high pressure washing of all other surfaces and filling of cracks in cement plaster and veneer surfaces.
9. Interior surface preparation to include TSP cleaning, sanding and patching of all interior surfaces.
10. Coordinate surface preparation with lead paint surface preparation specification provided by separate consultant hired by the District.

G. Existing Casework:

1. All casework must be fully functional and operational.
2. The Design Professional is to include in the bid documents all work necessary for repairs to hardware, doors and drawers, or if more cost effective, replacement of existing casework.
3. Specify modifications for accessibility required by specific scope statement.
4. In elementary classrooms, modify sink base cabinet to retrofit sinks with drinking fountains in all K-6 classrooms. Note that this requirement includes K-6 portable classrooms.
 - a. Specify installation of paper towel and soap dispensers at all classroom sinks.
5. In Nurse's office, add an ADA compliant sink base cabinet.
 - a. Specify installation of paper towel and soap dispensers in Nurse's office.

H. Existing Ceilings:

1. Show replacement of damaged and severely stained ceiling tiles and indicate actual replacement areas or a typical percentage. Show areas to be patched due to installation of new work (e.g. exhaust fans, electrical panels, lighting, smaller light fixtures, etc.).
2. Design Professional to review existing suspended ceiling systems and advise if they need to be replaced.

I. Existing Doors and Frames:

1. All exterior doors are to be replaced. Design Professionals to evaluate per specific scope statement the condition of all interior doors, hardware and frames to determine if repair or replacement is necessary. Interior doors, hardware and/or frames are only to be replaced if necessary to accommodate handicapped accessibility or are in need of repair due to major damage or are not secure.
2. Following are the standards for door replacement:
 - a. If doors need to be replaced that are in primary location and exhibit architectural detailing significant to the appearance of the campus, then the door shall be replaced to match existing as practical.
 - b. All FRP exterior doors shall have continuous hinges. Note that FRP doors are limited to a 20-minute label, where rated door in excess of 20-minutes are required specify solid core metal doors. High abuse doors are to be FRP only. High traffic areas (Gym, Cafeteria, Theater and P.E. locker rooms) to have FRP doors. All other areas shall be metal doors.

- c. All interior doors shall be solid core wood doors unless in area of high abuse (such as gyms, locker rooms and remote doors subject to vandalism), then doors shall be FRP doors.
 - d. All replacement doors shall have a vision lite if original door had one or where it would provide additional safety. If applicable codes will allow, the glazing shall be 6" x 30" (on standard height doors) set 8" from top of door and 6" from strike side of door. The glazing shall be wire glass. Due to an interpretation of the code from DSA, all doors with wire glazing are required to have a minimum of a 20-minute label. Glazing to be set in integral frames with interior stops.
3. Typically, the frames are to remain, but need to be evaluated by Design Professional as part of a door survey for repair or replacement on a door-by-door basis. Width of doors may need to be increased for accessibility. Where frames are required to be replaced provide detail for wall repair.

J. Door Hardware for Renovation Projects:

- 1. General: Design Professional to submit completed finished hardware specification to designated District representative and IR Security Technologies representative for review and acceptance prior to including in bid documents.
- 2. Keying: Design Professional to meet with designated District project manager, IR Security Technologies representative, District locksmith and site personnel to determine keying schedule. The keying schedule is to be incorporated into project specifications prior to bid.
 - a. All doors to be fitted with Schlage Primus Everest keying system and keyed into the District restricted keyway system. Cylinder cores are to be removable and interchangeable.
 - b. District to pin cylinders and cut keys.
 - c. District keying system consists of restricted keyways on a District-wide great-grandmaster, site grandmaster, utility-master, building master (High School campuses only), community key (access to only spaces being used by community) and specific door hierarchy.
 - d. Exterior doors to same building and multiple entries to same room are to be keyed alike.
 - e. Staff restrooms and workrooms shall be "maisoned" to classroom keyway. (Each teacher should be issued one key that allows access to only his or her classroom, a staff restroom and workroom.)
 - f. All other doors shall be keyed differently within the site/grand master restrictions except for the special use rooms listed above.
- 3. Exit Devices:
 - a. Von Duprin, no substitutions allowed.

- b. Heavy-duty touch bar exit rim device.
 - c. Specify with keyed removable mullion at paired entrances.
 - d. Vertical rods and concealed rods are not accepted
 - e. Specify with keyed dogging cylinder and with pull trim at exterior entrances. Interior and exterior exit devices to have IC core housing.
 - f. All paired doors shall be specified with surface mounted panic devices, keyed removable mullion and set of heavy-duty pull handles.
4. Lever / Latch-sets:
- a. All locksets to be Schlage (Ingersoll-Rand Company), “ND” series, in the “Rhodes” design with “Vandlgard” lever at all interior and exterior applications.
 - b. All classrooms doors (where exit devices are not required by code) shall have classroom security function; the outside lever can be locked with a key from the inside. The inside lever is always unlocked to allow unrestricted exit:
 - i) Schlage ND93PD at interior and exterior locations (Vandlgard).
 - c. All exterior pull handles to be Ives #VR910-NL and #VR910-DT on non-active leaf on pair of doors.
 - d. All student toilet room doors shall be specified to have Schlage L9460P 503 626 x 03A 626 lever-set with function XL11-886. Also include push plates with cutout around the fixed exterior side lever. Students must not be able to lock themselves in room.
 - e. All staff toilet rooms without toilet partitions shall be specified to have an Schlage ND85PD Faculty Restroom Lock function lockset with modification to enable only a push function and disable the “push and twist” function.
 - f. All interior office doors to be specified as Schlage ND70PD, to have no button function on one side and keyed cylinder on other side.
 - g. All storage rooms to be specified as Schlage ND80PD on interior doors and ND96PD on exterior doors. They are to have a latch that locks automatically when door is shut and a lever on the interior to prevent the ability to be locked into the storage room. Only to be used on rooms that is used solely for storage.
5. Door Closers:
- a. All doors to have LCN #4141EDA-TB heavy-duty, door closures. Long arm is required where wide throw hinges are required.
6. Hinges:

- a. All exterior doors are to be full length, mortised, continuous hinges. Note that if there is an obstruction of more than 2 13/16" preventing door from opening 180 degrees or against adjoining wall, then specify wide-throw butts with ball bearings. Specify four wide-throw butts for a standard height door.
 - b. All FRP doors are to have full length, mortised, heavy-duty, continuous hinges. If a throw greater than 2 13/16" is required, then FRP door cannot be utilized. Also FRP doors are limited to a 20-minute label. When label is required specify stainless steel hinge.
 - c. All interior doors to have ball bearing butt hinges.
- 7. Weather Stripping:
 - a. All exterior doors are to be fitted with brush-style, 45-degree, weather-stripping.
- 8. Door Louvers:
 - a. All exterior door louvers to be heavy duty vandal resistant.
- 9. Accessories:
 - a. Specify custom heavy-duty hasp on student toilet room doors that will allow the custodian to pad-lock the doors open during occupied hours.
 - b. Specify kick plates at the base of non-FRP doors that are subject to abuse, such as Kitchen, storage rooms, custodian rooms, etc.
 - c. All exterior locksets to be equipped with Trimco "Cylindrical Lock-guard" #1083-6.
- K. Existing Window Systems:
 - 1. Replace window systems per specific project scope statement. Configure replacement windows to match existing operation of each sash. Obtain District approval or proposed replacement system, details and operation prior to finalizing bid documents.
 - 2. Replace all jalousie-type windows with new windows as appropriate.
 - 3. Field verify existing glazing types and include in scope the replacement of all existing non-glass, Plexiglas, and glazing infill panels with glass. All new glazing shall match existing tint.
- L. Existing Skylights:
 - 1. If included in specific scope statement to replace existing skylights with new, specify and detail Sun Optics skylights. Select specific model suitable for specific reuse application. Specify with Lexan outer lens.
- M. Existing Covered Walkways:
 - 1. If included in scope statement to re-roof walkways, they are to be roofed similar to buildings except no rigid insulation is required. If walkway is a metal deck, utilize 1/2" "Dens-deck" to span flutes on metal deck.

2. Review walkways for roof slope (need for tapered insulation), gutters, downspouts, and roof-to-wall flashing details.
- N. Toilet Room Upgrades for Renovation Projects:
1. Refer to specific scope statement for rooms requiring renovation.
 2. Toilet rooms designated for renovation shall receive all new finishes, fixtures and toilet room accessories.
 3. All toilet room accessories shall be Contractor Furnished, Contractor Installed (CFCI) except for the stand-alone trash receptacles which will be Owner Furnished, Owner Installed (OFOI).
 4. Specify adequate number of electric hand dryers in student toilet rooms only.
 5. Stall dividers should be solid plastic types. Brackets and hardware should be heavy-duty stainless steel. All fasteners shall be vandal resistant.
 6. Use single hollow metal door with wall infill at existing in/out type restroom door where existing doors do not meet CBC width requirements.
 7. All new fixtures, accessories, etc. require opening walls to install blocking. Note on plans requirement to patch finishes.
- O. Existing Flooring:
1. The District will designate all flooring that is to be replaced and will include the specific type of replacement flooring desired.
 2. Linoleum Sheet Flooring:
 - a. Color to be selected from District's standard stock colors.
 - b. Provide a design pattern using accent colors at classroom doors and other appropriate areas.
 - c. Do not specify at wet locations.
 - d. Where game stripping is required specify paint prior to seal coat on linoleum.
 3. Sheet Vinyl Flooring:
 - a. Limit use to wet areas such as kindergarten sink/art areas, single stall toilet rooms and potentially kitchens where epoxy flooring may be problematic.
 - b. All sheet vinyl flooring to have 6" cove base with backer strip.
 4. "Carpet" or VCTT (C & A Power-Bond, Vinyl Cushioned Tufted Textile):
 - a. Use of carpet shall be limited to only areas specifically included in the specific scope statement.
 - b. At areas where carpet is required, specify Triad Geo Tile at exterior door locations for three-foot walk-off minimum.
 - c. Color to be selected from District's standard stock colors.

- 5. Toilet Rooms:
 - a. All toilet rooms shall be either ceramic tile or terrazzo if existing. Terrazzo to be thickset cement based integral cove base, not epoxy-based.
- P. Existing Wall Finishes:
 - 1. If included in specific scope statement to install tackable wall surfaces, specify the pre-wrapped panels and trim at top edge if ceiling is sloped or higher than panel height.
- Q. Chainlink Fencing for Renovation Projects:
 - 1. Any new fencing required that is adjacent to building where it may be used to gain access to the roof shall be narrow mesh to discourage vandals from obtaining access to roofs.
- R. Existing Custodian Closets:
 - 1. Refer to specific scope statement. If included specify new FRP wall panels. Evaluate existing ventilation and replace or specify new as necessary.
- S. Dedicated Landscape Water Meters:
 - 1. Design for and install separate landscape meter at point of separation.
 - 2. Design Professional to review domestic and landscape water flows with District representative and coordinate with the City of Piedmont to recalculate EDU's (Equivalent Dwelling Units) and size for new landscape meter and resize for existing domestic water meter as needed.

IV. Mechanical Items for Renovation Projects:

A. Site Utilities:

1. Specify a seismic gas shutoff valve on the consumer side of the gas meter.
2. Gas meters shall be enclosed in utility yard that meets the utility company's requirements.
3. Site gas distribution piping shall be medium pressure (5 p.s.i.) where available, and regulated down to low pressure at each building. Specify code-required accessible gas shutoff valve outside each building served. Building shutoff valves and regulators shall be located as directed by the District to be accessible for service but to prevent vandalism.
4. Coordinate project gas, water, and sewer loads and requirements with local Utility Companies, and confirm available gas and water pressures.
5. Size site utilities to allow for any possible future campus expansions. Coordinate with master plan requirements.
6. Coordinate fire hydrant locations with the local fire jurisdiction.

B. General Mechanical Renovation Notes:

1. Prior to starting design, Design Professional shall meet with the District M&O Department, District Energy Manager and Project Manager to review existing HVAC and plumbing conditions and ongoing problems at site.
2. Design Professional to review mechanical record/as-built drawings, conduct independent site investigations and evaluate existing conditions.
3. Design Professional to review scope statement and propose additional scope that may be determined necessary with designated District representative and the M&O Department prior to starting Construction Documents.
4. Design Professional to meet with designated District representative(s) to help develop phasing schedule and coordinate system(s) design for construction phasing requirements. Goal is to minimize impact to school operations and allow for functioning systems during construction.
5. Design to provide ample natural, cross-ventilation in addition to mechanical ventilation. Site to minimize introduction of external pollution sources.
6. All rooftop HVAC equipment, except small exhaust fans, shall be architecturally screened from view.
7. Locate mechanical equipment in a manner to minimize noise transmission into occupied spaces and neighbors.

C. HVAC Systems for Renovation Projects:

1. See specific scope requirements for rooftop package furnace unit.
2. Specify unit to be minimum SEER 16.

3. Design Professional to design system around “Carrier” units for the layout, weight, size and performance criteria (see outline specifications for additional material and equipment information).
4. Systems shall be properly zoned according to exposure and occupancy usage. Design an individual unit for each exposure/occupancy zone. Each classroom shall have its own individual unit.
5. Airside economizers shall be provided for all rooftop units and any system 1,200 CFM or greater in size.
6. Gas-fired furnaces shall be the high efficiency “condensing” type with ECM motors.
7. Rooftop packaged gas-electric HVAC units and outdoor air-cooled condensing units shall have an efficiency rating not less than that required by Title 24. When equipment is available with energy efficiency ratings that exceed Title 24, such equipment shall be specified, provided there are enough manufacturers who can meet the higher efficiency requirement to insure a non-proprietary competitive bid.
8. Premium efficiency type motors shall be specified for all HVAC equipment and exhaust fans.
9. When rooftop packaged gas-electric units or outdoor air-cooled condensing units are used, heavy gauge expanded metal vandal guards shall be specified on the units to protect the condenser coils and fins.

D. HVAC Load Calculation Criteria:

1. Heating and cooling load calculations shall be performed using a computerized load calculation program that is ASHRAE-based as required by Title 24. Equipment shall be sized and selected to handle the heating and cooling loads calculated, and per the requirements of Title 24.
2. Outdoor design conditions shall be as required by Title 24 and ASHRAE, which are as follows: Winter: 31°F; Summer: 96°F dry bulb/68°F mean coincident wet bulb, and 68°F design wet bulb.
3. Indoor design conditions shall be as required by Title 24 and ASHRAE, which are as follows: Heating: 72°F; Cooling: 74°F.

E. Ventilation Criteria for Renovation Projects:

1. Refer to specific scope statement to determine air conditioning needs.
2. Minimum outside air rates delivered to the occupied spaces shall be the higher of CBC/Title 24 or latest edition of ASHRAE Standard 62.
3. “Demand Control Ventilation” (CO2 control) of minimum outside air delivery rate shall be used on high occupancy spaces, including multipurpose rooms, cafeterias, gymnasiums, and theaters.
4. Minimum supply air circulation rates shall be as follows: corridors: .5 CFM/SF; storage rooms: 0.25 CFM/SF, locker rooms: 1.0 CFM/SF; gymnasiums: 2.0 CFM/SF. It is not necessary to specify a minimum CFM/SF if area is an air conditioned space.

5. Science classrooms to utilize 100% outside air.

F. Exhaust Criteria for Renovation Projects:

1. Design Professionals to evaluate existing ventilation systems and replace if necessary to provide the following standards:
 - a. Student toilet rooms shall be exhausted at the lower of 2 CFM/SF or 15 air changes per hour and be held at a negative pressure. Fan to be functioning at all times.
 - b. Custodial closets and dark rooms shall be exhausted at a rate of 20 air changes per hour, be held at a negative pressure and be manually switched. Fan to be functioning at all times.
 - c. Specify exhaust as required for items such as kitchen hoods, art classroom kilns, shop welding areas, woodshop sawdust collection systems, and science classroom hoods. In science classrooms and science prep rooms, specify a manually switched general space exhaust system which in conjunction to the classroom fume hood(s), when provided, will result in a total exhaust air rate of not less than 1 CFM/SF. Fume hood exhaust fan, when provided, general exhaust fan and the supply air system shall be interlocked.
 - d. Student locker rooms shall have a controlled time clock interlocked with the HVAC system and the exterior light control.

G. Acoustic Criteria for Renovation Projects:

1. Internally line, with acoustic duct liner, all supply and return ducts for a minimum of 10 feet off all HVAC units and exhaust fans, except for moist airstreams such as evaporative cooling, shower exhaust, grease ducts, etc. which shall not be internally lined. Require a minimum of one, and preferably two, lined elbows between the HVAC unit or fan and the first supply diffuser and the first return register.
2. The architectural walls of furnace closets shall be insulated with 2" thick, 2 pcf lining material, and the return register, if on the wall of the closet, shall not directly face the classroom. The return air duct or plenum within the closet shall be lined, and the closet door shall be tightly gasketed for noise containment.
3. Specify two (2) layers of ½" gypsum board lining directly on the roof and inside the curb of all rooftop HVAC units.
4. HVAC equipment shall be located carefully to minimize noise transmission into adjacent occupied spaces.
5. Specify spring vibration isolation as necessary to control vibration and noise.
6. Design HVAC systems for the following Noise Criteria (NC) levels:
 - a. Theaters, performing arts NC 25
 - b. Classrooms and libraries NC-30

- c. Administration offices, libraries multi-purpose room NC-35
- d. Cafeterias NC-40
- e. Gymnasium NC-45

H. Indoor Air Quality for Renovation Projects:

1. Locate outside air intakes away from pollutant sources.
2. Specify local exhaust at indoor pollutant sources.
3. Specify low VOC duct materials and duct sealants.
4. Specify a 72-hour pre-occupancy building purge at system start-up. Run heating cycle on full continuously for 72-hours with all exhaust fans on.
5. Design control systems to provide the Title 24 required daily pre-occupancy purge cycle.

I. Ductwork and Air Distribution for Renovation Projects:

1. Ductwork shall be galvanized steel; fiberglass ductboard will not be acceptable. Aluminum ductwork and air distribution components shall be used in wet areas or when handling moist air. Avoid use of rooftop ductwork if possible. Where rooftop ductwork is necessary require ductwork to be sealed watertight and coated with a reflective, isolative coating. Rooftop, supply air and return air ductwork shall be internally lined with 2-inch thick acoustic duct liner.
2. Specify access doors in all sections of ductwork that are internally lined, to allow for cleaning of the duct liner.
3. In general, unless space constraints exist, ductwork exposed in the conditioned space shall be round spiral duct and shall be painted.
4. Duct systems shall be designed in accordance with ASHRAE and SMACNA standards, and per applicable codes. Duct systems shall be designed for quiet and efficient system operation.

I. Filtration for Renovation Projects:

1. See outline specifications for requirements to change filters during construction if equipment is used, to provide new filters after system purge and prior to occupancy and to provide four extra stock filters per unit.

J. Space Pressurization Relief for Renovation Projects:

1. Specify building pressure relief in all spaces that are pressurized due to minimum outside air introduction or due to economizer outside air introduction. Adequate relief shall be provided so that ADA Door Closure Requirements are met in all rooms. Relief is to be provided by providing HVAC units with accessory modulating power exhaust systems that are controlled by room static pressure. Relief for furnace systems shall be provided by gravity roof ventilators with motorized 2-position dampers, or by wall louvers with motorized 2-position dampers.

2. HVAC units with accessory modulating power exhaust systems that are controlled by room static pressure.

K. HVAC Controls for Renovation Projects:

1. HVAC unit operating schedules shall be controlled by an exterior lighting control system. The exterior lighting control system is the District's standard for controlling the exterior lighting at all schools. Coordinate with electrical engineer. For each campus, HVAC units shall be zoned as 1) Classrooms, 2) Administration, and 3) Multipurpose/Gymnasium. Coordinate with the School District to provide any necessary telephone modem lines. DDC energy management systems and pneumatic control systems will not be acceptable. HVAC Package Units shall be provided with factory economizer controls.
2. For each HVAC unit, provide a Honeywell T7350B programmable room thermostat setup with the current time and day, and have the thermostat's occupied time schedule programmed to accommodate the needs of the site. The thermostats shall be setup in the "Keypad Lock #1" setting such that the user can only adjust the room heating and cooling setpoints between 66 to 70 degrees for heating and between 74 to 78 degrees for cooling. Temporary override setpoints shall be setup so they are the same. A manual 0-2 hour twist style bypass timer mounted adjacent to the room thermostat shall also be provided for each HVAC system. Both devices shall be mounted at 48" above the finished floor.
3. Specify a new PDA, cable and software to the School District. PDA shall meet all the system requirements to communicate to T7350B Thermostats.
4. The timeclock circuit from the exterior lighting control shall power two relays at each HVAC unit such that during occupied time periods, or during bypass timer overridden time periods, the HVAC unit's fan, heating and cooling will be allowed to operate. Temperature staging control will be provided by the T7350B thermostat. During un-occupied time periods the exterior lighting control circuit will be de-energized and the HVAC Unit's fan, heating and cooling will be disabled. During un-occupied time periods the user may use the manual 0-2 hour bypass timer to override the exterior lighting control schedule and allow the HVAC unit's fan, heating and cooling to operate. At no time shall the T7350B thermostat's power be disconnected.
5. Control wiring should be provided by the controls trade.

L. HVAC System Commissioning for Renovation Projects:

1. See outline specifications for requirement to specify informal commissioning before the District will accept the project as complete. This consists of air balancing and submission of balance reports, acoustical measurements and submission of acoustical reports for occupied areas, final calibration and set points for all control systems and components, and training of the District's maintenance staff for operating and maintaining the systems prior to occupancy. Also require re-balancing, review of all equipment performance and submission of findings on a report to District prior to expiration of two (2) year

warranty. Require a review on site and re-training for maintenance department prior to end of warranty period.

M. Plumbing Systems for Renovation Projects:

1. Revise drinking fountains, sinks, lavatories, urinals and toilets as required on the architectural plans to accommodate accessibility. Indicate requirements to tie-in new fixtures to existing plumbing and address new and existing fixture carriers. Coordinate locations and extent of architectural finish patching requirements with architectural plans.
2. Maintain hot and cold water locations where existing unless otherwise indicated in specific scope statement.

3. Water Heaters:
 - a. Evaluate condition of existing water heaters and make recommendation for replacement if equipment is beyond the anticipated life span.
 - b. Replacement water heaters shall be gas-fired storage type water heaters, except where gas is not available, or in cases of small load or remote location which warrants small under counter tank type electric water heaters or instantaneous type water heaters. Water heater must be sized to fit through doorway.
 - c. Domestic hot water temperatures shall be 160°F storage at the tank and 110°F delivery from the fixture. Hot water for kitchens shall be 140°F, and for commercial kitchen dishwashers shall be 160°F-180°F, or as required by the dishwasher manufacturer. Seismic strap and insulation required for all existing water heaters that are to remain.
 - d. If existing water heater is to remain, evaluate the installation and require modifications to the existing equipment for code compliant installation.

V. Electrical Items for Renovation Projects

A. General Electrical Renovation Notes:

1. Prior to starting design, Design Professional shall meet with the designated District Representative(s) and the District's maintenance staff and review existing electrical conditions and ongoing problems at site.
2. Design Professional to review electrical record/as-built drawings, conduct independent site investigations and evaluate existing conditions of power equipment including, switchboard, panels, transformers and feeders.
3. Design Professional to review scope statement and propose additional scope that may be determined necessary with designated District representative and the District's maintenance staff prior to starting Construction Documents.
4. Design Professional to meet with designated District representative(s) to help develop phasing schedule and coordinate system(s) design for construction phasing requirements. Goal is to minimize impact to school operations and allow for functioning systems during construction.
5. Coordinate with District and determine if PV System will be installed. Coordinate with PV vendor for interface requirements and provide per Code.

B. Renovation Site Service:

1. Design Professional to determine if service upgrade is necessary to accommodate current loads and new loads per the renovation scope. Review existing design loads and peak demands over the last 12 months. Increase size of service if necessary to accommodate all design loads plus future loads of any master planned additions and the required master planned addition of portable classrooms, approximately 25 watts per square foot should be allotted. (Note that the number of future portables needs to be determined for a specific site, consult with the designated District representative for this information). Design Professional to provide recommendation after load calculations are done and prior to finalizing the design.
2. If a new electrical service is necessary, site primary and secondary service design and location shall be coordinated with and approved by PG&E. Final PG&E commitment requirements shall be incorporated into project requirements by Design Professional prior to bid. Design Professional shall obtain written approval from PG&E. Verify availability of voltage and phase. Notify District representative if final PG&E information is not available at the time documents are submitted for DSA final approval.
3. Locate new transformer and gear adjacent to the existing to minimize power outage during switchover. Verify available fault current and specify short circuit protection for existing and new panels to meet new

4. Special attention should be paid to aesthetic considerations of the transformer and switchgear replacement. Design Professional to obtain approval of electrical service location from designated District representative prior to system design. Locate switchgear and transformer in a fully secure utility yard with concrete housekeeping pad. If site conditions do not allow for a secure yard develop other means of protection acceptable to the District.
 5. High School Campus has known deficiencies that will require correction.
- C. Renovation Power Scope:
1. Refer to specific scope statement for site needs to address existing power problems such as grounding, panel load balancing and services to existing and new equipment for office equipment, vending machines, and other appliances.
 2. Specify dedicated power to fire alarm, telecommunication system, all data equipment including servers, security system, HVAC equipment and any other specialty equipment such as photo copiers and food service equipment.
 3. Specify new distribution panels at each building to accommodate new, existing and future power requirements. Specify new feeders in new conduits sized to accommodate all anticipated future loads. Specify replacement of existing branch circuitry and panels, per specific scope statement.
 4. Locate panels in electrical rooms or closets. If panels are located in other rooms provide code clear space. Shops, science classrooms and computer classrooms that have large number of circuits or emergency shutoff needs shall have flush mounted panels in the space or adjacent prep rooms.
 5. High School Campus has known deficiencies that will require correction.
- D. Power Distribution on Renovation Campuses:
1. Utilize step down transformers at each building, or as reasonable, to minimize size and number of conduits for 480/277 volts systems. Electrical engineer to recommend K-rating of energy efficient transformers depending on location, loads and types of loads. Minimum K-13 for classrooms, library, and offices.
 2. Conduits shall be routed in concealed, accessible, attic spaces wherever possible. Minimize rooftop conduits. When possible feed new rooftop equipment under curb. Conduits routed under the overhangs or under canopies shall be clustered with all conduits on common supports. Limit use of underground conduits for site service electrical and to service buildings that do not have connecting canopies or overhangs.

3. Do not use exposed conduits in interior applications except for corridors. Utilize Wiremold or Panduit. Design professional shall review with the District if exposed conduit locations.
 4. MDF's and IDF's require dedicated circuit from the nearest distribution panel. The specific requirements for each closet's power must be determined in conjunction with the technology consultant.
 5. High School Campus has known deficiencies that will require correction.
- E. Renovation Campus Surge Protection:
1. If new switchgear is required specify with TVSS to protect system from external surges.
 2. Required new main building panels and computer laboratory panels to be provided with integrated TVSS.
- F. Renovation Campus Grounding:
1. Conductors: Insulated, green equipment grounding conductor in feeder and branch circuits, including lighting circuits. Separate neutral conductor from electronic equipment. Install insulated, green conductor for grounding in all conduit or raceways. Use of raceway as soleground is not permitted. For isolated ground circuits provide an isolated ground for each circuit in addition to the equipment ground.
 2. When a new electrical service is required, provide main service ground per CEC. Provide concrete encased electrode, cold water and building steel ground. Provide testing of main grounding system and all separately derived systems (transformers) and any other grounding systems (relocatable and modular buildings). Ground resistance shall be 5 ohms or less.
- G. Renovation Classroom Power & Data Requirements: The following is the District's goal; however, due to differing existing conditions the actual design may vary.
1. Engineer circuits to service no more than five, non-computer, duplex receptacles on any one circuit.
 2. Each standard classroom shall be configured to accommodate up to six (6) student computers and a printer at designated computer area on back-wall of classroom and one teacher computer with optional printer in teaching wall. Specify surface mounted 5500 series Wiremold, three compartments, metallic raceway. Service exposed raceway with concealed conduits. Specify duplex receptacles in wiremold with corresponding data receptacles. Alternate circuiting to prevent adjacent receptacles from being on the same circuit.
 3. Verify with District representative exact location of all receptacles.
 - a. Specify four circuits to service receptacles. Three to service the computers and printers and one for general-purpose receptacles. Alternate circuits throughout classroom.

- b. Specify power receptacles for wireless access, Smartboard, laptop charging, projector, etc.
 - c. Provide a power receptacle and adjoining CATV / S-Video/ Component Jacks / Data receptacles in the ceiling to accommodate a future A/V projector. Projector inputs to be routed in conduit for future media hub location.
 - d. Specify power receptacle adjacent to service future Video Distribution rack at rack location.
 - 4. Provide GFIC receptacles at CEC required locations and at classroom sinks and laboratories.
- H. Renovation Campus Lighting:
 - 1. General notes:
 - a. Replace existing lighting with new energy efficient light fixtures per school district standards (see attached Light Fixture Schedule).
 - b. All lighting shall exceed Title 24 requirements for energy efficiency based on watts per square foot. Comply with CHPS recommended guidelines.
 - c. Provide District with copies of lighting calculations indicating anticipated lighting levels and watts per square foot. Coordinate colors of finishes with architect for reflective values.
 - d. Where possible, reuse existing conduits and boxes. Replace all conductors.
 - e. All lamps and ballasts shall be high efficiency type. Ballasts shall be high power factor, fully electronic. General lamps shall be super T8 with matching high efficiency ballast (Osram QHE ballasts and XPS lamps).
 - f. Specify for contractor to provide 10% spare lamps of each size and type. Minimum one standard case. Lamps shall be delivered to owner in original sealed packaging one week before completion. Contractor shall submit signed receipt for lamps with close-out data.
 - 2. Controls:
 - a. Specify multi-level switching in all spaces with more than one fixture. Provide separate switch to control ½ of the lamps in a daylit area. At classrooms provide switching to provide normal lighting mode and A/V lighting mode where applicable to the design of the classroom. If required by energy codes in affect provide automatic daylighting control. Review switch locations with designated District representative prior to finalizing plans.
 - b. Specify dual technology occupancy sensors in classrooms, workrooms and conference rooms. Wall switch sensor may be used in small work and conference rooms. Specification shall

require the contractor to retain the services of the sensor manufacture to confirm layout of sensors and recommend any additions or changes. This confirmation shall be submitted with the product submittals

- c. Specify dual technology occupancy sensors in offices, restrooms, storage rooms and workrooms. Staff restrooms with one water closet shall have wall sensor, student restrooms shall have ceiling sensor with keyed wall switch. Other spaces shall have wall or ceiling sensors depending on room size. Specification shall require the contractor to retain the services of the sensor manufacture to confirm layout of sensors and recommend any additions or changes. This confirmation shall be submitted with the product submittals.
 - i) All control wiring shall be installed by the Electrical Contractor per the mechanical wiring diagrams.
- d. Provide centralized (Office) electronic time clock for control of exterior lighting. Time clock shall have photocell input where possible. Provide astronomical time switch where photocell input is not available.
- e. Design lighting control panel to provide automatic shut off in all assembly areas, reception, hallways, kitchens and stage. Specify a separate time clock control for the gyms and multi-use rooms.

3. Exterior Lighting:
 - a. Replace existing exterior lighting with new energy efficient heavy-duty and vandal resistant fixtures. Review requirements on a site by site basis with District.
 - b. Minimize use of pole lights where possible.
 - c. Utilize existing fixture locations where possible.
 - d. Replacement systems to provide two separate lighting functions:
 - i) Function A – Provide general lighting of entire exterior of building compound, walkways and parking lots. Design exterior lighting system to achieve a minimum maintained 1.0-foot candle.
 - e. Exterior lighting to be designed to minimize light pollution and avoid overspill to adjacent properties. Provide cut off luminaires.
4. Emergency Lighting:
 - a. Egress lighting shall be by means of individual battery light units or batteries within the fluorescent fixtures. Units shall have test switch and indicator lamp outside of fixture housing or behind the lens for interior fluorescent fixtures. Battery unit shall not have protruding light heads. No bug-eye lights will be allowed. Specify wire guards in locker rooms, multi-purpose rooms, gyms and vandal prone areas.
 - b. Exit Signage: Coordinate faceplate color to match adjacent wall color. Secure with tamper resistant fasteners.
 - i) Illuminating exit signs shall be vandal resistant system with polycarbonate shields or wire guards.
 - ii) Low-level exit signs shall be the non-powered vandal resistant self-luminous type.
 - c. Design Professional shall review the possibility of providing emergency lighting inverter(s) in lieu of unit equipment for the emergency lighting. The inverter will provide superior emergency lighting and lower maintenance cost along with longer term potential for proper operation in emergency mode.

I. Interior Lighting Levels:

1. Classroom Lighting:
 - a. Minimum maintained 5-foot candles at the vertical surface(s), including white boards.
 - b. Average maintained 50-foot candles at the horizontal work surface, with a minimum of 30-foot candles at any location.
2. Office, Conference and Library Lighting:

- a. Average maintained 50-foot candles at the horizontal work surface, with a minimum of 30-foot candles at any location.
- 3. Restrooms:
 - a. Average maintained 10-foot candles at the horizontal surface(s).
- 4. Lockers:
 - a. Average maintained 10-foot candles at the horizontal surface(s).
- 5. Hallways:
 - a. Average maintained 10-foot candles at the horizontal surface(s). Use light sources that also provide light on the walls to avoid a dark appearance. Coordinate with District representative for any special wall features.
 - b. At elementary schools review use of hallways. If used for teaching, provide classroom lighting levels.
- 6. Theater:
 - a. Light fixtures and lighting design to be proposed by Design Professional to designated District representative prior to finalizing design.
- 7. Gymnasium:
 - a. Sporting Events:
 - i) Average maintained 70-foot candles at the horizontal playing surface.
 - b. Social Events:
 - i) Average maintained 30-foot candles at the horizontal surface.
- 8. Multi-Purpose:
 - a. Average maintained 20-30-foot candles at the play/eating surface.
- 9. Cafeteria:
 - a. Dining:
 - i) Average maintained 30-foot candles at the horizontal surface(s).

VI. Technology / Low Voltage Systems for Renovation Projects

A. General Notes for Technology / Low Voltage System Renovation Projects:

1. The designated District representative will include on the project scope statement the specific requirements for the technology/low voltage systems and the District's technology consultant will provide the Design Professionals with schematic drawings indicating the required scope and pathways. The involvement of the Design Professionals and their design effort will be limited to the following:
 - a. A complete, functional DSA-approved fire alarm system.
 - b. Coordination, finalization and incorporation of the design for the backbone/infrastructure pathway to accommodate the cabling and installation of devices/receptacles for telephone/voice (including intercom), data, clock and bell, intrusion, video monitoring (CCTV), video distribution (CATV), assistive listening and possibly other systems. (The actual system design(s) will be generated by the District technology consultant and installed under separate contract.)
 - c. Coordinate power requirements to service low voltage systems with District's technology consultant and incorporate into design.
 - d. Meet with the designated District representative and District's technology consultant to coordinate requirements and to verify the current design standard requirements prior to proceeding with design of pathway system(s).
2. Refer to the specific project scope statement for systems that may be required. The following standards are the systems that will be designed by the District's technology consultant (except fire alarm), but have components that need to be coordinated and included in the bid documents.

B. Low Voltage Service:

1. The Design Professionals are required to coordinate design of the low voltage pathways with all new line voltage, all existing pathways, and specify materials for pathways. All pathways should be installed on common blocks or hangers when possible and routed in an orderly manner. The District technology consultant will provide the Design Professionals with the schematic low voltage pathway layout.

2. The District technology consultant will design all classrooms and work areas to be serviced with a minimum of five (5) - 2" conduits dedicated for low voltage systems. An additional 1" conduit shall be dedicated for the fire alarm system and the remaining low voltage systems. The five (5) conduits shall be installed on the building and terminated (where required) into exterior NEMA 3R surface-mounted junction cans.
3. The Design Professionals will coordinate the combined routing of all pathways with the District technology consultant, finalize routing and specify materials.

C. Telecommunications System:

1. The District technology consultant will specify under separate contract an NEC (NEAX® 2000 IPS or Elite IPK) full-featured IP-enabled communications system. This system primarily functions within and supports time division switching (TDM). It is also capable of providing pure voice-over-IP (VoIP) peer-to-peer connections across future district local and wide area networks (LAN/WAN).
2. The District technology consultant will specify under separate contract the UPS (APC, or equal) for telephone switch.
3. The District technology consultant will specify under separate contract the cabling associated with the telecommunication system.
4. The Design Professionals are required to coordinate design of pathways, specify materials for pathway and accommodate equipment space and power requirements. The District technology consultant will provide the Design Professionals with the necessary equipment requirements and schematic pathway layout.

D. Public Address/Intercom System:

1. The District technology consultant will specify under separate contract the public address/intercom system. The TDM/IP Telephony system may act as an intercom system, but must integrate with a standalone public address (PA) system. It is therefore required to expand the capabilities of the clock / bell system to include the PA function such that all handsets can deliver room-to-room paging, room-to-office paging, and campus-wide paging.
2. The District technology consultant will specify under separate contract the battery back up for six (6) hours of standby minimum. Note: The public address/intercom system, while integrated with the TDM/IP telephony system, can function independently.
3. The District technology consultant will specify under separate contract the cabling associated with the public address/intercom system.
4. The Design Professionals are required to coordinate design of pathways, specify materials for pathway and accommodate equipment space and power requirements. The District technology consultant will provide the Design Professionals with the necessary equipment requirements and schematic pathway layout.

E. Master Clock/Bell:

1. The District technology consultant will specify under separate contract the clock/bell system as included in the outline specifications.
2. The District technology consultant will specify under separate contract the battery back-up for two (2) hours of standby minimum. Note: the master clock system, while integrated with the TDM/IP telephony system, can function independently.
3. The District technology consultant will specify under separate contract the cabling associated with the master clock/bell system.
4. The Design Professionals are required to coordinate design of pathways, specify materials for pathway and accommodate equipment space and power requirements. The District technology consultant will provide the Design Professionals with the necessary equipment requirements and schematic pathway layout.

F. Local Area Network System (LAN):

1. The District technology consultant will specify under separate contract the LAN as included in the outline specifications.
 - a. All LAN equipment and configurations must meet TDM/IP telephony standards, as defined by the District.
2. The District technology consultant will specify under separate contract the battery back up for two (2) hours of standby minimum.
3. The District technology consultant will specify under separate contract the cabling associated with the LAN.
4. The Design Professionals are required to coordinate design of pathways, specify materials for pathway and accommodate equipment space and power requirements. The District technology consultant will provide the Design Professionals with the necessary equipment requirements and schematic pathway layout.

G. Fire Alarm System:

1. The Design Professionals are required to coordinate design of pathways, specify equipment, materials for pathway and accommodate equipment space and power requirements. The District technology consultant will provide the Design Professionals with the necessary equipment requirements and schematic pathway layout.
2. The Design Professionals are required to specify the fire alarm system per the outline specification; a Notifier Fire Alarm System.
 - a. System is to be a fully automatic system with pull stations only where required by code at assembly areas.
 - b. Specify dial up panel to report to remote monitoring service.
 - c. Specify dedicated power to service equipment and battery back-up for two (2) hours of standby minimum.

H. Intrusion Alarm System:

1. The District technology consultant will specify under separate contract the intrusion alarm system as included in the outline specifications:
 - a. Ademco Intrusion System, or approved equal.
 - b. Two (2) hour battery back-up of standby minimum.
 - c. Motion sensor only system with no door contacts.
 - d. Dial up panel to report to remote monitoring service.
2. The District technology consultant will specify under separate contract the cabling associated with the intrusion alarm system.
3. The Design Professionals are required to coordinate design of pathways, specify materials for pathway and accommodate equipment space and power requirements. The District technology consultant will provide the Design Professionals with the necessary equipment requirements and schematic pathway layout.
 - a. Specify dedicated power to service equipment.
 - b. Specify battery back-up for two (2) hours of standby minimum.

I. Digital Video Surveillance System:

1. The District technology consultant will specify under separate contract the digital video surveillance system as included in the outline specifications:
 - a. Pelco Digital Video Surveillance System, utilizing Spectra-IIIe P/T/Z cameras.
2. The District technology consultant will specify under separate contract the cabling associated with the digital video surveillance system.
3. During design phase, Design Professional is to meet with the District technology consultant to determine locations of cameras for site-specific design.
 - a. It is not the intent to cover the entire campus only the areas of concern.
 - b. Coordinate intrusion alarm zones with camera locations.
4. The Design Professionals are required to coordinate design of pathways, specify materials for pathway and accommodate equipment space and power requirements. The District technology consultant will provide the Design Professionals with the necessary equipment requirements and schematic pathway layout.
 - a. Specify dedicated power to service equipment.
 - b. Specify battery back-up for 2 hours of standby minimum.

J. Cable Television (CATV):

1. The District technology consultant will specify under separate contract the equipment and cabling associated with the CATV system.

2. The Design Professionals are required to coordinate design of pathways, specify materials for pathway and accommodate equipment space and power requirements. The District technology consultant will provide the Design Professionals with the necessary equipment requirements and schematic pathway layout.
 - a. Specify dedicated power to service amplifiers.
 - b. Provide cable receptacles in all classrooms, media centers, offices and assembly areas.
- K. Assistive Listening System:
1. The District technology consultant will specify under separate contract the equipment and cabling associated with a wireless FM system in assembly areas.
 2. The Design Professionals are required to coordinate design of pathways, specify materials for pathway and accommodate equipment space and power requirements. The District technology consultant will provide the Design Professionals with the necessary equipment requirements and schematic pathway layout.
 - a. Specify dedicated power to service equipment.

-End of Part 2-

PART 3 INTERIM HOUSING PORTABLE BUILDINGS STANDARDS

I. General and Procedural Items for Interim Housing Building Projects

- A. Interim Housing Portable Buildings are defined as a manufactured portable building that is utilized for temporary housing while the existing campus is undergoing renovation construction.
- B. The District will contract directly with the building supplier for procurement of building(s). The Design Professional is required to coordinate the manufacturer's requirements with the site development documents.
- C. Building supplier to provide required letter of certification indicating compliance with the elements that are necessary to obtain DSA temporary waiver and the HCD insignia number(s):
 - 1. HCD commercial coach(s) supplied has been designed and constructed to the 1976 or later edition of the Uniformed Building Code (UBC).
 - 2. HCD commercial coach(s) supplied was built after December 19, 1979.
 - 3. HCD commercial coach(s) supplied is in good structural condition.
 - 4. HCD commercial coach(s) supplied has its overhead nonstructural elements secured pursuant to DSA's standards.
 - 5. HCD commercial coach(s) supplied has been placed on either a California registered engineer-approved foundation plan which meets UBC standards or a DSA approved foundation plan.
- D. Building supplier is responsible to set buildings on foundation per manufacturer's details.
- E. The District will hire a Design Professional to prepare the plans to site and service the building.
- F. The District will provide the Design Professional with a specific project scope statement that conforms to these standards and indicates how many buildings will be required, where to site building(s) and what services will be required.
- G. Design Professional is required to obtain temporary exemption from Division of State Architect (DSA) for use of non-conforming "Housing and Community Development" (HCD) commercial coaches for use as temporary student housing per DSA Policy#97-10. Temporary approval is valid for a maximum period of two years from the date of installation. If an unanticipated school use need for the building(s) exceeds two years, DSA shall be notified and may extend the temporary approval for one additional year.
- H. Design Professional is required to obtain the plan approval of the siting and fire detection system with the local fire jurisdiction.
- I. The District will determine on a project specific basis what portions of the work will be performed by a site contractor(s), portable building supplier or District staff and how the work will be contracted. Design Professional to coordinate scopes of work on bid documents.

- J. The District will hire an independent inspector to inspect the installation and provide written reports and determination of conformance with installation requirements.
- K. All contracts to include final cleaning requirement section 01742.
- L. Refer to specific project scope statement for additional building and/or project requirements.
- M. Note that the outline specifications do not apply to this type of project.

II. Architectural Items for Interim Housing Building Projects

- A. Site Design: The Design Professional will be tasked with the siting of the portable classroom building(s) in the specific project scope statement. The Design Professional shall obtain approval of the proposed layout from the designated District representative prior to starting construction documents. The siting must conform to the following requirements:
 - 1. Site buildings to utilize individual ramps and stairs that meet ADA requirements.
 - 2. Where possible locate buildings in a row with a 12” minimum space between buildings. Secure areas behind and in between buildings with fencing to avoid hiding places. Secure areas under ramps and stairs
 - 3. Where applicable locate grouped buildings back-to-back with a secured, fenced utility space between buildings.
 - 4. Locate buildings as close as possible to core campus.
 - 5. Avoid siting in a manner that would minimize interference with supervision of campus and playfields.
 - 6. Specify site lighting around interim housing portables and on the path-of-travel between portables and rest of campus.
 - 7. Do not site on existing utilities.
 - 8. Address impact to existing site drainage by placement of interim housing portables. Specify positive drainage away from all buildings and walkways.
 - 9. Address impact to existing landscaping and irrigation by placement of interim housing portables. Identify any temporary modifications that may be required.
 - 10. Indicate path of accessible travel to interim housing portables and include any necessary modifications for code conforming path of travel.
 - 11. Prepare building pad in accordance with manufacturer’s foundation design requirements.
 - 12. Specify a minimum of a 48” wide 2” thick asphalt concrete walkway to service interim housing portables. Specify positive drainage away from walkway(s).

B. Building Design:

1. The District will forward to the Design Professional the specific project order information for the Design Professional to coordinate site work and related field requirements.
2. The District will typically order standard 24 x 40 portable(s) with open classroom configuration, however due to special requirements the District may need to order a 2-story or a double classroom configurations due to space constraints.
3. The District will require the building(s) supplier to provide and set building(s) on approved foundation including seismic anchors.
4. The District will order building(s) to include the appropriate pre-engineered steel ramp(s) with landing with anti-slip perforations.
5. Building should be ordered with the same HVAC controls as the existing building on the site.
6. The District will order building(s) to include window guards if required.
7. Door Hardware: Lockset needs to lock from the inside and should have interchangeable cores for tie-in by the District.

III. Mechanical Items for Interim Housing Building Projects

- A. The interim housing classrooms will be supplied with manufacture standard all electric HVAC system. Classrooms should have the same HVAC controls as the existing classrooms.
- B. The interim housing classrooms typically will not have any plumbing. However, the Design Professional shall verify specific project requirements and coordinate water and sewer services if applicable.

IV. Line Voltage Electrical Items for Interim Housing Building Projects

- A. The interim housing classroom(s) will be supplied with manufacture standard lighting and electrical service panel.
- B. Design Professional to verify electrical service requirements and coordinate electrical work to service building(s).
 - 1. If the Design Professional determines that there is not enough capacity with the exiting site service to accommodate the additional interim housing portable(s) load, then the Design Professional shall notify the designated District representative for coordination with PG&E to provide an additional temporary electrical service.
 - 2. The electrical service can be run overhead for cost savings if to be temporary.
- C. Design Professional to include requirement for contractor to provide building grounding and bonding of modular frames in addition to the metal rails, stairs and ramps as part of the site service requirements.

V. Technology / Low Voltage Systems for Interim Housing Building Projects

- A. The Design Professionals are responsible for providing the design of the fire alarm system and obtaining approval from the local fire jurisdiction and DSA.
- B. The District technology consultant will provide the Design Professional with schematic drawings indicating the necessary pathways to accommodate low voltage cabling.
- C. The District technology consultant with specify under separate contract the cabling and equipment associated with low voltage systems other than fire alarm.
- D. The Design Professionals are required to coordinate design of pathways, specify materials for pathways and accommodate equipment space and power requirements.

-End of Part 3-

PART 4 Document Standards

I. General

- A. All plan submissions to be provided on CD in AutoCAD, release 2000 or more current.
- B. Plans need to be prepared with large enough font size and style to allow for the 50% reduction sets to still be legible.
- C. All sheets shall include a standard title block with project name, Design Professional name, sheet title, contents of sheet, sheet number, sheet index number, DSA approval stamp area, date block with revision date area. Also include on plan sheets a reduced key plan indicating areas shown on the specific plan sheet.
- D. All plan sets shall utilize keynote system. Each sheet shall include legend of keynotes utilized on a specific sheet and a master list is to be included with the specifications as an exhibit.
- E. All plan set sheets are to have the same building and site backgrounds, drawn at the same scale and in the same orientation.
- F. On renovation projects, the room designations and building names to be utilized must match actual designations on site. Architect to meet with designated District representative and school principal to confirm designations.

II. Architectural Drawings

- A. Cover Sheet:
 - 1. All plan sets to include cover sheet with project title, index of drawings, location map, standard symbol legend, abbreviations definitions, project directory (listing architect, all consultants, owner and CM), District's project identification number, list of all applicable building codes, and DSA required information.
 - 2. On renovation projects, include the District's standardized notes on the cover sheet. (See Appendix "C").
- B. Site Plans:
 - 1. The site plans are to include all existing and new disabled parking, path of travel and access to all buildings.
 - 2. The limits of construction need to be clearing indicated.
 - 3. All demolition work needs to be clearly identified. When removing flatwork, curb and gutter, or AC paving, indicate extent of removal on architectural site plans.
 - 4. If existing mechanical, electrical devices, circuits, or services need to be relocated for demolition, show new location on both the architectural and appropriate consultant site plans.
 - 5. Include all building tabulations/areas and parking tabulations.
 - 6. Show code analysis required for occupancy and construction types.
 - 7. Provide enlarged plans for site improvements such as stairs, accessible ramps, utility enclosures, and other congested areas.

8. Indicate location of contractor's corporation yard and workers parking as previously reviewed and approved by District.
- C. Floor Plans:
1. All areas of work shall be shown with relevant dimensioned floor plans.
 2. Provide enlarged floor plans for toilet rooms, stairs, equipment rooms and other congested areas are required.
 3. On renovation projects, provide separate demolition plans. When possible include on the same sheet as the new work. Extent of all demolition work and patching shall be clearly illustrated and noted.
- D. Reflected Ceiling Plans:
1. Clearly indicate and coordinate all scope of work to be performed on the ceilings.
 2. Show ceiling access hatches where required.
 3. On renovation projects, indicate areas of access for replacement of above ceiling items; i.e. piping/ductwork and include patching requirements.
 4. On renovation projects, show existing items on ceiling and include areas of ceiling tile replacement.
- E. Roof Plans:
1. All areas of work shall be shown with dimensioned roof plans.
 2. Reference all gutters, downspouts, roof drains, rooftop equipment curb and piping anchorage details.
 3. Provide specific details for all flashing and sheet metal.
 4. Verify gutter design and profile with District standard.
 5. On renovation projects, indicate all new and existing equipment, piping, flues, vents, etc. Include requirement to replace or revise curbs as necessary to accommodate new roofing material warranties.
 6. On renovation projects, reference all roofing transition and termination details.
 7. On renovation projects, extent of all demolition work shall be clearly illustrated.
 8. On renovation projects, indicate any areas of known dryrot or other structural damage on plans and reference appropriate repair details. Provide details for replacement of roof sheathing, fascias, sub-fascias, and structural members, and for openings for ducts and exhaust fans. Be specific when identifying fascia and other finish material to be replaced. Indicate all items on roof to be removed and reinstalled or replaced.
 9. On renovation projects, provide details when replacing roof drains and dome strainers, and show locations on plans.
 10. On renovation projects, indicate areas of tapered insulation and thermal insulation with referenced transition details.
- F. Exterior and Interior Elevations:
1. Include detailed elevations of all surfaces requiring work.

2. Include vertical dimensions for all items unless indicated on building section. Horizontal dimensions should be only on the floor plans.
 3. On renovation projects, the use of digital photography to depict both exterior and interior elevations is acceptable, provided that they are dimensioned, and work is properly identified with detail references and keynotes.
- G. Door Schedule:
1. Include all doors in schedule listing, dimensions, door type, hardware group, signage, and reference head, jamb and threshold details.
- H. Window Schedule:
1. Include all windows in schedule listing, dimensions, window type, and reference head, jamb and sill details.
- I. Finish Schedule:
1. Include on finish schedule pre-selected colors from the District standard color groups.

III. Civil Drawings

- A. Include existing topography information as appropriate for specific project scope and include cross sections for new grading work.
- B. Use same background as architectural with the same orientation and same scale.
- C. Provide enlarged plans for site improvements such as stairs, accessible ramps, utility enclosures, and other congested areas.
- D. Clearly indicate and coordinate all points of connection with invert elevations at both building tie-ins and off-site tie-ins.
- E. Coordinate underground utilities to route around future building pads.

IV. Structural Drawing Standards

- A. Use same background as architectural with the same orientation and same scale.
- B. On renovation projects, include all known structural repairs and corresponding repair details. If additional repairs are anticipated, but in a concealed location, provide typical structural repair details for work to be performed on an allowance basis.

V. Mechanical Drawings

- A. Provide appropriate legends, equipment schedules, etc. as required for the project. Legends shall include all symbols and abbreviations used on the drawings. Provide a plumbing fixture schedule on the plumbing drawings to define fixture connection pipe sizes.
- B. Use same background as architectural with the same orientation and same scale.
- C. When necessary, provide a site plan indicating all buildings, structures, paving, walkways, landscaping, site utilities, etc.
- D. Provide separate plumbing drawings from the heating, air condition and ventilation plans.

- E. Provide large scale (1/4" = 1'-0") partial plumbing floor plans and partial HVAC floor plans where necessary to clearly indicate work to be accomplished.
- F. When new gas meters are required, indicate meter set location on the site plan and provide a piping diagram of the meter set indicating meter, valving arrangement, regulator if required, and seismic gas shutoff valve.
- G. Clearly indicate all points of connection and coordinate with civil.
- H. Indicate pressure of all gas piping.
- I. Indicate plumbing fixture tabulations.
- J. Provide building sections as necessary to indicate and make clear all duct routing and how it relates to the structure, the architecture, and other building utilities.
- K. Provide details of specific construction items as necessary. Coordinate details with the specific construction which exists at the school, or which will be used on a new school building.
- L. Provide temperature control diagrams for each system and each item of equipment to be controlled. Include schematic diagrams, sequences of operation, control equipment schedule, etc.
- M. On renovation projects, clearly delineate which items are new and which are existing. Provide separate demolition plans. When possible include on the same sheet as the new work. Extent of all demolition work shall be clearly illustrated and noted. Coordinate patching requirements with architectural drawings.

VI. Electrical Drawing Standards

- A. Provide appropriate legends, equipment schedules, etc. as required for the project. Legends shall include all symbols and abbreviations used on the drawings.
- B. New light fixtures to be consistent with attached District standard light fixture schedule.
- C. Use same background as architectural with the same orientation and same scale.
- D. Provide separate power/signal drawings from lighting plans.
- E. When necessary, provide a site plan indicating all buildings, structures, paving, walkways, landscaping, site utilities, etc. with enlarged 1/4" per foot plan of new utility yard housing transformer and switchgear.
- F. Provide panel schedule for all panels including load calculations and connected load of each panel.
- G. Indicate all grounding and provide detail including grounding of chainlink fence at utility yard if applicable.
- H. Show all anchorage details for specific conditions.
- I. On renovation projects, clearly delineate which items are new and which are existing. Provide separate demolition plans. When possible include on the same sheet as the new work. Extent of all demolition work shall be clearly illustrated and noted. Coordinate patching requirements with architectural drawings.
- J. On renovation projects indicate actual routing of all conduits. Coordinate with routing of existing and new conduits (line voltage and low voltage) and mechanical piping to utilize common support wherever possible. Minimize routing of conduits on roof, but where necessary minimize anchored blocks.
- K. On renovation projects, indicate location of casework and other obstructions in conjunction with location of surface mounted raceway.

VII. Landscape Drawing Standards

- A. Use same background as architectural with the same orientation and same scale.
- B. Provide appropriate legends, equipment schedules, etc. as required for the project. Legends shall include all symbols and abbreviations used on the drawings.
- C. New landscaping and irrigation to be consistent with attached District standard planting details.
- D. Coordinate all new concrete with architectural drawings.

-End of Part 4-

PART 5 OUTLINE SPECIFICATIONS

The Design Professionals are to utilize their company master specifications as a base document and incorporate the following criteria as appropriate.

FRONT END DOCUMENTS (Division 0)

All Design Professional's to obtain District master front-end documents from designated District representative.

GENERAL REQUIREMENTS (Division 1)

01300 Submittal Requirements

Part 1 General

- **Scope:**
 - All projects to include a specification section dedicated to submittal requirements.
 - Reference the District General Conditions 00700, Article 11 and coordinate requirements.
- **Record Drawings:**
 - Contractor shall be required to maintain Record Drawings as work progresses.
 - Project Inspector shall be required to review and approve Record Drawings as current on a monthly basis in association with reviewing and accepting Progress Payment applications.
- **O&M manuals:**
 - Require contractor to compile in CSI format, tabbed and indexed all items that are required to have O&M information. Contractor to submit three (3) sets of 3-ring binders. Manual to include copies of all operation instructions, maintenance information, warranty data, reorder and parts information, approved submittals, shop drawings and a directory of all subcontractors, suppliers and vendors with phone numbers. Receipt of approved manuals is required prior to occupancy.

Part 2 Products

- Not Used.

Part 3 Execution

- All submittals to be submitted within 35 days of Notice to Proceed.
- All submittals to be submitted with a minimum of seven (7) copies to allow for distribution to: architect, engineer, project inspector, owner and construction manager.
- Every submittal to be submitted on District standard submittal form.
- All products being proposed for use that is other than a specified product shall be submitted within seven (7) days of Notice to Proceed.
- Any product being proposed that is other than a specifically named product (or equal or substitution) must be submitted by contractor with a side-by-side comparison that describes the similarities and differences between specified product and proposed product.
- Any product being proposed that is not a specified product shall be reviewed first by Design Professional and then, if recommended to accept, the Design Professional is to obtain acceptance from the District M&O Director prior to returning to contractor. The final accepted product would then be incorporated into the design standards and outline specifications for future projects.

01500 Temporary Facilities

Part 1 General

- **Scope:**
 - All projects to include a specification section dedicated to temporary facilities requirements.
 - Specify temporary fencing to isolate all construction work from occupants and adjacent property.
 - Specify protection to existing structure, finishes and grounds that are to remain.
 - Owner responsible to provide all temporary utilities required.
 - Contractor responsible to provide all toilet room facilities for workers.
 - Contractor responsible to provide all drinking water for workers.
 - Contractor responsible to provide field office trailer and any necessary storage containers.

Part 2 Products

- Not Used

Part 3 Execution

- Contractor to be responsible to remove all temporary facilities and restore area to original condition.
- Refer to District's "Standard General Notes" to be included on the cover sheet of all renovation projects for specific procedural requirements. (See Appendix C)

01742 Final Cleaning

Part 1 General

- **Scope:**
 - All projects to include a specification section dedicated to final cleaning requirements. All areas must be final cleaned, reviewed and accepted prior to occupancy.

Part 2 Products

- Require the contractor to utilize cleaning products recommended by the manufacturer of item being cleaned when applicable. Coordination of product(s) to be used will occur as the project begins close-out.

Part 3 Execution:

- Require the contractor to utilize cleaning techniques recommended by the manufacturer of item being cleaned when applicable.

SITEWORK (Division 2)

02220 Selective Demolition

Part 1 General

- **Scope:**
 - Coordinate with recommendations of the designated District environmental consultants for abatement of hazardous materials including: asbestos, lead, other hazardous materials including; PCBs in transformers, fluorescent lamp recycle/disposal, radon abatement, and lead paint removal, VCT, TSI, etc.
 - The District prefers abatement of asbestos versus encapsulating. Items that are to be encapsulated due to budgetary or physical restraints need to be reviewed with the designated District representative.
 - Design professions to review items to be removed with maintenance staff prior to bid to determine if salvage is desired. After items are identified in documents, add the following paragraph into the above referenced specification section:

“Deliver salvaged material to a location designated by the District. Contractor shall be responsible for all such materials, fittings, fixtures, etc., and shall use the utmost care in their removal, so as to insure the least possible damage to the same or surrounding work.”

02740 Asphalt Concrete Paving

Part 1 General

- **Scope:**
 - Renovation, portable building, modular building and interim housing projects:
 - Always verify condition of the paving for the designated accessible path of travel and replace as necessary.
 - When required by scope statement, evaluate condition of existing asphalt paving and replace as necessary.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
 - Specify pavement markings to comply with accessibility standards.
 - Conform to applicable city or county standards.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.

Part 2 Products

- Supplier to provide certification to Contractor/Subcontractor showing proof the AB is free of hazardous material.
- Repaving: where practical incorporate paving fabric in overlay or in replacement over compacted fill.
- Require fiber reinforcement for all overlays.

Part 3 Execution

- Require water test in presence of project inspector to verify no ponding water in excess of 1/10 inch.

02820 Chainlink Fences and Gates

Part 1 General

- **Scope:**
 - Renovation, portable building, modular building and interim housing projects:
 - When required by scope statement.
 - Refer to design standards for requirements around new electrical services.
- **Warranty:** Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
 - Materials and components: Conform to CLFMI Product Manual.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products

- Line posts: 2.38" diameter, 3.65 lbs./ft.
- Corner and Terminal posts: 2.88" diameter, 5.79 lbs./ft.
- Gate Posts: 4.0" diameter, 9.10 lbs./ft. for 13'-0" wide or less; 6.625" diameter, 18.97 lbs./ft. for over 13'-0" wide.
- Top and Brace Rail: 1.66" diameter, 2.30 lbs./ft., plain end, sleeve coupled.
- Gate Frame: 1.90" diameter, 2.72 lbs./ft. for fittings and truss rod fabrication.
- Fabric: 2" diamond mesh interwoven wire, 9 gauge thick, top and bottom selvage knuckle end closed.
- Tension Wire: 7 gauge thick high-carbon steel coil-spring wire, single strand.
- Tension Bar: 3/16" thick by 3/4" wide steel, not more than 2" shorter than fabric height.
- Tension Strap: 1/8" thick steel.
- Tie Wire: 9 gauge galvanized steel wire.
- Caps: Cast steel galvanized; sized to post diameter, set screw retainer.
- Fittings: Sleeves, bands, clips, rail ends, tension bars, fasteners and fittings; steel galvanized.
- Gate Hardware: Fork latch with gravity drop mechanical keepers; three 180° gate hinges per leaf and hardware for padlock.
- Concrete: ASTM C94; Normal Portland Cement, 2,500 p.s.i. minimum strength at 28 days, 3" slump; 1" nominal sized coarse aggregate.

Part 3 Execution

- Line Post Spacing: At intervals not exceeding 10'.
- All posts to be set in 24" deep, 12" diameter, concrete footings. Top of footings to be 2" above grade and sloped for water run off.
- Brace each gate and corner post to adjacent line post with horizontal center brace rail and diagonal truss rods. Install brace rail, one bay each side from end and gate posts.
- Specify top rail through line post tops and splice with 6" long rail sleeves. Top rails shall be continuous, using 18' minimum lengths, except at corner and gate posts.
- Install center and bottom brace rail on corner gate leaves.

Piedmont Unified School District

Facilities Design Standards

PART 5 – OUTLINE SPECIFICATIONS

- Stretch fabric between terminal posts or at intervals of 100' maximum, whichever is less.
- Position bottom of fabric 2" above finished grade.
- Fasten fabric to top rail, line posts, braces and bottom tension wire with tie wire at maximum 15" on centers.
- Attach fabric to end, corner and gates posts with tension bars and tension bar clips.
- Install bottom tension wire stretched taut between terminal posts.
- Do not swing gate from building wall; specify gateposts.
- Install gate with fabric to match fence. Install three hinges per leaf, latch, catches, retainer and locking clamp.

02810 Irrigation System

Part 1 General

- **Scope:**
 - Renovation, portable building, modular building and interim housing projects:
 - When required by scope statement or when repairs are necessary due to installation of new underground utilities.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty on controller.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings for irrigation layout, configuration of valves, pump area and controllers.
 - Require O&M data.
- **Commissioning:**
 - Require an informal commissioning requirement that provides complete equipment testing/commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.
 - Requirements to include instructions to the District's maintenance staff in the operation, adjustment, and maintenance of equipment.

Part 2 Products

- **Controllers:**
 - Specify “Irritrol MC Plus” series 24-station digital controllers with remote control.
 - Do not specify any computerized controllers or moisture sensors.
- **Backflow Preventers:**
 - Specify “Febco”, Wilkins or approved equal.
- **Valves:**
 - Specify “Weathermatic”, “Toro”, “Griswold” or approved equal.
- **Sprinklers:**
 - Specify “Hunter” I-25’s at turf areas.
 - Specify “Hunter” I-20’s, “Toro”, “Rainbird” or approved equal at other locations.
- Specify all schedule 40 PVC underground piping.

Part 3 Execution

- Require water pressure testing of all underground prior to backfilling.
- Stake all drip hoses 12” o.c. max.

02882 Playground Equipment

Part 1 General

- **Scope:**
 - Renovation Projects: When required by scope statement.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer’s standard warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.
 - Require O&M data.

Part 2 Products

- Miracle playground system complete with poured in placed rubber surfacing.
 - On new campuses, the model(s) and configuration will be determined by the Educational Specification Committee and provided to Design Professional.
 - On other types of projects, if included on scope statement, the Design Professional is to propose model and configuration for the designated District representative’s approval.

Part 3 Execution

- Require installation per manufacturer recommendations.

02950 Landscaping

Part 1 General

- **Scope:**
 - Renovation, portable building, modular building and interim housing projects:
 - When required by scope statement or when repairs are necessary due to installation of new underground utilities.

Piedmont Unified School District

Facilities Design Standards

PART 5 – OUTLINE SPECIFICATIONS

- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all plants and material proposed for use per section 01300.
 - Require O&M data.
- **Mandatory Meetings:** Require the following meetings with designated District representatives, contractor(s) and design professionals:
 - Pre-planting meeting to accept irrigation system and soil conditions.
 - Post-planting meeting to accept landscaping installation prior to start of maintenance period.
 - Start of warranty period meeting to accept landscaping at end of maintenance period.
 - End of warranty period to accept landscaping prior to the end of 2-year warranty period.

Part 2 Products

- Design Professional to obtain approval from District of all proposed vegetation.

Part 3 Execution

- Design Professional to refer to the attached (see appendix) planting details for District Standards.

02970 Landscape Maintenance

Part 1 General

- **Scope:**
 - Renovation Projects: When required by scope statement or when repairs are necessary due to installation of new underground utilities.

Part 2 Products

- N.A.

Part 3 Execution

- Require site meeting at start and end of maintenance periods.

CONCRETE (Division 3):

03300 Cast In-Place Concrete

Part 1 General

- **Scope:**
 - All project types when required by scope statement. Refer to design standards for requirements.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion for cracking.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of mix designs per section 01300. The Structural Engineer of record and the District's testing laboratory must approve all mix designs.

Part 2 Products

- All concrete to be batched in a certified plant capable of achieving DSA waiver of continuous batch plant inspection.
- All concrete to be produced by the same batch plant.
- Structural concrete mix design shall yield specified strength prior to 28 days.
- Steel Reinforcing Bars: ASTM 615 Grade 60.
- Welded Wire Mesh: ANSI/ASTM A185 plain type, coil rolls, uncoated finish.
- Concrete: Design mixes shall be as specified in title 24 California Building Code. Concrete Strength at 28 days: 3,000 P.S.I. for regular weight and 3,500 P.S.I. for lightweight concrete.

Part 3 Execution

- Concrete Finishes: All walkways and driveways shall have non-slip medium broom finish; non-exposed slabs shall have finished as required for placement of finished flooring materials.

METALS (Division 5)

05500 Metal Fabrications

Part 1 General

- **Scope:**
 - All project types when required by scope statement. Refer to design standards for requirements.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.

- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products

- All downspouts to be galvanized schedule 40 steel-pipe.
- All exterior metal fabricated items to be hot-dipped galvanized after fabrication.
- Metal stair nosing (where required): Tapered, “Feracast”; Style 4702, as manufactured by American Safety Tread Company, or approved equal. Extend nosing full length of steps.

Part 3 Execution

- All downspouts to have welded joints. Threaded and collard joints are not acceptable.

WOOD and PLASTIC (Division 6)

06101 Rough Carpentry

Part 1 General

- **Scope:**
 - All project types when necessitated by scope.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
- **Material Handling & Storage:**
 - All materials are to be dry stored and protected from weather.

Part 2 Products

- Mill stamped S-Dry; maximum moisture 19 percent prior to installation. Lumber shall exhibit no growth of fungus when installed.

Part 3 Execution

- Install per manufacturer’s recommendations.

06200 Finish Carpentry

Part 1 General

- **Scope:**
 - All project types when necessitated by scope.
- **Codes and Standards:** Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products

- All finish lumber to be Kiln dry.
- All casework to be certified WI custom grade.

Part 3 Execution:

- All joints to be beveled. No butt joints.

THERMAL and MOISTURE CONTROL (Division 7)

07100 Waterproofing

Part 1 General

- **Scope:**
 - All projects with new or replacement windows or doors.
- **Warranty:**
 - Unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.

Part 2 Products

- General:
 - Self-Adhered Flashing:
 - Grace “Vycor Plus”, or approved equal.
 - Two-part waterproofing: Rubberized asphalt and cross-laminated polyethylene.

Part 3 Execution

- Detail and specify at all jambs and sills where galvanized sheet metal flashing is not detailed to provide waterproofing of frames to building vapor barrier system.
- Install per manufacturer’s recommendations.

07210 Thermal Insulation

Part 1 General

- **Scope:**
 - Renovation Projects: Ridge Board insulation is required on all re-roofing projects. Batt insulation is only required when included in scope statement.
- **Warranty:**
 - Unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material and locations proposed for use per section 01300.

Part 2 Products

- General:
 - Semi-Rigid Board Insulation:
 - Owens Corning, Johns Manville, or approved equal.
 - Specify third generation blowing agent, HC or HFC, zero ozone depletion.
 - Require compliance with LTTR R-value determination per ASTM C1303
 - Batt Insulation:
 - Owens Corning, Johns Manville, Certainteed, or approved equal.
 - Specify formaldehyde free insulation.

Part 3 Execution

- Provide schedule for require R values for all locations required.
- Coordinate installation locations with drawings.
- Install per manufacturer's recommendations.

07260 Vapor Retarders

Part 1 General

- **Scope: (For projects with concrete slabs and new or replacement flooring only.)**
 - Renovation Projects: When determined necessary to treat existing slabs as required by scope statement to install new floor covering.
 - Coordinate requirement on bid form with contract allowance for potential water vapor emission treatment.
- **Quality Assurance:**
 - Manufacturer Qualifications:
 - Ten-year experience in producing moisture vapor control emission products.
 - Minimum \$5-million product liability insurance policy from an A-rated carrier.
 - A warranty program covering coats associated with repair or replacement of concrete vapor emission control system and finish floor covering or coating, including repair or replacement labor.
 - Installer Qualifications:
 - Installer shall have experience in the installation of floor covering or floor coatings and shall have experience in the installation of concrete vapor emission control systems.
 - Floor covering installer must be factory trained and certified for the installation of the specific products being installed.
 - Installer to provide project inspector proof of certification prior to starting work.
 - Certified installer must be present on job site while work is in progress.
 - Testing Laboratory Qualifications:
 - Certified, bonded, qualified and experienced agency to perform pH and moisture vapor emission tests.
 - Pre-installation Meeting:
 - Contactor to notify Construction Manager with a minimum of 5-days notice when anticipated to be ready for pre-installation meeting.
 - Contractor, installer and manufacturer representative are required to attend pre-installation meeting. Contractor is responsible for coordinating and scheduling their attendance.
 - Construction Manager will schedule meeting with Contractor team, Project

- Inspector, and Architect.
 - Purpose of Meeting: To review subfloor condition and test results; determination of appropriate treatment system(s) and location(s); and review installation requirements.
- **Warranty:** Require the following warranties:
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to a 10-year manufacturer's warranty. Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
 - Emission control system warranty must be from the manufacturer, in writing, and cover the cost of system materials, cementitious compounds and labor costs of application and preparation. In addition the warranty must extend to the flooring material, adhesive and installation labor.
 - Warranty period shall be no less than ten years or the life of the flooring covering which ever comes first.
 - Warranty exclusion shall be limited to:
 - Moisture failure due to topical intrusion of plumbing failure or other substances entering from the surfaces.
 - Seismic damage occurring after installation.
 - Replacement of flooring during warranty period as removal of flooring could damage emission control system.
 - Aggregate found to be defective (expansive and reactive aggregate are examples).
 - Warranty shall not exclude cracks visible at time of installation nor "improper installation".
 - Manufacturer to provide evidence of a product liability insurance policy. Insurer shall have no less than an "A" rating from one of the four major rating services. A certificate of insurance shall be delivered to the Owner and shall name the Owner, Architect and General Contractor as co-insured. Liability shall be in the amount of \$5-million per occurrence.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Product Data: Provide product data describing physical and performance characteristics, material safety data sheets, certificates, warranty information and manufacture's installation instructions for proposed product.
 - Submit product manufacturer's field reports and test reports with warranty certification.
- **Testing Environmental Requirements:**
 - Prior to testing for moisture vapor emission rate, space shall be enclosed, fully weather-tight, wet-work in space shall be completed and nominally dry, work above ceilings finished. The test site should be at the same temperature and humidity expected during normal use.
- **Concrete Subfloor Testing:**
 - After the vapor emission control system has been fully cured, the Contractor shall be

responsible for retesting the treated areas by conducting additional calcium chloride test. Three (3) tests are required for the first 1,000 square feet and one additional test for every 1,000 square feet thereafter to ensure concrete moisture emissions do not exceed floor covering manufacturer's recommendations within a 24-hour period for areas to receive finished flooring material.

- F1869-98 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride. This test method covers the quantitative determination of the rate of moisture vapor emitted from below-grade, on-grade, and above-grade (suspended) concrete floors.
- The Contractor shall verify in writing to the Owner, prior to scheduled resilient flooring installation, the following substrate conditions:
 - Moisture: Initial emission rate, as tested with a calcium chloride test kit, per ASTM E1907-97 or ASTM F1869-98.
 - pH Testing, as outlined in ASTM F710.

Part 2 Products

- Vapor Emission Control System: The appropriate system(s) shall depend on the existing slab moisture and pH levels and the requirements of the specific floor covering product. The determination of which of the following systems would be most appropriate and the extent of treatment area(s) shall be made by the Owner's representative once the existing slab testing results are known.
 - VECT-R3, R5 or VECT-Rx as manufactured by the Sinak Corporation: Prescribed treatment system shall utilize single component lithium silicate-based penetrant that may be combined with a polymer modified cementitious layer (Interlock) and a water-based epoxy (VECT-R Epoxy) to reduce the moisture levels as needed in accordance to each VECT-R System.
 - VECT-R Penetrant: Primary component shall be a clear, penetrating, non-toxic, non-silicone, non-acrylic, non-epoxy, water-based silicate material with documented performance of 30% to 50% reduction in vapor emission when tested in accordance with the calcium chloride test method.
 - VECT-R INTERLOCK: Second component is a blend of polymers that forms a coating mixture for bonding the system's multi-coat laminate, and to provide a top surface for bonding of flooring materials.
 - VECT-R Epoxy: The third component of the system is a water-based epoxy, which is applied in alternating layers with the INTERLOCK mixture to densify the laminate and restrict vapor emission.
 - No known equals.

Part 3 Execution

- **Examination:**
 - Pre-Installation Testing: A requirement to test slabs in accordance with ASTM F1869-89 prior to the installation of finished flooring materials is stipulated in the respective finished flooring specification sections. If slabs are found to not meet the flooring manufacturer's requirements, the Owner will confirm test results with independent tests prior to requiring installation of the vapor emission control system. These test results will be made available to the Contractor prior to installation of water vapor emission control system.
 - Contractor to evaluate prior test results and only proceed with application of the vapor control system if the system will rectify the water vapor emission problem and provide

a full warranty of both the water vapor emission control system and the finished flooring.

- **Preparation:**

- Prior to installation of water vapor emission control system, all areas not to receive treatment shall be masked or otherwise protected from the effects of scarification and application.
- Shot blast surfaces to receive prescribed system treatment prior to installation of vapor control system.
- Prepare control joints and cold joints with manufacturer's recommended joint membrane dispersion system.
- Clean substrate surfaces to receive system treatment and treat surface irregularities with a 100% Portland Cement based patching compounded and cementitious fill compatible with prescribed system treatment as recommended by the manufacturer of the moisture control system.

- **Installation:**

- Application of compliance treatment by manufacturers trained personnel only.
- Install water vapor emission control system in accordance with manufacturer's instruction for a fully warranted system.
- Installation Requirements and Procedures:
 - Methods of Application: Apply product by squeegee and roller application method to saturate the concrete surface.
 - Installation and Application: Install or apply selected system treatment contingent upon pre-installation testing results of concrete substrate in accordance with manufacturer's installation instructions.
 - Coverage rates shall be in accordance with manufacturer's recommendations for selected prescribed system treatment and concrete density and porosity.
 - Environmental Condition: Install prescribed system treatment in environmental conditions that are representative of the environmental operating conditions of finished project. Continue conditioning space through vapor emission system application, curing time and time awaiting installation of finished flooring.

- **Post-Treatment Testing:**

- Perform post installation testing of the concrete slab as specified under section 1.08. If test results indicate levels higher than the finished flooring manufacturer recommendations, then reapply sealer until satisfactory results are achieved at no additional cost to the Owner.

- **Protection:**

- Prohibit any traffic or any activity that generates dust or debris from contaminating the treated slab until finished flooring is installed.
- Do not install finished flooring until the vapor control system has fully cured in accordance with manufacturer's recommendations.

07320 Clay Roofing Tile Restoration

Part 1 General

- **Scope:**

- Renovation Projects: When required by scope statement to replace existing roofing. Refer to Design Standards, Part II.

- **Codes and Standards:**

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- Except as modified by the requirements herein or indicated on the Drawings, clay tile roofing shall conform to the applicable requirements of the following:
 - ASTM - American Society for Testing and Materials
 - C-1167, Standard Specification for Clay Roof Tiles, Grade 1
- **Delivery, Storage, and Handling:**
 - Storage and Protection
 - Existing Tiles:
 - Carefully remove fasteners from tiles. Damaged, disfigured, cracked, cut, asphalt contaminated, or mortared tiles must be disposed of.
 - Prior to stacking, clean each tile with restoration cleaner.
 - Apply water repellent to each tile.
 - Stack tiles on pallets 100 square feet of tile per pallet. Label tile for reuse. Submit five (5) tiles per square for testing as directed ASTM C1167-94a, Grade 1. If tiles do not meet the minimum requirements of these tests, the pallet should be removed from the site. Approved Testing Agency's Smith Emory, Karzan, or equal.

Part 2 Products

- Restoration of Clay Tiles:
 - Exterior Restoration Cleaner: Prosoco, Sure Klean Restoration Cleaner, or equal, no known equal, Clear Liquid 1.050 Specific Gravity, No Flash Point, 2.2 pH at 1:3 dilution; 8.75 lbs. weight per gallon or equivalent. Water Repellent: Prosoco, Sure Klean Weather Seal Siloxane WB Concentrate, Huls Aqua Trete, or equal, applied at a ratio of 9:1.

Part 3 Execution

- Prosoco, Sure Klean Restoration Cleaner:
 - Before applying, read "Preparation" and "Safety Information" sections in the Manufacturer's Product Data Sheet. Use test area results to determine dilution for intended use.
 - Always pre-wet the surface with clean water.

- Prosoco, Sure Klean Weather Seal Siloxane:
 - Before applying, read “Preparation” and “Safety Information” sections in the Manufacturer’s Product Data Sheet.
 - Do not dilute or alter.
 - Protect from rain for 6 hours and from pedestrian and vehicular traffic until visibly dry.

07513 Modified Bitumen Roofing (The District’s preference is for Johns Manville).

07600 Sheet Metal Flashing, Gutters and Trim

Part 1 General

- **Scope:**
 - Renovation Projects: When required by scope statement. Refer to Design Standards Part II.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.
- **Related Sections:**
 - All downspouts to be galvanized schedule 40 steel-pipe. (See 05500)

Part 2 Products

- All material are to be hot-dipped galvanized:
 - Specify 20 gauge vents.
 - Specify 22 gauge min. gutters.
 - Specify 24 gauge min. flashings.
- Specify min. 4” x 4” gutter profile with ¾” reveal at lip and 4” flange under roofing.
- Specify 4 pound lead flashings at all roof pipe penetrations.

Part 3 Execution

- Require all gutters and downspouts to be water tested in presence of project inspector.

07720 Roof Hatches

Part 1 General

- **Scope:**
 - Renovation Projects: When required by scope statement.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer’s standard warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**

- Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.
 - Require O&M data.

Part 2 Products

- Bilco Type “S”, 11 gauge (2.3mm), aluminum construction with mill finish or approved equal.
 - Hatches to have compression springs or gas loaded struts for ease of one-handed operation.
- Specify “Ladder-Up” safety post or approved equal at all roof access ladders.

Part 3 Execution

- Install per manufacturer’s recommendations.

07810 Skylights

Part 1 General

- **Scope:**
 - Renovation Projects: When required by scope statement.
- **Warranty:**
 - Require unconditional two (2) year installation warranty with building finishes endorsement, commencing on recordation date of the Notice of Completion in addition to a 30-year manufacturer’s warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.
 - Require O&M data.
- **Commissioning:**
 - Require an informal commissioning requirement if automated louvers are provided with skylights that provides complete equipment testing/commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.
 - Requirements to include instructions to the District’s maintenance staff in the operation, adjustment, and maintenance of equipment.

Part 2 Products

- Sun Optics prismatic skylights or approved equal.
 - Frame Model 8001B, fixed units, triple glazed units with Lexan outer lens and insulated thermal break.

Part 3 Execution

- Coordinate installation requirements with manufacturer.

07840 Firestopping

Part 1 General

- **Scope:**
 - All projects when necessitated by scope.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.

Part 2 Products

- Fire Marshal approved, UL or WH classified systems.

Part 3 Execution

- Install per manufacturer's recommendations.

07920 Joint Sealers

Part 1 General

- **Scope:**
 - All projects when necessitated by scope.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require samples.
 - Require O&M data.

Part 2 Products

- Use appropriate type of sealant for materials in contact
- Silicone Sealant:
 - Use at concrete, masonry and glazing applications.
 - Tremco or approved equal.
- Interior Building Sealant:
 - Acrylic-emulsion, one-part, nonsag, mildew resistant.

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- Pecora Corp: “AC-20”, Sonneborn: “Sonolac”, Tremco: “Tremco Acrylic Latex 834” or approved equal.
- Sanitary Sealants:
 - One-part mildew-resistant silicone, formulated with fungicide for sealing interior joints of nonporous substrates around ceramic tile, plumbing fixtures, showers.
 - Dow Corning Corp.: “786 Mildew Resistant”, Sonneborn: “Sonoolalastic Omniplus” or approved equal.
- Acoustical Sealant:
 - Concealed Joints: Pecora Corp.: “BA-98”, Tremco: “Tremco Acoustical Sealant” or approved equal.
 - Exposed Joints: Pecora Corp.: “AC-20 DTR”, USG: “Sheetrock Acoustical Sealant” or approved equal.

Part 3 Execution

- Install with backer rods.

DOORS and WINDOWS (Division 8)

08110 Steel Doors and Frames

Part 1 General

- **Scope:**
 - Renovation Projects: Refer to Design Standards, Part II.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the 10-year manufacturer’s standard warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require schedule and shop drawings.

Part 2 Products

- Steelcraft, BW16 series steel stiffened, extra heavy-duty door and frame. Or Approved equal.
 - 16 Gauge door and frame with “galvannealed”, commercial quality carbon steel.
 - Steel stiffened core construction with welded hat section stiffeners.
 - Seamless, Full height, welded edge seams.
 - 14 gauge top and bottom channels.
 - Beveled hinge and lock edges.
- Baked on rust inhibiting primer per ANSI A250.10. Supplier to certify compatibility of shop primer to specified finish coats.
- Specify vision lite; coordinate with District maintenance staff.
- Specify glazing frame kit; coordinate with District maintenance staff.

Part 3 Execution

- Specify a minimum of two (2) head and three (3) jamb frame anchors for standard size

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doors.

08201 FRP Flush Doors

Part 1 General

- **Scope:**
 - Renovation Projects: Refer to design standards, Part II.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's 10-year warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.
 - Require samples of custom color.
 - Require O&M data.
- **Tools:**
 - Contractor to provide Owner with all adjustment tools.
- **Commissioning:**
 - Require an informal commissioning requirement that provides complete door testing/commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.
 - Requirements to include instructions to the District's maintenance staff in the operation, adjustment, and maintenance of doors.

Part 2 Products

- Special-Lite Inc. (*Design Professional's to contact Ted Smith at (707) 224-2232 for manufacturer's specifications.*)
 - SL-17
 - No known equal
- **Doors:**
 - Construct 1 3/4" thickness doors of 6063-T5 aluminum alloy rails and stiles minimum 2 5/16" depth. Construct with mitered corners and specify joinery of 3/8" diameter full width tie rods through extruded splines top and bottom as standard. .125" tubular shaped stiles and rails reinforced to accept hardware as specified. Specify hex type aircraft nuts for joinery without welds, glues or other methods for securing internal door extrusions. Furnish integral reglets to accept face sheet to permit a flush appearance. Rail caps or other face sheet capture methods are not acceptable.
 - Extrude top and bottom rail legs for interlocking continuous rail rigidity weather bar. Lock face sheet material in place with extruded interlocking edges to be flush with aluminum rails and stiles.
 - Door face sheeting .120" thickness fiberglass reinforced polyester. SL-17 doors with an abuse resistant engineered surface with custom factory applied color as selected by District to match other doors on campus.
 - Core of Door Assembly: Minimum five (5) pounds per cubic foot density poured-in-

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place polyurethane free of CFC. Minimum "R" value of 11. Ballistic rating is as indicated. Meeting stiles on pairs of doors and bottom weather bars with nylon brush weather stripping.

- Manufacture doors with cutouts for vision lites, louvers or panels as scheduled. Factory furnish and install all glass, louvers and panels prior to shipment.
- Pre-machine doors in accordance with templates from the specified hardware manufacturers and approved hardware schedule. Factory install hardware, except door closers.
- **Insert Framing Systems:**
 - Specify on all existing frame conditions Model: SL-1030. Not required on doors scheduled to receive new metal doorframes.

Part 3 Execution

- Install per manufacturer's installation recommendations and contract details.
- Set thresholds in a bed of mastic and backseal.
- Clean surfaces promptly after installation of doors and frames, exercising care to avoid damage to the protective coatings.
- Ensure that the doors and frames will be without damage or deterioration (other than normal weathering) at the time of acceptance.

08210 Wood Doors

Part 1 General

- **Scope:**
 - Renovation Projects: Refer to Design Standards, Part II.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to a lifetime manufacturer's warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.

- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products

- Mohawk Flush Doors Inc., Platinum Series, 5-Ply, solid core (particle core for non-rated applications and mineral core for rated applications). Or approved equal.
 - Wood doors shall be stain grade in office locations and paint grade everywhere else. Face Veneer to be selected by architect from manufacture's "stock species for immediate manufacturing".
- Doors shall be 1 3/4-inch thickness unless otherwise required.

Part 3 Execution

- Install in strict conformance with manufacturer's requirements.

08520 Aluminum Windows

Part 1 General

- **Scope:**
 - Renovation Projects: When required by scope statement. Refer to Design Standards, Part II.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.
 - Require O&M data.

Part 2 Products (The District would like Paramount Aluminum listed as the vendor to supply their aluminum windows.)

- Aluminum; single glazed from interior; all welded or factory sealed corners. Factory applied Class 1 anodized finish. Blomberg, Vista Wall, Kawneer; EfcO, or approved equal. 2-inch tubular sections. Wall sections 1/8-inch. Steel reinforcing as engineered for storefront openings. Tubular type sashes at windows four (4) feet or greater in width.
- Window Hardware:
 - Handles: Cam type; white bronze alloy; US25D Finish. Bronze Craft series #167 or #158 as required. Coordinate with required strikes, keepers, spring catches, and shade hardware.
 - Hinges: Stainless Steel 4 bar hinges; Anderberg #301 or Bronze Craft #300 series. Specify with "restrictor blocks".
 - Remote Operations: Specify pole/hook assembly; aluminum with rubber end-7 feet long; Bronze Craft #234 series w/#231 series hook.
 - Catches: Spring type @ transom hopper vents; Bronze Craft #273 with #210 series keeper.

- Fasteners: Stainless steel.
- Specify with screens.

Part 3 Execution

- Install per manufacturer's installation recommendations and contract details.

08710 Door Hardware

Part 1 General

- **Scope:**
 - Renovation Projects: When required by scope statement. Refer to Design Standards, Part II.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the Schlage Lock seven (7) year warranty, the Von Duprin three (3) year warranty and the LCN ten (10) year warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.
 - Require O&M data.
- **Commissioning:**
 - Require a informal commissioning requirement that provides complete hardware testing and ample site staff training sessions including post occupancy reviews and final testing and adjustments prior to expiration of warranty.
 - Requirements to include instructions to the District's maintenance staff in the operation, adjustment, and maintenance of hardware.
- **Quality Assurance:**
 - Include requirement for installers to be factory certified and experienced with a minimum of 5-years installing door hardware.
- **Additional Requirements:**
 - Provide full set of maintenance tools for each type of hardware.

Part 2 Products

- **Finish:**
 - All hardware to have USD613 finish or equal unless required matching uniform building standard.
 - Bronze or stainless steel base material on interiors unless otherwise noted

- Hinges:
 - For doors where no additional throw is required to have door open 180 degrees or against adjoining wall, then specify:
 - Pemko CFM SLF HD or Roton 780-224HD, no other known equal.
 - For doors where up to a 2 13/16" throw is required to have door open 180 degrees or against adjoining wall, then specify:
 - Pemko WTCFM HD no known equal
 - For doors where over a 2 13/16" throw is required to have door open 180 degrees or against adjoining wall, then specify:
 - Hager Ball Bearing Hinge Model #BB1168 x 613 x NFP or approved equal.
- Door Closers:
 - LCN model #4141EDA-TB heavy duty, door closures. Closer to have hold-open if not fire rated.
 - Specify long arm when used on doors with wide throw hinges.
- Locksets and Latchsets:
 - All locksets to be Schlage (Ingersoll-Rand Company), "ND" series, in the "Rhodes" design with "Vandlgard" lever at all exterior applications and "Non Vandlgard" at all interior applications.
 - All Classrooms Doors (where exit devices are not required by code) shall have classroom security function; the outside lever can be locked with a key from the inside. The inside lever is always unlocked to allow unrestricted exit:
 - Schlage ND93PD at all locations (Vandlgard).
 - Student Toilet Room doors:
 - Schlage L9460P 503 613 x 03A 613 lever-set with function XLII-886.
 - Include push plate around exterior lever with cutout.
 - All Staff Toilet Rooms without toilet partitions shall be specified to have, Faculty Restroom Lock function lockset with modification to enable only a "push" function and disable the "push and turn" function.
 - Schlage ND85PD, modified button function.
 - All interior Office doors shall be specified to have a lockset with no button function inside and keyed cylinder on other side.
 - Schlage ND70PD.
 - All Storage rooms to be specified to have a lever that locks automatically when door is shut, but releasable from interior and keyed cylinder on other side. Only to be used on true storage rooms.
 - Schlage ND80PD on interior doors.
 - Schlage ND96PD on exterior doors.
- Exit Devices:
 - Von Duprin. No "or equals" or "substitutions" allowed.
 - Heavy-duty touch bar exit rim device.
 - Specify to have safety glow.
 - DI99EO 3' US26D (Hex-Cylinder Dogging)
 - Specify with keyed removable mullion at paired entrances.
 - All paired doors shall be specified with surface mounted panic devices, keyed removable mullion and set of heavy-duty pull handles.
 - Specify with keyed dogging cylinder and with pull trim at exterior entrances.
 - If the door is not required to have positive latching, then the door shall be specified with: Von Duprin CD99NL x 990NL Trim Pull (exterior single doors)

- If the door is required to have positive latching, then the door shall be fitted with: Von Duprin 99L-2-F x 996L-NL-R (F-rated single doors)
- If a pair of doors is not required to have positive latching, then the doors shall be specified with: Von Duprin CD99NLx990-NL “Trim Pull”xCD99EOxSNBxKR4954 Mullion x 154 (at pairs).
- If a pair of doors is required to have positive latching, then the doors shall be fitted with: Von Duprin 99L-2-F-996L-NL-Rx99EO-FxKR9954 Mullion x 154 (F pairs).
- Keying:
 - All keying is to be keyed into District restrictive, Schlage Everest, keying system. No “or equals” or “substitutions” allowed.
 - All cylinders are to be standard.
 - District to pin cylinders and cut keys.
 - Design Professional to include key schedule in bid specifications.
- Stops:
 - Trimco
 - Stops: FS436/R435 (Interior floor stop); FS18S (Security floor stops); WS401/WS402 (Wall stops)
 - 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. Where solid backing is available mount high on wall, if hold-open must be floor mounted, mount within 3” of wall.
- Thresholds:
 - Pemko, aluminum shapes as required, or approved equal.
 - Rixson where required with pivot hinge, no known equal.
- Weather Stripping:
 - New door applications utilize concealed brush door sweeps for hollow metal doors with inverted bottom channel.
 - Pemko 90100CP, or approved equal.
 - Retrofitting existing doors utilize a surface mounted brush sweep.
 - Pemko 309AP, or approved equal.
 - All exterior doors to be fitted with 45 degree, brush-style weather-stripping.
 - Pemko #45041CP or approved equal.
- Latch Protectors:
 - All exterior mortised locksets to be equipped with Trimco “Cylindrical Lock-guard” #1083-6, no known equal.
- Astragals/Coordinators/Automatic Flush bolts:
 - Avoid where possible.
- Kickplates:
 - Armor plates; 10-inches high.
- Pulls/Push Plates: Cast alloy; ADA complying.
 - All exterior pull handles to be Ives #VR910-NL and VR910-DT or approved equal on non-active leaf on a pair of doors.
- Door Louvers:
 - All exterior door louvers to be heavy duty vandal resistant
 - Anemostat PLSL heavy-duty louver with 12-gauge grill or approved equal.
- Lock-Open Hasp:
 - All student toilet rooms to have custom, heavy duty, lock-open hasp.

Part 3 Execution

- All hardware to have non-removable pins and tamper-proof screws.

08800 Glazing

Part 1 General

- **Scope:**
 - Renovation Projects: When required by scope statement. Refer to Design Standards, Part II.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require samples.

Part 2 Products

- On renovation projects the type of glazing may vary for each site. Match existing glazing tint where applicable.
- Standard glazing is 1/4" laminated glass consisting of two layers clear 1/8" thick minimum float glass with 0.030" thick tinted polyvinyl butyl interlayer
- Specify wired or tempered glass where required by code.

Part 3 Execution

- Install per manufacturer's installation recommendations and contract details.
- Installation should be in a manner where access is effortless in case of the need for replacement.

FINISHES (Division 9)

09270 Vinyl Wall Covering Covered Tackable Wall-Board

Part 1 General

- **Scope:**
 - Renovation Projects: When required by scope statement. Refer to Design Standards, Part II.
- **Warranty:**
 - Require unconditional five (5) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty.

- Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require O&M data.
- **Extra Stock:** Require a minimum of two (2) rolls.

Part 2 Products

- Tackboard Base for Field Applied Vinyl:
 - Homasote, 440 Sound Board, or approved equal.
- Tackable vinyl wall covering:
 - Micro-vented vinyl coated wall covering, Koroseal “School Collection”, or approved equal.
 - Total Weight: 21 ounce.
 - UL Label, Class A fire rating.
 - Water-based print inks.
 - Cadmium free
 - Antimicrobial and mildew resistant.
 - Koroklear protective water-base top coat.
 - Self-healing vinyl with memory.

Part 3 Execution

- Install per manufacturer’s installation recommendations.
- Install tackboard base material over taped gypsum wall board.
- Float and “hot-mud” tackboard base prior to installing wall covering.

09300 Ceramic Tile

Part 1 General

- **Scope:**
 - Renovation Projects: When required by scope statement. Refer to Design Standards, Part II.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer’s standard warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require samples.

- **Extra Stock:** 1 group of the following per each room: 1 box floor tile, 1 box wall tile, 4-6 cove & corners.

Part 2 Products

- Specify recycled content products.
- Slip resistive finish on floors.
- Non-slip kitchen tile
- Latex-epoxy mortar and grout in toilet rooms.
- American Olean, Dal Tile, or approved equal.

Part 3 Execution

- Remove existing tile where new tile is scheduled.

09500 Acoustical Panel Ceilings

Part 1 General

- **Scope:**
 - Renovation Projects: When required by scope statement. Refer to Design Standards, Part II.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require samples shop drawings.
- **Extra Stock:** Require a minimum of one carton or 2% of total project, whichever is greater.

Part 2 Products

- Specify recycled content products.
- Exposed heavy-duty 24" by 48" grid flat white baked enamel finish.
- For new ceilings:
 - Armstrong World Industries, Inc., School Zone FINE FISSURED 24x48x3/4" lay in tile; NRC rating of 0.70, CAC 40.
 - Armstrong, "Fire Guard" or approved equal where fire rating is required.
- For existing ceilings: Match existing

Part 3 Execution

- Grid to be installed per DSA IR 47-4.

09650 Resilient Base and Flooring

Part 1 General

- **Scope:**
 - Renovation Projects: When required by scope statement. Refer to Design Standards, Part II.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to a 5-year manufacturer's warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings indicating locations of all seams.
 - Submit samples for color selection illustrating color and pattern for floor material with samples of matching welding rod seams, rubber base and transition material proposed for installation.
- **Commissioning:**
 - Require an informal commissioning requirement that provides ample site staff training sessions for the cleaning and care of product, including post occupancy reviews prior to expiration of warranty.
- **Quality Assurance:**
 - Installer Qualifications:
 - Flooring contractor to be an established firm experienced in the installation of the specified product and shall have access to all manufacturers' required technical, maintenance, specifications and related documents.
 - Floor covering installer must be factory trained and certified for the installation of the specific products being installed.
 - Installer to provide project inspector proof of certification prior to starting work.
 - Certified installer must be present on job site while work is in progress.
 - Require mock-up to establish workmanship quality of seams, welds and cove.
 - Pre-Floor Covering Installation Meeting:
 - Require a meeting to review subfloor preparation, verification of readiness for floor covering installation and use of correct products, verification of the acclamation of correct finish materials and review installation requirements.
- **Extra Stock:**
 - Specify a minimum of 40 sq ft of flooring and 10 lineal feet of base and transition pieces of each material and color specified or 2 % whichever is greater

- **Testing Concrete Subfloor (If applicable):**
 - Existing Slab Testing:
 - The Contractor shall be responsible for conducting calcium chloride test. Three (3) tests are required for the first 1,000 square feet and one additional test for every 1,000 square feet thereafter to ensure concrete moisture emissions do not exceed 5.0 lbs per 1,000 square feet within a 24-hour period for areas to receive linoleum.
 - F1869-98 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride. This test method covers the quantitative determination of the rate of moisture vapor emitted from below-grade, on-grade, and above-grade (suspended) concrete floors.
 - The Contractor shall verify in writing to the Owner, a minimum of thirty (30) days prior to scheduled resilient flooring installation, the following substrate conditions:
 - Moisture: Initial emission rate, as tested with a calcium chloride test kit, per ASTM F1869-89 requirements. Indicate locations of test areas.
 - Alkalinity: pH level.
- **Contingency for High Moisture Readings:**
 - Renovation Projects:
 - If the Contractor's test results indicate that the slab moisture and/or alkalinity readings are in excess of flooring manufacturer's requirements, the Owner's representative will initiate independent testing to confirm results.
 - If the independent test results do not substantiate the Contractor's findings, then the Contractor will be directed to proceed with the floor covering installation and the retesting cost will be back-charged to the contractor.
 - If the independent test results confirm the Contractor's findings, then the Allowance established in the Bid Form for the installation of the Vapor Retarders as specified in section 07250 shall be utilized.

Part 2 Products

- Sheet Vinyl Flooring: (For wet locations in lieu of linoleum.) General: FS L-F-475A (3); 6 foot width; .085 inch gauge; Grade A; self coving base. Specify pre-selected color as provided by District from Manufacturer's standard range with matching weld rod for fully welded seams:
 - Armstrong, Classic Corlon.
 - Mannington Random Fields.
 - Approved equal.
- Accessories:
 - Resilient Edge Strips: 1/8 inch thick, tapered or bullnose, minimum of 1 inch wide. Mercer, Johnsonite or approved equal.
 - Adhesive: Waterproof, EPA acceptable and as recommended by manufacturer.
 - Primer: Non-staining type as recommended by flooring manufacturer.
 - Leveling and Patching Compounds: Latex type as recommended by flooring manufacturer.
 - Underlayment: Specify "FiberFlor – Supreme" as manufactured by MacMillan Bloedel Building Materials
 - Metal Trim Cap: Specify at top edge of sheet vinyl cove.
 - Sealer and Wax Wear Coats: As recommended by manufacturer.

Part 3 Execution

- All sheet flooring to have fully heat-welded seams.
- Specify backing at all coved installations.
- Install per manufacturer's recommendations.
- Apply sealer and wax wear layers in strict conformance with manufacturer's written recommendations and require full-time inspection to assure correct application and dry times.
- Prohibit traffic on floor finish for 5-days after installation and prior to cleaning.
- Prohibit traffic on floor for a minimum of 24 hours after sealed and waxed.
- Protect flooring from damages by other trades prior to owner occupancy.
- Cleaning: After new floor finish has set for a minimum of 5-days, remove excess adhesive from floor, base, and wall surfaces. Contractor to be responsible for performing initial maintenance requirements based on procedures listed below:
 - Sweep or dust all floors.
 - Scrub floor using a neutral cleaner. Do not remove manufacturer's coating.
 - Rinse floor thoroughly.
 - Apply two (2) coats of sealer. Allow 45 minutes between coats.
 - Apply three (3) coats of wax. Allow 45 minutes between coats.

09654 Linoleum

Part 1 General

- **Scope:**
 - Renovation Projects: When required by scope statement. Refer to Design Standards, Part II.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to a five (5) year manufacturer's warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings indicating locations of all seams and game stripping if applicable.
 - Submit samples for color selection illustrating color and pattern for floor material with samples of matching welding rod seams, rubber base and transition material proposed for installation.
 - Include requirement for O&M data.
- **Commissioning:**
 - Require an informal commissioning requirement that provides ample site staff training sessions for the cleaning and care of product, including post occupancy reviews prior to expiration of warranty.
- **Quality Assurance:**
 - Installer Qualifications:

- Require installer to be factory trained and certified. Forbo installers to be “Master Mechanic” certified.
 - Proof of Certification; provide proof of certification as Forbo “Master Mechanic” before start of work.
 - Master Mechanic must be present on job site daily.
 - Require mock-up to establish workmanship quality of seams, welds and cove.
- Pre-Floor Covering Installation Meeting:
 - Require a meeting to review subfloor preparation, verification of readiness for floor covering installation and use of correct products, verification of the acclimation of correct finish materials and review installation requirements.
- **Extra Stock:**
 - Specify extra materials, for each color, between 2-10 percent (depending on project size).
- **Testing Concrete Subfloor (If applicable):**
 - Existing Slab Testing:
 - The Contractor shall be responsible for conducting calcium chloride test. Three (3) tests are required for the first 1,000 square feet and one additional test for every 1,000 square feet thereafter to ensure concrete moisture emissions do not exceed 5.0 lbs per 1,000 square feet within a 24-hour period for areas to receive linoleum.
 - F1869-98 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride. This test method covers the quantitative determination of the rate of moisture vapor emitted from below-grade, on-grade, and above-grade (suspended) concrete floors.
 - The Contractor shall verify in writing to the Owner, a minimum of thirty (30) days prior to scheduled resilient flooring installation, the following substrate conditions:
 - Moisture: Initial emission rate, as tested with a calcium chloride test kit, per ASTM F1869-89 requirements. Indicate locations of test areas.
 - Alkalinity: pH level.
- **Contingency for High Moisture Readings:**
 - Renovation Projects:
 - If the Contractor’s test results indicate that the slab moisture and/or alkalinity readings are in excess of flooring manufacturer’s requirements, the Owner’s representative will initiate independent testing to confirm results.

- If the independent test results do not substantiate the Contractor's findings, then the Contractor will be directed to proceed with the floor covering installation and the retesting cost will be back-charged to the contractor.
- If the independent test results confirm the Contractor's findings, then the Allowance established in the Bid Form for the installation of the vapor retarders as specified in section 07250 shall be utilized.

Part 2 Products

- Typical resilient flooring shall be Forbo, "Marmoleum" or Armstrong – DLW no other known equal.
 - Linoleum Sheet Flooring: Meeting or exceeding Federal Specification SS-T-312B, and ASTM F1700, Static Load Limit 450 pounds per square inch, 2.5mm gauge, unless otherwise indicated. ASTM E-682/NFPA 258—450 or less. ASTM E-648/NFPA 253—Class 1. Homogeneous linoleum of primarily natural materials consisting of linseed oil, wood flour, rosin binders and pigments mixed and calendared onto natural jute backing.
 - Specify low VOC adhesives and seam sealers.
- Leveling and Patching Compounds:
 - Portland Cement types as recommended by flooring manufacturer.
- Underlayment:
 - Specify "FiberFlor – Supreme" as manufactured by MacMillan Bloedel Building Materials or approved equal.
- Specify Johnson Diversey Sealer, finish and cleaner.
 - Linoleum Sealer: 4189
 - Care-free Matt Finish: 5441
 - Stride Neutral Cleaner: 3815

Part 3 Execution

- All sheet flooring to have fully heat-welded seams.
- Specify backing at all coved installations.
- Install per manufacturer's recommendations.
- Paint game stripping prior to sealing floor.
- Apply sealer and polish in strict conformance with manufacturer's written recommendations and require full-time inspection to assure correct application and dry times.

09680 Carpeting

Part 1 General

- **Scope:**
 - Renovation Projects: Refer to Design Standards, Part II and specific scope statement.
- **Warranty:**
 - Manufacturer's Warranty: Twenty (20) year manufacturer warranty commencing on recordation date of the Notice of Completion.
 - Should carpet, tend to creep or bulge, be defective in manufacturing or show a substantial amount of wear, carpet shall be replaced with new carpeting at no cost to the Owner. Manufacturer to submit written warranty covering the following:
 - 20 Year, non-prorated Guarantee shall also include:
 - No resiliency loss of backing.

- No zippering
 - Static protection (will not lose static property)
 - Edge ravel
 - Delamination
 - Surface wear
- Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings indicating proposed locations of all seams.
 - Require factory certification of individuals to perform installation.
 - Require sample of heat-welded seam.
 - Include requirement for O&M data.
- **Commissioning:**
 - Require an informal commissioning requirement that provides ample site staff training sessions to learn proper care and maintenance of flooring including post occupancy reviews prior to expiration of warranty.
- **Extra Stock:**
 - Require 4 square yards extra stock of each color supplied.
- **Quality Assurance:**
 - Installer Qualifications:
 - Require installer to be factory trained and certified.
 - Proof of Certification; provide proof of certification before start of work.
 - Require mock-up to establish workmanship quality of seams, welds and cove.
 - Pre-Floor Covering Installation Meeting:
 - Require a meeting to review subfloor preparation, verification of readiness for floor covering installation and use of correct products, verification of the acclimation of correct finish materials and review installation requirements.
- **Testing Concrete Subfloor (If applicable):**
 - Existing Slab Testing: The Contractor shall be responsible for conducting calcium chloride test. Three (3) tests are required for the first 1,000 square feet and one additional test for every 1,000 square feet thereafter to ensure concrete moisture emissions do not exceed 5.0 lbs per 1,000 square feet within a 24-hour period for areas to receive linoleum.
 - F1869-98 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride. This test method covers the quantitative determination of the rate of moisture vapor emitted from below-grade, on-grade, and above-grade (suspended) concrete floors.
 - The Contractor shall verify in writing to the Owner, a minimum of thirty (30) days prior to scheduled resilient flooring installation, the following substrate conditions:
 - Moisture: Initial emission rate, as tested with a calcium chloride test kit, per ASTM F1869-89 requirements. Indicate locations of test areas.

- Alkalinity: pH level.
- **Contingency for High Moisture Readings:**
 - Renovation Projects:
 - If the Contractor's test results indicate that the slab moisture readings are in excess of flooring manufacturer's 3 lbs requirement, but is less than 5 lbs, the Contractor shall request in writing to the manufacturer to extend warranty requirements to 5 lbs. If the test results indicate slab moisture content to be in excess of 5 lbs, then the Owner's representative will initiate independent testing to confirm results.
 - If the independent test results do not substantiate the Contractor's findings, then the Contractor will be directed to proceed with the floor covering installation and the retesting cost will be back-charged to the contractor.
 - If the independent test results confirm the Contractor's findings, then the Allowance established in the Bid Form for the installation of the vapor retarders as specified in section 07250 shall be utilized.

Part 2 Products

- Collins & Aikman carpet, no known equal.
 - Color to be selected from District stock colors.
 - Specify line that comes with the ethos backing system.
- C&A "Triad Geo Tile" walk-off system at all exterior doors in carpeted rooms.
 - Color to be coordinated with carpet.
- Specify low VOC adhesives and seam sealers.
- Specify 6" rubber base at all carpeted locations.

Part 3 Execution

- Require use of largest sections possible to minimize seams.

09678 Epoxy Flooring

Part 1 General

- **Scope:**
 - Renovation Projects: Refer to Design Standards, Part II and specific scope statement. Typically required in Kitchens.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require samples and shop drawings.
 - Require factory certification of individuals to perform installation.
- **Commissioning:**
 - Require an informal commissioning requirement that provides ample site staff training sessions to learn proper care and maintenance of flooring including post occupancy reviews prior to expiration of warranty.

- **Extra Stock:**
 - Require touch-up material in color supplied.
- **Quality Assurance:**
 - Installer Qualifications:
 - Require installer to be factory trained and certified.
 - Proof of Certification; provide proof of certification before start of work.
 - Require mock-up to establish workmanship quality.
 - Kitchen Equipment Removal and Reinstallation Qualifications:
 - Kitchen equipment removal and re-installation Contractor to be an established firm experienced in the installation of kitchen equipment and shall have access to all manufacturers' required technical, maintenance, specifications and related documents.
 - Installer to provide project inspector proof of certification prior to starting work.
 - Qualified installer must be present on job site while existing equipment is removed and reinstalled.
 - Pre-Floor Covering Installation Meeting:
 - Require a meeting to review subfloor preparation, verification of readiness for floor covering installation and use of correct products, verification of the acclamation of correct finish materials and review installation requirements.
- **Testing Concrete Subfloor:**
 - Existing Slab Testing:
 - The Contractor shall be responsible for conducting calcium chloride test. Three (3) tests are required for the first 1,000 square feet and one additional test for every 1,000 square feet thereafter to ensure concrete moisture emissions do not exceed 5.0 lbs per 1,000 square feet within a 24-hour period for areas to receive linoleum.
 - F1869-98 Standard Test Method for Measuring Moisture Vapor Emission Rate of Concrete Subfloor Using Anhydrous Calcium Chloride. This test method covers the quantitative determination of the rate of moisture vapor emitted from below-grade, on-grade, and above-grade (suspended) concrete floors.
 - The Contractor shall verify in writing to the Owner, a minimum of thirty (30) days prior to scheduled resilient flooring installation, the following substrate conditions:
 - Moisture: Initial emission rate, as tested with a calcium chloride test kit, per ASTM F1869-89 requirements. Indicate locations of test areas.
 - Alkalinity: pH level.
- **Contingency for High Moisture Readings:**
 - Renovation Projects:
 - If the Contractor's test results indicate that the slab moisture readings are in excess of flooring manufacturer's 3 lbs requirement, but is less than 5 lbs, the Contractor shall request in writing to the manufacturer to extend warranty requirements to 5 lbs. If the test results indicate slab moisture content to be in excess of 5 lbs, then the Owner's representative will initiate independent testing to confirm results.
 - If the independent test results do not substantiate the Contractor's findings, then the Contractor will be directed to proceed with the floor covering

- installation and the retesting cost will be back-charged to the contractor.
- If the independent test results confirm the Contractor's findings, then the Allowance established in the Bid Form for the installation of the vapor retarders as specified in section 07250 shall be utilized.

Part 2 Products

- Dex-O-Tex or approved equal.
 - Terra Flor: Ceramic coated quartz aggregates:
 - Thickness: 1/4" min.
 - Compressive Strength: (ASTM C-579) 6,250 p.s.i.
 - Tensile Strength: (ASTM D-307) 1,395 p.s.i.
 - Surface Hardness: (ASTM D-2240 - Durometer "D") 81
 - Specify pre-selected color from District stock colors.
 - Specify 6" integral base.

Part 3 Execution

- Install in strict accordance with manufacturer recommendations with manufacturer certified installers.
- Prepare concrete substrate and provide Dex-O-Tex bond coat primer, basecoat with decorative quartz aggregate and clear filler and finish coats.
- For flooring projects in existing kitchens:
 - Record condition and operation of all existing kitchen equipment.
 - Require an approved, qualified installer to remove all kitchen and other fixed equipment prior to preparing floor. Store in contractors' protected, secured facility.
 - Require an approved, qualified installer to reinstall kitchen equipment and test in presence of project inspector to ensure proper operation.

09900 Painting

Part 1 General

- **Scope:** Design Professional to specify in bid documents the pre-selected color schedule from District standard colors.
 - Renovation Projects: Refer to Design Standards, Part II and specific scope statement.

- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Submit final schedule of colors with formulas for each paint at project closeout.
- **Extra Stock:**
 - 1 gallon of each color used, clearly marked with manufacturer label and mix design.

Part 2 **Products (Per the District, Kelly Moore is the manufacturer of choice).**

- Specify low VOC paints and primers only.
- Acceptable Manufacturers: Kelly Moore, PPG
- Interior paint types and sheens:
 - Interior Plaster/Gypsum Board:
 - Primer:
 - Corridors:
 - Classrooms:
 - Offices:
 - Toilet Rooms:
 - Service Areas:
 - Kitchens:
 - Interior Wood:
 - TBD
 - Interior Metal Doors and Frames:
 - TBD
 - Interior Miscellaneous Metals:
 - Sheen to fit circumstance.
- Exterior paint types and sheens: (Specify mildew retardant admixtures.)
 - Exterior Stucco:
 - TBD
 - Wood (opaque):
 - TBD
 - Misc. Ferrous Metals:
 - TBD
 - Ferrous metal gutters, downspouts, doors, flashing, etc.:
 - TBD
 - Exterior Guardrails and Handrails:
 - TBD
 - Aluminum:
 - TBD

Part 3 **Execution:**

- Do not paint over existing transparent finishes. Existing transparent finishes shall be refinished to match existing. Specify finish compatible with existing.

- All existing surfaces to be repaired and prepared prior to painting.
- Three coat system over existing paint or new primed finishes to consist of one prime coat and two finish coats.
- All shop-primed items are to be fully re-primed in the field.
- Color-tint sealers and undercoats within general color range of finish color. Vary color of successive coats sufficiently to distinguish between coats.
- Protect planting adjacent to buildings.
- Acid wash all galvanized materials. Etch and prime prior to finish painting and rinse thoroughly.

SPECIALTIES (Division 10)

10110 Chalkboards, Markerboards and Tackboards

Part 1 General

- **Scope:**
 - Renovation Projects: Refer to Design Standards, Part II and specific scope statement.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.
 - Include requirement for maintenance data.

Part 2 Products

- No seams in boards up to 16-feet in length.
- Specify both standard and heavy-duty map rails. Heavy-duty map rails mounted above boards as manufactured by Rand McNally or approved equal.

Part 3 Execution

- Install per manufacturer recommendations.

10170 Solid Plastic Toilet Compartments

Part 1 General

- **Scope:**
 - Renovation Projects: Refer to Design Standards, Part II and specific scope statement.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Piedmont Unified School District

Facilities Design Standards

PART 5 – OUTLINE SPECIFICATIONS

- Include requirement for maintenance data.

Part 2 Products

- Specify recycled content partitions.
- High density Polyethylene or Polypropylene. Acceptable manufacturers: Scranton Products (Parent company of: Santana, Comtec, and Capitol Partitions) or approved equal.
- All toilet partitions to be solid plastic with metal bottom edge.
- Specify the optional heavy-duty stainless-steel hardware with continuous wall brackets.
- Partitions to utilize head-rail brace mount system.
- Color to be selected by District from manufacturer's standard range of colors.

Part 3 Execution

- Install per manufacturer recommendations.
- Install with one-way screws.

10400 Signage

Part 1 General

- **Scope:**
 - All Projects: Design Professional to include a signage schedule in accordance with ADA and CBC.
 - Room and building designations need to be approved by designated District representative.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the 10-year manufacturer's standard warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings and samples.

Part 2 Products

- All parking lot signage to be .125" aluminum panel with baked porcelain enamel finish mounted to 3" galvanized steel post set in 36" x 12" concrete footing.
 - Reference District security phone number on tow sign.
- All room identification signage to be integral color with fussed raised lettering and California Braille.
 - ASI, "Incast" or approved equal.

Part 3 Execution

- Install with vandal resistant fasteners. No double-sided tape.

10800 Toilet Accessories

Part 1 General

- **Scope:**
 - Renovation Projects: Refer to design standards, Part II and specific scope statement.

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- When required by scope statement, replace/provide as necessary.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranties.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.

- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.

Part 2 Products

- All toilet room accessories shall be Contractor Furnished and Contractor Installed (CFCI) except for the stand-alone trash receptacles which will be Owner Furnished, Owner Installed (OFOI).
- Electric Hand Dryers (Student Toilet Rooms Only):
 - Promaco, E726 or approved equal. 1-800-253-2866.
 - Chrome finish with Die-Cast cover
- Toilet Paper Dispensers:
 - Non-Handicapped Stalls: Fort James, “Never-Out”. Or approved equal.
 - Handicapped Recessed Stall: If stud wall, Bobrick B-3888; if masonry wall, semi-recessed, Bobrick B-386. Or approved equal.
 - Handicapped Surface Mounted: Bobrick B-2888. Or approved equal.
 - For Kindergarten Toilet Rooms:
 - Handicapped: Semi-recessed, Bobrick B-386; Standard: Bobrick B-2888. Or approved equal.
- Toilet seat cover dispenser (Staff Toilet Rooms Only):
 - RMC, “White Metal Fold Dispenser” - Product #25131800 for ½ fold inserts, or approved equal.
- Grab Bars: Heavy Duty, 18 gauge, 304 stainless steel tubing, welded 11 gauge flanges, concealed mounting. Safety grip finish, no peening, Bobrick B-6806, or approved equal.
 - Configurations and sizes indicated on drawings.
 - No flange covers.
- Sanitary Napkin Disposal: Bobrick B-270, or approved equal.
- Soap dispenser: Dermapro, “Gojo”, 800 ML System, or approved equal.
 - Dispensers to be installed at all classroom sinks and in Nurse’s office.
- Paper towel dispensers (Staff Toilet Rooms and Classroom Sinks Only):
 - Fort James, Double roll, “Series 2000”, model 54342, or approved equal.
- Student toilet room mirrors: 22 gauge, high polished stainless steel with backing plates; Bobrick B1556 or approved equal.
 - Size as indicated on drawings.
- Staff toilet room mirrors: Mirror and shelf: Bobrick B-166 Stainless Steel or approved equal.
 - Size as indicated on drawings.
- Trash receptacles: Owner Furnished, Owner Installed (OFOI).
- Handicapped Shower Seat: American standard, “Pressalit” rehab shower chair or approved equal.

Part 3 Execution

- All toilet room accessories are to be installed with concealed fasteners where possible or vandal resistant fasteners where fasteners are exposed.
- All accessories to be mounted on solid blocking.

FURNISHINGS (Division 12)

12300 Casework

Part 1 General

- **Scope:**
 - Renovation Projects: Refer to design standards, Part II and specific scope statement. When required by scope statement, evaluate condition of existing casework and replace as necessary to match existing configuration.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings.

Part 2 Products

- All casework to be certified WI custom grade.
- Specify owner approved pre-selected color.
- Specify formaldehyde-free, environmentally preferable materials and low VOC adhesives.
- All shelving to be ¾" plywood core.
- Specify 5-knuckle hinges.
- Specify heavy-duty, ball bearing, drawer glides.

Part 3 Execution

- Drawer bottoms to be fully let-in, glued and blocked.

12500 Window Treatment

Part 1 General

- **Scope:**
 - Renovation Projects:
 - Refer to design standards, Part II and specific scope statement.
 - When required by scope statement, evaluate condition of existing window coverings and replace as necessary to match existing configuration.

- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end installation warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Require shop drawings indicating all locations and location of operators.

Part 2 Products (The following is a description of products the District would like included in this document; however, a manufacturer was not listed. This section should be reviewed for content: (1) Room darkening shades "glass lightban", color #32 (2) Light filtering shades, then "4 star" color, #23).

- For bead and reel shades, specify the Phifer Sheerweave" 4400 series sun control shades.
- Specify, owner approved, pre-selected color(s).

Part 3 Execution

- Require field verification before fabrication.
- Verify required clearances.

CONVEYING SYSTEMS (Division 14)

14420 Vertical Wheelchair Lifts

Part 1 General

- **Scope:**
 - Renovation Projects:
 - Refer to design standards, Part II and specific scope statement.
 - Coordinate requirements with ADA Transition Plan.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranties.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.
- **Codes and Standards:**
 - Reference the latest editions of all applicable codes.
 - Contractor is responsible for obtaining necessary permit.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Provide shop drawings.
 - Include requirement for O&M data.
- **Commissioning:**
 - Require an informal commissioning requirement that provides complete equipment testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.

- Requirements to include instructions to the District's maintenance staff in the operation, adjustment, and maintenance of equipment.
- Garaventa Accessibility, Genesis Opal model, or approved equal.
 - Specify with manufacturer's upper and lower gates.
 - Specify key operated switches.
 - Specify manufacturer's baked on enamel finish with pre-selected color: Beige.
 - Emergency Operation: Manual lowering device and Auxiliary Power System capable of lowering and raising the platform a minimum of 5 times in event of a power failure.

Part 3 Execution

- Modernization projects utilize manufacturer's ramp

MECHANICAL (Division 15)

15050 General Mechanical Requirements

Part 1 General

- **Scope:**
 - Coordinate scope requirements with District Design Standards and Project Specific Scope Statement for renovation projects.
- **Commissioning:**
 - Air balancing and submission of balance reports, acoustical measurements and submission of acoustical reports for occupied areas, final calibration and set points for all control systems and components, and training of the District's maintenance staff for operating and maintaining the systems prior to occupancy. Also require re-balancing, review of all equipment performance and submission of findings on a report to the District prior to expiration of two (2) year warranty. Require a review on site and re-training for maintenance department prior to the end of the warranty period.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranties.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.
- **Codes and Standards:**
 - Reference the latest editions of CBC, CMC, CPC, CEC, ASHRAE Standards, NFPA Standards, SMACNA Standards.

- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
- **Contract Closeout:**
 - Include submittal requirements for Record Drawings, operation and maintenance manuals and air balance reports as a precedent to final payment.
 - Reference section 01300 for requirements.

Part 2 Products

- **Materials:**
 - Valves shall be Nibco, Hammond, Milwaukee, Stockham, or approved equal.
 - For shutoff duty, ball valves are preferred. Specify the ball valves with Teflon PFTE resilient seals.
 - Access doors: Milcor, Newman, or approved equal. Provide with keyed lock.
 - Expansion loops: Metraflex Metraloop, or approved equal.
 - Pumps: Bell and Gossett, Paco, Taco, Armstrong, or approved equal.
 - Motors: **Baldor**, General Electric, Gould, Century Electric, Lincoln, or approved equal. All motors shall be premium efficiency type. **Cut sheets for the Baldor motor has been supplied and is part of the final packet sent to the District.**
 - Motor starters: Square D, Allen Bradley, or approved equal, in NEMA enclosure.

Part 3 Execution

- Specify adequate working space around all equipment, including code and manufacturers' required clearances.
- Perform all excavating and backfilling required for the work of this section.
- Support and seismically brace all piping and ductwork in accordance with CBC, CMC, and CPC.
- Furnish access doors where required for service and removal of mechanical equipment, valves, control devices, dampers, etc. Coordinate with architectural drawings.
- Identify each piece of equipment with a permanently attached engraved bakelite plate. Identify all piping systems and direction of flow with Setmark or equal markers.
- All piping systems shall be pressure tested in the presence of the Inspector of Record.
- Install tracer wires for all non-metallic underground piping outside of buildings.

15250 Thermal Insulation for Mechanical Systems

Part 1 General

- **Scope:**
 - Insulate domestic hot water piping, domestic cold water piping outside of building insulation envelope, all refrigerant piping, hot water storage tanks, and supply and return ductwork with insulation having R-values required by code.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranties.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.
- **Codes and Standards:**
 - Reference the latest editions of CBC, CMC, CPC.
- **Submittals:**

- Include requirements for submission of all material proposed for use per section 01300.

Part 2 Products

- All insulation materials, including jackets, facings, adhesives, coatings, and accessories shall be fire hazard rated and UL listed for a flamespread rating not to exceed 25 and a smoke developed rating not to exceed 50.
- Pipe insulation shall have all-service type jackets. Piping insulation exposed to the weather shall be covered with a .015" thick weatherproof aluminum jacket.
- Duct wrap insulation shall be not less than 2" thick ¾ lb./cu.ft. density fiberglass with reinforced foil/kraft vapor barrier facing.
- Internal duct lining shall be 1" thick matte faced fiberglass acoustic duct liner, Owens Corning Aeroflex, Schuller Linacoustic, or approved equal. Seal all edges with adhesive to prevent loose fibers from entering airstream.

Part 3 Execution

- Overlap duct wrap insulation joints 3" minimum.
- Seal all duct wrap seams, longitudinal and transverse, and all staple and fastener penetrations through the facing, with scrim backed foil tape, or recommended sealant to insure a vapor tight installation.
- Ducts and plenums exposed inside fan rooms or air handler rooms shall be insulated with rigid fiberglass insulating board with factory applied foil faced vapor barrier.

15300 Fire Sprinkler Systems

Part 1 General

- **Scope:**
 - Require a Design-Build fire sprinkler system for new permanent additions to existing campuses in accordance with SB575.
 - The system shall include site backflow prevention, post indicator valve, fire department connection, and fire sprinkler riser assembly.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranties.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.
- **Codes and Standards:**
 - Reference the latest editions of CBC, CFC, NFPA Standards 13, 20, 24.
- **Submittals:**
 - Include requirements for DSA deferred approval requirements including submission of hydraulic design, hydraulic calculations shop drawings and all material proposed for use per section 01300.
- **Commissioning:**
 - Require an informal commissioning requirement that provides complete system testing/commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.
 - Requirements to include instructions to the District's maintenance staff in the operation, adjustment, and maintenance of all fire sprinkler equipment.
 - Require review of all equipment performance and submission of findings on a report

- to the District prior to expiration of two (2) year warranty.
- Require a review on site and re-training for maintenance department prior to the end of the warranty period.

Part 2 Products

- Sprinkler heads shall be Viking, Star, Central, or approved equal. Heads shall be heavy-duty type.
- Sprinkler pipe shall be 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 couplings may be used. Schedule 10 UL approved pipe with UL approved grooved fittings and associated couplings may be used in pipe sizes 3" and larger, except where exposed in gymnasiums.
- Underground site fire piping shall be J.M. Blue Brute Class 200 UL C900 PVC pressure pipe, or ductile cast iron AWWA C111 and C151. All pipe and fittings shall be approved for fire protection use.

Part 3 Execution

- 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 connections are made.
- Firestop all penetrations through rated walls, floors, etc.
- Protect parts of the system which are exposed to freezing with a method approved by NFPA and by Code.
- Coordinate all supervision wiring from tamper switches, flow switches, waterflow indicators, and wiring to fire alarm system.

15400 Plumbing Systems (Mechanical Engineer has sent cut sheets for plumbing systems. They are attached to the final packet sent to the District).

Part 1 General

- **Scope:**
 - Coordinate scope requirements with District design standards and project specific scope statement for renovation projects.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranties.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.
- **Codes and Standards:**
 - Reference the latest editions of CBC and CPC.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
- **Commissioning:**
 - Require an informal commissioning requirement that provides complete system testing/commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.

- Requirements to include instructions to the District's maintenance staff in the operation, adjustment, and maintenance of all plumbing fixtures, valves and plumbing equipment.

Part 2 Products

- Water closets: American Standard or approved equal. Water closets shall be wall mounted flush valve type wherever feasible.
- Urinals: American Standard or approved equal. Specify with wall mounted flush valves wherever feasible. Specify 1/8 gallon urinals.
 - Urinal should meet ANSI flush requirements at less than 0.5 GPF.
- Flush valves: Sloan Royal Flushometer, Zurn or approved equal. Specify with sensor operated flush valves at elementary schools.
- Seats: Bemis or approved equal.
- Lavatories and sinks: American Standard or approved equal.
- Faucets: Chicago, No "or equals" or "substitutions" allowed. Student lavatories to have metering faucets. (No Bradley multi-spray sinks.)
- Drinking fountains: Interior: Haws model HWCD-8 heavy-duty stainless steel, or approved equal. Exterior: Haws cast aluminum fixture, or approved equal.
- Domestic hot and cold water piping aboveground inside buildings: type L copper tubing ASTM B88, hard temper, with wrought copper fittings. Solder shall be "Silvabright 100" lead free.
- Domestic hot and cold water piping underground: type K ASTM B88 soft temper copper tubing, wrapped.
- Gas piping inside buildings: schedule 40 black steel with malleable iron threaded fittings for pipe sizes 2" and smaller, class 150 welded fittings for pipe sizes 2 1/2" and larger.
- Site gas piping below grade: polyethylene with ASTM D2513, ASTM D3261, and ASTM D2683 fittings with fusion welded joints. Pipe shall be labeled "for natural gas" in accordance with CPC.
- Soil, storm and waste piping underground and to 6" above ground, and soil piping above ground: service weight no-hub cast iron soil pipe and fittings, asphaltic coated, CISPI Std. 301 stamped. Specify Anaco Husky, Clamp-All, or Mission Heavyweight couplings for joints underground.
- Waste pipe above ground from lavatories and sinks, rainwater leaders and overflows inside and outside buildings above grade: cast iron pipe with black cast iron drainage fittings.
- Vent piping: service weight cast iron soil pipe and fittings for piping 3" and larger, copper type L for piping 2 1/2" and smaller.
- Domestic water heaters: gas-fired tank type wherever possible, small under-counter electric tank type only for remote locations or small loads. Heaters shall have sacrificial anode, brass drain plug, and 90 degree elbow on inlet pipe inside tank to agitate water. Install per Code and with ample clearance for service. Ensure all domestic hot water systems are set no higher than 120°F or 140°F for cafeteria service (with dishwasher booster).

Part 3 Execution

- Install all fixtures in accordance with Code. Install in accordance with ADA where required.
- Domestic water piping system disinfection: clean and disinfect in accordance with AWWA Std. C65, and as required by all local Building Department and Health

Department Codes and by Cal-EPA.

- Install plastic gas pipe at minimum 30" depth with sand bedding, tracer wire and warning tapes at both 6" below surface and above 12" above pipe.

15800 Heating, Ventilating and Air Conditioning

Part 1 General

- **Scope:**
- Coordinate scope requirements with District design standards and project specific scope statement for renovation projects.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranties.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period. Note that early start up of units does not start warranty period.
- **Codes and Standards:**
 - Reference the latest editions of CBC and CPC.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - All invoices for all HVAC equipment along with product data shall be submitted to designated District representative for application of rebate and incentive programs.
- **Commissioning:**
 - Require training for maintenance department and informal commissioning of systems before the District will accept the project as complete.
 - This includes air balancing and submission of balance reports, acoustical measurements and submission of acoustical reports for occupied areas, final calibration and set points for all control systems and components, and training of the District's maintenance staff.
 - Also require re-balancing, review of all equipment performance and submission of findings on a report to District prior to expiration of warranty.
 - Require a review on site and re-training for maintenance department prior to end of warranty period. District to have ability to shut off units prior to taking occupancy of building.
- **Extra Stock:** Specify four additional replacement filters for every HVAC unit.

Part 2 Products

- HVAC units shall have an efficiency rating not less than that required by Title 24. When equipment is available with energy efficiency ratings, which exceed Title 24, such equipment shall be specified, provided there are enough manufacturers who can meet the higher efficiency requirement to insure a non-proprietary competitive bid.
- Rooftop packaged gas-electric HVAC units: Carrier, Trane or approved equal. Specify with mfr's roof curb and economizer. Units shall be gas-fired with minimum 82% AFUE with a SEER rating of 16.
- Indoor furnaces: Carrier model 58MXA high efficiency condensing type furnace, or approved equal. Specify with 20-year burner warrantee. Provide with stainless steel heat exchanger for 100% outdoor air units or when temperature of air entering the heat

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exchanger is below the condensing point of the unit (generally 60 deg F).

- Outdoor air-cooled condensing units: Carrier or approved equal. With a SEER rating of 16 for units about 3 tons and SEER 18 for units with a nominal capacity of 3 tons and below.
- Fans: Penn, Greenheck, Cook, or approved equal. Specify rooftop type when possible. Specify mfr's roof curbs, backdraft dampers, bird screens, etc. as required. For toilet room application, specify two-speed fan: light on high speed, light off low speed.
- Air conditioning condensate drain piping: type DWV copper tubing with wrought copper fittings.
- Refrigeration piping: Type L hard drawn ACR copper tubing with wrought copper fittings. All joints shall be made with Sil-fos.
- Ductwork: galvanized sheet metal, aluminum sheet metal in wet areas and when handling moist air. Duct gauges shall be as required by Code, SMACNA Stds, and ASHRAE Stds.
- Filtration: provide all HVAC equipment with 2" thick, U.L. Class II, 25-30% efficient pleated media disposable filters, equal to "Farr" 30/30. Require changes during construction if units are run and new filter prior to occupancy (after building purge) with (4) extra stock filters per unit.
- Air distribution devices: diffusers, registers and grilles shall be Titus, Krueger, Metalair, Tuttle & Bailey, EH Price, Nailor Industries or approved equal.

Part 3 Execution

- Install all equipment in accordance with code. Specify adequate service and removal clearances.
- Specify expansion loops or expansion joints in piping, with proper anchors, as required for thermal and building expansion.
- Specify anti-vibration bases and hangers to insure systems and equipment will operate without objectionable vibration.
- Require system purge prior to occupancy. Run heating cycle with 100% outside air on full continuously for 72-hours with all exhaust on full.

15900 Temperature Controls

Part 1 General

- **Scope:**
 - Coordinate scope requirements with District design standards and project specific scope statement for renovation projects.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranties.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period. Note that early start up of units does not start warranty period.
- **Codes and Standards:**
 - Reference the latest editions of CBC, CMC and CEC.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
- **Commissioning:**

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- Require training for maintenance department and informal commissioning of systems before the District will accept the project phase as complete.
 - This includes final calibration and set points for all control systems and components, and training of the District's maintenance staff.
- Also require re-adjustment of controls, review of all equipment performance and submission of findings on a report to District prior to expiration of warranty.
- Require a review on site and re-training for maintenance department prior to end of warranty period.

Part 2 Products

- HVAC unit operating schedules and exterior lighting shall be controlled by a exterior lighting control. The exterior lighting control shall be specified under Division 16.
- HVAC Package Units shall be provided with factory economizer controls.
- For each HVAC unit, provide a Honeywell T7350B programmable room thermostat, or approved equal, setup with the current time and day, and have the thermostat's occupied time schedule programmed to accommodate the needs of the site. The thermostats shall be setup in the "Keypad Lock #1" setting such that the user can only adjust the room heating and cooling setpoints between 66 to 70 degrees for heating and between 74 to 78 degrees for cooling. Temporary override setpoints shall be setup so they are the same. A manual 0-2 hour twist style bypass timer mounted adjacent to the room thermostat shall also be provided for each HVAC system.
- Specify a new PDA, cable and software to the School District. PDA shall meet all the system requirements to communicate to T7350B Thermostats.
- The timeclock circuit from the exterior lighting control shall power two relays at each HVAC unit such that during occupied time periods, or during bypass timer overridden time periods, the HVAC unit's fan, heating and cooling will be allowed to operate. Temperature staging control will be provided by the T7350B thermostat. During un-occupied time periods the exterior lighting control circuit will be de-energized and the HVAC unit's fan, heating and cooling will be disabled. During un-occupied time periods the user may use the manual 0-2 hour bypass timer to override the exterior lighting control schedule and allow the HVAC Unit's fan, heating and cooling to operate. At no time shall the T7350B thermostat's power be disconnected.
- All control wiring shall be installed by the Electrical Contractor per the mechanical wiring diagrams.

Part 3 Execution

- Install all temperature control systems and components in accordance with code.
- Mount thermostat and override timer at 48" above the finished floor.
- Specify Title 24 required sequences, including but not limited to night set-back and set-up, and pre-occupancy purge cycle.
- All temperature control wiring shall be in conduit.

ELECTRICAL (Division 16)

16100 Basic Materials and Methods

Part 1 General

- **Scope:** Coordinate scope requirements with District design standards and project specific scope statement for renovation projects.
- **Warranty:** Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard

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warranties. Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.

- **Codes and Standards:** Reference the latest editions of CBC, CMC and CEC.
- **Submittals:** Include requirements for submission of all material proposed for use per section 01300.
- **Commissioning:** Require training for the District's M & O staff and informal commissioning of systems before the District will accept the project phase as complete. Require a review of all equipment performance and submission of findings on a report to District prior to expiration of warranty. Require a review on site and re-training for maintenance department prior to end of warranty period.

Part 2 Products

- Conduit:
 - Rigid Steel
 - Intermediate Metallic (IMC)
 - Coated Rigid Steel
 - PVC Type 40
 - Electrical Metallic Tubing (EMT)
 - Flexible Conduit
 - Do NOT specify Electrical Non-Metallic Tubing (ENT).
- Raceway, metallic, surface mounted
 - 5500 series Wiremold three compartment
 - 2000 Series Wiremold, single compartment.
- Outlet Boxes:
 - Pressed Steel Type
 - Cast Metal Type
- 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.
- Wall Switches:
 - AC rated, heavy-duty 20 amperes specification grade.
 - 120/277 volts AC.
- 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.
- Convenience Outlets:
 - Shall be rated 15 and 20 amperes at 125 volts, specification grade.
 - Weatherproof cover for wet locations.
 - GFCI type adjacent to sinks, exterior building, lab benches and on roof.
- Panelboards:
 - Copper busses.
 - Bolt-on molded case breakers.
 - Breakers with pad-locking tabs.
- Switches: Type "HD" heavy duty.
- Pull Line:
 - 1/8 inch diameter braided line of polypropylene or pull rope, 200 pound break strength.
- Pull boxes: Concrete Box with concrete lid and hold-down bolts in non vehicular traffic area. Steel lids and hold-down bolt for larger boxes and vehicular traffic area.
- Backboards: 3/4" AC grade.
- Terminal Cabinets: Metal cabinet with hinged door and lock.
- Lighting Contactors: Rated 30 Amps lighting load.
- Ground Rods: 3/4" x 10 ft copper clad.
- Transient Voltage Surge Suppressors (TVSS).

- Device Plates: (Plates shall be .040 inch stainless steel, satin finish.) (Smooth plastic nylon.)

Part 3 Execution

- Installation of Conduit and Outlet Boxes:
 - Conduit: All conduit shall be rigid except IMC 2½ inches and larger or EMT 2 inches and smaller may be used at the following locations:
 1. In dry location in concealed space.
 2. In partitions other than concrete and masonry.
 3. For exposed work indoors above 8 feet.
 - Specify flexible connections of short length (6' max) to equipment subject to vibration or movement and to all motors. Specify ground wire within raceway across all flexible connections. Run conduits concealed in areas having finished ceiling and in furred walls. Exposed conduit below 8 feet shall be rigid. Exposed conduit shall be run neatly installed parallel to or at right angles to structural members.
 - Conduit installed in contact with ground or fill shall be rigid type PVC conduit where concealed underground or shall be PVC coated rigid steel.
 - Flashing - make conduit projecting through roof water-tight by proper flashing in accordance with roofing manufacturer's requirements.
 - Boxes: Secure boxes to backing with screws. Do not use nails. Boxes shall be independently secured to wood backing or manufactured adjustable channel, heavy-duty type. Verify all mounting heights by checking interior elevations or Architectural Drawings. Install pull boxes as required by Code, in accessible spaces. All devices such as emergency lighting, exit lights, fire alarm devices, and alike shall be secure with recessed backbox that covers entire backside of the component. In no case shall any device or unit have an exposed back area capable of being gripped or pried.
 - For exposed work outdoors.
 1. Rigid steel conduit shall be used on walls and roof and whenever conduit might be subject to physical abuse.
- Installation of Wiring:
 - All wiring; low and high voltage shall be enclosed in conduit.
 - Splices and joints for #10 AWG or smaller shall be twisted together and insulated with insulated spring connectors.
 - Joints and connectors for #8 AWG or larger shall be made with solderless tool applied pressure lugs and connectors.
 - During pull-in, use only UL listed pulling compound.
 - Lace conductors together with waxed linen lacing cord, T & B "Ty-Rap", Halub "Quik Wrap" nylon straps or approved equal in panelboards, wireways, pull boxes and similar locations.
 - All wiring shall be copper #12 AWG size min.
- Color Code: 208/120V - black, red, blue, white (neutral) and green (ground). 480/277V - brown, orange, yellow, white with colored stripe (neutral) and green (ground).
- Grounding:
 - All equipment cases, motor frames, computer floor support pedestals, separately derived system neutral, etc. shall be completely grounded to satisfy requirements of NEC.
 - Total ground resistance shall not exceed 5 ohms.

- Provide code sized equipment ground conductor in all feeder and branch circuits
- Provide isolated ground to isolated ground receptacles in addition to the equipment ground. Provide one isolated ground per circuit.

16461 Dry Type Transformers

Part 1 General

- **Scope:**
 - Step-down transformers to be located at individual buildings for 480/277 volts or higher distribution systems.
 - Electrical engineer to recommend K-rating of energy efficient transformers depending on location, loads and types of loads. (Minimum K-13)
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranties.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.
- **Codes and Standards:**
 - Reference the latest editions of CBC, CMC and CEC.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
- **Commissioning:**
 - Require training for the District's M & O staff and informal commissioning of systems before the District will accept the project phase as complete. Require a review of all equipment performance and submission of findings on a report to District prior to expiration of warranty. Require a review on site and re-training for maintenance department prior to end of warranty period.

Part 2 Products

- Transformer: General purpose, dry type, aluminum core, rated 480 Volts primary to 120/208 Volts secondary, 3 phase, 4 wires, 80 degrees C rise, 220 degrees C insulation.
- Transformers to be K-Rated and shielded for areas with heavy computer use. NEMA standard TP-1, Energy Star.

Part 3 Execution

- All transformers to be bolted down and in secure area.

16470 Switchboard

Part 1 General

- **Scope:**
 - Furnish and install a freestanding switchboard consisting of a pull section, main section, and distribution section.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranties.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.
- **Codes and Standards:**
 - Reference the latest editions of CBC, CMC and CEC.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
- **Commissioning:**
 - Require training for the District's M & O staff and informal commissioning of switchboards and all corresponding sections before the District will accept the project phase as complete.
 - Require a review of all equipment performance and submission of findings on a report to District prior to expiration of warranty.
 - Require a review on site and re-training for maintenance department prior to end of warranty period.
- **Quality Assurance:**
 - UL listed per UL 891
 - NEMA PB-2

Part 2 Products

- Description: Completely self supporting, 90" high, NEMA-1 or NEMA-3R. Rated [480/277] [120/208] Volts, 3 phase, 4 wires. AIC rating as required. Bus bracing at 65,000 RMS Sym. Amps minimum. Tin plated aluminum, copper or electrical grade aluminum, with tin or copper plated (except ground bus shall be copper) – non-taper bussing. Thermal magnetic breakers. Ground fault protected main breaker where required.
- Full size neutral bus and run full length of the switchboard.
- Manufacturers: Cutler-Hammer, Square D, Siemens ITE, Westinghouse, General Electric.
- Metering switchboard shall meet PG and E requirements. Contractor shall submit shop drawings to PG and E and obtain approval prior to manufacturing the switchboard.

Part 3 Execution

- Installation: Install complete with all necessary accessories and provide all necessary connections.
- Testing and Initial start-up.

16500 Lighting

Part 1 General

- **Scope:**

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PART 5 – OUTLINE SPECIFICATIONS

- See District Standard Light Fixture Schedule included in appendices of this document.
- All invoices for lamps, light fixtures, occupancy sensors, photocells and illuminated exit signs along with product data shall be submitted to the designated District representative for application of rebate and incentive programs.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranties.
 - Require a site review with the designated District representative prior to expiration of warranty as a condition to end warranty period.
- **Codes and Standards:**
 - Reference the latest editions of CBC, CMC and CEC.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
- **Commissioning:**
 - Require training for the District's M & O staff and informal commissioning of systems before the District will accept the project phase as complete.
 - Require a review of all equipment performance and submission of findings on a report to District prior to expiration of warranty.
 - Require a review on site and re-training for maintenance department prior to end of warranty period. District to have ability to shut off units before taking occupancy of building.

Part 2 Products

- Ballasts:
 - Electronic fluorescent ballasts, HPF >98%, < 10% THD, no PCB's, Class A, thermally protected, CBM label.
 - HID ballasts, HPF, regulated.
 - For 4' T8 fluorescent fixtures provide high efficiency super T8 lamp/ballast combination, such as Osram QHE ballasts and XPS lamps. Lamps and ballasts shall be match for the most efficient combination.
- Lamps:
 - Fluorescent Super T8 type.
 - Compact fluorescent 4-pin.
 - Clear HID type.
- Luminaries shall be UL labeled. Reference District standard light fixtures per appendix "B".
- Light poles: Minimum 90 MPH wind rated with 1.3 gust factor.
- Lighting Controls:
 - Exterior lighting shall be controlled by an exterior lighting control. Provide a new campus-wide control system and modem for remote communications to control both the exterior lighting and the HVAC systems. Coordinate with Division 15 requirements.

Part 3 Execution

- Refer to Architectural Drawings for ceiling; coordinate therewith.
- All dirt, paint, etc. on luminaires and lenses shall be removed.

- Mounting shall be in strict accordance with NEC, paragraph. 410-16 and 410-76.
- In wire suspended lay-in ceilings, support all fluorescent luminaire housings from structural members with a minimum of 2 #12 galvanized iron wires.
- All mountings shall resist seismic forces.
- All pole and ground mounted light fixtures shall be mounted on a concrete base.

16700 Public Address/Intercom System/Master Clock/Bells

Part 1 General

- **Scope:**
 - Furnish and install all equipment, cabling and labor required for a complete, operable, and new Teracom computer based administrative communication and control system.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty of one (1) year from the date of final acceptance.
- **Codes and Standards:**
 - Reference the latest editions of CBC, CMC and CEC.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
- **Commissioning:**
 - Require complete system testing/informal commissioning and a minimum of 20 hours of site staff training sessions in addition to post occupancy reviews and final testing prior to expiration of warranty.

Part 2 Products

- Specify a "Teracom" computer based intercom system by Teradon. No "or equals" or "substitutions" allowed.
- Wiring: Size, quantity and type of conductors shall be in accordance with manufacturers' requirements for cabling.

Part 3 Execution

- Install per manufacturers specifications.
- Require complete installation including head-end cabinet, all associated devices including conduit and wires. Make all necessary connections to other systems.

16721 Fire Alarm System

Part 1 General

- **Scope:**
 - Furnish and install a fully automatic fire detection and alarm system for new and renovation construction projects. Renovation projects will be dependant on the scope of work and DSA requirements.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty.
- **Codes and Standards:**
 - Reference the latest editions of CBC, CMC and CEC.
- **Submittals:**

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Facilities Design Standards

PART 5 – OUTLINE SPECIFICATIONS

- Include requirements for submission of all material proposed for use per section 01300.

- **Commissioning:**

- Require complete system testing/commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.

Part 2 Products

- Furnish complete systems including all addressable detectors, horns, visual signaling devices, raceways, and terminal cabinets and connection to phone line to monitoring stations.
- Specify Notifier NFS640 fire alarm system with Notifier devices. No “or equals” or “substitutions” allowed.
- Require wet rated cables at all exterior locations.

Part 3 Execution

- Installation: Require complete installation including control panel and all associated devices including conduit and wires. Make all necessary connections.
- Test in the presence of Project Inspector and local fire jurisdiction prior to occupancy.

16727 Intrusion Alarm System

Part 1 General

- **Scope:**
 - Furnish and install a complete alarm system for renovation projects and consult scope statement for inclusion.
 - System shall utilize motion detection only (no door or window contacts) and be tied to remote monitoring station.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer’s standard warranty.
- **Codes and Standards:**
 - Reference the latest editions of CBC, CMC and CEC.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
- **Commissioning:**
 - Require complete system testing/commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.

Part 2 Products

- Furnish complete systems including control panel, multiple keypads, passive infrared motion sensors in all rooms, alarm bells, connection to direct phone line for remote monitoring, raceways, and conductors.
- Specify Ademco, Vista – 50P with V-plex addressable detectors, or approved equal.
- Require wet rated cables at all exterior locations.

Part 3 Execution

- Installation: Require complete installation including control panel and all associated devices including conduit and wires.
- Make all necessary connections and test prior to occupancy.
- Coordinate intrusion alarm zones with surveillance camera locations.

16740 Telephone System

Part 1 General

- **Scope:**
 - Furnish, install and configure a TDM/IP Telephony phone system based on NEC NEAX 2000 System equipment. No “or equals” or “substitutions” allowed. The system will carry voice traffic over a time division switching network with the capacity to also deliver voice traffic over the data infrastructure. This will require Quality of Service (QoS) to be configured on the networking equipment.
 - All IP Telephony systems must meet the security design criteria set forth by the District Technology Department and District technology consultant.
- **Warranty:**
 - Minimum Hardware Warranty Requirements:
 - Specify three (3) year replacement warranty covering all materials and labor.
- **Codes and Standards:**
 - Reference the latest editions of CBC, CMC and CEC.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
- **Support:**
 - Network Troubleshooting
 - If IP telephony is activated, specify two (2) year support agreement covering IP Telephony Network Troubleshooting, including routing issues related to IP telephony, including latency and jitter issues.
 - CDR Reporting
 - If IP telephony is activated, specify two (2) year support agreement covering Reporting, including daily, weekly, monthly and yearly reports, voice-gateway and user specific reports.

- **Commissioning:**
 - Require complete testing of routing, both inbound and outbound for all phone types. Confirm all services are working properly. Test jitter and latency while placing heavy data load on network to insure QoS is configured properly. Provide introductory administrative training on system.

Part 2 Products

- Furnish complete, fully integrated, NEC telecommunication system with integration capabilities for public address, master clock and signal functions. No “or equals” or “substitutions” allowed.

Part 3 Execution

- Installation:
 - All servers need to be in a physically secure environment consisting of a minimum of 40 square feet of unencumbered space surrounding the racks. This will allow for cabling in the rear of each rack and an adequate working area in front of each rack.
 - Reference drawings to show satisfactory rack area.
 - The location must be climate controlled. The following are the requirements for the climate:
 - Temperature – 32 degrees to 104 degrees
 - Humidity – 10% to 85% (Non-condensing)
 - 7-foot 19” racks are required for servers/UPS. The exact number will be determined by how much equipment is needed.
- Hardware:
 - 911 calls:
 - Emergency 911 calls need to route out the local PSTN gateway.
 - Because this is a school Cisco Emergency Responder needs to be deployed. This needs to be loaded on a Cisco MCS server that is not running any other AVVID application.
 - The following Partitions should be created for each location (Note ‘Site’ will change):
 - Site Student Phone
 - Site Teacher Phone
 - Site Admin Phone
 - Site Guest Phone
 - Site911
 - The following Partitions should be created for all facilities to use:
 - Local Calls
 - Long Distance Calls
 - International Calls
 - Toll Free Calls
 - 900/976Calls. (Partitions need to be blocked.)
 - Voicemail
 - Other partitions need to be routed/blocked as required by District.
 - The following Calling Search Spaces should be created (Note ‘Site’ is going to change):
 - Site Student
 - Site Teacher
 - Site Admin
 - Site Guest

- Site 911
- The following plug-ins should be installed:
 - Call Manager Attendant Console (as needed)
 - Bulk Administration Tool
 - CDR Analysis and Reporting
 - Cisco Call Manager Multilevel Administration Access
 - Cisco Customer Response Application Engine
 - Extension Mobility Feature
 - The MCS Backup Utility needs to be installed and configured to backup to a network location or to the other Call Manager hard drive if none exists.

16745 Data Communications System

Part 1 General

- **Scope:**
 - Furnish and install Data Communications System including all wiring and connections and other materials as shown on Plans and specified herein.
 - The installation shall include cable (fiber optic and twisted-pair copper), fiber optics raceway, fiber interconnect equipment, connectors (fiber and copper), jumpers (fiber optic and twisted-pair copper), wiring blocks, data and phone communications outlets, racks, enclosures, and passive distribution equipment. Additionally, Contractor shall provide labor and any incidental material required for installation.
 - Fiber strands shall be terminated with connectors and landed on the fiber interconnect equipment.
 - All copper conductors shall be terminated on Patch Panels (IDF end) and data communications outlets (work station).
 - Upon completion of installation, Contractor shall test all fiber and copper pathways and record the test results.
 - Horizontal Pathway: Conform to TIA/EIA 568-B, using raceway, backboards, and cabinets as indicated.
 - Ground System: Conform to TIA/EIA 607. Installer must adhere to the TIA 942 Datacenter Standards.
 - Data Backbone Wiring: Complete from the Main Distribution Frame (MDF) to each Intermediate Distribution Frame (IDF), using optical fiber backbone cables.
 - Data Horizontal Wiring: Complete from horizontal connections to each outlet using unshielded twisted pair and optical fiber backbone cables.
- **Warranty:**
 - Contractor must fully warrant proper operation of installed system and components for a minimum of 25 years after system turnover to Owner. The Contractor shall provide a “performance” level warranty.

- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
 - Shop Drawings
 - Company Certification
 - Foreman and Installer Certification
 - Test Reports
- **Quality Assurance:**
 - Manufacturer: Company specializing in manufacturing products specified in this section with minimum five years experience.
 - Installer: Company specializing in installing products specified in this section with a minimum five years verifiable experience.

Part 2 Products

- **Racks and Ladders:**
 - Racks:
 - Damac or approved equal. Products must be approved by District staff.
 - Rack should be double-side drilled, floor supported, bolt-able to floor with an opening at center of the base for cable entry.
 - Dimensions: 19" relay racks 84" tall, Universal E.I.A. (0.25" Flange / 0.17" Web) channels, with EIA standard hole spacing.
 - Construction: 6061-T6 aluminum, Seismic zone 4; Finish: Black.
 - Each rack must have a 2-hole grounding lug.
 - Each rack must have two (2) 6' long 115V 20A multiple-outlet power strips each with eleven three-prong outlets and no switch. These power strips with standoff legs, shall be mounted vertically at the rear of the rack, with the bottoms of the power strips about 6" off the floor. The power strips must be UL-listed. All power strips shall be furnished with a 15' three prong plug/cord, NEMA 5-15.
 - Wall mount Cabinets must be Damac # WL36AKP1VVV-3 or approved equal.
 - Ladders:
 - Product Description: Damac Products.
 - Dimensions: 12" wide, with side bars 1" to 2" high.
 - Provide all hardware, grounding lugs, grounding straps, fasteners, and ladder mounting brackets.
- **Cable Management: stand off brackets and outlets:**
 - Panduit or approved equal.
 - Horizontal Cable Management System
 - Product Description: Panduit WMP1E, 3"x3" front, 2"x 5" back, mountable in an EIA standard 19" rack.
 - Provide 2 per new rack installed.
 - Vertical Cable Management System
 - Product Description: Panduit WMPVS45, 7' Vertical Wire Manager, side mount with Dual hinged doors. Panduit WMPVCB CENTER MOUNT KIT for center mount (between racks) with dual hinge doors. Vertical Wire Managers shall have door on both front and back of manager.
 - Location: Both sides of Floor Mount Equipment Racks and in-between

- racks.
 - Distribution Rings/Jumper Troughs
 - Product Description: Panduit GP-W72-X or equal.
 - Location: on all backboards as required for routing of voice cables in a neat fashion.
- Optical Fiber Enclosures and Coupler Panels:
 - Panduit or approved equal.
 - Product Description: Panduit, FRME 1or 4 based on individuals IDF needs. Fiber optic rack mounts enclosure (LIU), loaded with all necessary adapter panels for multi-mode terminations respectively.
 - Capacity: 3 or 6 (SC) adapter panels.
- Copper Backbone Cable:
 - BICC General or approved equal. Products must be approved by District staff.
 - Product Description: TIA/EIA 568B, BICC General PE 39 OSP CABLE, 24 AWG annealed copper conductors twisted into pairs of varying lengths and colors coded to telephone industry standards.
 - Manufacturers:
 - Gen Speed 12pair PE39 OSP - 7524622
 - Gen Speed 25pair PE39 OSP - 7524648
 - Gen Speed 50pair PE39 OSP – 7524655
 - Gen Speed 100pair PE39 OSP- 7524671
 - Optical Fiber Backbone Cable, Horizontal Cable:
 - Panduit, BICC General or approved equal.
 - Product Description: BICC General p/n CG0121ANR TIA/EIA 568B, 62.5/125 multi-mode or 50/125 multi-mode, 8.3 physical diameter as specified.
 - 12-strand Multimode Lazer- optimized Fiber p/n CG0121ANR.

- All wiring and devices must be from a single manufacturer, or from a group of manufacturers that have teamed together to provide a system solution guaranteed to meet the performance specification.
- Telecommunications Grounding Busbar:
 - Panduit or approved equal
 - Must adhere to the 942 Datacenter Grounding Standards
 - Product Description: Panduit pt# GB4B0624TPI-1 or equal. U.L. listed, predrilled, electrotin plated copper busbar with holes for standard sized lugs mounted on 2 inch insulators.
- Patch Panel:
 - Product Description: TIA/EIA 568B, UL 1863 compliant, Panduit DP24688TP, DP48688TP, NK5EPP48, 24 OR NKMP48, 24 and with modular NK6TMBU OR NK5E88MWH (voice) jacks on rear, 48 capacity patch panel. Provide enough patch panel ports for an additional 20%. If less than 6 ports are available for future growth, provide additional NK5EPP24 OR DP24688TP 24 port panel. All spare ports shall be labeled as SPARE.
- Voice Cross-Connect:
 - Product Description: Panduit NK5EPP24 and NK5EPP48 with modular NK5E88MWH jacks on rear, 48 capacity patch panel. Provide enough patch panel ports for an additional 20%. If less than 6 ports are available for future growth, provide additional NK5EPP24 24 port panel. All spare ports shall be labeled as SPARE.
- Inner-Duct:
 - Manufacturers: Carlon, Pyramid, or approved equal
 - Product Description: 1.25" inside diameter crush-resistant orange inner-duct, plenum rated with pull rope or pull tape.
- Voice Horizontal Cable:
 - Product Description: TIA/EIA 568B General Cable, GenSpeed 5000, category 5E, balanced twisted pair cable CMP and CMR, with 4 pairs, 24 AWG copper conductors. All horizontal cables shall be from one manufacturer, and preferably from the same lot.
 - Color: Grey
- Data Horizontal Cable:
 - Product Description: TIA/EIA 568B General Cable, Gen Speed 6000, category 5E, balanced twisted pair cable CMP and CMR, with 4 pairs, 24 AWG copper conductors. All horizontal cables shall be from one manufacturer, and preferably from the same lot.
 - Color: Blue
- Communications Outlets:
 - Product Description: Conform to TIA/EIA 568B requirements for cable connectors for specific cable types, and conform to UL 1863 standard.
 - White wall plate with capacity for NK5E88WH or NK6TMBU jacks, Panduit NK4F. Provide modular kit for furniture installations, Panduit NK4MFBL or equal (confirm color with owner prior to ordering and installation).
 - Voice insert jacks, one 8 pin non-keyed modular jacks, TIA/EIA 568B category 5E, Panduit NK5E88MWH with wire range of 22 to 24 AWG. Pin sequence shall be TIA/EIA-568A. Color code International White and label

- jacks "V1".
 - Data insert jacks, quantity as indicated, 8 pin non-keyed modular jacks, TIA/EIA 568B category 5E, Panduit NK6TBMBU with wire range of 22 to 24 AWG. Pin sequence shall be TIA/EIA-568-A. Jacks are to be labeled per District's requirements.
 - Use Panduit NetKey p/n's NK5E88MEI for Voice and NK6TMOR for Data Terminations in Floor Fed KeyStone boxes located on the first floor.
- Patch Cords:
 - Patch Cables shall be sufficient length to provide a neatly routed connection from the patch Panel; nominally ranging in 3 to 7 feet in length.
 - Panduit patch cables PT # UTPSP3BU (Data) / UTPCHWH (Voice) - length
 - Patch cords shall be either 62.5/125 or 50/125 micron patch cords depending on the installed cable plant.
 - Furnish two (2) fiber optic patch cords in lengths (1, 2, 3 or 4 meter) adequate to connect LIU fiber optic ports to network hardware routed through wire management appliances on data rack.
- Cable Supports:
 - Manufacturers: Cablo Fil, Panduit JPRO, Panduit J MOD or approved equal
 - Product Description: CabloFil metal tray for supporting Category 5E Horizontal Cabling for Main cable pathway. Wide Base J hooks or Cable Slings mounted to ceiling wires for smaller cable pathways. Clips shall comply with UL, CUL, CEC and TIA/EIA requirements for structured cabling systems. See drawing details.
- Labels:
 - Manufacturers: Panduit
 - Product Description: wrap-around smoke rated labels, neatly hand written or printed by a mechanical means.
- Switches:
 - Elementary and Middle Schools:
 - HP ProCurve Switch 5304XL
 - ProCurve Switch XL Mini-GBIC Module
 - HP ProCurve Switch xl 16 10/100/1000 Mod
 - ProCurve Gigabit-SX-LC Mini-GBIC
 - High School:
 - HP ProCurve Routing Switch 9304M
 - HP ProCurve 9300 EP 8p mini-GBIC mgmt.
 - HP ProCurve 9300 EP 16p mini-GBIC module
 - ProCurve Gigabit-SX-LC Mini-GBIC
 - ProCurve Gigabit 1000Base-T Mini-GBIC
 - IDF's for Elementary, Middle and High Schools:
 - ProCurve Switch 2626
 - ProCurve Switch 2650
 - HP ProCurve Switch 6108
 - ProCurve Gigabit-SX-LC Mini-GBIC
- Routers:
 - Specify 2651XM routers with two 10/100 ports, IP only IOS; an optional WIC T-1 can be added. Or approved equal.
- Uninterruptible Power Supplies:

- UPS(s) (APC, or equal) need to provide surge protection, line conditioning and battery backup for a minimum of 20 minutes to allow the graceful shutdown of attached systems. This requirement applies to all hardware that supports voice/data traffic.
- UPS(s) (APC, or equal) should be rack-mountable to prevent unnecessary use of MDF/IDF floor space.
- As a minimum, the following devices need to be on UPS (APC, or equal) backup:
 - All IP Telephony Servers, if applicable.
 - All Routers
 - All Switches
 - A power calculation needs to be performed to determine the correct UPS sizing.
- The following UPS(s) (APC, or equal) or next generation devices should be included:
 - APC SU2200RM
 - APC SU1400RM

Part 3 Execution

- Existing Work:
 - Ensure access to existing telecommunications equipment, cabling, and terminations and other installations which remain active and which require access.
- Performance:
 - Contractor must provide a project manager who has demonstrated the ability to supervise a project of this magnitude.
 - Contractor shall perform a daily cleanup following all installations and terminations. Contractor shall remove from work site all waste material and dispose of properly.
 - Ceiling tiles broken or defaced by the Contractor during the installation and testing process shall be replaced at the expense of the Contractor.
- Installation:
 - Specify complete installation, testing and documentation
 - Test fiber optic cables (including but not limited to bi-directional for signal attenuation)
 - Data Cat 5E
 - The network backbone should be at Gigabit speeds.
- Testing:
 - Any cables failing to meet above indicated standards must be removed and replaced, at no cost to the Owner, with cables that meet the standards.
 - Contractor will use tester and software to provide test results deliverable on a compact disk or 3.5" diskette in an approved electronic format as well as in a written format. Information will include the following:
 - Wire Map
 - Length
 - Return Loss
 - Power Sum Near-End Cross Talk (PSNEXT) Loss
 - Equal-Level Far-End Cross Talk (ELFEXT)
 - Power Sum Equal-Level Far-End Cross Talk (PSELFEXT)
 - Signal attenuation at 200KHz to 350 MHz in 100KHz increments

- Insertion loss @ 200KHz to 350 MHz in 100KHz increments
- NEXT (near-end cross talk) @ 200KHz to 350 MHz in 100KHz increments
- Attenuation to Cross-Talk Ratio (ACR).
- Propagation Delay
- Delay Skew
- Any cables failing to meet above indicated standards must be removed and replaced, at no cost to the Owner, with cables that prove, in testing, to meet the standards. The installation will not be accepted until testing has reported that all pairs in all cables meet the appropriate standards.

16750 Assistive Listening System

Part 1 General

- **Scope:**
 - Include in all assembly locations for both new and renovation projects.
- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion in addition to the manufacturer's standard warranty.
- **Codes and Standards:**
 - Reference the latest editions of CBC, CMC and CEC.
- **Submittals:**
 - Include requirements for submission of all material proposed for use per section 01300.
- **Commissioning:**
 - Require complete system testing/commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.

Part 2 Products

- Furnish complete, assistive listening system complete with transmitter, receivers and control equipment.
- Specify a wireless, FM system as manufactured by Williams or approved equal.

Part 3 Execution

- Installation: Require complete installation including control panel, all associated devices including conduit and wires. Make all necessary connections and test system prior to occupancy.

16781 Cable Television (CATV)

Part 1 General

- **Scope:**
 - Furnish and install a cable television (CATV) system and accessories required for a complete and operable system in accordance with the requirements of the Contract Documents.
- **Commissioning:**
 - Require complete system testing / commissioning and ample site staff training sessions including post occupancy reviews and final testing prior to expiration of warranty.

- **Warranty:**
 - Require unconditional two (2) year installation warranty commencing on recordation date of the Notice of Completion, per General Conditions, Article 3.4, in addition to the manufacturer's standard warranty.

Part 2 Products

- Backbone Cable: Provide a (RG11) coaxial backbone cable system as shown in drawings. Acceptable Manufacturers: Commscope
- Distribution Cable: Provide an RG-6 distribution cable from the system tap to TV outlet shown on drawings. Acceptable Manufacturers: Commscope
 - Commscope Cable: F640BV
- Passive Components: Provide indoor directional taps, splitters, line equalizers, and tilt compensators as required in the design of the cable system. Acceptable Manufacturers: Blonder Tongue:
 - Outdoor Distribution Tap: DMT-870-8 with appropriate tap loss.
 - Outdoor Splitters: TLS-870-2 & TLS-870-3U
 - Outdoor Directional Coupler: TLS-870
 - 75 Ohm Terminator: DMT-TP
 - RG-6 "F" Connectors: BTF-56 HEX
 - .5" Hardline Connector: BR-500-VSF
 - Distribution Tap Terminator: BTF-TP
 - Housing To Housing Adapter: B-KS-KS-M
- Active Distribution Components: Provide line amplifiers to boost the video signal bi-directionally from 5-30 Mhz & 47-750 Mhz. The Amplifiers will be wall mountable and DC powered and located in all building TC locations except the Library. Acceptable Manufacturers: Blonder Tongue or approved equal.
 - Distribution Amplifier: BIDA-86A-30

Part 3 Execution

- Installation: All materials and equipment shall be installed in accordance with the manufacturers printed recommendations and the requirements of the Contract Documents. Equipment shall be installed and securely anchored.
 - All cable will be routed on backboards at right angles. Cable will be routed in cable trays, conduit and around bottoms, sides & tops of plywood backboards.
 - Cable will be secured with tie wraps and "D" rings when exposed.
 - All cables and components will be labeled.

-End of Part 5-

PART 6 Appendices:

- **Appendix A: Checklist**
- **Appendix B: Light Fixture Schedule**
- **Appendix C: Renovation Project General Notes**
- **Appendix D: Landscaping Details**
- **Appendix E: Administration Regulation for Energy Conservation**
- **Appendix F: Board Resolution for Single-Source Products**

APPENDIX A:

Architect & Engineer (A/E) Checklists:

Renovation Construction Projects:

Design Development Phase:

- ✓ Obtain Copy of the final Project Scope Statement from the designated District representative.
- ✓ Verify with the designated District representative that the Design Professionals have the most current copy of the design standards and are on the electronic update list.
- ✓ Obtain from the designated District representative copies of all available original plans, record drawings and maintenance projects records.
- ✓ Obtain from the designated District representative a copy of the ADA self-evaluation study that has been completed for all existing campuses. Also, if available, obtain a copy of the transition plan.
- ✓ Coordinate and employ the services of an independent land surveyor to establish existing grades to determine optimum design solution for accessible path of travel.
- ✓ Coordinate with the designated District representative and the District's hazardous materials consultant to confirm which materials will require testing to determine if they contain hazardous particles.
- ✓ Meet with the designated District representative to determine if it is necessary to include spare conduits in duct banks.
- ✓ Meet with the designated District representative and site committee for review and approval of the proposed room number and building signage.
- ✓ Survey existing building condition for potential dryrot and termite damage. Review condition of substrate (from underside where possible), fascia, trim and alike and indicate replacement as necessary. (Note that if selective demolition is necessary to investigate an area suspect of dry rot or termite damage, notify designated District representative for authorization of extra services.)
- ✓ Survey the condition of all doors, hardware and frames to determine if repair or replacement is necessary.
- ✓ Survey existing casework for necessary repairs or replacement to make fully functional. Include in the bid documents all work necessary for repairs to hardware, doors and drawers, or if more cost effective, replacement of existing casework.
- ✓ If roof replacement is required, survey existing areas designated in scope to be replaced and evaluate condition of existing roof accessories (vents, flashings, gutters, downspouts, sleepers, curbs, skylights, etc.) and indicate replacement or modification as necessary. If there exists the ability to climb onto roof, advise designated District representative and pose possible resolution.
- ✓ If new trash and recycle collection area is required, meet with the designated District representative and review existing service yard location, layout and proposed renovation

design. The designated District representative will review with District's Local Sanitation Company, Custodial Services and Pest Management.

- ✓ If new landscaping and irrigation is required, meet with the designated District representative and Maintenance staff for review and approval of the proposed plant selection, landscaping and irrigation designs.
- ✓ Meet with the District M&O Department and review existing HVAC and plumbing conditions on site and ongoing problems.
- ✓ Review mechanical record-drawings, conduct independent site investigations and evaluate existing conditions.
- ✓ Evaluate condition of existing water heaters and make recommendation for replacement if equipment is beyond the anticipated life span.
- ✓ Evaluate condition of existing grease traps and make recommendation for replacement if necessary.
- ✓ If applicable, coordinate any increase demand for gas, water, and sewer capacity with local utility companies, and confirm available gas and water pressures.
- ✓ Design Professional to propose type of replacement mechanical and plumbing systems for District approval prior to proceeding with completing design.
- ✓ Meet with the District M&O Department and review existing electrical conditions on site and ongoing problems.
- ✓ Review electrical record-drawings and conduct independent site investigations.
- ✓ Evaluate existing conditions of power equipment including, switchboard, panels, transformers and feeders.
- ✓ If new site service is necessary, site primary service design and location must be coordinated with and approved by PG & E. Verify availability of voltage and phase. Obtain approval of electrical service location from designated District representative prior to system design.
- ✓ Meet with the District technology consultant to determine locations of digital video surveillance cameras.
- ✓ Provide the District's technology consultant with the electronic backgrounds of the site and building floor plans for their schematic layout of the low voltage pathways, receptacle locations, head-end equipment locations and space requirements.
- ✓ If new site service is required, meet with the designated District representative and PG&E for review and approval of the proposed utility yard design.
- ✓ If additional scope is determined necessary (as a result of site investigations), provide the designated District representative with a written request to include and obtain written authorization prior to starting Construction Documents.
- ✓ Submit design development drawings to the designated District representative and obtain written approval prior to proceeding with the construction document phase.

Construction Document Phase:

- ✓ Meet with designated District representative to coordinate phase work and help develop phasing schedule. Coordinate system(s) design for construction phasing requirements to minimize impact to school operations and allow for functioning systems during construction.
- ✓ Meet with the designated District representative and District's technology consultant to obtain schematic design of the low voltage systems and coordinate requirements. Implement and coordinate requirements as indicated on technology schematics.
- ✓ Review items to be removed with M&O to determine if salvage is desired. Include in the bid documents items identified to be salvaged and delivered to District.
- ✓ Coordinate and reference abatement exhibits that will be included in construction contract.
- ✓ Provide list of all items that will require color selection to the designated District representative. Obtain color selections and include in bid documents.
- ✓ Indicate existing color scheme and layout to be replicated in the interiors of gyms, libraries, theaters, multipurpose rooms, and other special use rooms may have existing custom colors (not in District standard colors) and multiple tones with graphics or logos.
- ✓ Provide a completed finished hardware specification to designated District representative and Schlage representative for review and acceptance. Meet with designated District representative, Schlage representative, District locksmith and site personnel to determine keying schedule. The keying schedule is to be incorporated into project specifications prior to bid.
- ✓ If areas of dryrot or termite damage were discovered, include in base contract all known structural repairs. Determine anticipated amount of unknown structural repairs and estimated costs. Include as a bid allowance with standard structural repair details.
- ✓ Provide the designated District representative with copies of the lighting calculations indicating anticipated lighting levels and watts per square foot.
- ✓ Verify with District representative exact location of all receptacles and switches.
- ✓ If new site service is required, obtain and incorporate PG & E's final commitment requirements.
- ✓ Submit construction documents to the designated District representative at the intervals stipulated in the Owner-Architect Agreement.
- ✓ Incorporate all peer and constructability comments prior to obtaining DSA approval.
- ✓ If during the plan review process, DSA requires additional scope of work to be included to obtain approval, forward specific requested and code reference to designated District representative to authorize.

Portable Building Projects:

Schematic Design Phase:

- ✓ Obtain Copy of the final Project Scope Statement from the designated District representative. The scope statement shall include the necessary tie-in requirements for the various low-voltage systems (HVAC campus controls, intrusion alarm, fire alarm,

Piedmont Unified School District

Facilities Design Standards

APPENDIX A – ARCHITECT & ENGINEER CHECKLISTS

telephone, intercom, master clock and bells) as determined by the District's technology consultant.

- ✓ Verify with the designated District representative that the Design Professionals have the most current copy of the design standards and are on the electronic update list.
- ✓ Obtain from the designated District representative copies of all available original plans and record drawings.
- ✓ Determine if a campus electrical service upgrade is necessary to accommodate current loads and anticipated new loads to service the new portable building(s).
- ✓ Propose and obtain approval of the location and layout of the portable building(s) from the designated District representative.
- ✓ Coordinate the District's requirements with the portable building manufacturer and coordinate the manufacturer's DSA submittal documents with the site development and building placement DSA submittal documents.
- ✓ Evaluate existing campus night lighting system and design the additional site lighting to illuminate path of travel to portable buildings and surrounding areas.
- ✓ Meet with the designated District representative and the District technology consultant to review schematic room and space requirements to accommodate low voltage systems.
- ✓ Submit schematic design drawings to the designated District representative and obtain written approval prior to proceeding with design development phase.

Design Development Phase:

- ✓ Meet with the designated District representative and the local fire jurisdiction to review and coordinate access gates, fire lanes and access roads locations.
- ✓ Coordinate and employ the services of an independent land surveyor to establish existing grades to determine optimum design solution for siting building and accessible path of travel.
- ✓ Meet with the designated District representative to determine if it is necessary to include spare conduits in duct banks.
- ✓ Meet with the designated District representative and site committee for review and approval of the proposed room number and building signage.
- ✓ If new landscaping and irrigation is required, meet with the designated District representative and M&O Department for review and approval of the proposed plant selection, landscaping and irrigation designs.
- ✓ If new site service is necessary, site primary service design and location must be coordinated with and approved by PG & E. Verify availability of voltage and phase. Obtain approval of electrical service location from designated District representative prior to system design.
- ✓ Design the pathway from the existing fire alarm head-end equipment. Coordinate the code requirements with the District's technology consultant.

- ✓ Meet with the District technology consultant to determine locations of digital video surveillance cameras.
- ✓ Provide the District's technology consultant with the electronic backgrounds of the site and building floor plans for their schematic layout of the low voltage pathways, receptacle locations, head-end equipment locations and space requirements.
- ✓ Submit design development drawings to the designated District representative and obtain written approval prior to proceeding with the construction document phase.

Construction Document Phase:

- ✓ The District will determine on a project specific basis what portions of the work will be performed by a site contractor(s), portable building manufacturer or District staff and how the work will be contracted. Design Professional to coordinate scopes of work on bid documents.
- ✓ Meet with the designated District representative and District's technology consultant to obtain schematic design of the low voltage systems and coordinate requirements. Implement and coordinate requirements as indicated on technology schematics.
- ✓ If new site service is required, obtain and incorporate PG & E's final commitment requirements.
- ✓ Coordinate the replacement of the Manufacturer's standard porch light with the District standard exterior light fixture
- ✓ Submit construction documents to the designated District representative at the intervals stipulated in the Owner-Architect Agreement.
- ✓ Incorporate all peer and constructability comments prior to obtaining DSA approval.
- ✓ If during the plan review process, DSA requires additional scope of work to be included to obtain approval, forward specific requested and code reference to designated District representative to authorize.

Modular Building Projects:

Schematic Design Phase:

- ✓ Obtain Copy of the final Project Scope Statement from the designated District representative. The scope statement shall include the necessary tie-in requirements for the various low-voltage systems (HVAC campus controls, intrusion alarm, fire alarm, telephone, intercom, master clock and bells) as determined by the District's technology consultant.
- ✓ Verify with the designated District representative that the Design Professionals have the most current copy of the design standards and are on the electronic update list.
- ✓ Obtain from the designated District representative copies of all available original plans and record drawings.
- ✓ Determine if a campus electrical service upgrade is necessary to accommodate current loads and anticipated new loads to service the new modular building(s).

- ✓ Propose and obtain approval of the location and layout of the modular building(s) from the designated District representative.
- ✓ Coordinate the District's requirements with the modular building manufacturer and coordinate the manufacturer's DSA submittal documents with the site development and building placement DSA submittal documents.
- ✓ Evaluate existing campus night lighting system and design the additional site lighting to illuminate path of travel to portable buildings and surrounding areas.
- ✓ Meet with the designated District representative and the District technology consultant to review schematic room and space requirements to accommodate low voltage systems.
- ✓ Submit schematic design drawings to the designated District representative and obtain written approval prior to proceeding with design development phase.

Design Development Phase:

- ✓ Meet with the designated District representative and the local fire jurisdiction to review and coordinate access gates, fire lanes and access roads locations.
- ✓ Coordinate and employ the services of an independent land surveyor to establish existing grades to determine optimum design solution for siting building and accessible path of travel.
- ✓ Meet with the designated District representative and site committee for review and approval of the proposed room number and building signage.
- ✓ Meet with the designated District representative to determine if it is necessary to include spare conduits in electrical service duct bank.
- ✓ If new landscaping and irrigation is required, meet with the designated District representative and M&O Department for review and approval of the proposed plant selection, landscaping and irrigation designs.
- ✓ If new site service is necessary, site primary service design and location must be coordinated with and approved by PG & E. Verify availability of voltage and phase. Obtain approval of electrical service location from designated District representative prior to system design.
- ✓ Design the pathway from the existing fire alarm head-end equipment. Coordinate the code requirements with the District's technology consultant.
- ✓ Meet with the District technology consultant to determine locations of digital video surveillance cameras.
- ✓ Provide the District's technology consultant with the electronic backgrounds of the site and building floor plans for their schematic layout of the low voltage pathways, receptacle locations, head-end equipment locations and space requirements.
- ✓ Submit design development drawings to the designated District representative and obtain written approval prior to proceeding with the construction document phase.

Construction Document Phase:

- ✓ The District will determine on a project specific basis what portions of the work will be performed by a site contractor(s), modular building manufacturer or District staff and how the work will be contracted. Design Professional to coordinate scopes of work on bid documents.
- ✓ Meet with the designated District representative and District's technology consultant to obtain schematic design of the low voltage systems and coordinate requirements. Implement and coordinate requirements as indicated on technology schematics.
- ✓ If new site service is required, obtain and incorporate PG & E's final commitment requirements.
- ✓ Submit construction documents to the designated District representative at the intervals stipulated in the Owner-Architect Agreement.
- ✓ Incorporate all peer and constructability comments prior to obtaining DSA approval.
- ✓ If during the plan review process, DSA requires additional scope of work to be included to obtain approval, forward specific requested and code reference to designated District representative to authorize.

APPENDIX B: STANDARD LIGHT FIXTURE SCHEDULE

SYM	FIXTURE DESCRIPTION	Location	MANUF. & CATALOG NUMBER	ALT. MANUF. & CATALOG NUMBER	LENS / Louvers	LAMPS	REMARKS
A	Linear, Suspended, DIR/IND	Classrooms, Libraries, Office Areas	Finelite Series 10	Lite Control LC-94 Series	Parabolic Louver Open top	F32-T8	Suspended 15"-18" from the ceiling. Specify a minimum of clearance of 8"-0" from finished floor.
B	Surface Mounted, Vandal Resistant	Restrooms, Hallways & high abuse interior locations	Luminaire, LVP 1049 Series	Kenall, SH1248	Poly-Carbonate	F32-T8	Vandal Resistant
C	Surface Mounted Wrap Around	Classrooms (low ceilings) Storage, Work Rooms	Daybrite SWW Series	Columbia WCW Series	Acrylic	F32-T8	
D	2 x 4 and 2 x 2 Lay-in Fixtures	Classrooms and Office	DayBrite, Attune Series	Lithonia RT5 Series	Acrylic	F32-T8	Use where good visual comfort is needed.
D1	2 x 4 and 2 x 2 Lay-in Fixtures	Offices, Work Rooms, etc.	DayBrite SPW Series	Columbia ST8 Series	Acrylic	F32-T8	Use for general areas.
E	6" Sq. x 4' Stair Fixture	Stairs	DayBrite STW Series	Lamar FS1 Series	Acrylic	F32-T8	Fixture shall have occupancy control for 100%
F	Pendant Compact Fluorescent DIR/IND	High ceilings in Library, Conference Rooms, etc.	SPI Options Series	Lite Control Scion Series	Acrylic	Compact Fluorescent	Pendant hung; coordinate with Architect.
G	Gymnasium Lighting Fixture	Gym	Sports Lite LX800 Series with PulseBloc Controller	None	Acrylic Dome with wire guard	Compact Fluorescent	Provide wireguard and multi-level switching
H	Wall Mount Low Profile Exterior Light	Exterior	Luminaire YOV Series	Kenall Millennium Series (Oval)	Poly-Carbonate	Compact Fluorescent	Provide battery backup where required.
H1	Ceiling Mount Exterior Light	Exterior Soffits	Luminaire ARV Series	Kenall Millennium Series (Round)	Poly-Carbonate	Compact Fluorescent	Provide battery backup where required.
I	Emergency Egress Lighting	Assembly Areas	McPhilben CAX Series	Dualite LZ2-I Series	---	Included	If emergency can be incorporated into general lighting, do not use "I".
J	White Board Light	Classroom	Finelite Series X2	Lite Control StakLite with aisle shield	Louver	F32-T8	Surface or pendant depending on ceiling height
PLT	Pole Lights	Parking Lots	Gardco Form 10 Cut Off	Spaulding Magnuspec MSS Series	Tempered Glass	Metal Halide	Designer shall provide details and photometric study.
X	LED Exit Sign with Battery Backup	Exits and Exit Paths	McPhilben ER55LD Series	Dualite Sempra Series	Aluminum Acrylic	LED	Verify color with Architect.
XL	Low Level Self-Luminous Exit Lights	Exits and Exit Paths	Isolite 1040-70-15	Evenlite Equivalent	High Impact Acrylic	None	Verify color with Architect.

NOTES:

1. This schedule is not all inclusive, but shall be used as a general guide in final fixture selection. Provide additional fixtures of similar quality as required by architectural design.
2. Provide 10% spare lamps of each size and type. Minimum one standard case. Lamps shall be delivered to owner in original sealed packaging one week before completion. Contractor shall submit signed receipt for lamps with close-out data.

APPENDIX C:

Standard Renovation Cover Sheet Notes:

The following notes are to be included verbatim on the coversheet of all renovation projects.

GENERAL NOTES:

1. This project site is an occupied school campus. The educational program takes precedence over construction activities. All construction activities shall be contained within fenced or barricaded areas in accordance with project specification and schedule requirements. Certain construction activities that generate disruptive noise, odors, dust and debris must be scheduled when the campus is not occupied.
2. This is an existing facility renovation project. All work shown, noted or detailed is new, except where indicated as existing or as existing to remain.
3. Photos if shown in this set of drawings do not preclude the pre-bid site visit requirements of the bidder. The Contractor shall be responsible for appropriate site visits to confirm existing field conditions prior to bidding.
4. Contractor shall field verify all dimensions and existing conditions at the site and shall report any discrepancies in writing to the Construction Manager by the means of a Request for Information (RFI) or as part of the applicable shop drawings or submittals.
5. Specific items noted to be verified or field verified are required to be verified prior to ordering materials or proceeding with the work.
6. Contractor is responsible for all incidental work necessary to complete the installation of new work. This includes, but is not limited to, the removal and/or reinstallation of all existing items, of portions of the existing construction whether shown or not.
7. The existing facility has asbestos containing material in various locations. Any part of the work requiring removal of asbestos containing material shall be performed in accordance with the Asbestos Abatement Specifications Exhibit 'C' of the Project Manual.
8. The existing facility has lead containing material in various locations. Any part of the work requiring removal of lead containing material shall be performed in accordance with the Lead Abatement Specifications Exhibit 'D' of the Project Manual.
9. The existing facility has PCB Ballast and Fluorescent Tube Materials in various locations. Any part of the work requiring removal of PCB Ballast and Fluorescent Tube Materials shall be performed in accordance with the PCB Ballast and Fluorescent Tube Materials Abatement Specifications Exhibit 'E' of the Project Manual.
10. Contractor is responsible for protection, modification and re-installation of all existing rooftop piping, conduit, wire and equipment during the roof removal/replacement operations. This includes, but is not limited to, extensions of existing conduit and piping penetrations to accommodate new roofing

requirements, replacement or modification of existing sleepers, blocking and supports. Provide new conduit, conductors, unistrut, etc. as necessary to accommodate new roofing requirements.

11. Prior to starting work on each phase, the Contractor shall request the Construction Manager to schedule a team meeting with all subcontractors, the Project Inspector, and the designated District representatives to survey existing equipment operations. The objective is to determine the operability of all existing mechanical equipment, fire alarm system, telephone system, intrusion alarm system, intercom system and any other devices and equipment that are to remain after phase completion. The Construction Manager shall prepare a written report documenting team field investigation and noting any existing items that are damaged or non-functional. Prior to occupancy another survey will be conducted with same team to determine if any item has been damaged or made inoperable. In the event that something has been damaged the General Contractor will be required to correct problem with an approved, qualified, technician.
12. Prior to the start of each phase the Construction Manager shall schedule the District to identify and tag all exposed wiring. District personnel shall remove any wiring identified as abandoned. Any wiring identified “to remain” shall be protected against damage during construction and inspected for damage at phase completion.
13. Prior to site mobilization, the General Contractor, the Construction Manager and Project Inspector are to meet on site and photo document the existing conditions of the Contractor’s staging area and landscaped areas where trenching will be occurring or where vehicle traffic is anticipated. Also test irrigation system for proper operation. At project completion all areas must be restored to original condition including but not limited to installing sod at damaged turf areas, replacing damaged plantings, repairing damaged underground utilities, patching damaged asphalt paving, re-striping paving and replacement of damaged concrete. The General Contractor, the Construction Manager and Project Inspector shall meet on site at project completion and review all site conditions and operation of irrigation system.
14. The General Contractor is responsible to have emergency shut-off procedures in place prior to start of construction. The General Contractor and all Subcontractors shall familiarize themselves with all shut-off valve locations on site and have proper tools readily available to operate valves.

APPENDIX D:

DISTRICT STANDARD

PLANTING & IRRIGATION DETAILS:

(Please refer to the following five details)

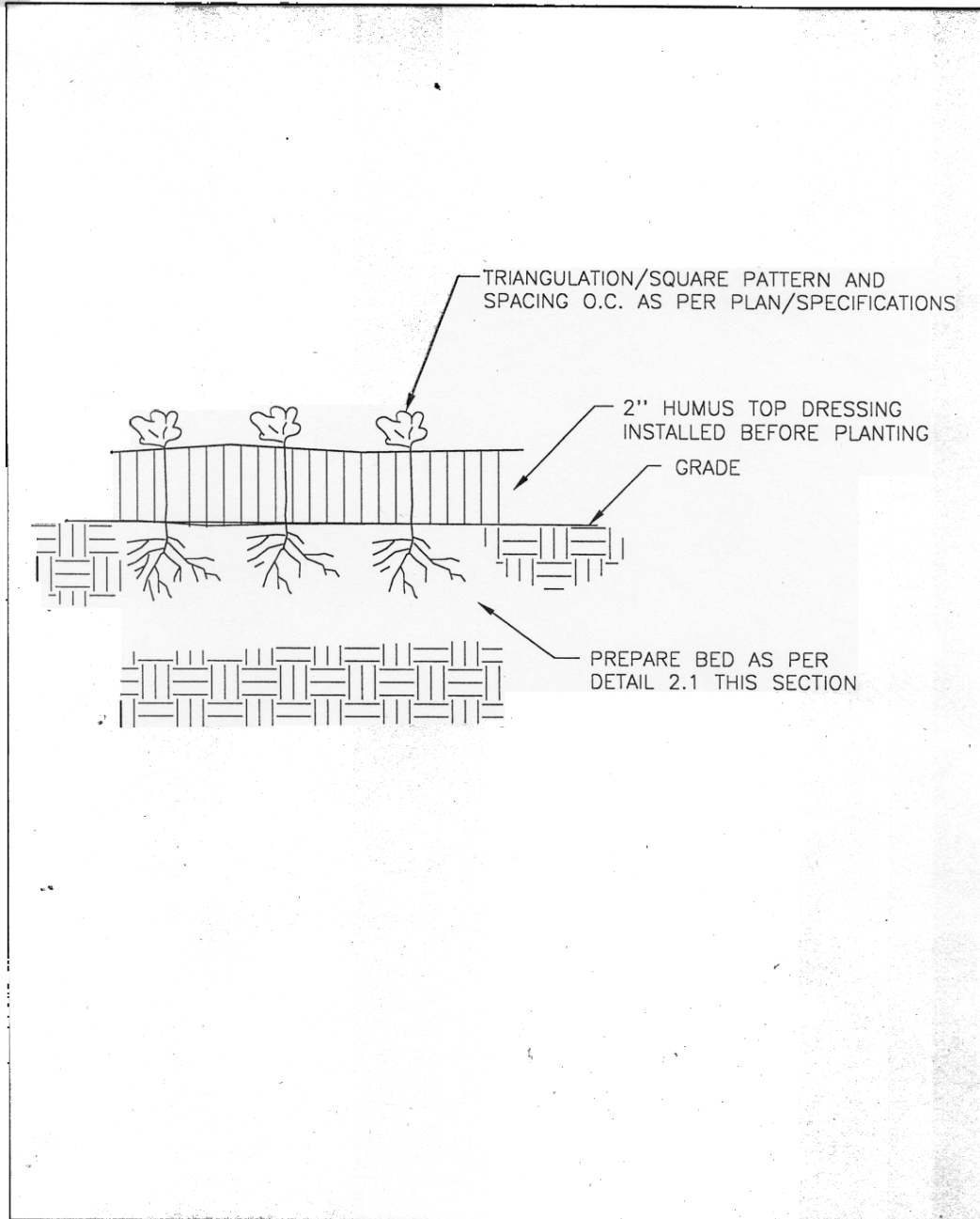
Detail 1: Groundcover Planting

Detail 2: Shrub Planting

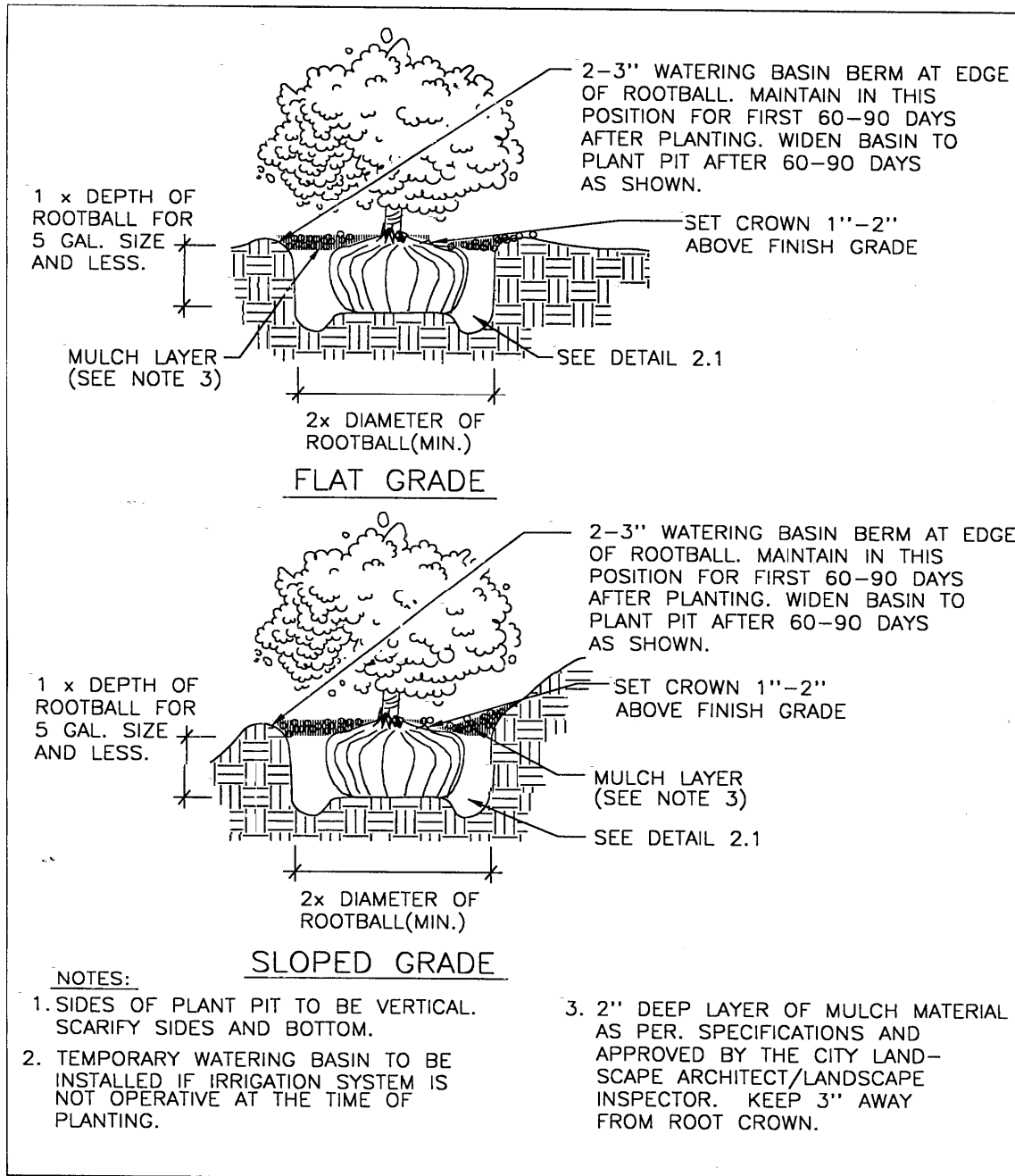
Detail 3: Tree Planting with Deep Bubbler Irrigation

Detail 4: Tree Planting in Turf Area

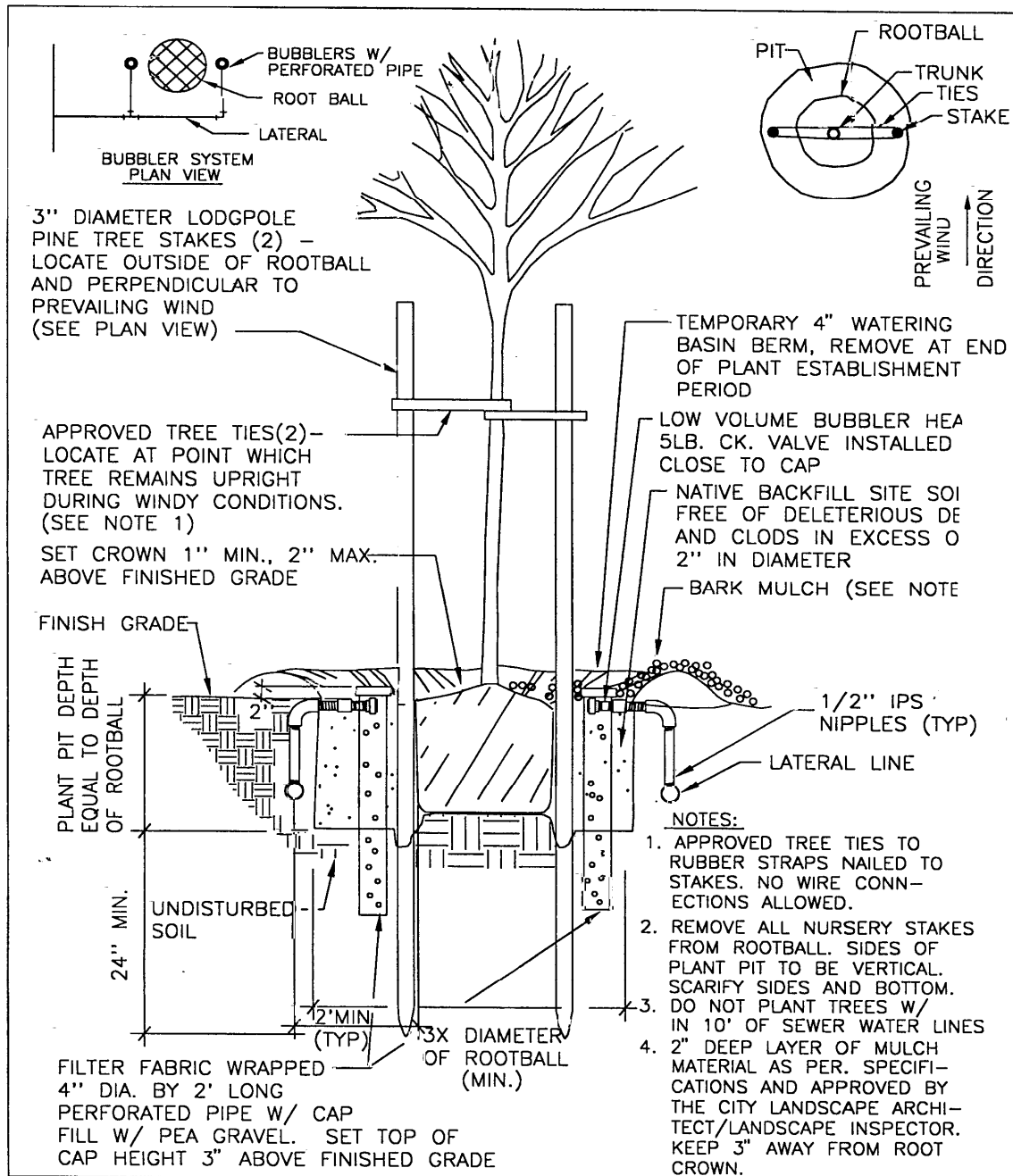
Detail 5: Tree Planting with Root Barrier



		GROUND COVER PLANTING
SCALE: NONE	DATE: 03/01/98	
REV.	REV.	
DET. # 2.2	DRAWN BY:	

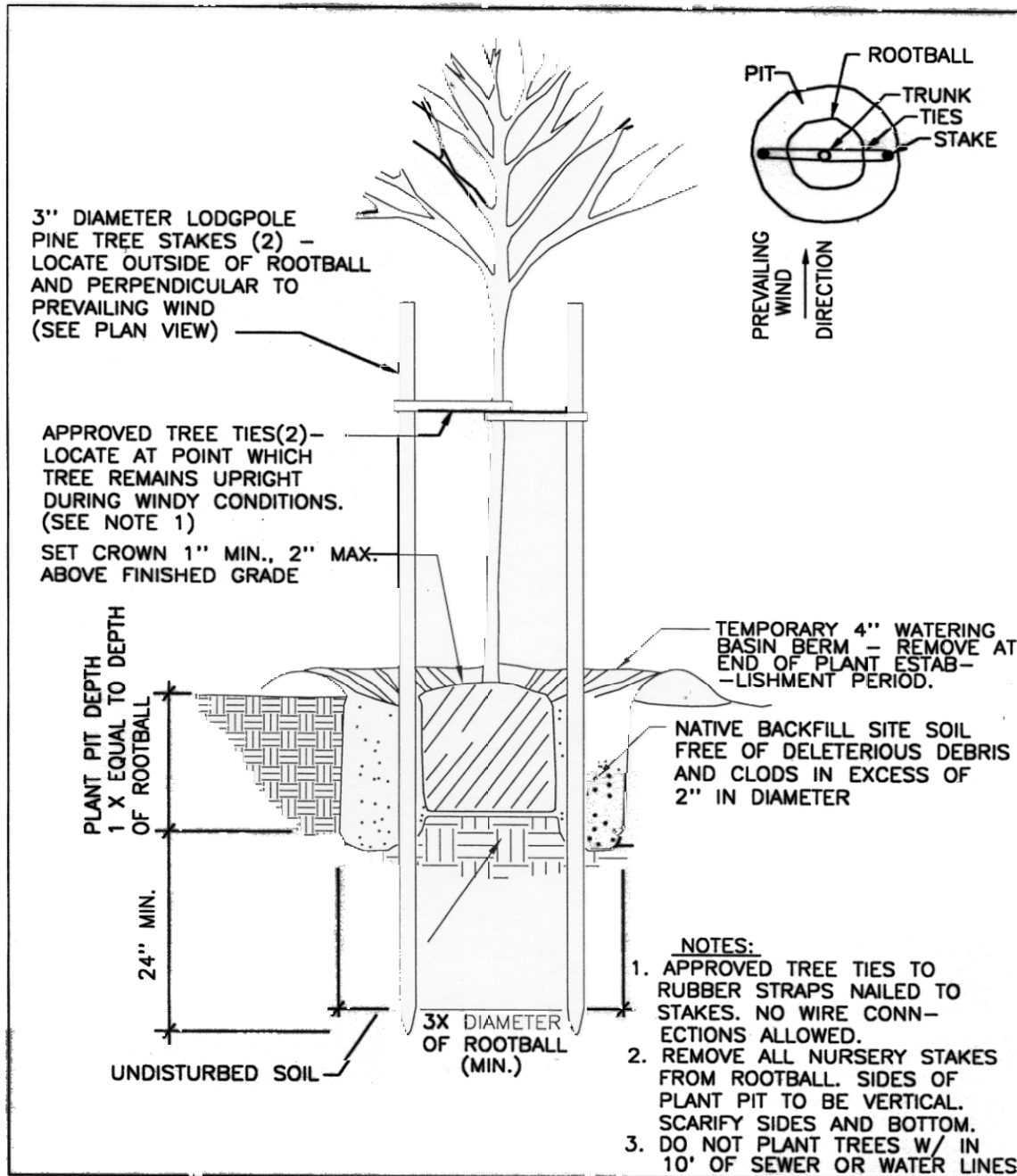


		SHRUB PLANTING	2
SCALE: NONE	DATE: 03/01/98		
REV.	REV.		
DET. # 2.3	DRAWN BY:		

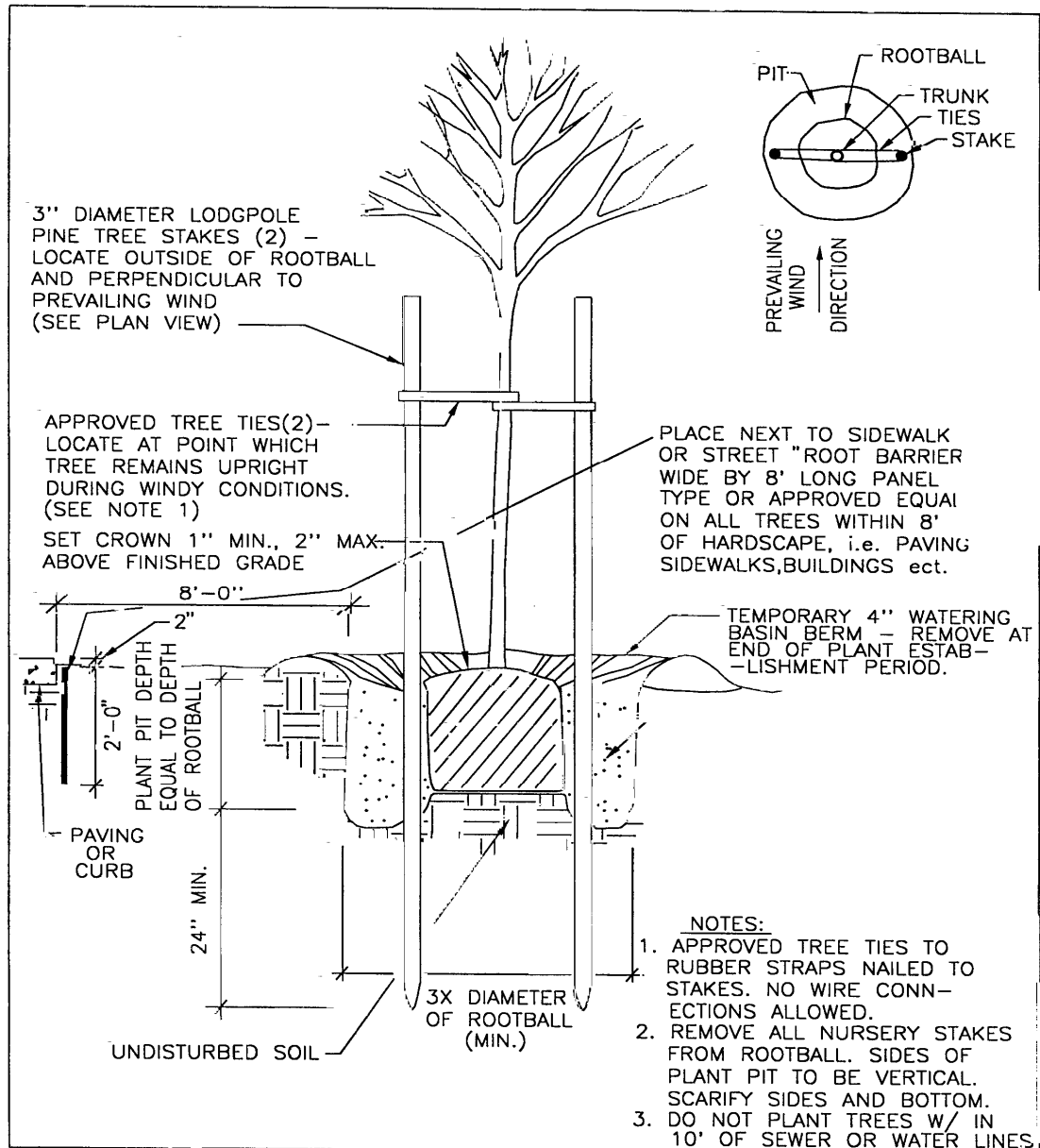


		TREE PLANTING W/ DEEP BUBBLER IRRIGATION
SCALE: NONE	DATE: 03/01/98	
REV.	REV.	
DET. # 2.9	DRAWN BY:	

3



		<div>TREE PLANTING IN TURF AREA</div> <div>4</div>
SCALE:NONE	DATE: 03/01/98	
REV.	REV.	
DET. # 2.5	DRAWN BY:	



		TREE PLANTING W/ ROOT BARRIER
SCALE:NONE	DATE: 03/01/98	
REV.	REV.	
DET. # 2.7	DRAWN BY:	5

**SUPPORT FOR THE DESIGNATION OF SPECIFIC SYSTEMS, PRODUCTS AND/OR
MATERIALS IN THE SPECIFICATIONS FOR DISTRICT CONSTRUCTION PROJECTS**

Piedmont Unified School District

**Single Source Manufacturers List
And District Design Standards**

<u>Specification Reference</u>	<u>System/Product</u>	<u>Manufacturer</u>
Division 8 – Doors & Windows	Door Hardware	Ingersoll-Rand Company Limited
	- Locksets and Keying	200 Chestnut Ridge Road (Schlage) Woodcliff Lake, NJ 07675
	- Exit Hardware (Von Duprin)	201/573-0123

Division 15 – Mechanical	Plumbing Faucets	Chicago Faucet Company
	2100 S. Clearwater Drive	
	Des Plaines, IL 60018-5999	
847/803-5000		

<u>Specification Reference</u>	<u>System/Product</u>	<u>Manufacturer</u>
Division 16 – Electrical	Intercom/Paging	Teradon Industries, Inc.
	Clock/Bell System	7500 Second Street NW Albuquerque, MN 87107 505/898-7230 800/326-8911
	Phone System	NEC Corporation NEC USA, Inc. 8 Corporate Center Drive Melville, NY 11747 800/338-9549
	Fire Alarm System	Notifier by Honeywell
	12 Clintonville Road	
	Northford, CT 06472-1653	
	800/289-3473	