Quincy High School

Schematic Design Report

11.04.2016

NAC
ARCHITECTURE

SCHEMATIC DESIGN REPORT

Quincy School District
QUINCY HIGH SCHOOL
NAC Project Number: 111-16068
November 4, 2016

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NAC Architecture

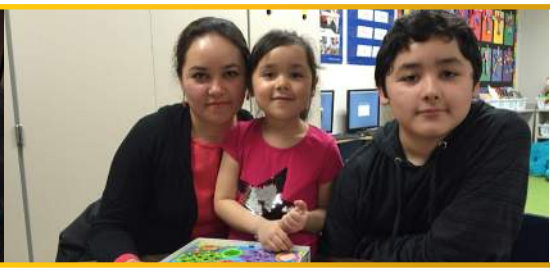
Quincy's Promise for constructing and renovating schools:

Plan, build and renovate schools according to our promises to the voters. Ensure input regarding decisions about construction is inclusive of our whole community. Complete construction projects that are well-designed for instruction, maximize public usability, and serve as a point of pride for the community. Provide ongoing and transparent communication to our communities. We want to find the right balance between providing schools our community can be proud of without being extravagant.

"Our actions inspire others to dream more, learn more, and become more. The building is not the change, the building can allow the change in our behaviors and outcomes."

OUR GUIDING PRINCIPLES:

- Maximize time and attention for learning.
- Build a learner-centered environment that promotes meaningful collaboration.
- Inspire students to dream, learn and feel valued.
- Maintain flexibility and creativity for our community.
- Ensure new learning spaces are light, bright, inviting, inspiring, and flexible for multiple learning goals.
- Fashion creative spaces to meet the needs of the whole child
- Foster an environment that meets both physical and emotional needs.
- Customize buildings that are welcoming to all and form a trusted family environment
- Reinforce connections to kids, to families, to community.
- Design spaces that foster student, staff and community ownership and pride.
- Inspire students to achieve with experiences both inside and outside school walls.
- Provide freedom to move and explore; dream and think.
- Connect indoor spaces to outdoor spaces for socializing, play and learning.
- Build spaces that motivate students to achieve future goals and explore college and career.

EXECUTIVE SUMMARY

Planning and design for the new Quincy High School began in the spring of 2016 starting with development of Educational Specifications (Ed Specs). A key component of the Ed Specs is the definition of spaces required for the new high school, including the general needs and areas for each space. To support the effort, members of the Steering Committee, staff and administration toured 3 high schools in the Spokane area designed by NAC Architecture. This tour allowed those attending to see examples of more current high school projects, programs and spaces.

Also in July of 2016, Quincy School District conducted a Visioning Workshop, again attended by members of the Steering Committee, staff and administration. As the result of the Visioning Workshop, a set of Guiding Principles for all Quincy School District projects was developed:

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After Ed Specs, completion of the Schematic Design phase for Quincy High School is the next major milestone in the design process. The purpose of this report is to summarize the planning efforts to date and to illustrate the proposed design.

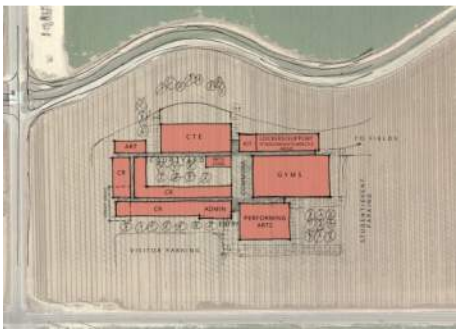
Project Schedule

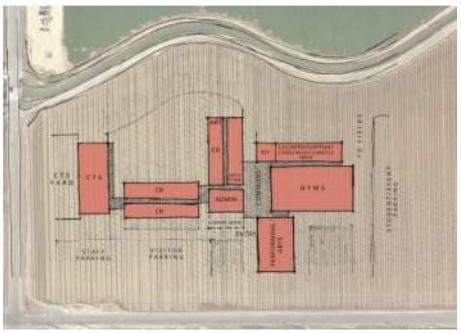
The completion dates for each of the major phases are as follows:

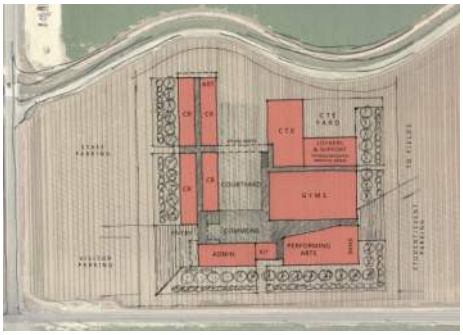
- **Educational Specifications** October 28, 2016
- **Schematic Design** November 4, 2016
- **Design Development** January 2017
- **Construction Documents** September 2017
- **Bidding** October 2017
- **Construction** Fall 2019

The proposed schematic plans for Quincy High School were based on the Educational Specifications just recently completed. In order to maintain the project completion dates, development of schematic plans began prior to final completion of the Ed Specs utilizing primarily the Area Summary. This allowed schematic design to begin, looking first at big-picture planning issues for the new high school.

The schematic design phase included a series of five review meetings with the Steering Committee, staff and administration. At the initial meeting on August 17th, the design team presented an analysis of site issues and site context. The information from this site study was used to develop multiple plan configuration options for evaluation by the committee.



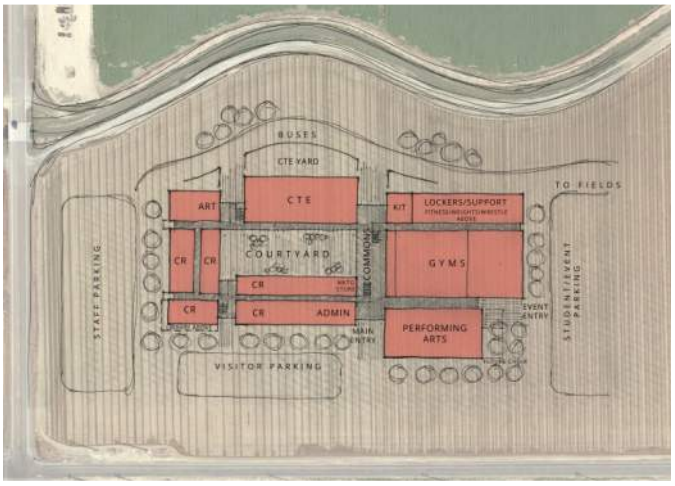




At the next meeting on September 6th, the Quincy's identity was discussed. As noted on the City's website, Quincy is "Where Agriculture Meets Technology." It was agreed that this statement was also relevant for thinking about the image for the new high school. The school should express the technology that is present in the region and will be integrated in the new school, but should also respond to the agricultural context in which it is located. Although

the design team had explored a series of diagrams in response to discussion at the previous meeting, ultimately the statement “Where Agriculture Meets Technology” led to further development of the “courtyard” and “open courtyard” options. Both options considered planning strategies common in Quincy’s agricultural context- a compact collection of structures (or the appearance of multiple structures) positioned to protect outdoor spaces from the elements of the natural environment set within a green landscaped perimeter that is in contrast to the surrounding fields.

Ultimately the committee voted, almost unanimously to proceed exclusively with further development of only the “open courtyard” option.



In the following three schematic design meetings on September 19th, October 4th and October 18th, review and refinement was focused on relationships and adjacencies for spaces within the high school. Adjustments to the plans were made after each meeting as the result of the input received. Massing and architectural expression of the school was also reviewed in each of the meetings.

Location for the school, parking and athletic fields were also a primary topic in the last three schematic design meetings. Although the school was originally positioned on the west side of the site, there were concerns that the

geometry of the site at its west end caused the fields to be spread out too far from the school. After exploring multiple options, it was concluded that the school and the adjacent fields fit best on the eastern section of the site.

The results are further described in the following paragraphs and illustrated by the plans and images included within this report.

Plan Organization

The overall plan for the new high school is organized around an open courtyard space which has been named the "outdoor commons." The outdoor commons will be programed as an outdoor learning space and it will continue to be developed as an educational and activity area in the next phase of design. This outdoor space is flanked on two sides by academic spaces that are connected by a second story bridge that crosses the outdoor commons.

The school's interior commons becomes the third side to the courtyard. The commons is a central social gathering space for the school, linking the two academic wings and serving as a foyer for the main entry, the auditorium and the gymnasiums. Activities within the commons can spill directly outside to the adjacent outdoor commons space. The administration offices and the library above are near the main entry on the west end of the commons. The events entry is on the east end of the commons with gymnasiums to the north and the auditorium to the south. The music suite (band and choir) is directly adjacent to the auditorium, acoustically separated from other school activities. PE and athletic support spaces are located just north of the gyms, including the upper level weights and fitness rooms which overlook athletic fields to the northeast.

Agricultural and construction fabrication shops are located in the east academic wing with direct access to outdoor storage, yard spaces and easy access for deliveries. Other CTE spaces surround the shops in the east wing creating a CTE neighborhood with adjacencies that were requested by CTE staff.

General classrooms, science labs (an upper level science neighborhood), special services, art, business and computer spaces create the west academic wing. Special services is centrally located among the classrooms with easy access from the west parking lot. Art is positioned to take advantage of pleasant north and east daylight adjacent to the outdoor commons where an outdoor art studio will be developed. Business, digital design, digi-tools, video editing and marketing classrooms are co-located in the south end of the west wing. In this location, Java Jack's and The Hutch can be adjacent to the marketing classroom and have desirable retail frontage on the commons.

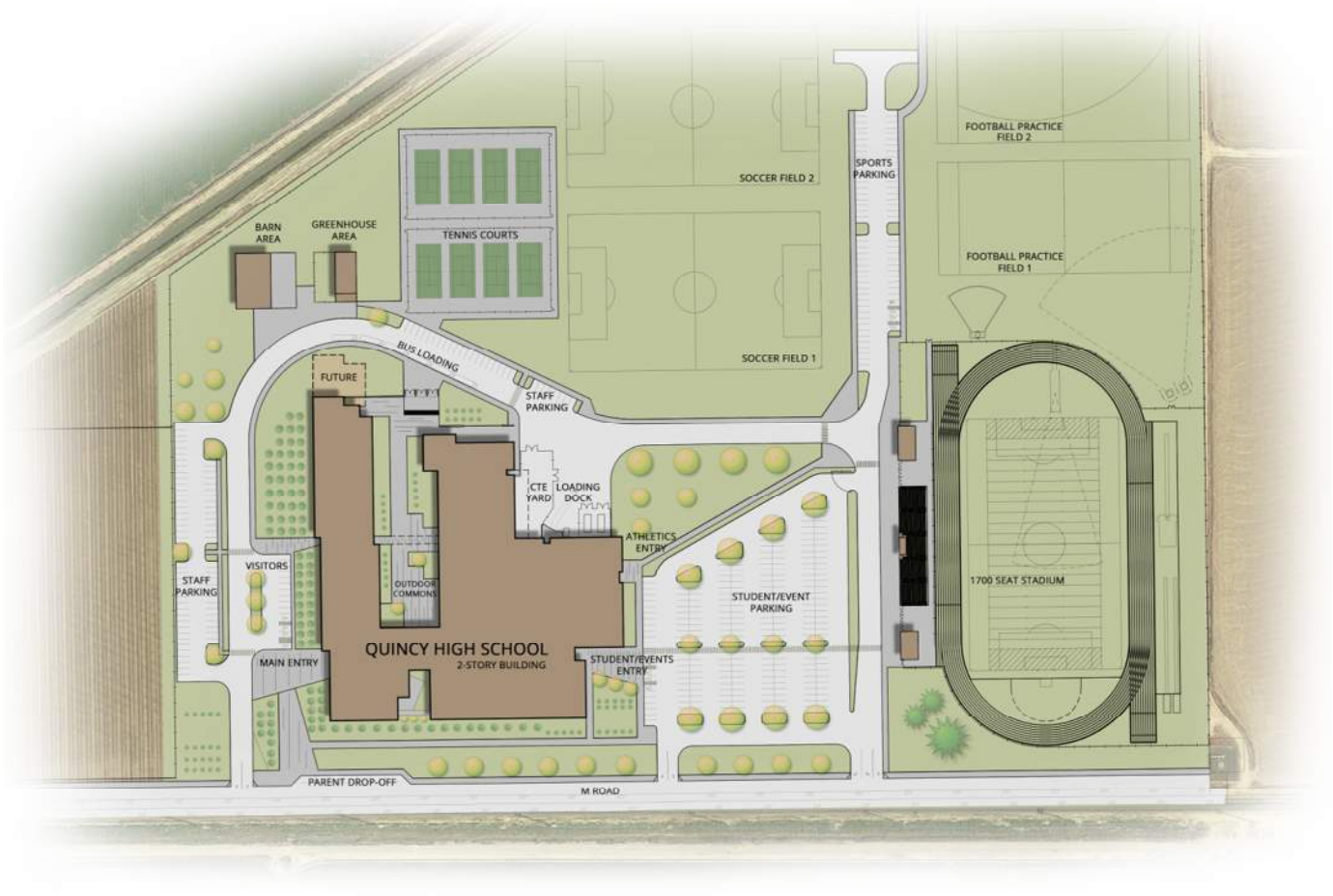
Site Design

The new high school site is on M Street, (Road 11), at the northern edge of Quincy. The high school will be located on the eastern portion of the overall school district property and the remaining area will be left undeveloped in anticipation of a future new elementary school.

Both the new school and the stadium are positioned prominently on M Street, visible to the community, but with a generous landscape buffer between the building and the street. Staff and visitor parking is west of the school, just outside the school's main entry and the administration offices. Student and event parking is on the east, between the school and the stadium. This is the largest parking area serving students and events at the stadium, the gyms and the auditorium through the second main entry to the school. A fire lane loops around the school and doubles as a bus lane which accommodates student drop-off near the west academic wing or into the outdoor commons from the north.

The greenhouse and animal science barn is located just north of the school, in a more discreet location but with easy access from their related classroom spaces in the school.

PE and athletic fields will fill the remainder of the developed site to the north and east of the school. Smaller areas of parking are interspersed among the fields to serve baseball, softball soccer and tennis. Locker rooms are at the east end of the school providing the easiest access for students and athletes to the fields without having to cross major vehicular traffic paths.



Exterior Design Solution

Like the agricultural structures in the adjacent fields, the massing of the proposed high school is simple and rectangular. Primary exterior materials include concrete masonry veneer and metal panels- materials that are common in the construction of agricultural buildings, but expressed with refined and sophisticated detailing, hinting at a high-tech aesthetic- *agriculture meeting technology*.

A majority of the window patterning is simple and repetitive with ribbons of glazing at lower level classrooms and regularly spaced windows above. Larger expanses of glass occur at special areas- at the library, allowing views out of this second story space to the mountains beyond and allowing views in, expressing the importance of learning at this prominent southeast corner near the main entry. The fitness and weights rooms are also located on the upper level, cantilevering out above the first floor and offering views of the athletic fields northeast of the school. At these areas of larger windows, shading devices provide protection from the harsh sun.

Along the south elevation, the façade is split and pulled apart, allowing the community to see the most important school community space within- the commons. Project rooms are also visible on the exterior, exposing this student collaboration space and highlighting the importance of collaborative learning in today's high-tech world.

WSSP

The Quincy High School project is not required to meet the Washington Sustainable Schools Protocol (WSSP) because state funds are not being used to finance the construction. Although not required, the design team and the District decided to have an Integrated Design Workshop to fill out a draft score card to gauge the project's sustainable aspects in order to comply with the spirit of the protocol. A draft Work Plan is included in this report identifying credits the design team in conjunction with the school district intends to study further for possible implementation into the project. At this time, 45 total points could be achieved by systems that are included in the project and an additional 19 points could be evaluated above and beyond that. If this project were required to meet WSSP standards, a total of 45 points must be achieved. Final determination on targeted credits will be made by the design team and the school district based on a balanced approach of lowest first cost, greatest future value, and overall occupant health and comfort.

Code Analysis

A preliminary code check indicates that the new Quincy High School can be constructed primarily as a Type II-B building under the 2015 International Building Code. Building elements in Type II-B construction are not required to be fire-protected, but must be of non-combustible materials. In order to achieve the building's square footage in this construction type, fire separation walls between 3-4 areas of the building will be required. The school will be fully sprinklered as required by code. Additional information regarding the code analysis is included in this report.

Construction Cost

A cost estimate has been developed for the project based on the schematic design documents. Including a 5% design contingency and assuming construction begins October, 2017 the estimate of probable construction cost is $62,239,553. This amount is slightly under the construction cost budget of $62,250,000. Seven bid alternates are suggested: artificial turf at the stadium; lighting for the varsity baseball/softball fields; sound system at the varsity baseball/softball fields; service infrastructure for the animal science barn, the ag science greenhouse; toilets serving the northeast baseball complex and an under-drain system for the north baseball/softball fields. A cost summary for the base bid and these alternates is included in this report. The design team will continue to monitor cost issues throughout the design process to address cost control and keep the project within budget.

CIVIL SYSTEMS DESCRIPTION

Existing Site Grades

The existing site is graded at a uniform slope draining downhill from Northwest to Southeast at a 1.3 percent slope. The uniform grade is likely constructed for agricultural irrigation. An irrigation canal is located adjacent to the North Property line. Tailwater from the properties agricultural irrigation is caught in a gentle drainage area on the South side of the property along M Road. This tailwater drains east with 12" culverts at access crossings.

Site Grading Improvements

The site will be graded to balance the cut / fill to the extent possible. We anticipate that the finish floor of the building will be approximately elevation 1333 or 1334. This lifts the building approximately 5 feet above M Road and 5 below the grade at the north property line. In order to create the building pad, level athletic fields, ingress and egress at acceptable grades, and stormwater drainage facilities, a substantial amount of earthwork will be required. The geotechnical report is not complete at this time so the use of on-site soils for structural fill is not known.

Off Site Roadway Improvements

The City is requiring M Street to be upgraded to a minor arterial. They have indicated that a traffic study is required. The minor arterial standard per Quincy Municipal Code (12.08.040 and 12.16..025) is a 60 foot Right of Way with 50 foot street width (back of curb to back of curb). We are anticipating that this would be required the length of the high school property together with the frontage along the future elementary school site. The anticipated improvements would include new curb, new sidewalk, drainage swale and widening the north half of the street. The existing road ½ width is approximately 9 feet. An additional 16 feet would be necessary to get the road to the 25 foot half width required. A drop off turn out is provided in front of the high school improvements. The drop off turn out must be on school property. It cannot be in the Right of Way. Roadway drainage would be disposed of via underground infiltration galleries or drywells.

Stormwater Management

Based on the survey completed for the site, there appear to be minimal roadway drainage facilities in the vicinity of the project area with the exception of the 12" culverts place at access crossings. Existing rainfall is either infiltrated into the existing agricultural fields or drains off the property in a southeasterly direction. The existing canal is up gradient from the property.

The stormwater generated by the new High School site is anticipated to be disposed of onsite via infiltration into the existing soils in accordance with geotechnical recommendations. City of Quincy regulations specify a 25-year storm event for stormwater detention and design of conveyance pipes.

Per Department of Ecology (DOE) criteria, all landscape areas and Non-Pollutant Generating Impervious Surfaces (NPGIS) such as roofs may be disposed directly via subsurface infiltration. Either underground infiltration galleries or drywells will be utilized for disposal based on the geotechnical investigation. A piping system will be utilized to collect the drainage from the roof drain leaders and mechanical storm drain system to the underground disposal facilities. The NPGIS areas generally consist of concrete pedestrian walkways, and the new roof areas.
Pollutant Generating Impervious Surface (PGIS) areas generally consist of the access drive and parking area together with hydraulically connected (directly adjacent) concrete areas. These areas will be graded so they drain to bioinfiltration swales for treatment prior to disposal in gravel galleries/drywells. The bioinfiltration swales will be sized to treat the runoff from the first ½" of rainfall per the DOE Stormwater Management Manual for Eastern

Washington. Bio-infiltration swales for treating vehicular pavement runoff treatment will have a 6" to 12" layer of medium to well-draining soil at the surface and a 48-inch thick subgrade infiltrative layer that has an infiltration rate greater than .15 inch per hour. The swale will be designed to pond to a depth of 6 inches before overflowing into a drywell or inlet to the underground infiltration facility. A Bio-infiltration swale, functioning correctly, will dissipate the ponding water in less than 72 hours.
Drainage features are anticipated to assist in removing storm water from the grassed sport fields. A underdrain consisting of drainage rock with perforated piping under the topsoil is anticipated along the downslope side of the fields and also along the backstops for the ball fields. These underdrains will be routed to infiltration facilities for disposal. Also, to remove drainage runoff generated by the track and football field, a trench drain will be installed along the inside perimeter of the track which will be routed to infiltration facilities outside the track area for disposal. As an alternate, if the football field is installed with synthetic turf, and underdrain will be necessary and it will connect to the trench drain for disposal purposes.

Temporary Sediment and Erosion Control

All temporary erosion and sedimentation control systems will be designed and constructed in accordance with the Eastern Washington Regional Stormwater Manual Best Management Practices (BMP's), to protect off site properties as well as minimize the quantity of sediment-laden water from entering the City of Quincy's public storm system. Washington State Department of Transportation (WSDOT) Standard Plans will also be utilized in the development of these systems. If a National Pollutant Discharge Elimination (NPDES) Permit is required, our office will assist in preparation and submittal of the Notice of Intent (NOI). Preparation and implementation of a Stormwater Pollution Prevention Plan (SWPPP) will be the responsibility of the contractor.

Temporary Construction Features

The project will include a construction access ramp with quarry spalls, and silt fencing placed around the downhill portion of the site. Soil stockpiles will be erosion protected. New and existing inlets will also be protected.

Construction Debris

The contractor will implement BMP's to prevent demolition and construction debris, waste, material, fuel, oil, lubricants, and other fluids from entering the public right of way and the existing storm conveyance system.

Water Service

There is an existing 12" water main located at the intersection of M Road and Central Avenue. There is also an 8 inch water line located in 3rd Avenue and J Street approximately 800 feet south of the site. The City is requesting that an 8 inch water line be installed in M Street the length of the property (approximately 2700 LF and a looped connection to 3rd Ave and J Street be provided adding an additional 800 feet. This looped connection goes through private property owned by AHO. The looped connection would require an agreement with AHO. The City indicated that they may pay an additional cost to upsize the main line in M Street to a 12 inch diameter. Additionally, as per discussions with the Quincy Columbia Irrigation District, there is an existing 24" concrete irrigation syphon that crosses M Street just east of the intersection with Central Avenue. It is our understanding that the crossing requirements consist of either a minimum vertical clearance of 18" going over the syphon line or 5' going under the syphon line (when irrigation water is not running) or 10' going under the syphon line (when irrigation water is running). If there is not enough clearance to go over the syphon line, it would be prudent to schedule the crossing work to occur when the irrigation water is not running.

A new fire line would be looped around the school site with 2 connections into M Street. It is anticipated that this looped line would be a public line and the school would provide an easement for this. The fire connection to the

building would come off this line. It would include a vault with a double detector check valve assembly, a post indicator valve, and a fire department connection. The domestic service is anticipated to be a 4 inch service line with a 3" meter. It would come off of the City main and with a meter located in a vault. As an alternate, the domestic line is anticipated to be extended to the athletic field complex restroom at the northeast corner of the site.

Sanitary Sewerage

In order to provide gravity sewer to the site, a sewer extension to 3rd Avenue and J Street is required. This will require coordination with the land owner AHO. An 8 inch sewer main would be extended approximately 800 feet north from J Street along the future 3rd Avenue alignment to the School property. The sewer is anticipated to continue north, along the west side of the school building, to the rear of the school building and then run east to also provide service to the track/football field. As an alternate, the sewer service is anticipated to be extended north to the athletic field complex restroom at the northeast corner of the site. The majority of the high school services are anticipated to be collected on the north side of the facility.

If an agreement with AHO cannot be reached, the sanitary service would need to be via a lift station with a pressure system to an existing manhole on Central Avenue, south of M Street.

Gas

There is an existing 6 inch high pressure gas line that runs along the north side of M Street. Service to the site will be routed from this line north, along the east side of the building, to the Utility Yard area at the rear of the building. The installation of the line and meter is anticipated to be provided by Cascade Natural Gas with the contractor providing trench excavation, backfill, compaction and replacement of existing improvements.

LANDSCAPE DESCRIPTION

Site and Landscape

Site Development Improvements include:

The new school is located at the urban / agriculture transition of the city of Quincy. The agricultural heritage of the area and the relationship between the new school site and adjacent farms creates an opportunity for integration of the agricultural context of row crop farming the site design.

Preservation of territorial views from the site west to the Cascades and north across the Columbia Plateau has been identified as a critical to the community. Integration of agricultural patterns into the design of the landscape and common spaces can provide a link to the community's agricultural heritage.

The landscape design for the new Quincy High School will include a variety of evergreen and deciduous trees, flowering and nonflowering shrubs, native and ornamental grasses and groundcovers. The landscape design will reinforce the design vocabulary of the site, building and agricultural patterns. Within this framework, the landscape will meet the City of Quincy's requirements for parking lot screening and buffering. The project will include higher intensity landscape development around the building with lower levels of intensity for the athletic fields.

The landscape design for the street frontage will coordinate with requirements for storm and tailwater drainage design. Evergreen and deciduous trees and irrigated turf will create the transition from the site to Road 11 NW. Landscape development will reinforce the vehicular and pedestrian connections to the main school entrances. Parking lot landscaping will incorporate trees and landscaping required by the City of Quincy. Tree placement will be coordinated with site lighting and security cameras to avoid conflicts. The landscape design of the main entry will include native and adapted shrubs, groundcovers and ornamental grasses. Landscape buffers, as required, will be provided for parking lot screening and screening of service areas.

Landscape adjacent to the building will respond to the landforms contemplated to slope up on the sides of the building. Plants will be selected that does not block views from main floor windows, allowing visual access to landscape and mountains. The Commons provides an opportunity to coordinate hardscape and landscape design to create a unified identity for the space while evaluating opportunities to create smaller more private spaces for small group gatherings or educational programs. The landscape design will respond to the needs to maintain clear views through the space.

Transitional landscape areas between the school and the athletic fields will support and define vehicular and pedestrian circulation routes. The landscape design for these areas will also incorporate stormwater facilities. Screening the CTE Yard, loading docks and utility yards will incorporate a combination of landscape and earth

Pasture areas that require limited amounts of maintenance are proposed for the areas north and west of the Animal Science Greenhouse and Barn Area. These pasture areas would be seeded and irrigated and are available to pasture animals that are part of the animal science program. Maximizing these pasture areas reduces the amount of turf that will require mowing and fertilization.

The athletic fields will be developed with features that reduce maintenance and enhance play ability. Design discussions of included incorporation of subsurface drainage at critical locations to increase drainage. These locations include behind home plate for the baseball and softball fields as well low areas along outfield walls. While drainage is not typically a problem due to low levels of rainfall, early spring rains can reduce play ability during

spring sport activities. Topsoil will be stripped from the site and stockpiled for reuse on athletic fields and landscape areas.

The baseball, softball fields and tennis courts will be designed in conjunction with school district coaches and staff to maximize playability and identify design elements that reduce long term maintenance and replacement costs. Mow curbs under fences, for example, reduce maintenance and the potential for damage to fences by mowing equipment.

Turf areas will be sodded or seeded as appropriate with a blend of Kentucky Bluegrass and perennial ryegrass, that is suitable for more active use, minimal water use and maintenance. Planting beds and lawn areas will be separated with a 6" concrete mow strips and designed to eliminate the majority of hand trimming around trees and shrubs. Planting beds will be mulched with organic mulch or rock mulch, installed over a pre-emergent granular herbicide. Topsoil will include native and imported material, screened of rocks.

Irrigation

Site irrigation is planned to be served by City of Quincy water. An approved back flow prevention device will be installed. It is anticipated that a booster pump will be required to irrigate the site due to the distances and need to minimize the water window for irrigation. A booster pump would increase the static water pressure and allow for more efficient irrigation design and operation. The site is currently irrigated with water from an irrigation canal to the north. There has been some discussion about evaluating the potential to use the irrigation canal as a water source for the irrigation system. This would require the installation of a pond, pump system with filter. This system may not be possible and the maintenance requirements may not be practical.

The new central irrigation control system will be fully automatic and designed for efficiency utilizing an ET based control system. All equipment will meet the standards set by the School District. Generally, large turf-type rotors will be used in the field areas, and small pop-up spray heads will be used in smaller areas if needed. Planting beds will be irrigated with bubblers or small area sprays. All mainline piping will be rigid PVC, and sleeves installed beneath paved areas. Irrigation controls will include a multiple-program controller, with remote control for ease of maintenance and operation.

STRUCTURAL SYSTEMS DESCRIPTION

The following design narrative provides a general overview of the structural design including project overview, design loads, performance criteria, material specifications and system descriptions.

Design Criteria

2015 International Building Code and Referenced Code Standards Therein

Roof (Snow)	26.2 PSF (1) (2)

1. Designed for drifting snow in accordance with ASCE 7.
2. Importance Factor = 1.1

Floor Live Load

1.	Classrooms	40 PSF
2.	Office	50 PSF
3.	Partition Loads	15 PSF
4.	Assembly Areas and Corridors	100 PSF
5.	First Floor Corridors	100 PSF
6.	Corridors Above First Floor	80 PSF
7.	Stairs and Landings	100 PSF
8.	Storage	125 PSF
9.	Mechanical	150 PSF

Roof/Floor Total Load Deflection Limit	L/240
Roof/Floor Live Load Deflection Limit	L/360
Wall Studs Supporting Veneer Deflection Limit	L/600
Frost Depth	18”
Allowable Soil Bearing Pressure	Per the Geotechnical Report

Wind Design

1.	Basic Wind Speed (Ultimate based on 3-second gust)	115 MPH
2.	Exposure	C

Seismic Design

1.	Occupancy Category	III
2.	Importance Factor	1.25
3.	Site Class	Per the Geotechnical Report
4.	Seismic Design Category	Per the Geotechnical Report

Material Specifications

Concrete Strengths (at 28 days)

- Foundations and Footings 3000 PSI
- Slab on Grade 4000 PSI
- Slab on Metal Deck 3000 PSI

Structural Steel

- WF Columns and Beams ASTM A992
- HSS Columns ASTM A500, Grade B
- Miscellaneous Shapes and Plates ASTM A36

STRUCTURAL FRAMING DESCRIPTION

Roof Framing Systems

At the classroom wings, roof framing will consist of galvanized metal roof deck supported by open web steel joists framing to wide flange girders and steel tube columns. Long span open web steel joists are anticipated at the Gym, Library and Commons. Open web steel joists or steel beams may be used at the remaining spaces. Depending on architectural expectations for exposed structure or shapes desired, other framing options can be explored. Wide flange beams designed to support the rigging loads will be used over the stage. Where required, acoustical roof deck will be specified.

Floor Framing

Second floor framing will typically consist of concrete on metal deck supported by open web steel joists. Wide flange steel girders framed between steel tube columns will support the open web steel joists. Cantilevered wide flange beams will be used at the Library and Fitness to extend the floor beyond the first floor exterior wall. Composite and non-composite beam systems will be studied to minimize vibration at the Mat and Fitness areas. A mechanical catwalk above the second floor at the classrooms will be framed with concrete on metal deck supported on wide flange beams.

The ground floor will be concrete slab on grade. Slabs on grade will be reinforced with #3 steel reinforcing bars at 15” on center, each way. At exposed slabs on grade, joint spacing will be reduced from 15 feet on center maximum to 10 feet on center maximum. In the theater, the slab will step down for the lower level theater seating. Upper level theater seating will be cast-in-place reinforced concrete steps supported on steel form deck and steel raker beams.

Exterior Walls

Typically, exterior walls will be steel studs with a masonry veneer or metal panel finish. Large areas of curtain wall or storefront will require horizontal steel tube wind girts to support the weight of the curtain wall and the wind loads on the curtain wall system. Veneer above openings will be supported on galvanized ledger angles. At long expanses of openings, the leger angle will be supported by steel tube beams in the plane of the wall.

Foundations

Isolated reinforced concrete pad footings will support interior and exterior columns. A continuous reinforced concrete foundation wall and footing will link the exterior pad footings and provide a frost depth wall on which to bear the exterior studs and finishes. Reinforced grade beams will be used at braced frames. Foundations will be designed for the allowable bearing pressures in the geotechnical report.

Lateral

Wind and earthquake forces will be resisted by diagonally braced frames. The diagonals will typically consist of tube steel. The steel deck diaphragm at the roof and concrete slabs on metal deck at the floors will deliver the lateral forces to the braced frames.

Bridge

Custom steel trusses each side of the bridge will span between the east and west wings of the building. Tube steel or wide flange roof and floor beams will span between the truss top and bottom chords. Concrete on metal deck at the floor and metal deck at the roof will be used for diaphragms. Lateral forces will be resisted by the main building lateral force resisting system at the east and west ends of the bridge.

MECHANICAL SYSTEMS DESCRIPTION

Divisions 21, 22 and 23 - General Mechanical Requirements

All mechanical systems, equipment and components will be designed, selected and installed in accordance with all applicable codes and standards including:

International Building Code (IBC), Standards and Amendments.
International Mechanical Code (IMC), Standards and Amendments.
International Fire Code (IFC), Standards and Amendments.
Uniform Plumbing Code (UPC) Standards and Amendments.
International Fuel Gas Code (IFGC).
National Fire Protection Association (NFPA).
National Electrical Code (NEC); NFPA 70.
Applicable State and local codes, laws and ordinances.

Design Conditions

Heating Mode	
Outdoor Design Temperature	-3 °F DB (ASHRAE 0.2%)
General Occupied Space	68°F DB
Mechanical and Electrical Space	55°F DB
Cooling Mode	
Outdoor Design Temperature	99°F DB (ASHRAE 0.1%)
Occupied Space	72°F DB
Unoccupied Space	85°F DB

Basic Mechanical Materials and Methods

All waste, vent and domestic water piping will be new commercial grade piping systems.
Domestic water piping will be Type L copper with solder-joint fittings for above grade and Type K with brazed-joint fittings for below grade.
Storm Drainage (Rainwater) piping and sanitary waste and vent piping will be ABS and/or cast iron soil pipe with sanitary pattern fittings.
Gas piping will be schedule 40 black steel pipe. Exposed, exterior gas pipe will be painted.
Hydronic chilled water and heating water piping will be the following:

- Schedule 40 black steel with screwed fittings for 2-inch and smaller.
- Schedule 10 or 40 black steel with grooved mechanical joints and fittings or welded joints for 2-1/2 inch and larger.
- Type L drawn copper with brazed-joint fittings or pressure-seal fittings up to maximum 4-inch.
- Schedule 5 steel with O-ring, mechanical compression fittings for 2-inch and smaller.

Indirect waste piping will be Type M copper with solder-joint fittings.
Valves for domestic water systems will be lead-free gate or ball, except main water service valve will be gate only. Check valve will be swing type.
Valves for hydronic chilled water and heating water shall be gate, butterfly or ball. Pump discharge valves will be wafer (silent) style.
Valves for natural gas will be UL approved butterfly for 2-inch and smaller and plug valves over 2-inch.
Unions will be provided downstream of all threaded valves and at all equipment connections. Dielectric unions will be provided at connections of dissimilar metals.
Access doors will be provided wherever required to service valves, dampers, fire dampers, or other concealed items requiring service.
Y-type strainers will be provided at pumps and control valves.

Water hammer arrestors will be provided at quick closing valves and plumbing fixtures.
Trap primers will be flush-valve type or remote DDC activated.
Thermometers will be provided at inlets and outlets of the boilers and chiller and at the outlet of water heaters and mixing valves.
Pressure gauges will be provided at inlets and outlets of chilled water and heating water pumps and at main domestic water service.

Piping systems will be pressure tested according to service type.
Domestic water piping will be flushed and disinfected.
Hydronic chilled water and heating water piping will be flushed, chemically cleaned and filled with propylene glycol heat transfer fluid.

Vibration and Sound Isolation
Mechanical equipment will be provided with vibration isolation mounts and hangers to meet reasonable criteria for maximum vibration levels.
Classroom HVAC systems will be designed to a maximum sound level of 45 dBA.
The air-cooled water chiller installation will be reviewed for sound with respect to adjacent classrooms and a walled enclosure will be added if needed to meet maximum sound level requirements. Mechanical equipment, where practical will be located in mechanical mezzanines with concrete floors for maximum sound attenuation.

Mechanical Insulation
Domestic water piping systems, storm drainage (rainwater) piping and hydronic chilled water and heating water piping systems will be insulated with rigid, molded glass fiber pipe insulation with all service jacketing and vinyl fitting covers.
Hydronic chilled water and heating water equipment (other than factory insulated) will be insulated with rigid, glass fiber insulation board with all service jacketing and removable glass cloth fitting covers.
Ductwork will be insulated with either external, flexible glass fiber blankets or internal, acoustical glass fiber duct liner.
All mechanical systems, equipment and components, will be insulated in accordance with the requirements of the Washington State Non-Residential Energy Code.

Fire Protection Systems
The building will be protected throughout by a wet-pipe fire sprinkler system designed and installed in accordance with NFPA 13: Standard for the Installation of Sprinkler Systems, NFPA 14: Private Fire Service Mains, The Washington Administrative Code and the requirements of the Authority Having Jurisdiction.

Plumbing Systems
All plumbing fixtures will be commercial grade fixtures. Urinals will have water-conserving flushometer valves. Toilets will have low flow flushometer valves. Classroom sinks will be heavy-duty stainless steel for longevity and ease of maintenance. Where required for barrier-free access, fixtures will comply with Americans with Disabilities Act (ADA) guidelines. Fixture selection will be coordinated with district facilities department.

Plumbing fixtures, water heaters, domestic water piping, sanitary waste and vent piping, and storm drainage (rainwater) piping will be designed and installed in accordance with the Uniform Plumbing Code, Washington State Amendments to UBC Chapter 11 Accessibility and the Rules and Regulations of the Washington State Board of Health.

- Selected Classrooms will be provided with a sink with faucet at rear ledge.
- Additional sinks will be provided as required for Health room, Break room, etc.
- Art classroom and Project rooms will have solids (plaster) interceptors.

- Toilet rooms will be provided wall hung, flush valve, water closets and urinals. Flush valves will be sensor operated, battery powered type. Urinals will be HEU type with 1/8 gallon per flush. Water closets will be low water consumption HET water closets with 1.28 gallon per flush.
- Selected wall hung lavatories will have sensor operated, battery powered faucets.
- Water coolers will be dual-level, refrigerated type. Coolers with integral bottle filling stations will be considered for specific locations.
- Mop sinks will be provided at Custodian rooms.
- Floor drains will be provided in all Toilet rooms, Custodian rooms, Kitchen and Mechanical rooms.
- Science classroom and Prep rooms will be provided with emergency eyewashes and showers.
- Science Classroom emergency shutdown. Science classrooms will be provided with an emergency shutdown switch for all gas outlets. Domestic hot and cold water will have shut off valves located in a locked cabinet, so room water supply can be shut off when not in use for curriculum. Emergency fixtures will remain active.
- Single and family restrooms will be provided with wall hung china lavatories with sensor operated faucet.
- Non-freeze wall hydrants will be provided at 100 feet maximum intervals around the building.

Plumbing connections will be provided for Kitchen equipment including prep sinks, pot sinks, scullery sink with garbage disposal, dishwasher, and convection ovens. Floor drains and floor sinks will be provided as required. A hydro-mechanical style grease interceptor will be provided to serve grease producing fixtures in the kitchen.

Multiple, water heating systems will be provided for domestic hot water needs. A pair of water heaters will be manifolded together and serve the majority of the building's hot water needs, including the kitchen, lockers and CTE. Valves will be provided to isolate each unit to allow redundancy in the case of failure or required maintenance. Water will be stored at 140 degrees and mixed down with a central mixing valve for 120 degree service. The kitchen will be provided with 140 degree water where required. A water softener will provide conditioned water to the water heaters and the convection ovens. Water heater "fuel" will match the selected fuel used for the mechanical system, either natural gas or electric tank style. General use hot water will be provided by small electric storage tank water heaters and thermostatic mixing valves located in mechanical rooms near the use. Domestic hot water systems will have pumped circulation to maintain water temperature delivery at fixtures.

Roof drains and over-flow roof drains will be provided to drain rain water from the roofs. Overflow roof drains will discharge near grade and include a discharge screen.

HVAC Systems

As part of the State required Energy Life Cycle Cost Analysis (ELCCA), several mechanical systems will be studied to determine which system performs best on a 30 year life cycle. This study utilizes an energy model and takes into account first cost, maintenance cost, and annual energy use extrapolated over a thirty year life. The results are intended to help the owner and design team determine which system is best suited for this project. It is the districts standard to utilize four pipe fan coils with gas heat. The following mechanical systems are possible systems for consideration to be studied in the ELCCA:

1. 4-Pipe Fan Coil (gas boiler) – Fan Coils and AHU's with hot and chilled water coils served by hydronic Gas fired boiler and an air cooled chiller.
2. 2-Pipe Fan Coil (Electric resistance heat) – Fan Coils and AHU's with electric resistance heat, and hydronic cooling with an air cooled chiller. Replaces the boiler system and hot water coils with electric resistance heat.
3. 4-Pipe Fan Coil (Electric Boiler) – Fan Coils and AHU's with hot and chilled water coils served by hydronic electric boiler and an air cooled chiller. Replaces Gas boiler with Electric boiler.

*Dedicated Outside Air System DOAS (all systems, either 1, 2 or 3) will be served by a Dedicated Outside Air System (DOAS) – Fan coils and AHU's with dedicated Outdoor air units with heat recovery serving ventilation classrooms, offices and similar occupied spaces. DOAS systems are required for projects that bid after 7/1/2017.

System 1 (4-pipe fan coil) is described below:

Energy Rates:

Quincy is served by Grant County PUD (GCPUD) for electricity and Cascade Natural Gas for natural gas. GCPUD rates are some of the lowest in the country. The following chart shows simple equivalent dollars per therm, and dollars per Kilowatt Hour (kWh) for natural gas and electricity.

provider	energy	Rate schedule	$/therm	$/kWh
CNG	Natural Gas	No. 504 (General Commercial)	$0.91/therm	$0.031/kWh
GCPUD	Electricity	Rate 2 (General Commercial)	$1.19/therm	$0.041/kWh
GCPUD	Electricity	Rate 7 (Large General, >200kw demand)	$0.62/therm	$0.021/kWh

It is anticipated that the high school will qualify for rate schedule 7 when electric heat is utilized. Currently gas is cheaper per therm or kWh than the General commercial electric rate 2, but not rate 7.

Heating and Cooling Plant

The heating plant will be Mid efficiency gas-fired hot water boiler system. Supply water temperature will be reset via DDC controls to satisfy building loads, proportional to ambient temperature. Three boilers will be provided for turn down and redundancy. Each boiler in the boiler plant will be sized for 60% of the peak load. Heating water will be circulated through the system utilizing variable primary pumping. Heating water circulation will be provided by two redundant vertical split-coupled inline pumps with variable frequency drives (VFD) to reduce energy costs. Boiler sequencing and modulating firing rate control will be regulated by the boiler sequencing panel.

The cooling plant will consist of a pair of air-cooled, water chiller with R-407c or R-410A refrigerant as appropriate and digital scroll compressors. Chilled water circulation will be provided by a single vertical split-coupled inline pump with a variable frequency drive (VFD) to reduce energy costs. The Chiller will be located on grade to the east of the gym wing, between the building and the stadium.

A hydronic fan coil unit will be utilized to provide heat and ventilation and economizer cooling in the mechanical room. Hydronic or electric heaters will be provided at each of the corridor entries.

Ductless split systems will be provided to cool the MDF room, IDF rooms and the elevator machine room.

The kitchen will be served by a fan coil or air handling unit to satisfy this space.

Hydronic Distribution System

The chilled water and heating water will be distributed throughout the building by a four-pipe, direct-return piping system. The end-of-line fan-coil units will be provided with three-way control valves to maintain a minimum 50% flow rate in the system. Most fan-coil units will be provided with two-way control valves to provide variable flow operation of the hydronic distribution system.

HVAC Terminal Units

Classrooms, Administration, Weight Training, Fitness, and similar spaces will be heated, cooled and ventilated by direct-drive vertical fan coil units which provide both heating and cooling from one unit. Wherever possible, the fan coil units will be located in the upper level mechanical rooms created by the roof forms over the classroom wings. Units serving the first floor will be ducted through the 2nd level in a chase from the mechanical room. The majority of filtering will be achieved at the dedicated ventilation air-handling units serving the units. Rooms with

significant computer loads will be served by fan coil units with ducted outside, return and relief air, and economizer dampers. Carbon-dioxide sensors will be provided for each classroom to adjust the quantity of outside-air ventilation for improved indoor air quality and to reduce energy costs.

The Auditorium, Gymnasiums, Library, Commons and other large spaces will be heated, cooled and ventilated by direct driven, constant volume, four-pipe air handling units located in multiple upper level mechanical rooms. Each air handling unit will have ducted connections for outside-air intake and relief air outlet, capable of 100% outside-air, economizer cooling. These air handling units will also have variable frequency drives (VFD) to reduce airflow and energy costs during unoccupied and reduced load periods. Relief air will be removed from each space with a return/relief fan in the air handling unit, or with motorized, gravity relief dampers. Carbon-dioxide sensors will be provided for each air handling unit system to adjust the quantity of outside-air ventilation for improved indoor air quality and to reduce energy costs.

Air Distribution

Air will be distributed from the fan-coil units and air handling units by galvanized steel sheet-metal ducts. Acoustical duct liner will be used for sound attenuation. Adjustable core ceiling diffusers will be utilized in classrooms and similar spaces. Fabric tubular diffusers will be utilized for gymnasium air distribution.

Ventilation

Outside air ventilation will be provided in accordance with the requirements of the IMC and the current version of ASHRAE Standard 62.1 "Ventilation for Acceptable Indoor Air Quality". Typically, classrooms will be provided with 10 cfm of outside air per occupant plus 0.12 CFM/SF. Outside ventilation air will be introduced to each fan coil through ductwork connected to Dedicated Outside Air System (DOAS) units.

Dedicated Outside Air System: Multiple dedicated outdoor air units with supply, exhaust, filtration and integral heat exchangers will be provided to pretreat the outside air prior to introduction to each fan coil. Building exhaust and classroom relief will be exhausted through the DOAS unit's heat exchanger and discharged outside. The OSA (ventilation) will be preheated by an energy recovery wheel, which will extract around seventy percent of the waste heat from the exhaust air stream. OSA air is then ducted through medium pressure ductwork to each fan coil or classroom, delivering ventilation air to each fan coil. By utilizing dedicated ventilation units, individual wall louvers for outside-air and relief air ductwork will be eliminated for most locations limiting the number of roof and wall penetrations. DOAS units will be located in the mechanical mezzanines near fan coils served.

Restroom exhaust will be provided by the exhaust side of the DOAS ERU units. Inline exhaust fans will be provided to ensure exhaust volumes at toilet rooms. An exhaust rate of 12 air changes per hour will be utilized for toilet rooms.

Air Filtration

Air handling units and heat recovery units will be provided with two-inch thick pre-filters, and four-inch thick final-filters with a MERV rating of at least 13. Fan coils will have side access filters, with tool-less access.

Exhaust Systems

Toilet rooms and general room exhaust, as well as classroom relief will be exhausted through the exhaust fan side of the dedicated outside-air system (DOAS). Specialty areas requiring positive exhaust volumes, such as toilet rooms, will be provided with inline centrifugal exhausters as transfer fans to ensure that exhaust volumes are maintained through the DOAS unit.

Type I grease removal and Type II vapor hoods and up-blast centrifugal roof exhausters will be provided for the Kitchen equipment.

Science classroom fume hoods will be exhausted with rooftop utility exhaust fans and stainless steel ductwork. Science classrooms will be provided with exhaust fans tied to wall timers that will aid in evacuation of any offensive odors caused by spills or other processes.
Specialty exhaust systems, such as dust collection and welding will be provided for specific CTE classrooms and support spaces.

Temperature Controls
Temperature controls will be provided by a web-accessible building automation system using direct digital controls as provided by Automated Logic and installed by Standard Plumbing and Heating Controls, the District's standard control provider. Each classroom and each major space will have individual scheduling, heating, cooling and ventilation controls. It is not the intent to integrate lighting controls with DDC temperature controls.

WSSP and Energy Conservation Measures - Mechanical
The following credits with mechanical interface have been targeted for this Project based on the initial WSSP 2015 checklist:

W 2.1: Potable Water Use Reduction for Sewage Conveyance– 1 point anticipated for >25% reduction in water for sewage conveyance utilizing high efficiency HET water closets 1.28 GPF, low flow urinals 1/8 gpf and low flow lavatories with sensor faucets. (District Facilities will need to evaluate the viability of utilizing HET water closets and urinals.)
W 2.2: Potable Water Use Reduction– 2 points anticipated for >30% reduction in potable water use, utilizing high efficiency HET water closets 1.28 gpf, low flow urinals 1/8 gpf and low flow lavatories with sensor faucets. (District Facilities will need to evaluate the viability of utilizing HET water closets and urinals.)
E 1.0: Minimum Energy Performance: Strategy – Comply with Washington State Non-Residential Energy Code requirements – Standard practice.
E 1.1: Superior Energy Performance: (5-8 points anticipated) Strategy – Integrated design, including efficient lighting, envelope and mechanical system dedicated outside air with heat recovery on ventilation air, variable frequency drives (VFD) on fans and pumps, high-efficiency boilers and water chillers.
E 4.1: Additional Commissioning: Strategy – QSD will hire a Commissioning Agent, requirements for coordination will be included in the project specifications.
IEQ 3.0: Minimum Ventilation, Filtration and Moisture Control: Strategy – Standard practice.
IEQ 3.3: Source Control: Strategy – Standard practice, exhaust rooms where chemical use occurs.
IEQ 3.4: Ducted HVAC Returns: Strategy – Standard practice.
IEQ 3.5: Particle Arrestance Filtration: Strategy– High-efficiency MERV 13 filters or as recommended by the manufacturer.
IEQ 4.0: Minimum Acoustic Performance: Strategy – Fan coil units and other mechanical equipment located in ceilings above classrooms with additional acoustical treatment.
IEQ 5.0: Thermal Code Compliance: Strategy – Comply with ASHRAE 55 Thermal Comfort – Standard practice.
IEQ 6.2: User Control – Temperature: Strategy – Provide individual, adjustable temperature controls for fan coil units serving classrooms and office spaces.
PEO 3.2: ELCCA: Strategy – Standard practice.

ELECTRICAL SYSTEMS DESCRIPTION

OVERVIEW

The Quincy School District is building a new high school. The new building is approximately 183,000 square feet and located in Quincy, WA. The electrical design shall encompass all new electrical infrastructures.

NEW ELECTRICAL SERVICE

Two new three-phase, four wire 480V electrical services will be provided to the new site. One service will provide electrical power for half the building's loads while the other service will provide electrical power to the other half of the building's loads.

A new underground primary feeder, installed by Grant County PUD, will provide electrical power to the site. The primary feeder will terminate at a new pad-mounted transformer on the north side of the facility. The transformer secondary will be rated 480Y/277 VAC.

Underground secondary raceway and conductors will be installed from the pad-mounted transformer to two new switchboards in the main electrical room in the building. Additional secondary raceway will be installed from the transformer to the main electrical room to accommodate future growth.

The electrical service arrangements will be coordinated with Matt Neiland, Grant County PUD.

The main switchboards will be labeled as MDP-1 and MDP-2 (Main Distribution Panel-X)

Power panel labeling convention: M1 H A A

First alpha-numeric value (M1): Refers to which switchboard the electrical panel is fed from. Either switchboard M1 for MDP-1 or M2 for MDP-2

Second letter (H): Voltage reference, H for 480Y/277VAC and L for 208Y/120VAC

Third letter (A): Unique distribution panel identifier starting with 'A' with 'M' series reserved for mechanical loads.

Fourth letter (A): Unique branch panel identifier starting with 'A' with 'M' series reserved for mechanical loads.

EMERGENCY POWER

Emergency backup power will be provided via a diesel generator. The backup power system shall consist of an emergency system and an optional standby system. Electrical loads restricted by NFPA 70 will be on the emergency system and all other electrical loads within reason requested by the owner will be on the optional standby system.

SITE LIGHTING

A combination of building-mounted and pole-mounted luminaires will be provided at entries, parking lots, stadium and separate buildings. All luminaires will be LED. Lighting levels will be provided to meet ADA foot-candle requirements for the application. Exterior luminaires will be controlled by a combination of astronomical clock and

photocell via the lighting control system. Luminaires along emergency egress path locations will be powered via backup generator in the event of a power loss. Pole mounted luminaires will be provided for parking and pedestrian areas.

INTERIOR LIGHTING

Lighting levels will conform to the Washington State Department of Health requirements for educational facilities. The interior lighting power density will conform to the 2015 Washington State Energy Code (WSEC). Occupancy sensors will be incorporated into the control scheme. Daylight sensors will be used to reduce lighting level in daylighting zones as defined in the Washington State Energy Code (WSEC). A programmable luminaire control system will be provided to comply with WSEC 2015 requirements. All interior luminaires will be LED. Generator backed luminaires for emergency egress purposes will be located in core spaces such as corridors and other spaces as required by design occupancy ratings.

Gymnasium lighting will be LED and will be equipped with wire guards. Gym luminaires will be mounted at the bottom of the roof structure. Gym luminaires will also have occupancy sensor control for automatic shut off, daylight sensors as required, and will interface with the lighting control system. Emergency egress lighting will be circuited to a local backup generator.

LIGHTING CONTROLS

Exterior lighting will be automatically-controlled by the building automation system (BAS). Manual control shall be provided through the low-voltage control system. The site lighting will have motion sensors to control lighting levels. After a set time of no motion detected, the site lighting will dim to 70%. If motion is detected the lighting will resume 100% of lumen output.

Interior lighting will be automatically-controlled by a combination of occupancy sensors, a low-voltage lighting control system, and manual lighting controls. Office spaces will have ceiling-mounted occupancy sensors. Smaller offices, storage rooms, and custodial rooms will have wall-mounted, combination occupancy sensors/switches.

Lighting in corridors will be controlled by a low-voltage lighting control system. The control system will have built-in on/off controls based on time of day. Local over-ride switches will be installed to provide manual on/off controls. Code-required automatic dimming will be provided for spaces where natural lighting is available.

General Operation Requirements:

Upon valid building access:

1) The access control system shall place the building in an “occupied” state.

2) The intrusion detection system shall activate egress lighting only.

Upon activation of the Fire Alarm System:

1) The fire alarm shall initiate a contact to the lighting control system and that activates egress lighting only. Normal lighting will not be affected.

During occupied hours, corridor lighting shall not be allowed to be switched “off”.

Occupied hours shall be determined by the QSD.

TELECOMMUNICATION CABLING

A complete structured cabling system will be provided for voice and data distribution. Telecommunications racks will be installed in dedicated telecommunications rooms. These racks will distribute telecommunication cabling in classrooms and offices. Outlet boxes will be provided for all telecommunications outlets. Raceways will be installed from outlet boxes to above accessible ceilings. Wire-basket cable tray will be installed to support horizontal telecommunications cabling in corridors. An optical fiber cable will be installed between telecommunications rooms. Category 6 cabling will be terminated on the 8-pin modular patch panels. Workstation cables will be terminated on 8-pin modular jacks in recessed outlet boxes. Open, horizontal UTP cable will be installed above accessible ceilings and in cable tray. Telecommunications outlets will be provided for wireless access ports (WAP) utilizing Power over Ethernet (PoE) technology. WAP will be QSD furnished and contractor installed. Active network equipment such as servers, switches and WAPs will be furnished and installed by QSD. Racks, data outlets, wiring, cabling support systems and passive rack mounted units will be furnished and installed by the contractor.

COMMUNITY ANTENNA TELEVISION SERVICE

No provisions for service and distribution of community antenna television (CATV) over coaxial cable will be included in the facility.

CATV distribution will be accomplished over the local area network. QSD will provide the necessary hardware and software to receive and distribute CATV programming.

FIRE ALARM SYSTEM

A new fire alarm control system consisting of fire alarm control panel (FACP), fire alarm extender panels (FAC), devices, raceway and cabling will be installed. The system shall be Simplex to meet district standards for life system consistency.

The fire alarm system will be fully addressable and will include speakers for audible alarm signals and strobes for visual signals. Fire alarm system circuits will be installed in metallic raceways. Smoke detection will be installed in corridors and classrooms. Manual stations will be installed at building exits and at the top of stairs connecting adjacent floor levels. Beam smoke detectors, with remote test stations will be installed in high ceiling areas such as the gymnasiums. Duct smoke detectors will be installed in HVAC equipment with air capacities exceeding 2,000 CFM. The fire alarm control panel will release fire/smoke dampers and will provide elevator recall functions. The fire alarm control panel will be capable of providing central reporting functions to a remote site.

Fire alarm extender panel will be provided to support the addition devices in remote locations to the central fire alarm control panel. The fire alarm extended system will be an automatic addressable system with smoke detectors, heat detectors, strobes and speakers and HVAC shut-off. The new fire alarm extended system will be networked with the fire alarm control panel.

The fire alarm system will interface with the intercommunications system and sound reinforcement system's local mute audio input to allow for evacuation information.

VIDEO SURVEILLANCE SYSTEM

The facility will include a closed-circuit television (CCTV) system for video surveillance. CCTV cameras will be digital, using Internet Protocol (IP) and Power over Ethernet (PoE). A portion of the installation will be provided by the Contractor. The remainder of the installation will be provided by QSD. The Contractor will provide raceway, outlet boxes, UTP cables and cable terminations. QSD will provide video cameras, power supplies, system programming and system commissioning. New cameras will operate over the local area network.

INTRUSION DETECTION

The facility will include intrusion detection system and include keypads, door position switches, reporting sensors, cable termination, system programming, and system commissioning to form a complete system. Door position switches will be provided at all exterior door locations. Interface will be provided with the access control system for interoperability.

ACCESS CONTROL SYSTEM

The facility will include an access control system and include card readers, switches, reporting sensors, cable termination, system programming, and system commissioning. Card readers will be located at select entry locations determined by the owner. It is anticipated the (4) entry locations will be needed.

SOUND REINFORCEMENT SYSTEMS

A sound reinforcement system will be provided for the classrooms. The system will be capable of distributing voice and music to permanent speakers. Portable assisted listening equipment will also be provided. The sound reinforcement system will interface with the intercommunications system's local mute audio input and allow paging distribution.

A sound reinforcement system will be provided for the commons, band/choir, auditorium, gymnasiums and stadium. The systems will be capable of distributing voice and music and will have permanent speakers with provisions wired and wireless microphones.

AUDIO & VIDEO DISTRIBUTION SYSTEM

Audio video systems will be provided in the classrooms, commons, auditorium and main gym. Classrooms will have wall mounted audio/video enclosure housing active electronic equipment. Jacks will allow media sources to display video content through short throw wall-mounted projectors and broadcast audio content through the sound reinforcement system speakers. Ceiling-mounted speakers and an audio amplifier will be provided for each classroom. Equipment provided by QSD will include video projectors and mounts, video distribution servers/software and DVD and/or Blu-ray players.

INTERCOMMUNICATIONS AND CLOCK SYSTEM

A new intercommunications system will be installed to provide two-way communications to classrooms via telephone handsets and classroom speakers. The system will also provide one-way paging to classrooms, large

common spaces and corridors. Class change tones will be distributed through the intercommunications system speakers.

A new clock system shall be provided. New analog clocks will be installed and connected to the head-end clock unit for power and automatic correction. 10” clocks will be provided in the classrooms and 16” clocks with wire-guards will be provided in the gymnasium. Raceway and conductors will be provided.

LOCKDOWN

A pushbutton switch will be located at the reception’s desk of the main office and in the principal’s office for lockdown of the access control system. The pushbutton will lock all exterior doors equipped with electronic locks and will not allow access to the building through electronic credentials.

BUILDING DISPLAY SYSTEM

Data port and a receptacle will be located at owner designated locations for building display monitors.

PERFORMING ARTS DESCRIPTION

FORM AND FUNCTIONS

Based on the information provided by NAC Architecture, along with statistics developed from national and regional models, we have created a basic framework of usage assumptions that are informing our recommendations at this stage of the project. We will refine these assumptions, and the corresponding design reaction, after completion of two follow-up sessions with the end users; of course, the overarching control factor is the project budget.

The following usage criteria inform our recommendations as to Schematic Design:

- DRAMA: The stage and auditorium will be where dramatic performance art is taught and expressed. Traditional and progressive performance skills are taught from a dramatic and technical theater perspective. The modern theatre facility needs to respect traditional and alternative forms of intimate dramatic performance, as well as provide adequate space for large scale and musical productions.

- INSTRUMENTAL MUSIC: With multiple band groups and possible hosting of district-wide or regional festivals and special programs, the facility will need to incorporate the design aspects of music performance that are outside the confines of dramatic performance. This is true not only for the physical layout of the stage, but also for the circulation, rehearsal and storage aspects as well.

- CHORAL MUSIC (PERFORMANCE): Multiple vocal groups, each having its own unique repertoire, must be supported by the new theatre facility. Consequently, the design aspects of the auditorium and stage elements must reflect these facts. While the performance aspects of the stage must incorporate elements that enhance vocal performance, the Choral Rehearsal room must also be nearby.

- DANCE: While not a dedicated program, dance is incorporated into many expressions within Drama, and as such, must be respected when stage design is developed.

- ASSEMBLY: The auditorium will need to accommodate special, non-performance assemblies from time to time; therefore the technical systems within the auditorium and stage shall have a user-friendly layer of access and operation for the non-technical user.

- COMMUNITY: Schools become community focus points. The Auditorium / Stage facility needs to respect this. The design must support and continue that synergistic relationship. Therefore, the technical systems within the auditorium and stage shall have a user-friendly layer of access and operation for the non-technical user.

DESIGN OVERVIEW – PERFORMING ARTS SPACES

<u>Main Theatre – Audience Seating ("House")</u>

- 500 (+/-) fixed seats + 6 dedicated wheelchair spaces. Seating is divided by a center cross-aisle, with 35% of the seats in the front or 'Orchestra' section, and 65% of the seats in the rear or 'Loge' section.

- Both the Orchestra and the Loge section shall be divided into three sections and have two main aisles at third points. Seating rows shall be stepped at both areas, with the row to row step interval height roughly double at the Loge sections.

- Main entry doors shall be located at the House Left side of the cross-aisle, with entry doors at the House center upper rear of the Loge seating area. The lower entry door shall have a sound/light lock vestibule.

- Seating layout and relationship to stage is a slightly modified thrust/proscenium format. This is intended to satisfy the traditional shape that is friendly to music while supporting a basic level of immersive theater ("thrust") for intimate relationship between actors and audience for dramatic performances in the main auditorium.

- Aisles and seating layout shall comply with current IBC, ANSI 117.1 and ADAAG requirements for quantity and placement of wheelchair seating positions and designated aisle seats for limited mobility patrons.

- Direct ambulatory and non-ambulatory access from the auditorium to the stage is incorporated into the design.

- House Mix Location (sound booth) for live sound reinforcement and recording shall be provided at the rear of the Loge seating section, aligned with the center of the house. This space shall also act as the primary & accessible location for the control of stage, house and work lighting systems. See technical systems sections in this report, for information related to wireless remote / rehearsal controls.

- A total of (2) side lighting positions shall be added to the side walls of the house, (1) on each side. Each side lighting positon shall have power and data provisions for new stage lighting instruments.

<u>Main Theatre – Stage</u>

- The stage shall be approximately 80'-0" W x 26'-0" D, and nominally 49' high from stage floor to underside of roof. The proscenium opening shall be 42' W x 20'-0" H, and shall have adjustable hard tormentor panel walls to narrow the width for smaller performances.

- A permanent thrust/apron continuation of the stage shall proceed in front of the proscenium wall, and travel stage right and stage left, connecting with side stage walkways.

- Ambulatory and non-ambulatory access to the stage shall be provided from exterior corridors, backstage areas and from the auditorium.

- A sprung wood floor shall be provided across the entire working portion of the stage. Sprung stage floor system shall provide a suitable base for nails and anchors used to secure sets to the floor. In addition, it shall provide a controlled resilience to support movement and dance, with extremely limited risk of strain to joints, tendons, and ligaments of student dancers or actors.

- Elevated onstage Fly Galleries shall be located at the Stage Right side of the working stage.

- Appropriately sized doors shall be located at code-defined and other locations, for entrance and exiting of persons, equipment and scenery.

Main Theatre – Technical Gallery Levels

- One lighting catwalk above the audience area, to provide a position for adjustable stage lighting mounting and adjustment. One narrow lighting catwalk above the thrust stage, tight to the proscenium, for loudspeaker service and thrust down-lighting.

- Circulation paths for access to technical production areas, such as catwalks, galleries and stairs.

- Loading galleries / fly galleries onstage, elevated adequate to manipulate counterweights on manual rigging sets.

- Stage loft will not include a technical production gridiron above the stage, due to community building height restrictions; rigging design shall be an "underhung" system.

- Stage lighting catwalks shall be designed stiff, with very little movement or deflection, and shall be rated for a live load of 40 PSF.

- Stage Loading Galleries shall be designed to be very stiff, with near zero deflection, concrete topping over steel deck, clear-span from front to rear wall of stage, and shall be rated for 100 PSF live load. This will allow storage of counterweight bricks that are not in use.

- Galleries and catwalks, and their access paths, shall be designed to minimize visibility of technicians present during performances.

Main Theatre – Backstage Support Spaces

- Typical support spaces shall be provided, to allow for arrival, circulation, prep and mid-performance transitions by performers. Typical spaces serving this are:
    - Scene Shop
    - Dressing / Makeup Rooms
    - Backstage Crossover Corridor
    - Restrooms

- Entire backstage area shall be configured to restrict co-mingling of actors, musicians and technicians with audience members, once the actors, musicians and technicians have entered the backstage area, while allowing them to execute all necessary pre-show and show tasks while within the backstage area. This is for performing arts protocol and student security purposes.

DESIGN OVERVIEW – PERFORMANCE SYSTEMS

Lighting Systems

- General Lighting in Main Auditorium shall be a combination high-efficiency/long-life, digitally controllable LED downlights, and other decorative illumination elements. General lighting shall be controlled by a central lighting processor which will be part of an overall lighting control network in the auditorium venue.

- Work-lighting shall be provided at the stage, all access catwalks and galleries, and technical access corridors. Work-lighting shall be provided in two modes: white general lighting and blue safety lighting.
- Stage Lighting shall consist of a combination of conventional & LED instruments with standard and intelligent accessories. Modern variable parameter intelligent color changers and automated lighting shall be contemplated and listed as a limited part of the design solution for stage lighting.

- A modern, solid-state dimming and control system consisting of floor-standing racks with modular dimmers/relays/constant power modules shall be provided for house and stage lighting control.

- A digital data network and digital data output receptacles shall be distributed throughout the venue, using conventional IEEE & ANSI standards and equipment, although the network shall not be connected to the general building network(s).

- Work-lights shall be controlled by means of digitally driven solid-state relays which are part of the master lighting control network.

- Stage lighting consoles for the spaces shall provide a variety of capabilities and shall be included which shall allow for control of conventional dimmers as well as control of intelligent lighting accessories and automated instruments.

- A Stage Manager's Panel with various controls and receptacles for all stage systems included in this narrative shall be located on stage.

- Convenience push-button stations shall be located at selected doorways in the house, stage, and selected technical access corridors, to allow activation of basic room lighting/work-lighting.

- A Master Control Station shall be located in the control booth and at a Stage Manager's Panel onstage to allow a higher level of basic lighting control. Worklighting shall have local access stations at key points along catwalks and galleries and backstage doors, and shall have mimic control at the master lighting station in the Control Booth and Stage Manager's Panel. All pushbutton stations descried above shall have mimic control at the master lighting station in the Control Booth and Stage Manger's Panel. (The Master Control Station located in the control booth shall be portable, and shall be able to be used at the House Mix Location at the Orchestra Level.)

- Representative Systems: ETC "Sensor3", Paradigm, ION, Element; SSRC distribution.

Stage Rigging and Drapes

- Rigging system shall include sets for Stage Electrics, Masking Borders, General Purpose Scenery, Scrim, Cyclorama, Grand Drape, Upstage Drape, Projection Screen, & Acoustic Concert Shells.

- All Draperies shall be professional grade fabrics with professional fabrication requirements.

- Tracks shall be professional grade, smooth, quiet and durable.

- All stage rigging shall be professional grade, for safety and durability purposes.

- Representative Systems: Stagecraft Industries, JR Clancy

Orchestra Shell and Towers

- Acoustic Reflector Panels, known as Orchestra Shell, shall be rigged to deploy for use, rise up into storage or lower for adjustment. These units shall be heavy duty and shall be sized and located to provide acoustic projection and onstage ensemble for music performers. Shells shall have integral LED lighting units.
- Towers shall be small scale, folding units that can be removed from the stage and used in other rooms, because when folded, they can fit through a standard door.

- Representative System: Wenger “DIVA” & “Legacy Select”, Staging Concepts “Bravado”, StageRight “Opus II”.

Fixed Upholstered Seating

- Durable and attractive seating units, permanently attached to the floor, shall be included in the design. Aisles and spacing between rows shall meet or exceed code requirements for egress.

- Seating units shall have gravity lift seats, solid armrests and abuse resistant backs. Color selection of materials and finishes shall be by Architect.

- Selected seating units shall have transfer arms for partially ambulatory persons.

- Selected seating units at aisle ends shall have integral safety lighting for aisles.

Area Summary: Quincy High School

111-16034-02J

Status: 6th Draft — Draft 2 Changes — Draft 4 Changes
Date: September 12, 2016 — Draft 3 Changes — Draft 5 Changes
Draft 6 Changes

Target Enrollment: 950 near term (optimum at 85.7% occupancy with 1 prep period per teaching station), 1,053 (maximum @ 95% occupancy)
Target Core Capacity: 1,200
Target Building Area: 180,000 SF

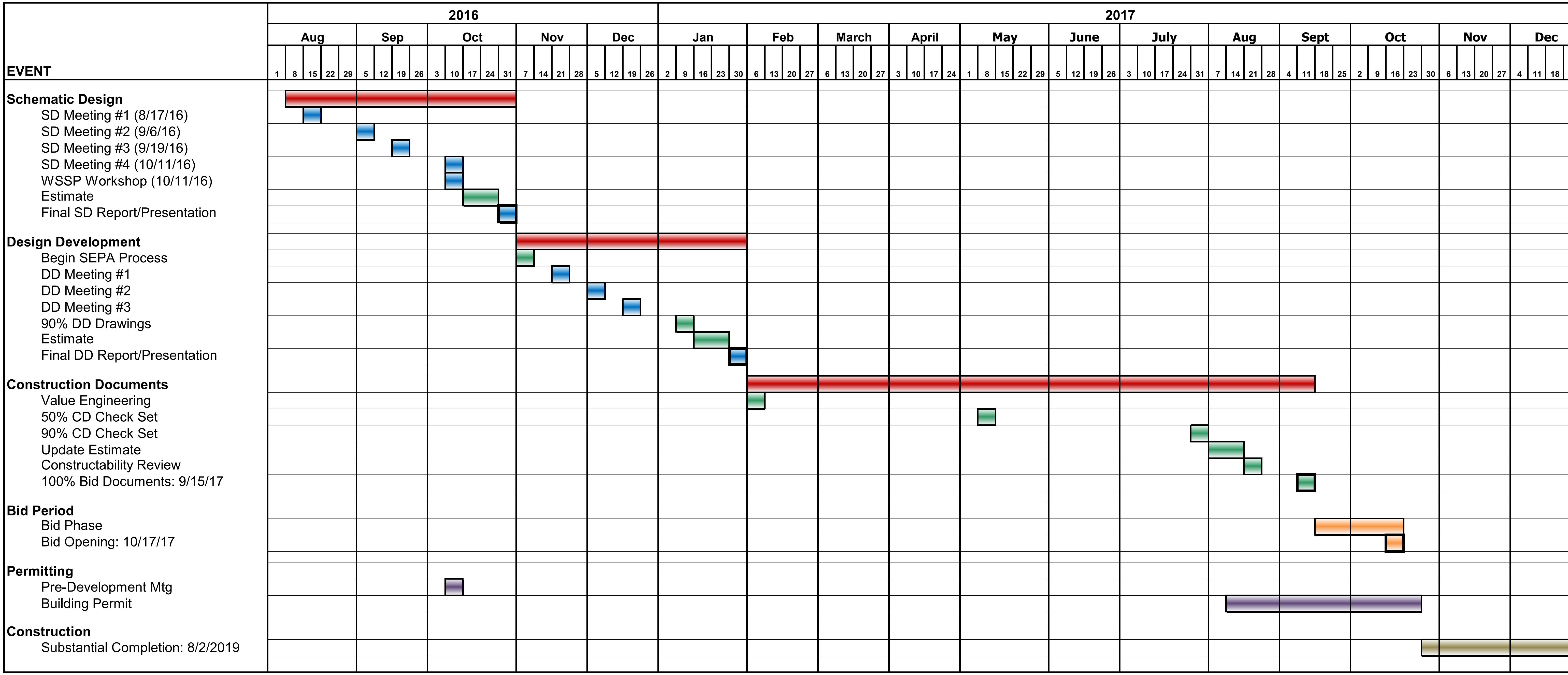
								Draft 6	Mt. Spok. HS	Mead HS	LCHS	Ellensburg HS	Deer Park HS
			Min.	Min.	Max.	Max.	Final	Final	Area	Area	Area	Area	Area
Administrative Services	**T.S**	**Qty.**	**Area**	**Total**	**Area**	**Total**	**Area**	**Total**	**1997**	**2001**	**2001**	**2006**	**2010**
Administration													
Public Reception		1	150	150	250	250	150	150	144	294	199	100	180
Principal's Office		1	125	125	200	200	200	200	168	154	233	160	140
Asst. Principals' Offices		3	110	330	140	420	160	480	128	126	147	3 @ 160	110
CTE Director Office (w/o secy)		1	110	110	140	140	160	160					
CTE Central Supplies		1	64	64	80	80	250	250					
Security Resource Officer		1	80	80	120	120	80	80			80		80
Secretary Work Area		1	300	300	600	600	550	550	648	588	720	430	320
Supplies/Storage Room		1	64	64	80	80	64	64	124	No Sep. Rm.	81	80	64
Attendance Office (covered by secys)		0	110	0	140	0	120	0	134	173	Wdw Only	120	120
Business Office (covered by secys)		0	110	0	140	0	120	0	134	138	404	120	120
Cashier Area (covered by secys)		0	50	0	100	0	64	0					64
Kitchenette/Lunch Room		1	40	40	100	100	100	100					100
Office/Copy Work Room/Mail Layout		1	320	320	500	500	320	320	580	490	NA	350	320
Meeting/Conference Room		1	180	180	500	500	300	300	550	420	267	150	180
In-School Suspension (10 students)		1	120	120	200	200	200	200					
Coat Closet		1	8	8	8	8	8	8	22	14	Use Hooks	8	8
Staff Restrooms (4 sets)		4	100	400	100	400	100	400	4 sets	2 sets	4 sets	3 sets	3 sets
Subtotal				2,291		3,598		3,262					
Circulation Allowance at 15%				344		540		489					
Gross Admin. Subtotal				2,635		4,138		3,751	4,309	5,040	NA	3,012	2,790
Counseling Center/Career Guidance									**Mt.Spok.**	**Mead HS**	**LCHS**	**Ellensburg HS**	**Deer Park HS**
Reception/Secretary/Career Ctr		1	240	240	600	600	600	600	378	493	369	200	600
Registrar		0	110	0	130	0	120	0					120
Counselor Offices		4	110	440	130	520	130	520	5 @ 130	5 @ 126	5 @ 112	3 @ 120	2 @ 110
Itinerate or Part-time Counselor/Social Serv.		2	110	220	130	260	120	240					110
Flex Program Office Space		2	80	160	120	240	100	200					100
Drug/Alcohol Prevention Office		1	80	80	120	120	100	100					
Conference Room		1	120	120	180	180	200	200				650	120
Records (14, 4-drawer files capacity)		1	100	100	200	200	100	100				80	160
Storage Room		1	64	64	90	90	64	64	35	Cabt. Only	incl. above	50	64
Coat Closet		1	8	8	8	8	8	8	Use Hooks	Use Hooks	Use Hooks	8	8
Subtotal				1,432		2,218		2,032					
Circulation Allowance at 15%				215		333		305					
Gross Couns./Career Subtotal				1,647		2,551		2,337	2,624	2,318		1,483	1,612
Health Room		1	150	150	350	350	200	200	337	420		150	200
Circulation Allowance at 15%				15		35		30					
Net Health Room Subtotal				165		385		230					
Subtotal All Admin. Services				4,446		7,073		6,318	7,670	7,978	5,782	4,660	4,632
Medical Clinic													
Reception		1					130	130					
Office (Mental Health Counselor)		1					110	110					
Nurses' Station/Circulation/Supplies		1					100	100					
Exam Rooms		2					75	150					
Toilet		1					50	50					
Subtotal (Placeholder Spaces, not included in total, pending programming and funding)								540					
General Classrooms	**TS**	**Qty.**	**Min.**	**Min.T**	**Max.**	**Max.T**	**Final**	**Final T**	**Mt.Spok.**	**Mead HS**	**LCHS**	**Ellensburg HS**	**Deer Park HS**
Gen Classrms: English,History,Math,FL	23	23	850	19,550	900	20,700	850	19,550	865 Avg.	850 Avg.	855 Avg.	935 Avg.	850 Avg.
~~General Classroom: Family Health~~	~~1~~	~~1~~	~~900~~	~~900~~	~~1,000~~	~~1,000~~	~~950~~	~~950~~	Duplication				
Photo Studio/Video Production		1	200	200	400	400	450	450	Common space with one General Classroom				
Instructor Collaboration/Student Project Rms		4	200	800	300	1,200	300	1,200					
Specialty Classrooms (12 or less kids)	2	4	450	1,800	600	2,400	600	2,400					
Toilet Rooms (at Specialty Classrms)		2	50	100	60	120	50	100					
English Book Storage Room		1					150	150					
Subtotal				21,450		23,300		24,800	32 TS	31 TS	35 TS		
Subtotal				21,450		23,300		24,800	28,545	28,050	32,313	23,990	15,460
General Use Computer Lab (Drop-in)		2	900	1,800	1,200	2,400	1,000	2,000					850
Leadership Classrm	1	1	850	850	900	900	850	850	891	996		850	
ASB Office		1	80	80	100	100	80	80	105	138		80	
ASB Storage		1	100	100	120	120	100	100				100	
Subtotal				1,030		1,120		1,030	996	1,134			
Subtotal				22,480		24,420		26,880	29,541	29,184	32,313	25,955	15,460
Specialized Classrooms													
Art	**TS**	**Qty.**	**Min.**	**Min.T**	**Max.**	**Max.T**	**Final**	**Final T**	**Mt.Spok.**	**Mead HS**	**LCHS**	**Ellensburg HS**	**Deer Park HS**
Art Room (Multi-Purpose)	1	1	1,350	1,350	2,000	2,000	1,800	1,800	No Comp.	No Comp.	No Comp.	2,000	1,800
Office		1	80	80	100	100	80	80	100	None	None	80	80
Storage		1	120	120	180	180	120	120	198	None	Shared	120	120
Kiln Room		1					80	80	None				
2D Art	0	0	0	0	0	0	1,000	0	NA	NA	NA	935	0
Subtotal				1,550		2,280		2,080	3 in 5472	3 in 7200	3 in 5382	3,965	2,000
Band/Instrumental/Orchestra/Choir	**TS**	**Qty.**	**Min.**	**Min.T**	**Max.**	**Max.T**	**Final**	**Final T**	**Mt.Spok.**	**Mead HS**	**LCHS**	**Ellensburg HS**	**Deer Park HS**
Instrumental Room	1	1	1,650	1,650	2,500	2,500	1,700	1,700	1,564	2,000	1,643	1,750	1,650
Instrument Storage		1	200	200	250	250	200	200	Combined	Combined	295	200	200
Uniform Storage		1	120	120	200	200	120	120	228*	126*	180	125	120
Percussion Storage		1	65	65	100	100	65	65	None	None	65	65	65
Music Library		1	120	120	200	200	120	120	incl. above	171	163	150	120
Music Offices		1	100	100	150	150	100	100	114	152	156	120	100
Music Computer Room		1	100	100	150	150	150	150					150
Practice Rooms (4-person)		2	80	160	100	200	80	160	2 @ 56	2 @ 45	0	2 @ 80	80
Ensemble Practice (8-person)		1	150	150	200	200	150	150	1 @ 100	1 @ 105	3 @ 99	150	150
Subtotal				2,665		3,950		2,765	2,640	3,500	3,818	2,785	2,715

Choir	TS	Qty.	Min.	Min.T	Max.	Max.T	Final	Final T	Mt.Spok.	Mead HS	LCHS	Ellensburg HS	Deer Park HS
Choral Room	0.5	1	1,000	1,000	1,400	1,400	1,050	1,050	1,320	1,350	1,120	1,100	1,000
Choir Office		1	100	100	120	120	100	100	112	120	99	100	100
Choir Robe Storage		1	80	80	120	120	80	80	100	120	In Room	100	80
Choir Riser/Equip. Storage		1	80	80	100	100	80	80	None	None	None	80	80
Subtotal				1,260		1,740		1,310	2,112	2,200	2,145	1,990	1,420
Business Education/Marketing	**TS**	**Qty.**	**Min.**	**Min.T**	**Max.**	**Max.T**	**Final**	**Final T**	**Mt.Spok.**	**Mead HS**	**LCHS**	**Ellensburg HS**	**Deer Park HS**
Business Ed. Computer Lab	1	1	1,000	1,000	1,250	1,250	1,200	1,200	896	1,080	1,008	3 @ 1025	2 @ 1,025
Business Ed. Office Area		1	120	120	180	180	120	120	60 avg.	95 avg.	196 total	120	120
Marketing/DECA Classroom	1	1	950	950	1,250	1,250	1,025	1,025	896	1,080	1,008	1,025	950
School Store/Indoor Concessions		1	100	100	200	200	200	200	290	330	152	150	200
Print Shop & Apparel Learning Lab		1	100	100	500	500	300	300					
Print Shop Production Area		1					250	250					
Java Jack Learning Lab		1					200	200					
Storage		1	65	65	100	100	100	100	77	122	64	65	100
Subtotal				2,335		3,480		3,395	5 CR's 5368	5 in 6170	5 in 5546	5,190	3,420
Digital Design	**TS**	**Qty.**	**Min.**	**Min.T**	**Max.**	**Max.T**	**Final**	**Final T**	**Mt.Spok.**	**Mead HS**	**LCHS**	**Ellensburg HS**	**Deer Park HS**
Classroom/Computer Lab	1	1	850	850	1,000	1,000	1,200	1,200				1,000	850
Storage		1	64	64	100	100	80	80				70	64
Subtotal				914		1,100		1,280				1,070	994
Science	**TS**	**Qty.**	**Min.**	**Min.T**	**Max.**	**Max.T**	**Final**	**Final T**	**Mt.Spok.**	**Mead HS**	**LCHS**	**Ellensburg HS**	**Deer Park HS**
Chemistry Classrm/Lab (28 per room)	1	1	1,260	1,260	1,625	1,625	1,260	1,260	1264 (28 kids)	28 in1259 avg.	28 in1310 avg.	1 @ 1,460	1 @ 1,260
Science Prep/Storage		1	150	150	200	200	160	160	660 w/Physics	798 w/Phys.	565	420	400 combined
Science/Physics Classroom/Lab (28)	1	1	1,260	1,260	1,500	1,500	1,260	1,260	1264 (28 kids)	28 in1259 avg.	28 in1310 avg.	1 @ 1,400	1 @ 1,260
Science Prep/Storage		1	150	150	200	200	160	160	incl. above	incl. Above	incl. Above	160	incl. Above
Biology Classroom/Lab (28)	3	3	1,260	3,780	1,600	4,800	1,260	3,780	1264 (28 kids)	28 in1259 avg.	28 in1258	4 @ 1,400	1 @ 1,260
Biology Prep/Storage		1	150	150	200	200	160	160	660	464	329	600	incl. Above
Subtotal				6,750		8,525		6,780	9 in 13,162	9 in 13,106	10 in 12,333	9,890	4,180
Special Services (without Sheltered Math)	**TS**	**Qty.**	**Min.**	**Min.T**	**Max.**	**Max.T**	**Final**	**Final T**	**Mt.Spok.**	**Mead HS**	**LCHS**	**Ellensburg HS**	**Deer Park HS**
Self-Contained Special Ed.	0.5	1	850	850	1,000	1,000	1,000	1,000					950
Life Skills Area		1	80	80	120	120	100	100					
Laundry		1	50	50	60	60	60	60					
Toilet/Changing		1	75	75	90	90	80	80	144		72	60	80
Sensory Room		1	40	40	60	60	40	40		Yes			40
Storage		1	80	80	100	100	80	80					80
Office		1	80	80	120	120	100	100					100
Subtotal				1,255		1,550		1,460	4,915	3,758	4,676	4,350	4,200
Family & Consumer Science	**TS**	**Qty.**	**Min.**	**Min.T**	**Max.**	**Max.T**	**Final**	**Final T**	**Mt.Spok.**	**Mead HS**	**LCHS**	**Ellensburg HS**	**Deer Park HS**
FACS Foods/Culinary Arts/Textiles	1	1	1,300	1,300	1,300	1,300	2,000	2,000	2 @ 1139	1,575	1 @ 1188	1,500	
~~Culinary Arts Lab~~		~~1~~	300	1,300	500	1,300	~~500~~	0					
Family Health	1	1	850	850	900	900	950	950					
FACS Office		1	250	250	250	250	120	120	w/Storage	2 @ 108	180	120	
FACS Pantry/Laundry		1	150	150	200	200	150	150	470	2 @ 180	144	150	
Subtotal				3,850		3,950		3,220	4,042	3,876	2,572	1,770	
Educational Support Spaces													
Library	**TS**	**Qty.**	**Min.**	**Min.T**	**Max.**	**Max.T**	**Final**	**Final T**	**Mt.Spok.**	**Mead HS**	**LCHS**	**Ellensburg HS**	**Deer Park HS**
Main Reading/Stacks/Instruction		1	3,200	3,200	4,500	4,500	3,600	3,600	3,400	5,024	6,004		3,600
Circulation		1	200	200	400	400	200	200	314	420	324		200
Librarian Office		1	80	80	200	200	110	110	140	80	80		110
Staff Work Room & Storage		1	200	200	300	300	200	200	464	330	361		200
~~Conference~~		0	125	0	180	0	0	0	2 @ 130	108	None		125
COW Storage		1					125	125					
Periodical Room		1	175	175	250	250	175	175	240	188	In Main Rm.		175
AV Multi-Media Production/Stor.		1	80	80	200	200	80	80	None	143	None		80
Library Instruction/Computer Lab (30)		1	850	850	900	900	900	900					900
Subtotal				4,785		6,750		5,390	6,020	6,147	7,618	11,829	5,390
Auditorium/Drama	**TS**	**Qty.**	**Min.**	**Min.T**	**Max.**	**Max.T**	**Final**	**Final T**	**Mt.Spok.**	**Mead HS**	**LCHS**	**Ellensburg HS**	**Deer Park HS**
Auditorium (500 seats) w/Control Rm		1	3,900	3,900	4,200	4,200	5,500	5,500					4,000
Stage		1	2,000	2,000	2,200	2,200	2,100	2,100					2,000
Costume/Prop Storage		1	100	100	250	250	200	200	NA				100
Scene Shop & Storage		1	750	750	1,200	1,200	750	750	675				750
Storage Facilities		1	180	180	500	500	200	200	526				200
Dressing Rooms w/Toilet (2 Sets)		2	200	400	350	700	200	400	247				200
Green Room		0	0	0	400	0	0	0	361				0
Subtotal				7,330		9,050		9,150					7,250
Health/Fitness and Athletics	**TS**	**Qty.**	**Min.**	**Min.T**	**Max.**	**Max.T**	**Final**	**Final T**	**Mt.Spok.**	**Mead HS**	**LCHS**	**Ellensburg HS**	**Deer Park HS**
Main Events Gym (1,200 seating)	1	1	12,000	12,000	13,500	13,500	12,800	12,800	1,945 in 12,459	11,124	12,495	13,700	11,752
Auxiliary Gym (w/2 cross courts)	1	1	9,000	9,000	11,000	11,000	9,500	9,500	12,025	13,068	11,287	11,000	9,000
Athletics Stor.		1	1,500	1,500	2,000	2,000	2,000	2,000	Outdoor +1088	OD +1167	3,162	1,750	2,000
P.E. Storage		1	250	250	400	400	400	400	incl. above	incl. above	incl. above	250	250
Weights	1	1	1,500	1,500	2,000	2,000	2,000	2,000	1,806	3,832	2,070	3,300	4,000
Fitness	1	1	1,500	1,500	2,000	2,000	2,000	2,000					
Mat/Aerobics Rm	0.5	1	3,200	3,200	4,500	4,500	4,000	4,000	4,469	4,006	3,784	3,500	3,500
Volleyball Stds. Storage (near gyms)		1	100	100	250	250	100	100	Yes	Yes	Yes	80	100
Boys PE/Athletics Locker (combined)		1	1,200	1,200	1,500	1,500	2,100	2,100	426 in 1,502	558 in 1,585	426 in 1116	1,200	1,400
Girls PE/Athletics Locker (combined)		1	1,200	1,200	1,500	1,500	2,100	2,100	426 in 1,491	558 in 1,585	426 in 1116	1,200	1,400
~~Boys Team Locker~~		1	1,250	1,250	1,500	1,500	0	0	154 in 650	154 in 1,573	220 in 2340	1,250	1,400
~~Girls Team Locker~~		1	800	800	1,000	1,000	0	0	160 in 650	154 in 1,222	216 in 1570	800	1,200
Training Room		1	180	180	350	350	180	180	148	252	372 & 243	200	180
Teachers' Offices		2	130	260	220	440	130	260	2 in 240	437		2 @ 170	2 @ 130
Male Coaches Office/Lockers		1	200	200	300	300	200	200	29 in 260	20 in 330	24 in 315	250	200
Female Coaches Office/Lockers		1	200	200	300	300	200	200	29 in 260	20 in 330	24 in 315	250	200
Laundry		1	140	140	200	200	140	140	181	210	143	140	140
Cheer Storage		1	100	100	180	180	120	120	0	0	0	120	100
Dance Storage		1	100	100	180	180	150	150					
Events Concessions		1	150	150	220	220	180	180	100	319	220	300	200
Subtotal				34,830		43,320		38,430	45,110	48,615	45,693	39,750	37,082

Career and Technical Education	TS	Qty.	Min.	Min.T	Max.	Max.T	Final	Final T	Mt.Spok.	Mead HS	LCHS	Ellensburg HS	Deer Park HS
Ag Science													
Floriculture Lab/Classroom	1	1	1,260	1,260	1,625	1,625	1,260	1,260					
Storage/Support Space Allowance		1	200	200	400	400	300	300					
Walk-in Cooler		0	80	0	120	0	0	0	Outdoor Free-standing (re-use/relocate existing)				
Ag Biology	1	1	1,260	1,260	1,625	1,625	1,260	1,260					
Biology Prep/Storage		1	150	150	200	200	160	160					
Animal Science Walk-in Freezer		0					0	0	Outdoor Free-standing (re-use/relocate existing)				
Ag Fabrication/Mechanics	1	1	2,500	2,500	4,000	4,000	3,500	3,500					
Ag Fab Storage/Support Spaces		1	2,500	500	1,000	1,000	1,000	1,000					
Greenhouse		1	Not included in main building area					Note:	Separate Free-Standing Structure				
Construction/Pre-Engineering													
Construction Fabrication/Shop	1	1	2,500	2,500	4,000	4,000	3,500	3,500					
Support Spaces (undefined)		1	500	500	1,000	1,000	500	500					
Supplemental Storage (Loft?)		1					0	0	Will test need for and opportunity for storage loft space during planning				
Pre-Engineering Classroom	1	1	850	850	900	900	950	950					
Computer Science/Digitools													
Lab/Classroom	1	1	1,025	1,025	1,250	1,250	1,025	1,025					
Storage/Support Space Allowance		1	100	100	200	200	150	150					
Other													
Outdoor Covered Area		1					3,600		Open-air covered area, not counted as building area				
Subtotal				10,845		16,200		13,605	6,700	10,400		16,790	5,130
Building Support Spaces	**TS**	**Qty.**	**Min.**	**Min.T**	**Max.**	**Max.T**	**Final**	**Final T**	**Mt.Spok.**	**Mead HS**	**LCHS**	**Ellensburg HS**	**Deer Park HS**
Custodial													
Custodial Office/Staff Room		1	80	80	100	100	180	180	In Storage	In Storage	In Storage	80	80
Large Storage/Work Room		1	500	500	900	900	750	750	630	860	320	600	450
Custodial Closets		6	30	180	120	720	30	180	10 Closets	6 Closets	7 Closets	7 Closets	6 Closets
Subtotal				760		1,720		1,110	1,301	2,060		925	710
Food Services													
Main Kitchen, Full Prep		1	1,000	1,000	1,200	1,200	1,200	1,200	1,117	1,084	Satellite	1,700	1,050
Office		1	64	64	100	100	64	64	75	80		120	64
Dry Storage		1	200	200	300	300	200	200	220	240		425	200
Serving Area		1	200	200	400	400	200	200	512	520		150	200
Walk-in Cooler		1	100	100	130	130	120	120	130	130		180	100
Walk-in-Freezer		1	110	110	150	150	140	140	130	130		450	120
Custodial		1	35	35	75	75	30	30	None	None		35	30
Toilet Room/Coats		1					60	60				80	60
Subtotal				1,709		2,355		2,014	2,184	2,184		3,140	1,824
Public Support Spaces													
Commons (seating for 550)		1	5,500	5,500	7,500	7,500	5,500	5,500	13,500	13,320	None	6,000	4,250
Restrooms (5 sets)		5	700	3,500	1,000	5,000	700	3,500				2,400	4 sets
Miscellaneous													
Staff Lounge (30 capacity)		1	700	700	900	900	850	850	1,083	893	921	700	850
Central Book Room/Storage		1	300	300	500	500	400	400				370	300
Storage for Clubs (Drones, Robotics, etc)		1					400	400					
General Building Storage		4	150	600	185	740	134	536				185	600
Subtotal				1,600		2,140		2,186				1,255	2,600
BUILDING TOTALS	**TS**			**Min.T**		**Max.T**		**Final T**					
Grand Subtotal	50.5			114,514		148,153		136,373					
Mech/Elec. at 3% of Net				2,863		3,704		4,091					
Circulation, Walls at 30% of Net				33,209		42,964		40,912					
TOTAL GROSS SQ. FT.				150,587		194,822		181,376	227,704	232,958		165,161	140,846
Target Area:				180,000		180,000		180,000					
Teaching Station Target Number:	44.3	for 950 students, with core for 1,200											
Excess/Shortfall in Teaching Stations:				6.2		6.2		6.2					
Capacity Based on Teaching Stations:				1,082		1,082		1,082	1,600	1,600		1,138	780
Area Per Student (Target 175+/-):				151		195		168	142	146		145	181
Gross Reduction Needed to Meet Budget								1,376					
Net Reduction Needed to Meet Budget								1,051					
Note: Absolute precision in this numerical tally is impossible.						Percent Overrun:		0.76%	Overrun Cost:	$514,707			
This system is designed to get the program into the target area.													
One or two percentage points off target may not be significant.													

PROJECT SCHEDULE

September 12, 2016



WSSP 2015 Workplan - Scorecard						The purpose of this workplan is to track credits, actions and responsibilites as you progress through the project.
District:	*Quincy School District #144*	Date:	*10/12/2016*	Submitted with D Form #:	D5	HINT
Project Name:	*Quincy High School*					

Tab 1, 2 and 3 are required to be submitted with the D9 and D11. The credit worksheet tabs are available but not required.

Category	Group	Credit Number	Credit Name	Possible Points	Yes	No	Maybe	Action/Verification	Responsible Party	Notes
Site	1) Selection & Use	S1.0	Code Compliance	R	R					
17 points		S1.1	Sensitive Areas	1			1			
		S1.2	Greenfields	1		1				
		S1.3	Central Location	1	1				QSD: Tom Harris	
		S1.4	Joint Use of On-Site Facilities	1-2	1	1			QSD: Tom Harris	
		S1.5	Joint Use of Off Site Facilities	1		1				
		S1.6	Minimal Footprint	1-2	1	1		1st flr >80% of total area	NAC	
	2) Transportation	S2.1	Public Transportation	1	1					
		S2.2	Bike and Walk to School	1	1			Provide racks for 5% of student population; School Walk Route Map WAC 392-151-025 or 392-141-340	NAC/QSD	
		S2.3	Minimize Parking	1		1				
	3) Stormwater Management	S3.0	Construction Stormwater Pollution Prevention	R	R		R		Parametrix	
		S3.1	On-site Stormwater Management and Flow Control	R-1	R	1			Parametrix	
		S3.2	Stormwater Treatment	R-1	R	1			Parametrix	
		S3.3	Soil Management	1		1				
	4) Outdoor Surfaces	S4.1	Reduce Heat Island - Site	1		1				
		S4.2	Reduce Heat Island - Roof Design	1	1					
	5) Outdoor Lighting	S5.1	Light Pollution Reduction	1	1					
			Total possible	**17**	**7**	**9**	**1**			
Water	1) Outdoor Systems	W1.0	Landscape Water Use Budget	R	R				MTLA	
9 points		W1.1	Irrigation Water Reduction (50%, 100%)	1-2	1	1				
		W1.2	Control Irrigation Water Use	1	1				MTLA	Smart controller, but not Calsense
		W1.3	Irrigation System Testing and Training	1	1				MTLA	
	2) Indoor Systems	W2.1	Potable Water Use Reduction for Sewage (25%, 45%)	1-2	1	1		>25% Reduction Anticipated	L&S	
		W2.2	Potable Water Use Reduction (20%, 30%, 40%)	1-3	2	1		>30% Reduction Anticipated	L&S	
			Total possible	**9**	**6**	**3**	**0**			

Category	Group	Credit Number	Credit Name	Possible Points	Yes	No	Maybe	Action/Verification	Responsible Party	Notes
Materials	1) Waste Reduction & Efficienct Material Use	M1.0	Storage and Collection of Recyclables	R	R				QSD: Tom Harris	
21 points		M1.1	Construction Site Waste Management (50%, 75%)	1-2	1		1	Contr may achieve higher % without being compelled to do so.	NAC/Contr	
		M1.2	Building Reuse - Structure/Shell (50%, 75%, 95%)	1-3		3			NAC	
		M1.3	Building Reuse - Interior Non-Structural Elements (50%)	1		1				
		M1.4	Materials Reuse (5%, 10%)	1-2		2				
		M1.5	Resource Reuse - Furniture and Equipment (30%)	1		1				
	2) Sustainable Materials	M2.1	Recycled Content (10%/4 mtls, 20%/8 mtls)	1-2	1		1		NAC/Contr	
		M2.2	Rapidly Renewable Materials	1			1			
		M2.3	Certified Wood (50%, Chain of Custody)	1-2	1		1		NAC (1 point as bid alternate)	Alternate bid item
		M2.4	Regional/Local Materials	1-2	1		1		NAC/Contr (second point as bid alternate)	Alternate bid item
		M2.5	Environmentally Preferrable Products - Multiple Attribute	1-4	2	2		Carpet, resilient flooring	NAC/Contr	
		M2.6	Building Materials Health Product Disclosure	1			1	Verify these are available to get 1 point	NAC (M. Cole)	
			Total possible	**21**	**6**	**9**	**6**			
Energy	1) Efficiency	E1.0	Minimum Energy Performance	R	R				NAC/L&S/NACE	
42 points		E1.1	Superior Energy Performance							
		E1.1.1	Superior Energy Performance	4-20	5	12	3	10 to 20% Anticipated	NAC/L&S/NACE	
		E1.1.2	Superior Energy Performance Energy Star	1		1		review energy star requirements	NAC	
	2) Controls	E2.1	Daylight-Responsive Controls	R	R				NACE	
		E2.2	HVAC Controls and Operable Windows	1			1			
		E2.3	Occupancy Controls	1-2	1		1		NACE	
		E2.4	Demand Control Ventilation	1			1	L&S to discuss CO2 driven DCV requirements and options with QSD.	L&S and QSD: Tom Harris	
	3) Alternative Energy	E3.1	On-Site Renewable Energy (5-10% bldg supply)	1-5		5				
		E3.2	Green Power Contract	1-2		2				
		E3.3	Distributed Generation (5-10% bldg supply)	1-3		3				
	4) Commissioning	E4.0	Fundamental Commissioning	R	R				QSD/Heery	
		E4.1	Enhanced Commissioning					Verify with owner / CM	QSD: Tom Harris	
		E4.1.1	Commissioning Review	1			1	Verify with owner / CM	QSD: Tom Harris	
		E4.1.2	Verification and Assurances	1			1	Verify with owner / CM	QSD: Tom Harris	
		E4.1.3	Systems Manual	1			1	Verify with owner / CM	QSD: Tom Harris	
	5) Management	E5.1	Energy Management Systems	R , 1-4	R	4			L&S	
			Total possible	**42**	**6**	**27**	**9**			

Category	Group	Credit Number	Credit Name	Possible Points	Yes	No	Maybe	Action/Verification	Responsible Party	Notes
Indoor Environmental Quality **32 points**	1) Daylighting	IEQ1.1	Daylighting Classrooms	1-4		3	1			Very difficult to achieve contrast ratio req't without diffused & distributed daylight sources.
		IEQ1.2	Permanent Shading	R-1		1				
		IEQ1.3	Outdoor View Windows	R-1	R		1		NAC	
	2) Electric Lighting Quality	IEQ2.1	Electric Lighting Quality	R, 2	1	1		Include full dimming by users.	NACE	
	3) Indoor Air Quality	IEQ3.0	Minimum Requirements (Ventilation, Filtration, & Moisture Control	R	R				L&S	
		IEQ3.0.1	Evaluate Envelope	1	1					
		IEQ3.1	Low-Emitting Interior Finishes	1-6	3	3			NAC	
		IEQ3.2	Low-Emitting Furniture	1	1			Verify with owner	QSD: Tom Harris	
		IEQ3.3	Source Control	2	2				NAC/L&S	
		IEQ3.4	Ducted HVAC Returns	1	1				L&S	
		IEQ3.5	Particle Arrestance Filtration	1-2	2				L&S	
		IEQ3.6	IAQ Management (construction, pre-occupancy)	1-2	1	1			NAC/L&S	
		IEQ3.7	Natural Cooling	2		2				
	4) Acoustics	IEQ4.0	Minimum Acoustic Performance	R	R				NAC/L&S	
		IEQ4.1	Improved Acoustical Performance	1-4	2	1	1	Yes: STC-50 Partitions	NAC/Heery	
		IEQ4.2	Audio Enhancement	1	1				NACE	
	5) Thermal Comfort	IEQ5.0	Thermal Code Compliance	R	R				NAC	
	6) User Controls	IEQ6.1	User Control - Windows	1	1			Provide 2 operable vents per room	NAC	
		IEQ6.2	User Control - Temperature	1	1				L&S	
			Total possible	**32**	**17**	**12**	**3**			

Category	Group	Credit Number	Credit Name	Possible Points	Yes	No	Maybe	Action/Verification	Responsible Party	Notes
Planning, Education, and Operations 14 points	1) Planning	PEO1.1	Integrated Design Workshop	1	1				QSD/Heery/NAC	
		PEO 1.2	Durability, Efficiency & Maintainability of Features	1	1				NAC	
		PEO1.3	Innovation	1-2		2				
	2) Education	PEO2.1	Green Building Learning	1-2		2				
	3) Operational	PEO 3.0	Operational Performance Monitoring	R	R				QSD: Tom Harris	
		PEO3.1	Post Occupancy Evaluation	1-2		2				
		PEO3.2	ELCCA/LCCA	R, 1-2	R	2			L&S	
		PEO3.3	Maintenance Plan - APP	R	R				QSD: Tom Harris	
		No More than 4 Points of the 10 possible	APP Maintenance Plan on Modernization	1		1				
			Resource Conservation Plan	1		1				
			IAQ Management Plan	1		1				
			Integrated Pest Management Program	1	1					
			Transportation Options Program	1						
			Fuel Efficient Buses and Maintenance vehicles	1						
			Food Related Waste Prevention & Mgmt	1						
			Environmentally Preferrable Purchasing	1						
			Green Cleaning Policy and Program	1						
			Green School Program	1						
			Total possible	**14**	**3**	**11**	**0**			
			Grand Total Possible Points	**135**	**45**	**71**	**19**			

Minimum required for Washington Sustainable School Two-tier system:

New Facility and new Building on Existing Facility — **40 or 45**

For Class I Districts: Minimum 45 points

For Class II Districts: Minimum 40 points

Modernization — **29 or 34**

For Class I Districts: Minimum 34 points

For Class II Districts: Minimum 29 points

Max "Project or District Operational Activity" points that can be claimed toward the minimum requirement is 4; however, a district could implement all of the credits

CODE ANALYSIS

Quincy High School will meet all requirements of the 2015 International Building Code with Washington State Amendments and the companion International Codes for specific disciplines. The building is required to have an automatic fire sprinkler system throughout per the Washington State Amendments. Quick response sprinkler heads will be used.

Occupancy Type

- The project contains three occupancy types. It is predominantly a Group "E" Educational Occupancy, (educational use below the 12th grade), with office areas considered Group "B" Business Occupancies and storage areas are Group S-1.
- Mixed Occupancies: The code has certain requirements on how mixed occupancies can co-exist in a single building that can be somewhat restrictive when applied to Group B, E and S occupancies. This is mitigated by a method that classifies the building under the Non-Separated Uses provisions in IBC Section 508.3 which uses the more restrictive E Occupancy to calculate allowable building area and building height. Using this method, no fire separation is required between the various occupancies.
- Assembly Occupancies: Normally, large public assembly type spaces such as the Commons, Gyms and Auditorium are considered to be Group "A" Assembly Occupancies. For E-Occupancies however, they are considered an accessory use per IBC Section 303.1.3. The code requires the occupant load, exiting and accessibility provisions for Assembly occupancies be applied to these spaces. This also applies to the kitchen area which serves the Commons.
- Laboratories and vocational shops located in E Occupancies are considered incidental uses under section 509 and must be separated from the remainder of the building. The separation and/or protection requirements under Table 509 give us the option of separating with 1-hour fire walls or providing automatic sprinkler systems. As described in the following "Allowable Area" section, the construction type for this building requires an automatic sprinkler system and therefore, the incidental uses shall be separated by construction capable of resisting the passage of smoke rather than 1-hour separation walls.

Allowable Area and Height

- One of the primary methods the building code regulates construction is by specifying a maximum allowable area and height for specific types of occupancies and specific types of construction. As stated above, a public school building such as the high school is classified as an "E" Educational Occupancy. The construction type has to do with (2) basic issues; combustible / non-combustible materials and fire rated / non-fire rated construction. Non-combustible and fire rated construction yield higher allowable areas and heights than does combustible and non-fire rated.
- To determine the construction type for the new Quincy High School, (2) Construction Types were evaluated; Type II-B, (non-combustible, non-fire rated), and Type II-A, (non-combustible / fire rated). The goal is to find a construction type that has the best cost-benefit and will be the easiest to manage over time. Typically, managing a fire rated building is more difficult than a non-fire rated building. The trade-off is that in order to meet the area requirements for non-rated Type II construction is that fire separation walls are needed and can be complicated to design. In general, separating the building into smaller buildings has proven to be the most economical and best for long term maintenance. Therefore the option for new construction is as follows:

- Create (3-4) separate buildings using fire walls per IBC Section 706. This allows for the new construction to be Construction Type II-B, (Non-Fire Rated).

- The base allowable area per floor for an E Occupancy in Type II-B & Type III-B construction is 14,500 square feet.
- Allowable area with increases due to fire sprinklers for this option is estimated to be approximately 43,500 square feet per floor and 87,000 for multi-story. This is greater than the (3-4) building areas currently under review.

Fire Resistive Rating of Building Elements

- Under the scenario just outlined, all of the new structural and non-structural elements of the building may be non-fire rated with the exception that the fire walls separating each building would be required to have a 2-hour fire rating with 120 minute self-closing fire doors at openings. This is a common strategy for school buildings.

Zoning

- The newly annexed high school site is zoned R-1. The City Zoning Ordinance will require a conditional use permit with a public hearing to be conducted by the Planning Commission. The Planning Commission will evaluate any public testimony and make a recommendation to the City Council for acceptance. This will be evaluated in detail during design development.
- A State Environmental Policy Act, (SEPA), report is required. The City will be acting as the lead agency in conducting the report and has procured the services of Heery International to guide the process. In conjunction with the SEPA, a traffic study will be required.
- Off-street Parking: The City of Quincy does not have parking quantity requirements for schools and large sports venues and has asked for a proposal from the project team to evaluate. The primary driver for parking tends to be the after-hours events in the outdoor stadium, gyms or performing arts. The largest venue is the outdoor stadium and a suggested ratio of parking to seats of 1 stall per 4 seats appears to provide an adequate amount of parking. The total parking count then for a 1,700 seat stadium would be 425 stalls. The stalls would be distributed across the whole site and will be more than adequate for daily school needs. A recommended ratio for school would be (7) stalls per classroom which yields a total of 357 stalls. The total parking requirements will be studied in more detail during design development with staff and a final recommendation sent to the city for their consideration. If the city determines that the suggested recommendation is acceptable then it will be adopted by a vote of the city council.

Energy Code

- The project will need to comply with the 2015 Washington State Energy Code. The energy code requires minimum envelope, mechanical and electrical performance as well as some whole building testing and reporting systems.

Quincy High School
Site Area: 1,448,500 sf
Building Area: 192,620 sf

Construction Cost Estimate
Design Phase: Schematic Design
MACC = $62,250,000

No.	Description	Cost	Unit Cost	Percent
A10	Foundations	$2,728,256	$14.16	4.65%
A20	Basement Construction	$0	$0.00	0.00%
B10	Superstructure	$4,950,828	$25.70	8.43%
B20	Exterior Closure	$5,087,340	$26.41	8.66%
B30	Roofing	$1,738,540	$9.03	2.96%
C10	Interior Construction	$3,225,273	$16.74	5.49%
C20	Staircases	$238,500	$1.24	0.41%
C30	Interior Finishes	$4,409,755	$22.89	7.51%
D10	Conveying Systems	$85,000	$0.44	0.14%
D20	Plumbing	$4,093,175	$21.25	6.97%
D30	HVAC	$4,574,725	$23.75	7.79%
D40	Fire Protection	$500,812	$2.60	0.85%
D50	Electrical	$8,646,512	$44.89	14.73%
E10	Equipment	$1,325,850	$6.88	2.26%
E20	Furnishings	$1,583,685	$8.22	2.70%
F10	Special Construction	$1,204,000	$6.25	2.05%
F20	Selective Building Demolition	$0	$0.00	0.00%
G10	Site Preparation	$1,420,000	$7.37	2.42%
G20	Site Improvements	$7,159,250	$37.17	12.19%
G30	Site Mechanical Utilities	$1,507,175	$7.82	2.57%
G40	Site Electrical Utilities	$1,176,831	$6.11	2.00%
G90	Other Site Construction	$0	$0.00	0.00%
	Subtotal	**$55,655,507**	**$288.94**	**94.79%**
Z10	General Requirements (5.5%)	$3,061,053	$15.89	5.21%
	Subtotal of Estimated Construction Cost	**$58,716,560**	**$304.83**	**100.00%**
	CONTRACTOR FEES			
	Bonds and Insurance (1.5%)	$880,748	$4.57	1.50%
	B&O Tax (0.5%)	$293,583	$1.52	0.50%
	Overhead and Profit (4.0%)	$2,348,662	$12.19	4.00%
	Total Estimated Construction Cost	**$62,239,553**	**$323.12**	**106.00%**

SCHEMATIC DESIGN PHASE ADJUSTMENTS

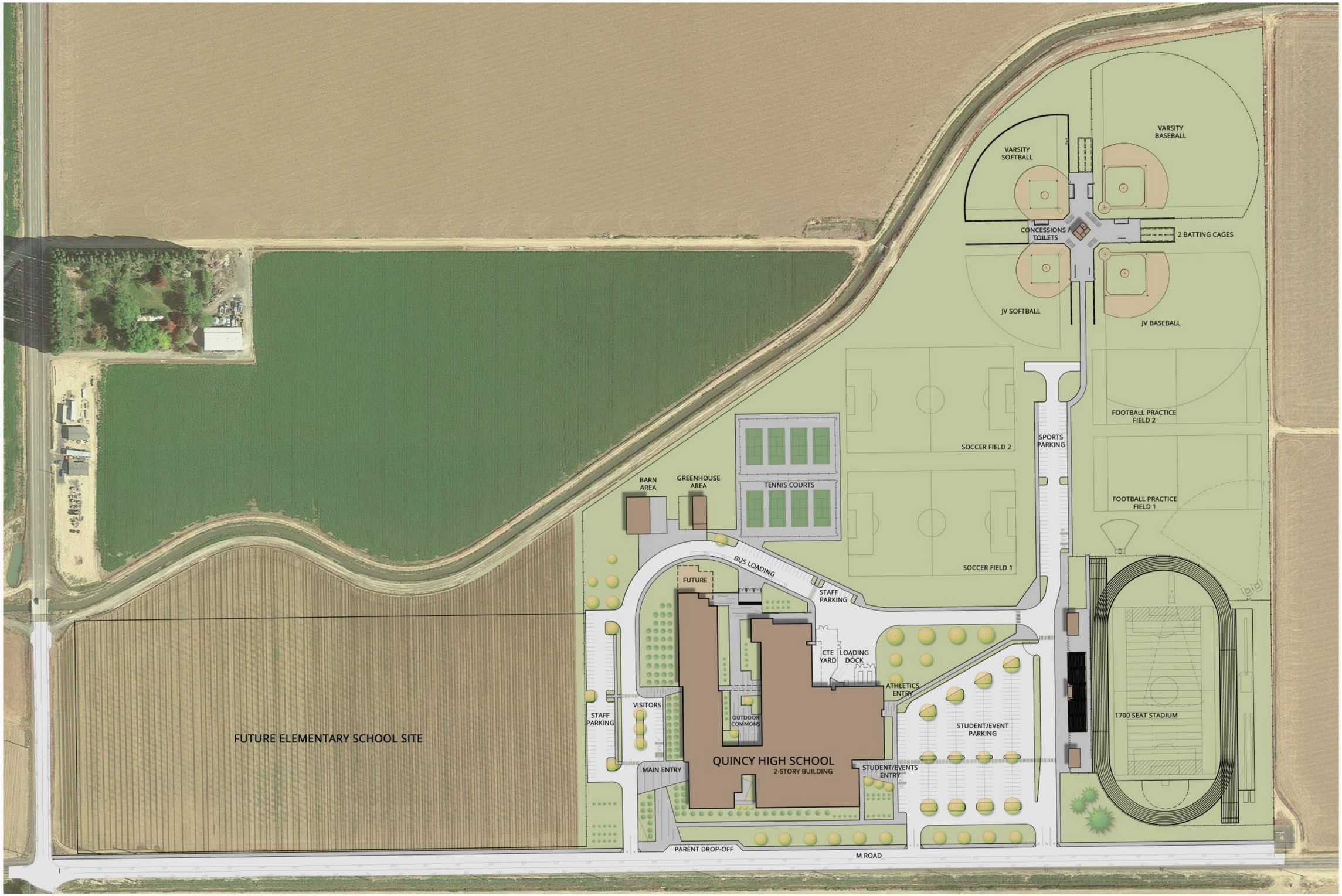
1. Estimate includes a 5% estimating contingency
2. Estimate assumes a construction start of Q4 2017

Quincy High School
Site Area: 1,448,500 sf
Building Area: 192,620 sf

Construction Cost Estimate
Design Phase: Schematic Design
MACC = $62,250,000

SUMMARY OF ALTERNATES

No.	Description	Cost	Unit Cost
1	Artificial Turf for Football Field	$1,521,458	$7.90
2A	Lighting for Baseball/Softball Fields	$171,100	$0.89
2B	Sound System for Baseball/Softball Fields	$91,250	$0.47
3	Barn Infrastructure	$57,000	$0.30
4	Greenhouse	$105,000	$0.55
5	Toilets and Services to North Fields	$230,000	$1.19
	Total of Alternates	**$2,175,808**	**$11.30**



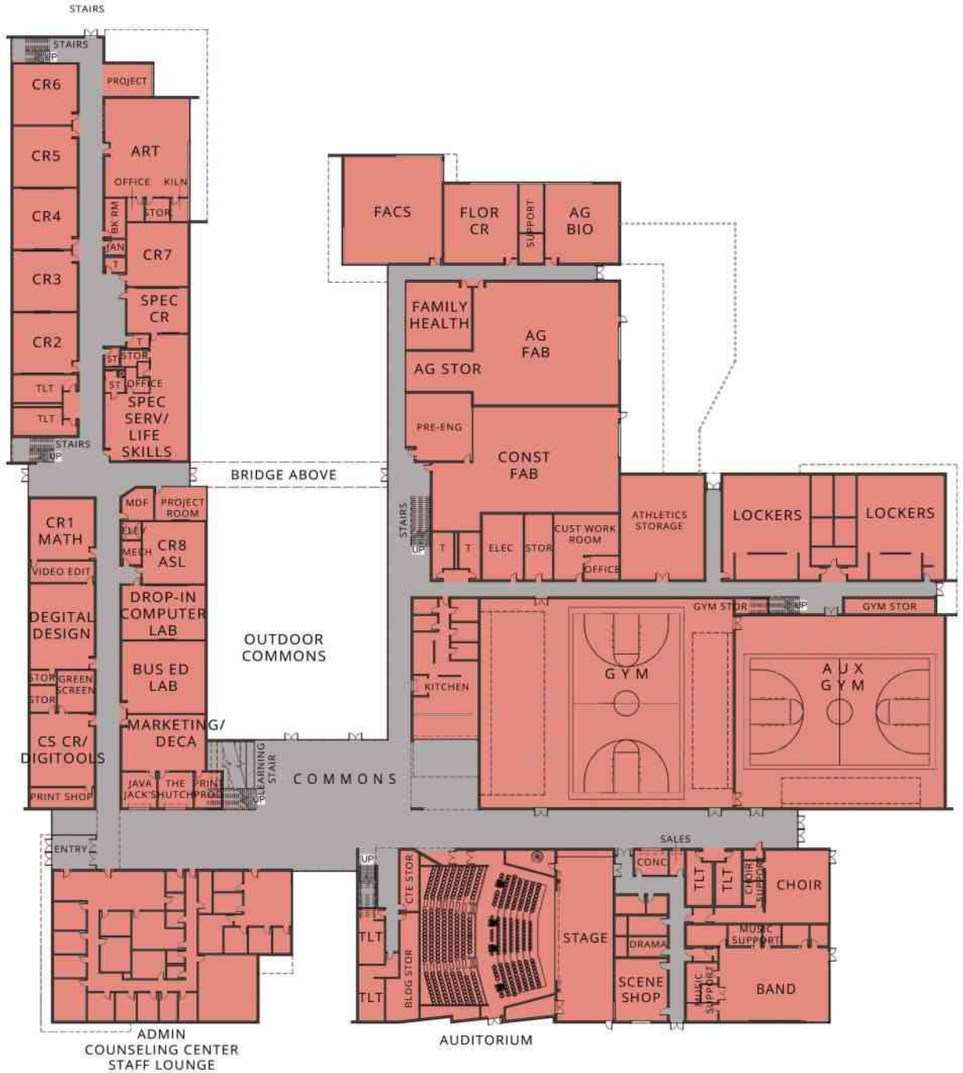
QUINCY HIGH SCHOOL

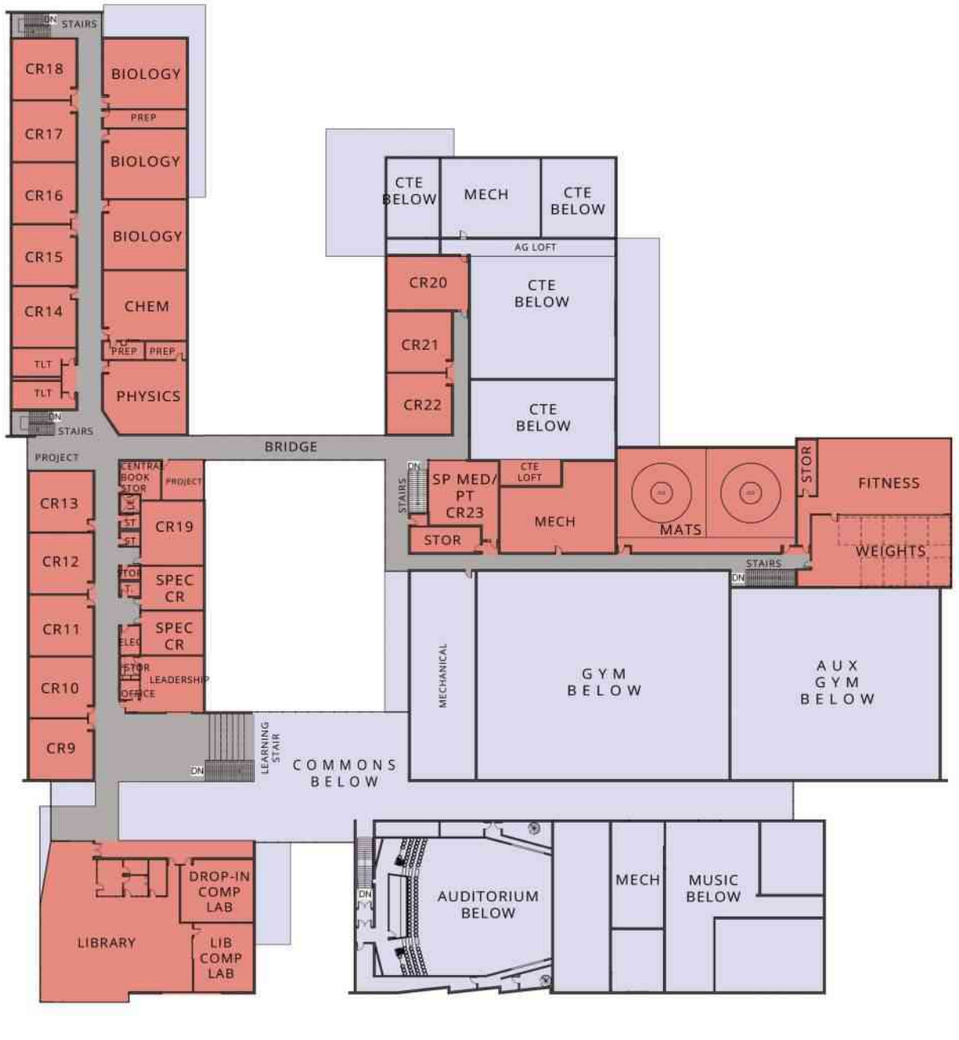
NOVEMBER 4, 2016 SCHEMATIC DESIGN

site plan

0' 30' 90' 180'

NAC ARCHITECTURE





QUINCY HIGH SCHOOL

NOVEMBER 4, 2016 SCHEMATIC DESIGN

floor plans NAC ARCHITECTURE

OVERALL VIEW

MAIN ENTRY - LIBRARY

MAIN ENTRY / LIBRARY

EVENTS ENTRY

FITNESS - WEIGHTS

OUTDOOR COMMONS

BREAK ROOM PATIO - LEARNING PATIO

QUINCY HIGH SCHOOL

NOVEMBER 4, 2016 SCHEMATIC DESIGN

CONCEPTUAL RENDERINGS

NAC ARCHITECTURE

QUINCY HIGH SCHOOL

NOVEMBER 4, 2016

SCHEMATIC DESIGN

CONCEPTUAL RENDERINGS

NAC ARCHITECTURE