BEAVERTON SCHOOL DISTRICT

Beaverton High School Conceptual Plan Report

BR|IC

APRIL 22nd, 2022

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Part 1 Conceptual Plan Report

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Acknowledgments

A thoughtful, inclusive planning process sets the stage for a successful and innovative design project. The vision for the Beaverton High School Conceptual Plan was developed by the BHS Design Advisory Committee (DAC) based on extensive stakeholder input collected though an equity-driven engagement process. Beaverton School District would like to thank the committee members who contributed to this effort by serving on the Design Advisory Committee.

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KPFF: Civil and Structural
Walker Macy: Landscape Architecture
Interface Engineering: MEP/T
Shalleck Collective: Theater
ACC: Cost
Logistics: Skanska
Halliday Associated: Food Service
Peter Meijer Associates: Historical

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Executive Summary

This report summarizes the work of BRIC Architecture, the Beaverton School District, and the Beaverton High School community in developing a conceptual plan for the reimagining of Beaverton High School. The process included a due diligence study of existing conditions to understand design constraints and opportunities, an equity-based engagement process that included over 50 meetings with stakeholders and committee members, and a design process to create an area program and conceptual design which will serve as a springboard for detailed design.

Process

The design team included BRIC Architecture, KPFF Consulting Engineers (Civil and Structural), Walker Macy (Landscape Architecture), Interface Engineering (Mechanical, Electrical, Technology), Shalleck Collective (Theater Design), Peter Meijer Associates (Historical Consulting), Halliday Associates (Food Service), ACC (Cost Consulting), and Skanska (Construction Logistics). The team provided a due diligence report in September 2021, a draft area program in October 2021, an engagement summary in December 2021, and a concept design in February 2022. Each topic is discussed in further detail later in this report.

The design was developed as a collaboration with the Beaverton High School Design Advisory Committee (DAC) which was comprised of School staff, Students, District staff, and Community members. The DAC met seven times from July 2021 – February 2022 and served as a hands-on partner with the BRIC team to conceptualize, provide feedback, and develop the final concept design.

Recommendations for Design

- The rich history of Beaverton High School will be respected and celebrated.
- Equity will serve as the basis for all design decisions.
- The new Beaverton High School will reflect the urban context of Beaverton.
- The campus will celebrate diversity and provide a sense of unity.

Key Metrics

- The overall campus is planned for a capacity of 2,200 students, with an initial capacity of **1,500**.
- The 1,500 student school will include **280,000 sf** of new construction. The new building will replace the entire existing high school academic buildings, with the exception of the existing Cafeteria which will remain.
- Selected athletic buildings will remain and/or be renovated including football concessions, football stadium, and baseball/softball building.
- Approximately **430** parking spaces will be provided.
- Overall project budget is **$253,000,000**.
- Construction is anticipated to begin in **Spring of 2024** and is scheduled for full completion **Summer of 2027**.

The following pages include more detailed information on Equity-Based Engagement, Area & Site Program, Design Concepts, Project Budget, Proposed System Narratives from our consultant team, and a preliminary Phasing Diagram. The Due Diligence Report has been issued in a separate volume.

Equity-based Engagement Summary

In summer of 2021, Beaverton School District kicked off a multiphase process for planning and designing the reimagined Beaverton High School campus. The seven-month process was characterized by equity-driven engagement strategies to bring the voices of historically underserved communities to the foreground when designing the building.

Listening and Learning: Community Dialogue Sessions

Recognizing the magnitude of this opportunity to shape future learning environments for Beaverton High School (BHS) students, District leadership felt it was important to begin the process by developing a deep and nuanced understanding of how the current BHS facilities and campus are perceived and experienced by diverse groups of stakeholders, particularly those from historically underserved communities. To this end, in October and November of 2021, the District worked with BRIC Architecture to conduct a series of 90-minute engagement sessions to engage students, parents, teachers, staff, community members, and industry partners in socio-spatial conversations to consider the ways that traditional spatial arrangements in schools may reproduce racial and other inequities. The District intentionally sought to foreground the voices of underserved communities by using an "affinity" model for participant selection where groups were organized around common identities, fostering an emotionally safe and brave space to share stories and generate ideas for a reimagined school experience.

A total of 36 sessions were scheduled over a period of five (5) weeks; 21 sessions were conducted, whereas 15 sessions were canceled due to lack of participants. Sessions were advertised via targeted emails, social media posts, ParentSquare, StudentSquare, and the District's website. Due to social distancing requirements, all parent engagement sessions were held virtually using digital platforms, while student sessions were held in-person at Beaverton High School. Over 300 people participated in the engagement sessions including BHS students, families, teachers, community partners, and administrators. During these sessions, facilitators from BRIC Architecture fostered a safe environment for deep, empathetic listening and an open sharing of ideas. Following the completion of all sessions, meeting transcripts were carefully reviewed to extract overarching themes across meetings and across the various groups.

Defining the Vision: Design Advisory Committee

A Design Advisory Committee (DAC) was organized to oversee the development of the conceptual plan for the reimagined Beaverton High School campus. After an initial kick-off meeting on July 27, 2021, the DAC paused for a few months pending the collection of input from the affinity-based "Listening and Learning" dialogue sessions. Reconvening in late October of 2021, the DAC was able use the "Listening and Learning" themes as the foundation for developing a set of Guiding Principles for the project. The Design Advisory Committee met five (5) times from October through February 2022 to develop design approaches and layout options for the BHS facility and campus. Over the winter months, the DAC moved toward advancing a few potential concepts for the consideration of the wider Beaverton community.

Reimagine Beaverton High School

Help Create an Equitable Vision for a Reimagined Beaverton High School Campus.
Beaverton School District is in the early stages of planning for the onsite replacement of Beaverton High School's facilities as part of a proposed 2022 school construction bond. In keeping with the District's commitment to racial equity and social justice, BHS is organizing a series of affinity-based dialogue sessions to better understand how Beaverton High School can better support the needs of Black, Indigenous, People of Color (BIPOC) and traditionally underserved communities.

GET INVOLVED. HAVE YOUR VOICE HEARD. SHARE YOUR EXPERIENCES.

Log in to ParentSquare or StudentSquare to register for the virtual session that best represents your relationship to Beaverton High School.

LGBTQ+ Families
- Monday, October 4 - 5:30-7:00 p.m.

BHS Staff (BHS Educators)
- Tuesday, October 5 - 2:45-3:30 p.m.

MEChA
- Monday, October 11 - 1:01-2:30 p.m.

Latina/o/x Families
- Monday, October 11 - 5:30-7:00 p.m.

Somali and West African Families
- Tuesday, October 12 - 3:00-4:30 p.m.

Somali and West African Students
- Wednesday, October 13 - 1:01-2:30 p.m.

BSD Black Parent Association
- Thursday, October 14 - 5:30-7:00 p.m.

GSA
- Friday, October 15 - 1:01-2:30 p.m.

SPED Families
- Monday, October 18 - 3:00-4:30 p.m.

Arabic Families
- Monday, October 18 - 5:30-7:00 p.m.

Black Student Union
- Tuesday, October 19 - 1:01-2:30 p.m.

Asian Students
- Thursday, October 21 - 1:01-2:30 p.m.

BHS Students (Open)
- Monday, October 25 - 1:01-2:30 p.m.

Indigenous Families
- Monday, October 25 - 5:30-7:00 p.m.

Community Partnership Team
- Tuesday, October 26 - 7:45-9:14 a.m.

Dual Language Families
- Wednesday, October 27 - 5:30-7:00 p.m.

BHS Alumni
- Thursday, October 28 - 5:30-7:00 p.m.

Students on 504s
- Friday, October 29 - 1:01-2:30 p.m.

Indigenous Students
- Tuesday, November 2 - 1:01-2:30 p.m.

Arab Students
- Thursday, November 4 - 1:01-2:30 p.m.

Houseless Students
- Monday, November 8 - 1:01-2:30 p.m.

For additional information, contact us at BHS-Reimagining@beaverton.k12.or.us.

Review and Refinement: Family Forums and Open House Events

In December 2021, the District scheduled nine (9) virtual family forums / community sessions to review the preliminary master plan concepts developed by the Design Advisory Committee. As with the "Listening and Learning" sessions, the District intentionally included a series of affinity-based meetings around shared social identities to ensure that the voices of traditionally underserved families were heard. Unfortunately, six (6) of the sessions had no participants and were subsequently canceled. Sessions with participants included an Open House event and two family forums (one in English and one in Spanish). During these Open House sessions, BRIC Architecture shared working drafts of conceptual master plan options while explaining their alignment with "Listening and Learning" themes as well as the DAC's guiding principles. Community stakeholders were provided with the opportunity to share their thoughts on the conceptual plans, ask questions, and suggest changes. This feedback was then brought back to the Design Advisory Committee for their consideration in refining the building design and campus layout and moving toward a final proposed conceptual plan.

1. CONCEPTUAL PLAN REPORT EQUITY-BASED ENGAGEMENT SUMMARY

In January 2022, the next iteration of the conceptual plan was presented to the larger community in a series of three (3) Open House sessions, including a Spanish language session. Attendees were able to view the evolution of the master planning concepts based on the ongoing work of the Design Advisory Committee as well as recent feedback from the recent family forums and community presentations. The input collected during the Open House events was again shared with the Design Advisory Committee for consideration in further refining the conceptual plan.

In February 2022, the Design Advisory Committee reached consensus on a final conceptual plan for the reimagined Beaverton High School campus.

Feedback from Equity-Centered Engagement Sessions

INCLUSIVE AND ACCESSIBLE

School spaces should be thoughtfully designed to be inclusive and accessible to students of all abilities while promoting meaningful connections and shared experiences among special education (SPED) students and general education peers.

- SPED rooms should be thoughtfully integrated among general classroom wings.
- All spaces should be accessible by all students.
- Placement of elevators, ramps, and ADA door push plates should allow students with physical disabilities to travel alongside able-bodied peers.
- Avoid sprawling layouts that disproportionately burden students with physical disabilities, greatly increasing the time needed to transition between areas of the building or campus.
- Provide professional resources for SPED instructors and instructional assistants (IAs) to show they are valued.

Illustrative Quotes:

"I know there have been struggles as (my son) does have a class this semester that's on the second floor that he has to take the elevator for. And then the classroom itself has a lift because there are some stairs in the actual classroom. And I think it has been really challenging for him to really engage and participate in that class. I don't think he actually even attended the class in person for the first two or three weeks because they were trying to navigate how to best support him in even just getting to the room... (it wasn't) any person's fault, I think it truly was a logistical issue. My son also experiences tremendous anxiety. And so transitions and meeting new teachers, new classmates is big, it's hard. And so it takes some scaffolding for sure for him to do that. So a lot of our barriers are physical, but a lot of them too, are emotional, or psychological."
– SPED Parent

"One thing that I observed...I'm in Health Careers [CTE pathway], which is kind of downstairs back into the school – nobody knows where it is... So, I'm just thinking like, maybe if more people, if traffic was directed so that they were walking past that classroom...then maybe more people would enroll in Health Groups. And I had a similar thought...we're by the special education classrooms – that hall is right next to us. And I think [in some ways] that positioning is good for those students because they have access to like the back ramp and buses that go through the back of the school, which is probably good. But nobody's walking past or nobody knows where those classrooms are. There's kind of a lack of inclusion."
-BHS Student

SUPPORT OF NEURODIVERSE LEARNERS

Support the needs of neurodiverse learners and introverts by including a variety of smaller quiet areas for students to retreat from overstimulating environments.

- → Provide a variety of smaller nooks, alcoves, or porches interspersed throughout the building to allow students to step away from crowded common areas and have a quiet moment to recharge.
- → Include private, enclosed testing rooms where students can study or complete exams with minimal distractions.
- → Design areas with varying levels of audio and visual stimulation to allow students the flexibility of choosing different environments depending on their needs.

Illustrative Quotes:

"I think for (my son) in particular, if anything is too loud, too fast, too crowded, it's like he kind of goes into fight or flight. And so he just kind of survives that moment. For the environment to be where he could kind of come out of that heightened state and be in a place where he's open to make those connections (with other students), it's definitely going to be something that's going to be a little bit more one-on-one, and it's going to be quieter. So if there are spaces that allow for that, that's fantastic. So it's not like every minute of his day, he's in that heightened state of survival – that there are some opportunities for it to be a little bit quieter."
– SPED Parent

"There's nowhere that's like sensory-friendly. Like sitting at lunch, if you're a neurodivergent person, it's really hard to be in that space all the time. It's really hard to be in classrooms that have no windows. It's really hard to be just at one space at lunch. Even the Wellness Center has so many things going on in it. Like everybody needs something a little bit different... but even the Wellness Center is not completely sensory-friendly. There's nowhere to go where you can just kind of have a couple minutes where there is nothing there."
– BHS Student

STUDENT-OWNED SPACES

Thoughtfully design multiple "student-owned" spaces within the building and campus that invite student autonomy, self-expression, and a sense of belonging.

- → Provide a variety of inviting communal spaces or "hubs" where students can gather with comfortable seating and the ability to eat, socialize, play music, etc.
- → Provide expanded seating options for student dining beyond the open commons, allowing students to disperse in smaller groups.
- → Integrate dynamic, student-owned galleries, display cabinets, bulletin boards and/or shadow boxes for rotating displays of student work.
- → Consider ways that students could be allowed to personalize the built environment through artistic expression.
- → While staff should have passive supervision of such spaces, students should not feel overly scrutinized by adults.

Illustrative Quotes:

"The theater room - not the stage, but behind it - they have like a meeting area...it feels like it's the students' (space). The students run it, the drama teacher isn't even like kind of in charge. It is run by the students...and also they have kind of a locker room. It's not really a locker room, but there are lockers for dressing rooms. They're all painted. They're like all custom done by the students who have them. And that feels so different from the rest of the school."
– BHS Student

"One of the big strategies in urban planning is exploring temporary ideas, like not everything has to be permanent. Like (what) if there are spaces in the school where kids can experiment with new ideas? Maybe it's places for temporary art to go up on walls or outside or maybe it's places for people to build, like planters or benches that can then be repurposed into something else. Just allowing the flexibility to experiment. It's not going to be perfect and it doesn't necessarily need to be perfect. It just has to be a good learning opportunity for people to try and make something new. Right? Yeah, creating space for that would be good."
-BHS Community Partner

(Speaking of the lack of outdoor gathering spaces) "The problem that creates is, you know, a lot of kids are just kind of stray hanging around in the hallways or just you know, like sitting on the stairs and stuff. And you know, yes, some of them are cutting class but also there's no like defined space for them to hang out and you know, blow off some steam during lunchtime or... passing time."
– BHS Grad Mentor

CELEBRATE BIPOC AND LGBTQ+ STUDENTS

Honor and support BHS' BIPOC and LGBTQ+ students by designing a dedicated and celebrated multicultural space for affinity-based gatherings and activities.

- → Provide a multicultural center with a series of dedicated offices for student affinity groups clustered around a spacious shared work/ meeting area.
- → Support an inclusive approach to school spirit and student organized events that goes beyond Student Leadership to include a more diverse representation of students.
- → Include culturally expressive design features that are welcoming to BIPOC and other traditionally marginalized students and families.
- → Design language classrooms to support culturally immersive experiences.
- → Include a classroom-sized language lab for students equipped with computers and technology to support bilingualism and language acquisition.

Illustrative Quotes:

"So what kind of has happened this year is because a lot of teachers don't have any space for us, for the bigger clubs and more academic clubs, there are spaces for them. But for the side clubs, for clubs that focus on different sorts of issues that aren't viewed as, unfortunately, important enough, we don't get to have a room and a lot of us have been told to meet after school, and some of us cannot do that."

– LGBTQ Student / GSA Member

"So like football games, homecoming, all that, like school spirit experience stuff, is all led by leadership, which is primarily White people. And so I think it would be really interesting and fun to see different groups of people will take over different things. So not necessarily give leadership everything but maybe give MEChA football stuff or something and the Black Student Union something so that you can get different perspectives."
-Latinx Student at BHS

CULTURALLY EXPRESSIVE ENVIRONMENTS

Create culturally expressive environments where traditionally marginalized groups feel seen, valued, and represented.

- → Multilingual signage aligning with the languages spoken by BHS students and families.
- → Intentional recruitment of BIPOC and LGBTQ+ staff.
- → Address disparities in athletic participation rates among BIPOC and LGBTQ+ students by providing athletic resources and facilities to promote inclusivity.
- → Celebratory displays such as murals, flags, and posters.

- → Art and murals that reflect the cultural heritage of local students and their families.

Illustrative Quotes:

"I used to work with the assemblies a lot, you know, to set them up. And I noticed that when we do diversity assemblies, we include like our Korean students, Japanese students, and the students that do the dances in those really beautiful dresses. But for Arab students, I couldn't see like anything that could represent us besides like, you know, me waving a flag. But that was legit it. Nothing to represent us as a culture."

– Arab Student

"Disneyland came to mind - the different areas, you know? I think it would be cool, for example, if you had a courtyard (with) Latino themes, Mexican themes. You have the Talavera tile, you have a fountain. And then just make different areas of the school like you're transporting into the culture - not just a poster or a picture. But aside from murals, like actual materials used in that culture. It'd be kind of cool, because you (would) feel like you're somewhere else. And it takes off some of that pressure of it (feeling) like school. So I think that would be really cool to have, like different areas showcase different cultures in an architectural way."
- BHS Community Partner

"Just having our Japanese classroom have lower table - ones like where you sit down and stuff like that (and different) seating arrangements. Because right now, in my French classroom you wouldn't know it was a French classroom if you walked in there, besides two or three photos on the wall. So looking at traditional French classrooms and trying to replicate that same (approach) for our Spanish classes (would be beneficial).
- BHS Student

"Maybe try to incorporate different cultures' architectures into the building."
– BHS Student

CONNECTION TO THE OUTDOORS

Design a sustainable building with strong visual and physical connections to nature and ample outdoor courtyards and gathering spaces.

- → Include sustainable building and site features that minimize environmental impacts and contribute to students' wellbeing.
- → Include ample outdoor courtyards and gathering spaces for students.
- → Ensure that interior spaces have ample natural light and views of the outdoors.
- → Capture the mental health benefits of accessing outdoor environments by providing exterior doors to the Wellness Center and SPED classrooms.
- → Explore options for incorporating greenery indoors via an atrium with native plants or living walls.
- → Design transitional spaces between indoors and outdoors.

Illustrative Quotes:

"(In my ideal school) - the school itself has a lot of windows for just natural light and courtyards for students to congregate and socialize. Um, yeah, I think you know, something that feels open and accessible to students."
– BHS Community Partner

"The main area where all the students can actually meet up? I prefer the area where it's outside and the benches are, where there's like the trees growing on top of that as well."
– LGBTQ+ Student

"Having more outdoor areas because there's this one school in Hillsboro that when you're walking through the hallways, there's always like a door to the right or to the left where it's like an outdoor gardening like public or picnic area that you can go sit with nice flowers. I feel like that made the school very unique and also just very welcoming."
-Latinx Student at BHS

INTUITIVE WAYFINDING

Optimize campus wayfinding through a prominent and welcoming main entry, intuitive spatial arrangements, and highly visible multilingual signage and directional cues.

- → Provide a highly visible main entry that is easily identified by visitors or new students and their families.
- → Design an intuitive building layout that is easily navigated.
- → Provide ample multilingual and/or non-text signage and visual cues to orient students, staff and visitors.
- → Cluster the administrative and support areas frequently accessed by families near the front entry where they are easily located.
- → Ensure that the building and campus are efficiently organized to minimize travel distances between spaces during transition times.

Illustrative Quotes:

"If you're new, or if you're a freshman and experience anxiety disorder, you can't find anything. And it's so hard when you find yourself in that situation to ask for any kind of help, because you're already freaking out because you can't find anything. And so it gets really frustrating and a really, really, really high stress situation and you are late...and the rooms aren't numbered well, they're mis-numbered in different orders. There's no agreement on which direction is which direction - like some people will say, 'Oh, go towards the auditorium side or go towards the Erickson side.' But that means nothing to some people."
– BHS Student

"What's really weird to me about Beaverton is there are so many classrooms and doors that I literally don't know where they go. Yeah, and not like classrooms where students are in because I know most of those. Like there are so many teacher spaces, teacher bathrooms, community rooms, meeting rooms just like rooms in general that aren't in use or that are never talked about. And I genuinely spend a lot of time at Beaverton - like over the summer and through the school year. I'm here like every day, all day, after school, sports, leadership clubs, like all that stuff. So I'm here a lot and it's like people ask me when they're looking to find stuff because I know where things are, but then I don't even know what's up [in some areas]."
-BHS Student

NON-BINARY SPACES

Ensure school spaces are non-binary, inclusive of a gender spectrum, and afford physical privacy to all students.

- → Avoid binary references or spaces.
- → All students (LGBTQ+ and cis-gendered) desire a higher degree of privacy when changing and/or using the restroom.
- → Gender neutral restroom stalls with partitions that extend to the ground for greater privacy.
- → Ample private changing stalls in locker rooms.
- → Transgender students should not face barriers of having to travel long distances or requiring staff to unlock a gender-neutral restroom or space.
- → Acknowledge and address inequities associated with a gendered approach to school athletics.

Illustrative Quotes:

"Like the bathrooms...nobody should feel uncomfortable to go and have to do their business in a bathroom, especially at school. You want to create a safe space and make it safe for everybody. Don't exclude non-binary people, especially because it can be really dangerous...if you're the one who's getting bullied on. It's even harder for you to even want to speak up, right? Especially if you're not represented at the school here and you feel like you're never going to be heard or seen."
– Latinx Student

"Not only those who want a more inclusive locker room space (want privacy). I would also say even if we still had binary locker rooms, and then like a non-binary locker room – like I know that there are more than three genders but, I don't know, even in the binary spaces I think that there should be more private ways to change."
– LGBTQ+ Student

"There's no gender-neutral bathrooms, or there's only one and it's in the West Annex. So sometimes when I have to go to the bathroom, I genuinely consider walking all the way there because going into the women's bathroom causes me dysphoria. And also locker rooms because like when I was in the locker room I realized I was a trans man but

I was out as a lesbian, so like the girls around me were like 'Don't look at me!' So I would like look at the ground while I got dressed. It was a very unwelcoming environment for me."
- Transgender Student at BHS

SOCIAL EMOTIONAL WELLNESS

Support the social emotional health of students by including an expanded, centrally-located Wellness Center.

- → Wellness spaces should be centrally located and easily identified yet have a degree of privacy so students don't feel on display or exposed when having a mental health crisis.
- → Co-locate the Wellness Center with Counseling to better facilitate student access.
- → The Wellness Center should include an assortment of spaces to accommodate different activities, including a meditation area, sensory spaces, spiritual (prayer) room, calming rooms, and private meeting rooms.
- → Expand social emotional supports for BHS students from all cultural backgrounds while destigmatizing access to mental health services.

Illustrative Quotes:

"I think if the Wellness Center was where the Student Center is, it would be a much easier place to find because the counselors are down here. Most of the counselors are here. So if you want to go talk to the counselor, you have to go all the way to the office and then like they'll send you down here (to the Wellness Center)...but because it's like a room you don't normally like go to, most teachers think that you're skipping."
– BHS Student

"One of the things that I think is really lovely about the wellness lab is you walk through that doorway and instantly your blood pressure just goes down. You know, it just feels calm. And I think it doesn't even feel like you're in a school anymore in a way, you know? It's just a space that feels very calm. I think (we should) have that in more places in the building, where it's not just students accessing that for emotional regulation, but just as a regular (feature) throughout the building. We (would) have these spaces that are very calming. Maybe there's soft music playing, maybe the lights are low, there's aromatherapy or something."
- BHS Community Partner

CTE AND STEAM SPACES

Design specialized CTE, science, and art spaces that reflect the interests of BHS students, inspire engagement, and prepare them for life beyond high school.

- → Position CTE spaces as centralized and highly visible to generate awareness and interest in such programs.
- → Expand CTE program offerings by asking BHS students which programs they would like to see offered.
- → Provide intentionally designed, specialized CTE spaces that promote student engagement and job skill development.
- → Provide a CTE approach that encourages exploration and helps

students discover their educational "why." Provide the spaces and resources to connect students with summer or after school job opportunities.

→ Provide spaces to support student creativity in the visual and performing arts.

Illustrative Quotes:

"Our engineering pathway...it's pretty sad to be honest. I think engineering is in one room. And like, both the engineering teachers share it. And the reason that we probably don't have as much participation is if we were able to improve the classrooms, the resources, more students would be interested in engineering."
- BHS Student

"I think one of the barriers for students, and probably to some extent for parents and families as well, is that I think for so long we've been so focused on preparing students to be ready to go on to college, which is appropriate for some of our students, for sure. There's no question. And I think we do a good job of offering opportunities for those students. I think we do not do as good a job offering opportunities for students who have other interests and other goals. And I think they can very quickly feel really disenfranchised and disconnected. And it's very hard to kind of get them reengaged because there just is not something that we are offering that feels very relevant for them."
– BHS Community Partner

UNIQUE BHS CHARACTER

Ensure that the final design of BHS reflects the unique character of the school.

→ Architecture that aligns with the unique culture of BHS and is not overly institutional, cold, or intimidating.

→ The new design should aspire to capture the "unpretentious" and welcoming spirit of the current BHS campus – vibrant, colorful, and organic.

→ BHS is not a suburban school; the new design should reflect the downtown character unique to its urban setting.

→ Embrace the quirkiness that makes BHS' current building unique by incorporating interesting nooks and crannies – not just a sterile "box."

→ Address the tension between "new" and "comfortable" – design a school that feels soft, welcoming, and homey.

Illustrative Quotes:

"Oh, yeah (the current building) is wonky...it's gonna be less wonky than this. But I don't want it to be like Mountainside. It looks so business-y. It doesn't even look like a school – it looks like an office...But you know, we want a more homey (school). I don't even see any banners on that school or like representation of the mascot. Where's the mascot? At least in our school, we can see the colors and like, I feel like we should still have that in our next school – that we can see 'We are Beavs!'"
– BIPOC Student

"When students leave this building or step away from it, I want it to feel like it like it's home - they've left home, that sort of thing...I want that sense of coming home to something. Like it's evoking something in you that's always been there, I guess. And I do think that we gotta be careful about being too sterile. Because if you think about a space that is really important, there's like something funky about it, or there was something unique about it."
– BHS Counselor

AUTHENTIC RELATIONSHIPS

Be thoughtful in designing spaces that invite students to form authentic relationships with teachers and peers.

- Avoid spaces that promote a sense of competition among students. There are so many areas where this is dominant (e.g. athletics, academics, Homecoming, etc.). This works against inclusivity.
- Celebrating unique accomplishments, not just the elite athletic or academic wins.
- Family oriented environments that feel like "a home away from home" – a place of acceptance.
- The school should foster connections with teachers so that students feel comfortable approaching them when they are struggling

Illustrative Quotes:

"I think students who are struggling need something that is going to help them feel connected to school. And I think they also need to feel that...if they're struggling, there are resources here that can help them with that. But I think that connection piece is so you know, if they're not engaged, then you've kind of lost at that. I think there just has to be something that connects them."
– BHS Counselor

"I feel any school should have a symbiotic relationship with the community and the place that it sits in. Beaverton is uniquely situated downtown, right? ...We're not like a suburban school where everybody's driving and dropping kids off to school. And so I think that our space really needs to be homey and welcoming... and very flexible and multipurpose not just for our students and what they would do, but also to bring families in and to have community partners so that when students come into school, or families come into school, like, they can come for a variety of reasons, and know that it's a comforting and welcoming space and a place of resources."
– BHS Counselor

FLEXIBLE AND ADAPTABLE

Provide flexible and adaptable spaces and furnishings to support a range activities, group sizes, room configurations, and learning needs.

- Provide a variety of flexible furnishings in classrooms and gathering areas to support different activities, room configuration, and increase student comfort.
- Ensure the building is future-proofed to be adaptable to changing program needs and student populations.
- Provide generously sized classrooms and corridors to prevent overcrowded conditions.
- Ensure there are sufficient instructional spaces for teachers to own and personalize classrooms (i.e. avoid Westview model).
- Provide multipurpose areas (indoor and outdoor) to support collaboration, activities, and gatherings.

Illustrative Quotes:

"I would love for a classroom space to have more space for flexible seating. So different kinds of chairs, different ways or furniture that made it easy for us to do group work and like try to push our tables together easier...and just more variety of furniture pieces to help my students with ADHD. You need something that like kind of bounces around flexibly or like those rubber foot things where you just kind of bounce your foot on a big rubber band or something like that."
– BHS Teacher

"I think within the classrooms, there should be some design that allows for some flexibility for what students need that can keep them in the classroom. Because I think ultimately, that is our goal. You know, we don't want students...to leave the class to go find a place where they can be emotionally regulated...sometimes students need a little bit of a break. If there was kind of a place in the classroom where they could still be part of the class, but a little bit removed, where they could kind of work on that regulation. If there were a number of desks in the classroom that had those things where the feet move for students who kind of have to be in motion, you know? That would be a way that they can focus. A lot of students with ADHD, if they can just keep moving, they can stay in the class and focus, but we're not really set up to allow students to move constantly in class. So I think, kind of identifying the variety of needs that students might have, and as much as possible, incorporating those into the classrooms themselves in a way that allows students to stay and be able to access the teaching."
- BHS Community Partner

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Area & Site Program

The area and site programs for the Beaverton High School replacement facility are closely aligned with Beaverton School District's High School Educational Specifications. The intent of the Educational Specifications is to provide consistent space allocations and design criteria across all District high school projects. There are certain areas where the program for Beaverton High School diverges from the BSD High School Educational Specifications, based on school-specific needs; in these cases, rooms or areas were adjusted to meet local conditions at BHS. These areas are described below:

- **Classroom Quantity:** The quantity of teaching stations reflects a student capacity of 1,500 students at 75% utilization, whereas the Ed Spec was based on an assumed student enrollment of 2,200 students at 85% utilization. The number of general classrooms and science labs at BHS were adjusted accordingly. A makerspace was added to the program to support project-based learning among students. Additionally, unlike the Educational Specifications, BHS' area does not include general computer labs, reflecting current availability and use of mobile devices among students.
- **SPED:** The quantity and sizes of certain SPED instructional areas were adjusted to align with BHS' current and projected SPED classrooms and support areas.
- **Extended Learning Areas:** The Educational Specifications include an allotment of space for creating extended learning areas. At BHS, the number of extended learning areas was reduced to reflect the lower classroom count. Other instructional support spaces, such as teacher planning rooms, were also scaled to reflect the smaller student capacity.
- **Cafeteria and Kitchen:** As BHS' existing cafeteria will remain, these program areas were excluded from the proposed new construction.
- **Net-to-Gross Ratio for Theater Areas:** Based on the District's experience with recent high school projects, the grossing factor for the theater spaces was increased accommodate additional aisle width and circulation area.
- **CTE Spaces:** As the Educational Specifications only included very limited space for CTE, the District decided that the total SF allocation for CTE at BHS should match the amount of space provided at Mountainside High School. While the overall spatial allocations for CTE are comparable across both projects, there is some variation in the types of spaces provided in order to meet local programmatic needs. Additional square footage was added for a district-run Health Careers program as a "below the line" item.
- **Administration, Counseling and Community Spaces:** There are moderate differences in the quantities and/or sizes of offices and meeting rooms based on local staffing needs at Beaverton High School. The community engagement process determined a need for a multi-cultural center which has been included in the program. Square footage was also added for a Wellness Center – a space provided in the current facility that is highly valued among students. There was also an allocation for an open student commons or gathering space, similar to what is provided in the lobby at the current facility.
- **Virginia Garcia Health Clinic:** This will be included in the project but is "below the line" in terms of Ed Spec requirements for a high school.
- **Parking:** The existing conditional use with the city of Beaverton requires 432 parking spaces which will be design goal for this project. The Educational Specifications call for 500 spaces for a high school.

The area and site programs for the replacement building are provided on the following pages.

BEAVERTON HIGH SCHOOL - PROPOSED AREA PROGRAM

1,500 Students High School with Core Areas for up to 2,200 Students	# of Teaching Stations	Quantity	Net SF per Space	Total Net SF	Subtotal by Area
Academics					
General Classrooms	32	32	950	30,400	
Extended Learning Areas / Flex Space		5	750	3,750	
Science Labs	8	8	1,400	11,200	
Science Prep Rooms		4	300	1,200	
Chemical Storage		1	150	150	
General Science Storage		3	150	450	
Conference / Flex Meeting Space		3	250	750	
Teacher Collaboration / Planning Rooms		3	2,500	7,500	
Makerspace (Flex space - not counted as teaching station)		1	2,000	2,000	
					57,400
Specialized Programs					
SPED Program Classrooms (ISC, SLC and ALC)		3	1,200	3,600	
Apartment / Kitchen Learning Area		1	950	950	
Safe Room		1	67	67	
Testing Rooms		2	125	250	
SLP Office		1	100	100	
Conference Room (with divider)		1	250	250	
SPED Office (shared - multiple workstations)		1	950	950	
Itinerant Office		1	120	120	
ADA Accessible Restrooms		2	100	200	
Wheelchair Storage		1	80	80	
Sensory Motor Room		1	600	600	
Resource Rooms		3	950	2,850	
Community Transitions Program (CTP)		1	950	950	
Intervening Health Area		1	200	200	
					11,167
Electives					
Business and Marketing Classrooms	3	3	950	2,850	
Graphic Arts / Digital Media Labs	3	3	1,200	3,600	
Flex Engineering and Tech Lab	1	1	2,000	2,000	
Flex Engineering General Storage		1	350	350	
Flex Engineering Equip Storage		1	350	350	
TBD CTE Program Space	2	2	2,800	5,600	
					14,750
2-D and 3-D Art					
2-D Art Classroom	1	1	1,800	1,800	
3-D Art Classroom	1	1	2,000	2,000	
Kiln Room		1	150	150	
Art Office		2	100	200	
Glaze Room		1	80	80	
Art Supply / Storage Room		2	200	400	
Project Storage		2	400	800	
Graphic Design Computer Lab	1	1	1,000	1,000	
					6,430

BEAVERTON HIGH SCHOOL - PROPOSED AREA PROGRAM (CONTINUED)

1,500 Students High School with Core Areas for up to 2,200 Students	# of Teaching Stations	Quantity	Net SF per Space	Total Net SF	Subtotal by Area
Music (Band and Choir)					
Band Room	1	1	2,400	2,400	
Instrument Storage		1	300	300	
Music Library and Uniform Storage		1	250	250	
Ensemble Room		1	400	400	
Practice Rooms		4	75	300	
Office		1	120	120	
Recording Studio		1	250	250	
Sound Equipment Storage		1	75	75	
Chair and Stand Storage		1	300	300	
Choir Room	1	1	1,800	1,800	
Sound Equipment Storage		1	75	75	
Choir Robe Storage		1	200	200	
Music Library		1	100	100	
Practice Rooms		3	100	300	
Risers and Stand Storage		1	300	300	
Office		1	120	120	
					7,290
Theater / Performing Arts					
Auditorium / Theater		1	8,500	8,500	
Orchestra Pit		1	500	500	
Stage		1	3,000	3,000	
Control Booth		1	400	400	
Black Box Theater / Drama Classroom	1	1	2,000	2,000	
Black Box Storage		1	400	400	
Black Box Control Booth		1	100	100	
Scenery Construction / Production Storage		1	1,200	1,200	
Theater Storage		1	200	200	
Lighting Storage		1	100	100	
Costume Storage		1	400	400	
Make-up Room		1	200	200	
Boys' Dressing Room (10% Higher SF for GN Allowance)		1	275	275	
Girls' Dressing Room (10% Higher SF for GN Allowance)		1	275	275	
Green Room		1	300	300	
Laundry		1	75	75	
Drama Instructor's Office		1	120	120	
Concessions		1	100	100	
Theater Box Office		1	75	75	
Theater Lobby		1	500	500	
Girls' Toilet		1	130	130	
Boys' Toilet		1	130	130	
					18,980
Library Media Center					
Library Media Center		1	6,000	6,000	
Office		1	120	120	
Workroom		1	350	350	
Library Classroom (Dividable)	1	1	1,200	1,200	
Textbook Storage		1	750	750	
IT Repair / Tech Coordinator Office		1	180	180	
Enclosed Individual Study Rooms		5	50	250	
Enclosed Collaboration Rooms		5	150	750	
					9,600

BEAVERTON HIGH SCHOOL - PROPOSED AREA PROGRAM (CONTINUED)

1,500 Students High School with Core Areas for up to 2,200 Students	# of Teaching Stations	Quantity	Net SF per Space	Total Net SF	Subtotal by Area
Athletics / P.E.					
Main Gym (Serves as 2 Teaching Stations)	2	1	15,000	15,000	
Main Gym Pressbox		1	100	100	
Aux Gym	1	1	6,700	6,700	
Wrestling Room	1	1	3,600	3,600	
Aerobics / Dance Room (Includes Storage)	1	1	3,200	3,200	
Weight Room / Fitness	1	1	3,000	3,000	
Boys' Locker Room		1	1,750	1,750	
Boys' Toilets / Showers (10% Higher SF for GN Allowance)		1	550	550	
PE Office (Boys)		1	400	400	
Girls' Locker Room		1	1,750	1,750	
Girls' Toilets / Showers (10% Higher SF for GN Allowance)		1	550	550	
PE Office (Girls)		1	400	400	
Gender Neutral Locker Room		1	100	100	
PE Storage Rooms		2	500	1,000	
Athletic Director's Office		1	150	150	
Athletic Director's Secretary Office		1	100	100	
Athletic Director's Storage Room		1	50	50	
Flex Conference / Office (Coaches / Athletic Director)		1	350	350	
Health Classroom (May be Positioned as Gen CR if Desired - TBD During Design)	2	2	950	1,900	
Health Classroom Storage		1	100	100	
Training Room		1	750	750	
Athletic Equipment Storage		1	1,000	1,000	
PE Equipment Storage		1	1,500	1,500	
Box Office		1	150	150	
Concessions		1	200	200	
Coach / Officials' Locker Room (Gender-Neutral)		1	200	200	
Uniform / Equipment Storage		1	1,000	1,000	
Film / Health Room (Dividable - Counted as 2 Teaching Stations)	2	1	1,800	1,800	
Field Equipment Storage		1	1,000	1,000	
Large Team Rooms (Gender Neutral)		2	800	1,600	
Small Team Rooms (Gender Neutral)		6	350	2,100	
					52,050

BEAVERTON HIGH SCHOOL - PROPOSED AREA PROGRAM (CONTINUED)

1,500 Students High School with Core Areas for up to 2,200 Students	# of Teaching Stations	Quantity	Net SF per Space	Total Net SF	Subtotal by Area
Administration / Business / Attendance					
Entry / Reception / Lobby		1	650	650	
Waiting Area		1	100	100	
Principal's Office		1	250	250	
Principal's Secretary's Office		1	150	150	
Assistant Principal's Office		3	150	450	
Secretarial Area		1	100	100	
Interagency Services Office		1	100	100	
Supply Storage		1	75	75	
Conference Room		1	375	375	
Attendance Reception and Secretary		1	200	200	
Attendance Office		1	120	120	
Attendance Monitor's Office		1	120	120	
Business Manager - Bookkeeper		1	150	150	
Business Manager - Secretary		1	100	100	
Records Storage		1	200	200	
Flex Conference Rooms		3	100	300	
Workroom and Copy		1	300	300	
Central Kitchenette		1	80	80	
Vault		1	100	100	
Office Storage		1	100	100	
Restroom		2	60	120	
Interim Staff / Partner Offices		4	100	400	
Health Room		1	50	50	
Cot Room		2	100	200	
ADA Accessible Restroom (Gender-Neutral)		1	60	60	
SRO Office		1	200	200	
Security Conference Room		1	100	100	
Security Conference Room		1	100	100	
Security Office (shared)		1	200	200	
					5,450
Counseling and Career					
Counseling Reception and Waiting Area		1	500	500	
Counselor Office		6	120	720	
Large Conference Room		1	250	250	
Small Conference Room		2	120	240	
Work Room		1	100	100	
Vault		1	100	100	
Career Center Reception		1	500	500	
Career Center Flex Area		1	1,000	1,000	
Career Counselor Office		1	120	120	
Conference Room		1	150	150	
Registrar Office		1	150	150	
Storage		1	75	75	
Food / Clothes Closet Storage		1	250	250	
Small Kitchenette		1	50	50	
Staff Toilet		2	60	120	
School Psych (App 2.0)		2	100	200	
Social Workers (2)		2	100	200	
AVID Counselor		1	120	120	
ELL Counselor		1	120	120	
Portland State / Lewis and Clark Mental Health Counseling Interns		1	100	100	
Houseless Students Liason		1	100	100	
Graduation Mentors (5)		1	700	700	
Community Liasons (4)		1	600	600	
Multicultural Center		1	3,000	3,000	
					9,465

BEAVERTON HIGH SCHOOL - PROPOSED AREA PROGRAM (CONTINUED)

1,500 Students High School with Core Areas for up to 2,200 Students	# of Teaching Stations	Quantity	Net SF per Space	Total Net SF	Subtotal by Area
Community and Special Use					
Community Room		1	1,500	1,500	
AV / Control Room		1	100	100	
Laundry Room		1	100	100	
Student Center (1.5 Size of Current Student Center)		1	4,000	4,000	
Food Pantry / Clothing Closet		1	500	500	
REAP / Chicas (Shared Office)		1	100	100	
Family Outreach Program Office		1	100	100	
Self-Regulation Room		1	500	500	
Wellness Room		1	2,000	2,000	
					8,900
Custodial and Maintenance - NOTE: THESE WILL BE ADJUSTED BASED ON FINAL SIZE AND LAYOUT OF BUILDING					
Custodial Office		1	250	250	
Distributed Custodial Closets		8	100	800	
Distributed Student Restrooms (10% Higher SF for GN Allowance)		14	275	3,850	
Distributed Staff Restrooms (10% Higher SF for GN Allowance)		10	66	660	
ADA Accessible Restroom (Gender-Neutral)		2	60	120	
MDF Room		1	250	250	
Distributed IDF Rooms		10	50	500	
Network Repair and Storage		1	400	400	
					6,830
Miscellaneous - NOTE: THESE WILL BE ADJUSTED BASED ON FINAL SIZE AND LAYOUT OF BUILDING					
General Building Storage		1	1,500	1,500	
Custodial Supplies Center Storage		1	750	750	
Maintenance Shop Flex Area		1	1,000	1,000	
Flammable Storage		1	100	100	
Main Electrical Room		1	400	400	
Sub Electrical Room		6	75	450	
Plumbing and Valve Room for Science Labs		2	80	160	
Riser Room		1	80	80	
Elevator (Assume 3)		3	120	360	
Elevator Equipment		3	80	240	
Mechanical Fan Room		TBD	TBD	TBD	
Custodial Lockers, Restrooms, Break Area		1	200	200	
Receiving Area		1	200	200	
Boiler Chiller and Pumps Room		1	2,500	2,500	
Distributed Charging Carts and Storage		8	50	400	
					8,340
Total Net SF	**66**			**216,652**	**216,652**
Grossing Factor (30%)				64,996	
Extra Grossing for Theater Spaces (1.55 vs. 1.3)				4,745	
Total Gross SF				**286,393**	
"Below the Line" SF					
Health Careers (District Program)		2	2,000	4,000	
Virginia Garcia Health Clinic		1	3,000	3,000	
			Total NSF:	**7,000**	
			Total GSF:	**9,100**	

Proposed Area Program for Classroom Addition to Bring School to 2,200 Student Capacity

Note: In alignment with approved BHS approach, utilization for the addition matches that used for the main building (i.e. 75% vs. the 85% that is in the Ed Spec). As such, total number of teaching stations needed to reach 2,200 students is higher than what is in the Ed Spec (96 vs. 88).

BEAVERTON HIGH SCHOOL - PROPOSED AREA PROGRAM FOR FUTURE ADDITION

	# of Teaching Stations	Quantity	Net SF per Space	Total Net SF	Subtotal by Area
Academics					
General Classrooms	26	26	950	24,700	
Extended Learning Areas / Flex Space		3	750	2,250	
Science Labs	3	3	1,400	4,200	
Science Prep Rooms		1.5	300	450	
General Science Storage		1	150	150	
Conference Room		1	100	100	
Teacher Collaboration / Planing Rooms		1	2,500	2,500	
Additional STEM Teaching Station or Makerspace	1	1	2,000	2,000	
					36,350
Custodial and Maintenance - NOTE: THESE WILL BE ADJUSTED BASED ON FINAL SIZE AND LAYOUT OF BUILDING					
Distributed Custodial Closets		2	100	200	
Distributed Student Restrooms (10% Higher SF for GN Allowance)		6	275	1,650	
Distributed Staff Restrooms (10% Higher SF for GN Allowance)		2	66	132	
ADA Accessible Restroom (Gender-Neutral)		2	60	120	
MDF Room		1	250	250	
Distributed IDF Rooms		4	50	200	
					2,552
Miscellaneous - NOTE: THESE WILL BE ADJUSTED BASED ON FINAL SIZE AND LAYOUT OF BUILDING					
Sub Electrical Room		2	75	150	
Plumbing and Valve Room for Science Labs		1	80	80	
Elevator		1	120	120	
Elevator Equipment		1	80	80	
Distributed Charging Carts and Storage		2	50	100	
					530
Total Net SF					**39,432**
Grossing Factor (30%)					11,830
Total Gross SF					**51,262**

Total Teaching Stations in Main Building (As Proposed): **66**
Total Teaching Stations in the Addition (As Proposed): **30**
Final Total Teaching Stations: **96**

Class size = 30 / 75% Utilization Rate

BEAVERTON HIGH SCHOOL - PROPOSED SITE PROGRAM

	BHS		Ed Spec		Notes
	Qty	SF	Qty	SF / Room	
External and Athletic Buildings					
Stadium Restroom / Concession Building	1	Confirm	1	1,325	Existing to remain
Stadium Ticketing Building	1	75	1	75	
Stadium Press Box & Video Deck	1		1	900	
Stadium Concessions Building (Included above)	1		1	0	
Ball Fields Restroom / Concession Building	1	380	1	380	
Ball Fields Vehicle Storage Building	2	265	2	265	
Varsity Softball Dugouts	2	480	2	480	Existing to be renovated
Varsity Baseball Dugouts	2	480	2	480	Existing to be renovated
JV Softball Dugouts (at Offsite Location)	2	480	2	480	CMU 3 sides with chain link on field side
JV Baseball Dugouts (at Offsite Location)	2	480	2	480	CMU 3 sides with chain link on field side
Ballfield Storage	4	100	4	100	Added to one dugout on each field
Field Equipment & Maintenance Building	2	2,000	2	2,000	
Bleachers and Seating					
Stadium Home Bleachers	1	Confirm	1	2,00 Seats	Existing to remain
Stadium Visitor Bleachers	1	500 Seats	1	500 Seats	Replace if zoning code allows
Varsity Softball Bleachers	1	150 Seats	1	150 Seats	
Varsity Baseball Bleachers	1	150 Seats	1	150 Seats	
JV Softball Bleachers	1	50 Seats	1	50 Seats	
JV Baseball Bleachers	1	50 Seats	1	50 Seats	
Tennis Benches					
Batting Cage	1	17,000			
External Playing Fields and Areas					
Synthetic Turf Stadium Field (football, soccer inlaid, lacrosse overlay)	1		1		Replace turf in current location
Track (8 Lanes)	1		1		
Track and Field Events	1		1		Replace track in current location
Long Jump					Assume all new
Triple Jump					
Pole Vault					
High Jump					
Discuss					
Javelin					
Shot Put					
Varsity Softball Field	1		1		
Varsity Baseball Field	1		1		
JV Softball Field (at Offsite Location)	1		1		
JV Baseball Field (at Offsite Location)	1		1		
Practice Field with Multi-sport Overlays	1		1		
Soccer Field	1		1		Overlay on baseball field
Tennis Courts	4		8		
Miscellaneous Site Elements					
On-Site Parking	432		500		
Bus Loading Capacity	12		24		
SPED Bus Loading	12		5		
Bike Parking	Min. per Code		1222		
Enclosed Service Yard			1		
Future Portable Classrooms			12 to 20		
Marching Band Practice Area	1	180′ x 110′ Min.			Use multi-purpose field
Student Drop-Off Area					
R.O.W. Improvements	As Required by City				
Utility Improvements	As Required by City				

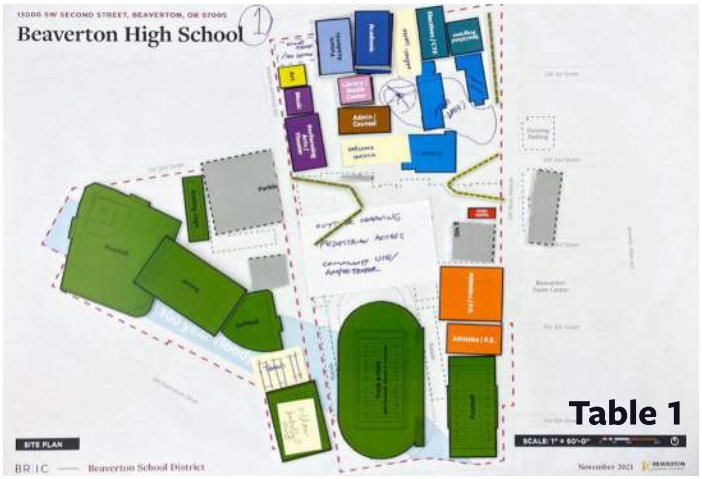
Design Concepts

The reimagining of Beaverton High School requires an awareness of history, context, and a vision for the future. The thread that will tie all this together is a design process rooted in equity with both a window to the past and a view to the future.

The building is envisioned as a three-story modern high school designed to meet all the requirements of the Beaverton School District high school educational specifications. The community engagement process has brought previously underrepresented voices to the table and with that an awareness of the richness of diversity in the BHS community. This diversity will be celebrated with purposeful design of spaces including an indoor multicultural center for student gathering and outdoor spaces that evoke a sense of community within the overall campus.

Pedestrian plazas will link the campus together to create a sense of unity throughout the 27-acre site. Equally important is the relationship of the school to the surrounding community. The scale of the building, the location adjacent to a major thoroughfare, and the pedestrian connections to the surrounding neighborhood will create a sense of connection to the broader Beaverton community on this uniquely urban site.

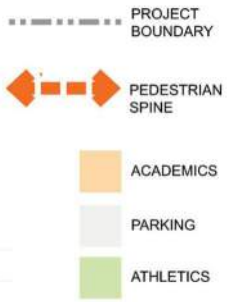
Most importantly, the history and traditions of Beaverton high school will form the foundation for this reimagined high school. Thoughtful selections of building materials to evoke the past and the future, incorporation of school colors to carry on decades of pride, and re-purposed historical elements to ensure the past is not forgotten, will create a campus that speaks to the past while charting a course for future generations of Beaverton High School students.



SITE CONSTRAINTS

1. Erickson to remain as a city street
2. 100 year flood plain
3. Cafeteria building to remain
4. No vehicle access from Farmington RD
5. Fixed Site Boundaries
6. 432 minimum parking stalls per city requirements

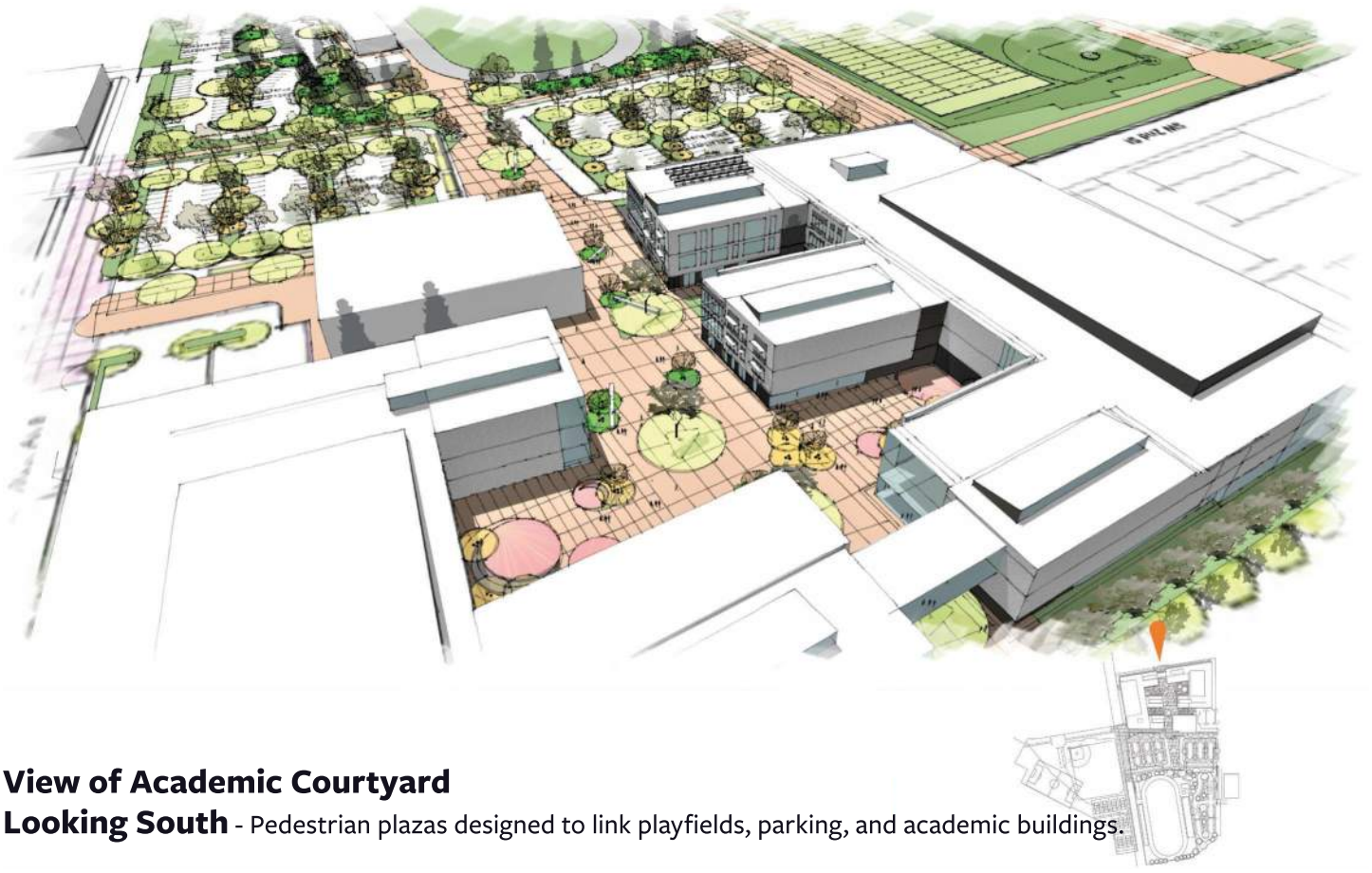
Beaverton High School Existing Conditions



Beaverton High School Pedestrian Circulation Diagram

Beaverton High School
Proposed Site Plan

View of Main Entry from Parking Lot
Looking North - Entry plaza designed to create a welcoming environment for students and community.



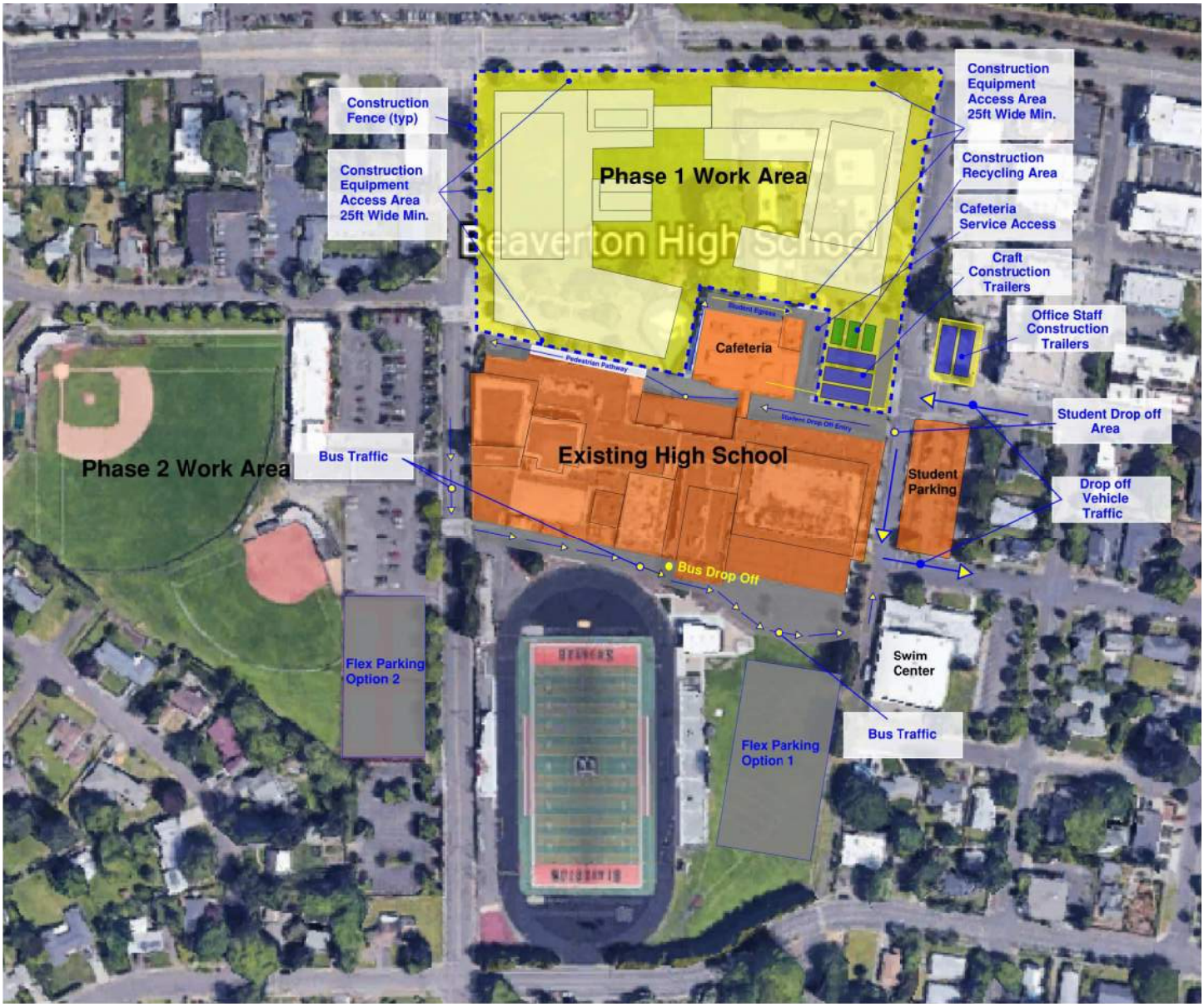
View of Academic Courtyard
Looking South - Pedestrian plazas designed to link playfields, parking, and academic buildings.

View Inside Academic Courtyard

Looking Southwest - Academic wings to provide daylight into classrooms.

View Inside Academic Courtyard

Looking Southeast - Plazas to celebrate multi-cultural character of BHS.



Conceptual Construction Logistic Plan

Budget

The project budget for the new Beaverton High School has been developed in a collaborative effort with input from BRIC consultants ACC Cost Consultants and Skanska, as well as with BSD staff and BSD cost consultant RLB. The process was based on the Target Value Design process in which development of budgets occurs hand-in-hand with the design process. It is important to note that the document that has been developed is a budget, not a cost estimate. The budget reflects the scope components of the proposed project, but it is too early in the process to conduct a detailed estimate. The first test of the budget will at the conclusion of the schematic design phase when the first estimate will be developed for the project. The intention is to continue to use the Target Value Design process throughout all phases of the design so that a design is developed that meets all project requirements while adhering to the budget that has been developed in this phase.

Budget Assumptions

The budget for the project has been based on research regarding current similar projects in the Portland Metro area. Information has been gleaned from various sources including cost estimates and actual construction costs. The spreadsheet includes a high, medium, and low value for each line item and for the overall project total. The proposed project budget is based on the medium level budget. The project mark-ups include an allowance for inflation as well as an additional allowance for current market instability related to supply chain issues currently affecting construction costs. Project cost percentages were provided by Beaverton School District and are based on recent relevant projects designed and built in the district.

BEAVERTON HIGH SCHOOL REPLACEMENT: BUDGET ANALYSIS (MARCH 2022)

Component		Area (SF)	Cost / SF	Cost	(-10%) Low Range	(+10%) High Range
Demo / Haz Mat						
D1	Main HS Building Demo	227,166	$10.00	**$2,271,660**	$2,044,494	$2,498,826
D2	Merle Davies Demo	40,000	$10.00	**$400,000**	$360,000	$440,000
	Hazardous Abatement - for Both Buildings	1	$1,000,000.00	**$1,000,000**	$900,000	$1,100,000
D3	Site Buildings Demo	20,000	$10.00	**$200,000**	$180,000	$220,000
D4	Athletic Fields Demo	300,000	$3.00	**$900,000**	$810,000	$990,000
D5	Existing Parking and Landscape Demo	275,000	$3.00	**$865,000**	$778,500	$951,500
D6	Existing Annex Building on Erickson Demo	19,000	$10.00	**$190,000**	$171,000	$209,000
Demo / Haz Mat Sub-total				**$5,826,660**	**$5,243,994**	**$6,409,326**
Remodels						
B1	Merle Davies Remodel	0	$275.00	**-**	-	-
B2	Cafeteria Building Remodel	17,000	$10.00	**$170,000**	$153,000	$187,000
Remodels Sub-total		**17,000**		**$170,000**	**$153,000**	**$187,000**
			$/SF	**$10.00**	$9.00	$11.00
			with markups	**$15.04**	$13.54	$16.55
New Buildings						
B3	Academics and SPED	89,797	$377.00	**$32,722,469**	$29,450,222	$35,994,716
B4	Electives / CTE	19,175	$350.00	**$6,711,250**	$6,040,125	$7,382,375
B5	2-D & 3-D Art	8,359	$350.00	**$2,925,650**	$2,633,085	$3,218,215
B6	Music (Band & Choir)	9,477	$350.00	**$3,316,950**	$2,985,255	$3,648,645
B7	Theater / Performing Arts	29,419	$426.00	**$12,532,494**	$11,279,245	$13,785,743
B8	Commons / Student Center	0	$0.00	**-**	-	-
B9	Library Media Center	12,480	$350.00	**$4,368,000**	$3,391,200	$4,804,800
B10	Athletics / P.E.	67,665	$349.00	**$23,615,085**	$21,253,577	$25,976,594
B11	Admin / Business / Attendance	7,085	$377.00	**$2,671,045**	$2,403,941	$2,938,150
B12	Counseling and Career	12,305	$377.00	**$4,638.985**	$4,175,087	$5,102,884
B13	Community and Special Use	11,570	$377.00	**$4,361,890**	$3,925,701	$4,798,079
B14	Custodial and Maintenance	8,879	$325.00	**$2,855,675**	$2,597,108	$3,174,243
B15	Miscellaneous / Storage	10,842	$325.00	**$3,523,650**	$3,171,285	$3,876,015
B16	Mechanical Penthouses	9,750	$200.00	**$1,950,000**	$1,755,000	$2,145,000
B17	Program Reductions	(4,900)	$377.00	**$(1,847,300)**	$(1,662,570)	$(2,032,030)
New Buildings Sub-total		**279,153**		**$104,375,843**	**$93,938,259**	**$114,813,427**
			S / SF	**$373.90**	$336.51	$411.29
			with markups	**$562.47**	$506.22	$618.72

BEAVERTON HIGH SCHOOL REPLACEMENT: BUDGET ANALYSIS (MARCH 2022)

Component		UOM	Unit Cost	Cost	(-10%) Low Range	(+10%) High Range
Site						
S1	Stadium and Press Box Remodel	1	$2,000,000.00	**$2,000,000**	$1,800,000	$2,200,000
S2	Stadium Ticketing Building	75	$550.00	**$41,250**	$37,125	$45,375
S3	Ballfields Restroom / Concessions	380	$450.00	**$171,000**	$153,900	$188,100
S4	Ballfields Storage	200	$225.00	**$45,000**	$40,500	$49,500
S5	Varsity Dugouts	1,920	$90.00	**$172,800**	$155,520	$190,080
S6	JV Dugouts	1,920	$80.00	**$153,600**	$138,240	$168,960
S7	Ballfield Storage	200	$225.00	**$45,000**	$40,500	$49,500
	Athletic Fencing	360	$500.00	**$180,000**	$162,000	$198,000
	Site / Security Fencing	4,500	$45.00	**$202,500**	$182,250	$222,750
S8	Field Equipment & Maintenance Building	530	$260.00	**$137,800**	$124,020	$151,580
S9	Bleachers and Seating			By Seat		
	Stadium Visitor Bleachers	500	$100.00	**$50,000**	$45,000	$55,000
	Varsity Softball Bleachers	150	$100.00	**$15,000**	$13,500	$16,500
	Varsity Baseball Bleachers	150	$100.00	**$15,000**	$13,500	$16,500
	JV Softball Bleachers	50	$100.00	**$5,000**	$4,500	$5,500
	JV Baseball Bleachers	50	$100.00	**$5,000**	$4,500	$5,500
	Tennis Benches	40	$100.00	**$4,000**	$3,600	$4,400
S10	Batting Cage (Infrastructure Only)	1	$12,000.00	**$12,000**	$10,800	$13,200
S11	Track (Resurface Existing 8 Lane Track)	50,000	$8.00	**$400,000**	$360,000	$440,000
S12	Track and Field Events (includes below)	1	$50,000	**$50,000**	$45,000	$55,000
	Long Jump		$0.00	**-**	-	-
	Triple Jump		$0.00	**-**	-	-
	Pole Vault		$0.00	**-**	-	-
	High Jump		$0.00	**-**	-	-
	Discuss		$0.00	**-**	-	-
	Javelin		$0.00	**-**	-	-
	Shot Put		$0.00	**-**	-	-
S13	Synthetic Turf Fields (Includes Below)	1	$2,500,000.00	**$2,500,000**	$2,250,000	$2,750,000
	Replace Stadium Field (Sub-base, Pad, Turf...)		$0.00	**-**	-	-
	Varsity Softball Field		$0.00	**-**	-	-
	Varsity Baseball Field		$0.00	**-**	-	-
	Practice Field with Multi-sport Overlays		$0.00	**-**	-	-
	Soccer Field		$0.00	**-**	-	-
S13a	Natural Turf Fields					
	JV Softball Field (Natural Grass)	30,000	$7.55	**$226,500**	$203,850	$249,150
	JV Baseball Field (Natural Grass)	40,000	$7.55	**$302,000**	$271,800	$332,200
S14	Tennis Courts (4) (All New)	25,500	$18.00	**$459,000**	$413,100	$504,900
S15	Field Lighting (See Alternate)	0	$0.00	**-**	-	-
S16	Parking and Loading					
	Renovate Existing Off-Site Lot(s)	31,500	$6.00	**$189,000**	$170,100	$207,900
	On-Site Parking	148,500	$8.00	**$1,188,000**	$1,069,200	$1,306,800
	Bus Loading Area (General and SPED)	16,800	$8.00	**$134,400**	$120,960	$147,840
	Student Drop-Off	20,000	$8.00	**$160,000**	$144,000	$176,000
	Vehicular Gates (Each)	4	$12,500.00	**$50,000**	$45,000	$55,000
S17	Bike Parking (Some Covered)	1	$100,000.00	**$100,000**	$90,000	$110,000
S18	Pedestrian Paving					
	Courtyards	15,000	$80.00	**$1,200,000**	$1,080,000	$1,320,000
	Plaza Areas	60,000	$25.00	**$900,000**	$810,000	$990,000
	Walkways	75,000	$10.50	**$787,500**	$708,750	$866,250
S19	Enclosed Service Yard (Existing to Remain)	0	$0.00	**-**	-	-
S20	Stormwater					
	Main Building Area	246,500	$2.00	**$439,000**	$443,700	$542,300
	Parking Areas	180,000	$2.00	**$360,000**	$324,000	$396,000
	Athletic Fields	735,250	$1.50	**$1,102,875**	$992,588	$1,213,163

BEAVERTON HIGH SCHOOL REPLACEMENT: BUDGET ANALYSIS (MARCH 2022)

Component		UOM	Unit Cost	Cost	(-10%) Low Range	(+10%) High Range
Site (continued)						
S21	Landscaping and Irrigation					
	Main Building Area	43,560	$22.00	**$958,320**	$862,488	$1,054,152
	Parking Areas	24,000	$17.00	**$408,000**	$367,200	$448,800
	Athletic Areas	43,560	$8.00	**$348,480**	$313,632	$383,328
	Site Perimeter	75,000	$17.00	**$1,275,000**	$1,147,500	$1,402,500
S22	Excavation and Earthwork					
	Main Building Area	246,500	$5.00	**$1,232,500**	$1,109,250	$1,355,750
	Parking Areas	180,000	$5.00	**$900,000**	$810,000	$990,000
	Athletic Areas	735,250	$1.50	**$1,102,875**	$992,588	$1,213,163
	Retaining Wall allowance	5,000	$50.00	**$250,000**	$225,000	$275,000
S23	On-Site Utilities (New & Existing)	1,161,750	$0.50	**$580,875**	$522,788	$638,963
S24	Off-Site Utility Improvements	0	$0.00	**-**	-	-
S25	R.O.W. Improvements					
	Farmington (Half)	56,400	$35.00	**$1,974,000**	$1,776,600	$2,171,400
	Stott (Half & Full)	51,885	$30.00	**$1,556,550**	$1,400,895	$1,712,205
	2nd (Half)	13,860	$25.00	**$346,500**	$311,850	$381,150
	5th (Half)	17,360	$25.00	**$434,000**	$390,600	$477,400
	Erickson (Full)	86,490	$30.00	**$2,594,700**	$2,335,230	$2,854,170
S26	Overall Site Logistics (included in GC/GR markups below)		$0.00	**-**	-	-
S27	Modular Classrooms / Athletics - Not Required	0	$0.00	**-**	-	-
S28	Site Lighting	1	$500,000.00	**$500,000**	$450,000	$550,000
S29	Site Furnishings	1	$35,000.00	**$35,000**	$31,500	$38,500
S30	Custom Site Furnishings	1	$25,000.00	**$25,000**	$22,500	$27,500
Site Sub-total	**Total Site Area**	**1,175,000**		**$28,379,025**	**$25,541,123**	**$31,216,928**
			$ / SF	**24.15**	$21.74	$26.57
Construction Cost Sub-total				**$138,751,528**	**$124,876,375**	**$152,626,681**
Current Pandemic/Market Volatility			3.50%	**$4,857,854**	$4,370,673	$5,341,934
Construction Contingency			3.00%	**$4,162,546**	$3,746,291	$4,578,800
Estimating / Design Contingency			5.00%	**$6,937,576**	$6,243,819	$7,631,334
Builders Risk (by Owner)			0.00%	**$0**	$0	$0
General Conditions - Requirements / Insurance / Bond			13.00%	**$20,112,034**	$18,100,831	$22,123,237
General Contractor OH & Profit			2.75%	**$4,807,550**	$4,326,795	$5,288,305
Escalation To Mid-Point of Construction (Spring 2025)			16.20%	**$29,099,661**	$26,189,695	$32,009,627
Pre-Construction Fee (Fixed)			Set Fee	**$350,000**	$315,000	$385,000
Construction Cost Subtotal				**$209,077,198**	**$188,169,479**	**$229,984,918**
Phased Construction Approach (Coord. with MEP Systems)			1.00%	**$2,090,772**	$1,881,695	$2,299,849
Total Direct Construction Cost with markups				**$211,167,970**	**$190,051,173**	**$232,284,767**
OR DOE GET Program 1.5%			**1.50%**	**$3,167,520**	**$2,850,768**	**$3,484,272**
Total Direct Construction Cost with GET 1.5%				**$214,335,490**	**$192,901,941**	**$235,769,039**
Other Project Costs						
	Soft Costs			**$23,576,904**	$21,219,214	$25,934,594
	Permit Fees			**$2,143,355**	$1,929,019	$2,357,690
	FFE Costs			**$6,430,065**	$5,787,058	$7,073,071
	Owner's Contingency			**$6,430,065**	$5,787,058	$7,073,071
TOTAL PROJECT COST (Rounded to the nearest $100,000)				**$253,000,000**	**$227,700,000**	**$278,300,000**
Alternates (Totals include markups)						
	Upgrades to Mechanical System at Cafeteria	17,000	$20.00	**$512,000**	$460,800	$563,200
	Roof Replacement at Cafeteria	17,000	$30.00	**$768,000**	$691,200	$844,800
	New Synthetic Turf Field Lighting	3	$175,000.00	**$790,000**	$711,000	$869,000
	Batting Cage Building (Pre-engineered Structure)	17,000	$250.00	**$6,431,000**	$5,787,900	$7,074,100

Civil

Grading

- Existing site grading is positioned with the high point in the center at the existing school.
- Proposed grading will need to match existing adjacent roadway elevations relatively closely.

Parking

- Per the March 21st, 2002 Staff Report and Conditional Use Permit, a 10% parking reduction from the minimum FTE calculation based on a future population of 2,200 is allowed. The minimum FTE calculation is 0.2 x 2,200 = 440 spaces. 440 spaces x 0.90 = 396 spaces. Provide at least the 396 spaces dictated in the Condition Use Permit. The 2002 development provided 436 spaces, if possible, this count should be maintained.

Storm Drainage

- On-site detention is currently required by City of Beaverton but fee-in-lieu option may be allowed by the time of construction. Further review with the city will occur during design to determine appropriate detention strategy.
- Water quality treatment only – achieved via a proprietary treatment system (i.e. (2) 9'x22' Stormtech StormFilter Vaults or (2) 9'X22' vaults or any configuration of vaults that provide ~75 cartridges)
- Water quality treatment could also be achieved or supplemented using parking lot landscape LIDA facilities
- Storm drainage outfalls to drain to existing public sewers located in either SW Erickson Avenue or SW Stott Avenue depending on ultimate finished grading.

Water

- New service to be fed from SW Erickson Avenue.
- Service will include a reduced pressure backflow preventer in a vault and meter in a vault.

Fire Protection

- Fire protection loop will be re-established on south side of new building.
- New service shall be from SW Erickson Avenue or the loop south of the building.
- Service will include backflow preventer in a vault and a FDC vault.
- Existing water lines located south of the existing school building will remain and will be repaired as needed to accommodate new work

Sanitary Sewer

- The new sanitary service will drain to one of the available public mains located in SW Erickson Avenue or SW Stott Avenue.

Key Issues for Consideration

- SDC fees will need to be paid to establish the services to the new building but will be reimbursed once the old services have been abandoned.
- Pay a fee-in-lieu for storm drainage flow control.

Landscape

Site Context

- Existing+/-27-acre site within urban context.
- School property is bisected by Erickson Rd, which will remain and divides the site
- To the east, Downtown design district borders property.
- To the West, neighborhoods border
- SW, Site is constrained by 100 yr flood zone prohibiting structures.
- The north edge of the site is Farmington Rd., a high traffic arterial.
- Proposed partial vacation of Stott.

Pedestrian Circulation

- Main bus and student entry is located off of Erickson, where most visitors will arrive. It is in a highly visible location and can be easily accessed from the visitor parking area and from bus stops on Erickson and Farmington.
- East/West connection near the original 2nd ave alignment, is important. This historic alignment has the opportunity to connect the campus across Erickson, and to link the school to the downtown
- North/South Connection through campus is important for connecting the academic campus core at the north end of the site to the athletic facilities on the south end of site.
- All pedestrian circulation is designed to emphasize the routes through specialty paving and detailing, provide direct connections between important campus locations and minimize vehicular crossings for safety.

Plazas/Courtyards

- To be designed to provide a sense of equity for all students.
- The courtyard is split into different zones that will each be uniquely designed to provide a variety of experiences and diversity within the site.
- The courtyards may provide after hours access for events such as athletics or theater performances.
- Provide space and integrated areas for outdoor learning.
- Courtyard spaces will better integrate the existing outdoor dining area at the commons.
- Athletic Facilities
- Project will provide baseball, softball, 4 tennis courts, football, track, soccer, and two practice fields.
- Athletic facilities will be located at the south end of the site with baseball, softball, tennis and one practice field on the west side of Erickson. The football stadium with track and soccer as well as one irregular sized practice field will be on the west side of Erickson.

Synthetic Turf

- Strategy to provide maximum use with overlay fields on a restricted site.
- Allows for more use and playability during wetter seasons.
- Offers equitable uses of fields for a variety of sports

Bus and Parent Drop-off

- Separate bus loading and parent drop-off to promotes safe circulation and limit conflicts during drop off and pick up.
- Provides clear and safe loading/unloading zones while allowing traffic flow.
- Locates majority of parking in the center of the site. This provides strong connection to adjacent program uses (academic to the north and athletics to the south) and creates clear campus organization.

Landscape Plantings

- Native and adaptive plantings will be used to limit water use.
- Attention will be paid to selecting plants that will thrive in the environment with limited management and maintenance hours.
- Code requirements such as screening and parking lot landscaping will be met.
- Where required, plantings will meet the city code for stormwater treatment.
- Significant mature trees will be preserved where possible.
- Frame views and create a sense of place and enhance the user experience through unique species and seasonal interest.

Structural

The new Beaverton High School will replace the existing school with the exception of the existing cafeteria building and selected site buildings including football stadium, football concessions, and baseball / softball buildings. The new school will be located on the north side of the property, replacing the existing Merle Davies building so that the existing school can remain occupied during construction. The new high school will include a gymnasium, performing arts theater, administration and commons area as well as classrooms.

Proposed Systems

Based on the master plan concept that we received, there will be two main buildings, an East wing and a West wing. There will be a bridge connecting these two buildings at the second floor, but the buildings will be seismically separated. The existing cafeteria will remain on the site located just south of the East wing.

The gymnasium, commons, administration and classrooms will be in the West wing. The classrooms will be three stories tall, approximately the same height of the gymnasium roof. The East wing will house additional classrooms as well as the performing arts center. The East wing will also be 3 stories tall, a similar height as the theater roof.

The structure of the classrooms will be steel framed. The roof will consist of metal roof deck spanning to wide flange beams. We anticipate that the roof will be designed to accommodate mechanical units with screens as well as a photovoltaic array. The floors will have concrete on metal deck supported by wide flange beams. Beams will be supported by tube steel columns. The lateral system for the classrooms will likely be special moment resisting frames utilizing Side Plate bolted connections. The columns of these frames will be wide flange members. Alternatively, the lateral system could consist of buckling restrained braced frames.

The structure of the gymnasium and the performing arts will be either concrete tilt panels or CMU walls. We believe that tilt up concrete wall panels will be more cost effective and result in a shorter construction schedule. The roofs of these high-volume spaces will consist of custom steel trusses or long span open web joists.

In addition to the main building structure there will be several site structures including dugouts and storage buildings.

Based on the preliminary geotechnical report we received, the buildings will be founded on conventional spread and continuous concrete footings. Spread footings will be located under all columns and continuous wall footings shall be placed under all bearing and shear walls. The slab-on-grade shall be a conventional 4" reinforced concrete slab typically except at the gym where it will be 5" thick. The slabs will be stepped, depressed, or tiered as needed to accommodate the end uses.

This school will be structurally designed as a Category IV structure as directed by the school district. The building code requires that schools are designed as Category III structures which require an Importance Factor, I = 1.25. A typical office, retail, or apartment building is designed as a Category II structure with an Importance Factor, I = 1.0. Therefore, a school building is designed to resist 25 percent higher seismic forces than a typical building, and thus will perform better during an earthquake. The performance of a Category III building is considered "Enhanced Life Safety", meaning that everyone can get out safely, but there may be some structural damage. The damage should be repairable; however, the building may not be safe to occupy immediately after the earthquake. This building will be voluntarily designed as a category IV structure with a higher importance factor to provide increased seismic resilience. An essential facility is a Category IV structure with an Importance Factor, I = 1.5. This will increase the seismic forces by an additional 20% beyond that required by the code.

Key Issues for Consideration

- → Construction operations not impacting the existing occupied school
- → Using structural materials and designs that are cost effective and minimize schedule impact

Mechanical

Heating & Cooling Central System

- A central mechanical room will house natural gas fired condensing type boilers. Each boiler will contain a dedicate constant volume primary circulator pump. A variable flow secondary loop will circulate hot water to the building. The primary and secondary loops will each contain dual pumps operating in a lead/standby fashion.
- A central air cooled chiller will be positioned in a mechanical yard near the central mechanical room or on the roof. Chiller is to contain an economizer water coil. A constant flow primary loop will circulate water through the chiller/economizer to a buffer tank and hydraulic separator in the mechanical room. A secondary loop will circulate chilled water to the building. The primary and secondary loops will each contain dual pumps operating in a lead/standby fashion.

Zone Heating and Cooling

- Classrooms, Common spaces, and Media Center: Heating will be provided by perimeter finned tube convectors, controlled by modulating hot water flow based on room thermostat setpoint. Cooling may be provided by displacement ventilation as an option for consideration.
- Administration offices, conference rooms, meeting rooms, and reception will be heating and cooling. These zones will contain refrigerant connected Variable Refrigerant Flow (VRF) terminal fan coil units. Fan coils will be a mix of ductless and ducted type. The fan coil units will vary cooling and heating based on room thermostat setpoint.
- Community rooms or spaces requiring both heating and cooling during after-hours will be served by a dedicated packaged rooftop unit or dedicated split heat pump and heat recovery ventilator.
- IDF, MDF, and Electrical closets will contain a ductless wall hung cooling fan coil. The fan coil will be mounted above the entry door to ensure that it is never positioned above any electrical equipment.

Ventilation

- Classrooms, Common spaces, and Media Center will be supplied with fresh air via a dedicated outdoor air system (DOAS). The units will be located withing enclosed rooftop mechanical penthouse rooms ducted to each space to supply fresh air and exhaust stale air. These units will also serve as exhaust systems for bathrooms, storage closets, and janitor closets. Exhaust air will pass through a heat recovery heat exchanger to preheat incoming fresh air when needed. Each unit will use Fan-Wall systems, implementing an array of fans as opposed to a single or double fan. Each unit will contain a hot water heating coil and chilled water heating coil. Mechanical rooms will be heated for freeze protection. Heating hot water flow and chilled water flow is modulated through coils to “temper” the supplied fresh air to a neutral room temperature. The fresh air supplied to classrooms will be delivered through a displacement air device below casework or wall recesses. The neutral temperature fresh air will diffuse low in the space at breathing level, and stale air will rise to ceiling and be exhausted at a linear exhaust grille above the casework. The air temperature will reset to cooling temperature as spaced demand cooling.
- Fresh air for administration offices, conference rooms, meeting rooms, reception, and the community room will be provided by dedicated DOAS units at rooftop penthouse and ducted to their respective fan coils and mixed into airflow or delivered to ceiling diffusers at neutral room air temperatures. An equal amount of relief air will be exhausted to maintain space pressurization.
- Filters: Each DOAS will contain washable MERV 8 prefilters, and MERV 13 final filters. An additional rack will be provided for addition of HEPA filers for use during fire season smoke events.
- Backup Heat: Each DOAS will contain a natural gas burner section for morning warmup and backup heating uses.

Special Exhaust

- Fume hoods at science room prep areas will each be ducted to a dedicated roof mounted exhaust fan. Make-up air will be supplied by dedicated makeup air units.

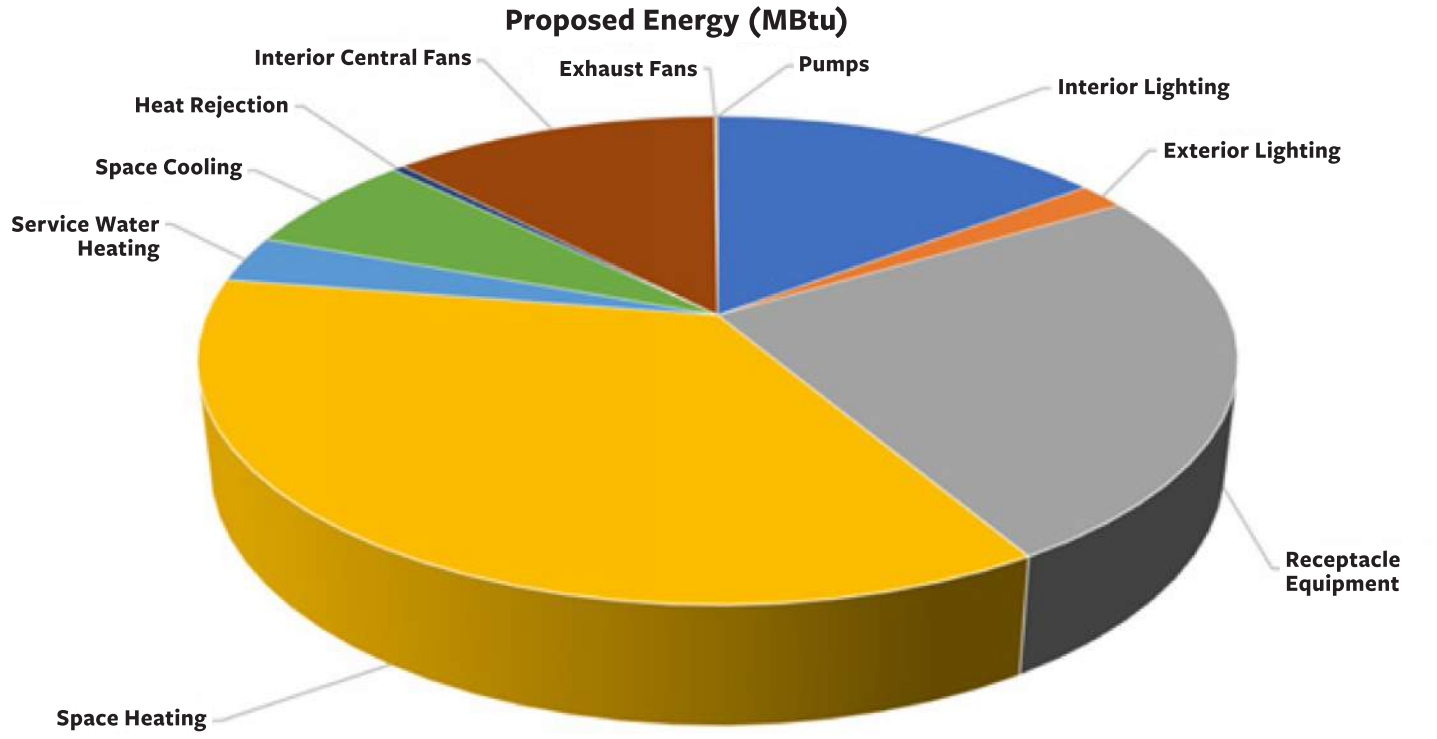
Mechanical (CONTINUED)

Energy/Sustainability

- Energy Trust of Oregon incentives will be pursued for this project, likely targeting a modeled savings approach and potential path to net zero target incentive track/rate. This will involve generating an energy model to compare the proposed design and energy conservations measures with the Oregon code baseline performance.
- Anticipated Project EUI target will be on the order of 34 Btu/SF/year, with an approximate projected end use breakdown per diagram below:
- An alternate system will be considered following Energy Trust of Oregon energy conservation incentives. A central ground coupled heat pump system will be used to generate heating and cooling water. The heat pump will be capable of staging circuits to achieve up to 100% internal heat recovery. The heating side circuit will be connected to natural gas fired condensing type boilers for supplement and backup heat. The cooling side circuit will be connected to an exterior closed circuit cooler for economizing, supplement, and backup cooling.
- Alternate energy conservation measures will include optimizing envelop (fenestration, WWR, wall and roof assemblies), reviewing heat pump performance and ground source systems, domestic hot water centralized heat pumps, lighting density and watts/SF reductions, daylighting, and air to air heat recovery on the ventilation systems.

Key Issues for Consideration

- Redundancy is to be built in so that no one single failure will completely eliminate heating or cooling (i.e., fan-wall systems at DOAS, backup gas heating sections in DOAS units, backup central gas boiler, and backup central dry-cooler.)
- Indoor and outdoor air handling systems as they relate to rooftop penthouse and/or screened outdoor units.



Electrical

Proposed Systems

- A new 480V Electrical Distribution System will be provided. Branch panels will be strategically located throughout the new building.
- New LED lighting and power connections will be provided throughout the school. Power will be designed to meet all current curriculum programs while preparing for future needs.
- The emergency system will consist of a new diesel generator. The generator will provide required emergency power for lighting as well as additional systems as requested by the District.

Site

- New exterior LED lighting will be provided throughout the site.
- Electric Vehicle Chargers will be provided at the new parking areas.

Energy/Sustainability

- A solar photovoltaic (PV) will be provided to offset a percentage of energy used by the new school.
- All new lighting will be energy efficient LED luminaires.
- Automatic lighting controls will be incorporated to reduce lighting in unoccupied spaces and where natural daylight is sufficient.
- In classrooms, breakrooms, and offices half of the receptacles will be controlled via the space occupancy sensor as to reduce unnecessary plugload energy consumption.
- Energy usage monitoring will be providing for continued evaluation of how the school is utilizing energy.

Key Issues for Consideration

- Redundancy of normal and emergency system if school would like to be used as area of refuge or location for shelter during an emergency.

Plumbing

Proposed Systems

- New domestic water service will be provided to the new building. A new backflow device will be installed on the incoming service to protect the city water system. Domestic water will be routed to plumbing fixtures and equipment that require a water connection. Piping will be routed as close as possible to plumbing fixtures to minimize dead legs/stagnant water within the system. Point-of-use backflow devices will be installed at all high-hazard locations within the building where contamination of the building water system could occur such as science classrooms and make-up water connections to mechanical equipment.
- New sanitary service will be provided to the new building. Sanitary piping will be routed to all fixtures inside the building. Where chemicals are used at science rooms, acid neutralization tanks will be installed to clean wastewater prior to entering the main school sewer system.
- A central hot water system will be installed in each half of the new building. The hot water system will be natural gas and shall be circulated to minimize wait times for hot water at plumbing fixtures. Hot water piping will be routed as close as possible to plumbing fixtures to minimize dead legs/stagnant water within the system.

Energy/Sustainability

- Low flow plumbing fixtures with flow rates below industry standards will be used to reduce building water usage.
- Heat pump water heating systems could be used instead of natural gas to reduce natural gas usage for the building and reduce carbon footprint.

Key Issues for Consideration

- Resiliency features such as flexible connections to site utility systems and water connection at building exterior for tanker truck connection.

Fire Protection

Proposed Systems

- Provide new 6" underground fire sprinkler water supply from exterior main to interior fire sprinkler riser room located in each separated wing of the new building. Two dedicated supplies in total. Coordinate requirements for double check valve assembly, post indicator valve (PIV), and fire department connection (FDC) with the civil engineer and fire code officials.
- Anticipated location of the double check valve assembly will be in a new vault on site located by Civil. Anticipated located of the Fire Department connection is on site, near backflow vault and city main connection.
- The building(s) will be provided with a wet pipe system per NFPA 13, Oregon Structural Specialty Code, local building codes and Fire Marshal requirements. Two separate system are anticipated to be provided, one for each physically separated portion of the new school building.
- Piping will be concealed above ceiling where possible.
- Upright sprinklers located in areas subject to mechanical damage such as the gymnasium, weight room, storage areas and the like will be provided with a listed sprinkler cage.
- Areas subject to freezing, such as overhangs, canopies and unconditioned spaces, will be protected with a dry pipe system or dry sprinklers connected to the wet-pipe system.
- Hydraulically designed system shall be based on an official water flow test conducted within one year of the date of shop drawing submittals.
- Mechanical spaces, electrical spaces storage areas and science spaces will be an Ordinary Hazard Group 1 density.
- Administrative, offices, hallways, general classrooms, and common areas will be a Light Hazard density.

Fire Sprinkler System Equipment

- General: Sprinklers, valves, switches, pipe, fittings, backflow preventers, hangers, sway braces and other fire protection system components will be UL listed or FM Global approved for fire protection.
- Piping:
  - Underground piping from 5-feet outside of building to 6-inches above floor slab: Ductile iron pressure pipe, AWWA C151 with AWWA C110 Mechanical Joints.
  - Aboveground Piping: Schedule 40 black steel threaded pipe with cast or ductile iron threaded fittings, or schedule 10 black steel grooved pipe with UL listed rubber gasket couplings. Pipe shall meet ASTM A53 or A795 standards.
- Sprinkler Heads:
  - Quick response, recessed style white sprinkler heads and white escutcheons in finished areas. Areas open to structure will utilize upright sprinklers with brass finish.
  - Sprinkler head ASCE 7 Seismic Requirements: Sprinkler heads installed in acoustic ceiling tiles to be provided with braided stainless steel flexible sprinkler connections.

Key Issues for Consideration

- A coordinated method will need to be evaluated to determine if a single supply can service both portions of the building. Likely two separate fire supplies, one for each physically separate portion of the building should be provided to provide a measure of system design flexibility and ease of use for responding emergency personnel.

Technology

Proposed Systems

- Equipment Rooms – There will be several telecom and security spaces required throughout the new building.
- Backbone Cabling – There will be backbone cabling required to tie all of the buildings on the site together and to tie all of the telecom rooms in the building together – this cabling will have the following:
  - Copper – this will consist of either multipair copper to each telecom room (such as a 25pr Cat5E) or several copper cables (such as (6) Cat6 cables) – this backbone will serve as a backup to the fiber optic backbone mentioned below and as a transport method for any systems that require a copper conductor (some paging systems, analog phone lines, etc.)
  - Fiber Optic Cable – this will consist of either multimode fiber cable or single mode fiber cable (or both). The multimode cable will be a minimum of OM3 rated. The fiber will route between the Main Telecom Room and all of the other telecom rooms. This will consist of a minimum of 24-strands of fiber (either SM or MM or both) routed to each telecom room.
- Horizontal Cabling – The recommended minimum rating for the horizontal cabling is Cat6. Although Cat6A is readily available and will provide some future proofing to the data network system, it is more expensive.
- Wireless Access – wireless access point locations will be indicated on the drawings for full coverage of the building and will take into account the capacity of the system in higher density locations such as a commons area or auditorium.
- Paging/Clock/Intercom – this is yet to be determined; however, each classroom will require at least a clock and paging speaker. In some cases, the phone is used for paging but in a school scenario an overhead paging system is recommended for security purposes.

Site

- The telecommunications system for the site will consist of underground pathways as necessary between the buildings and the new main building to bring services into and out of the Main Telecom Room.
  - These services can consist of the existing network on-site or new service provider or district connections to the site.

Key Issues for Consideration

- The system is existing now and will need to be evaluated on how to migrate it to the new building. The existing building houses the main telecommunications room that will have to be duplicated in the new building and operational prior to cut over to the new system.

Security

Proposed Systems

- Access Control – a card reader entry system will be indicated at all main entry/exit doors and at any service entry locations where it is determined to be required.
- Intrusion Detection – an intrusion system will be indicated that can include door contacts on all exterior doors, motion detectors, glass break or audio detectors. The system will be zoned with district input – there may be some areas that need to be disarmed at alternate times than the main system (kitchen or public access to the Gym after hours)
- Video Surveillance – a camera system will be indicated in coordination with current district requirements. Typically, cameras are installed only in public or common areas, at main entry/exit locations and on the exterior of the building where there are concealed areas that aren't monitored by staff.

Site

- It will be determined during design what security equipment will be required on the site – typically this would consist of gate operators with card readers and intercoms, or site video surveillance coverage – from shared light poles or from dedicated security camera poles.

AV

Proposed Systems

- Audio Visual – AV systems will be indicated in all spaces where they are required by current district standards. This can include the classrooms, common areas, and the auditorium.
- Classrooms – depending on district standards, this could include a projector in every classroom, audio reinforcement and assisted listening systems.
- Common area – can range from a full performance space with video projection and speakers to just monitors on the walls.
- Any other specialized spaces that may be included – auditorium, black box, green rooms, music rooms, choir rooms, etc.

Fire Alarm

Proposed Systems

- Manufactured by Simplex by Johnson Controls
- Addressable, manual, and automatic, fire detection and alarm system
- Emergency Voice Alarm Communication System (EVACS) occupant notification
- Ethernet (IP) transmitter for communication to supervising station
- Manual pull stations at building exists
- Smoke detection for protection of fire control equipment and activation of fire/life safety functions
- Audible loudspeaker occupant notification throughout the building
- Visual strobe occupant notification in public spaces and common use spaces

Site

- Create or restore connections from other site fire alarm components to the Main Building fire alarm system

Key Issues for Consideration

Cafeteria Building

- Existing Simplex fire alarm system components will be connected to the new Main Building fire alarm system
- Audible loudspeaker occupant notification will be added and connected to the Main building EVACS

Demolition

- The existing Simplex fire alarm control equipment is located in the building to be demolished. This will be required to be maintained, relocated, or replaced to maintain operation of the Cafeteria Building fire alarm system during demolition.

Performing Arts

General

- Production and AV systems included will be per Beaverton School District Educational Specification, Technical Standards for Theatre/Performance spaces, and District design considerations including:
  - Safety
  - Accessibility & Inclusivity
  - Teaching and Learning Utility

Theater

- Stage rigging & draperies
- Adjustable orchestra pit
- Variable acoustics
- Production lighting control & fixtures
- AV
- Orchestra shell
- Fixed seating

Black Box/Drama Classroom

- Overhead rigging support & draperies
- Production lighting control & fixtures
- AV
- Movable audience seating & risers

Campus-wide AV systems

- Standard classroom system – variations as applicable to classroom/space use
  - Wired and wireless laptop connections
  - Simple control system
  - Video display (flat panel/projector)
  - Audio playback and voice amplification
  - Wire, pull and system integration

Key Issues for Consideration

- Clear dimensions and adjacencies to accommodate efficient teaching and operations
- Engineering capacity for production systems
  - Structural loads and attachment
  - Mechanical loads and unobtrusive routing
  - Electrical power and connections including production systems wiring infrastructure
- Flexibility
  - Adaptable for near term use and long term adaptation