

A Community School Renovation For: Grove Elementary



Education, community, architecture.



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The University of Oklahoma Urban Design Studio

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Resources:

Schools as Centers of Community: A Citizen’s Guide for Planning and Design.
 National Clearinghouse for Educational Facilities - 2003.

Neighborhood Organizing for Urban School Reform.
 Michael R. Williams - 1989.

Engaging All Families. Steven M. Constantino - 2003.

School, Family, and Community Partnerships. Joyse L. Epstein - 2001.

www.kwfdn.com The KnowledgeWorks Foundation - 2008.

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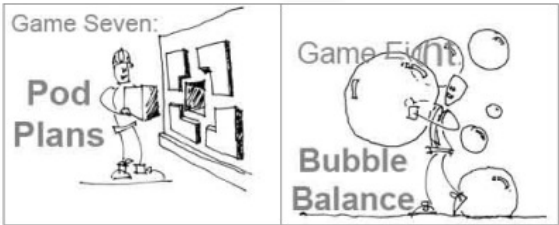
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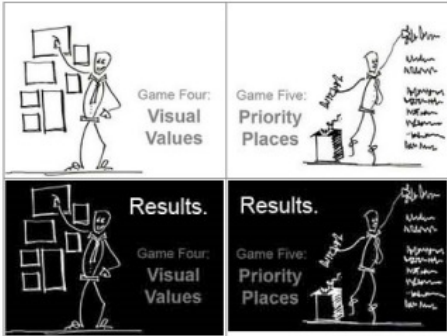
Grove Elementary...



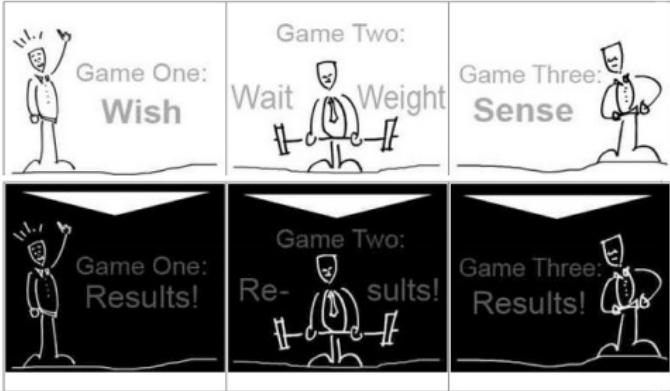
Thank you for your participation in the Grove Elementary Community School Renovation. On the following pages, we are presenting you with a series of introductory design games. Think of them as stretching before exercise. The following information will start creating ideas for the design team, and will hopefully begin sparking your imagination for what Grove Elementary can become. After visiting each of the introductory design games, please swing by my blog to post comments about your experience, to read about the current progress, and look for the latest postings on the next round of design games.



Round Two Games:



Round One Games:



Opening web screen for the Grove Elementary design hub.

Grove Elementary

Collaborate:

To stretch new ideas on interactive online collaboration, and shorten the gap between Tulsa and Springfield, Missouri (my home town) a web “hub” was created to explore design data and design options at Grove. The next set of pages track the design games, and their results, that were placed online as points of interaction with the students, faculty and staff at Grove Elementary, and the Union School District.

The opening page was designed to place a priority on kids, essentially what a school is about: creating the best possible learning environment for children. That means comfort, the sense of safety, security and belonging, and the conveyance that they, the kids, matter. Combined with a great environment for children to learn, is a professional work place for the faculty and administration so they may teach to the best of their ability. The entry page began as just a series of three links to the first three games: Wish, Wait Weight, and Sense. Each link directed the participant to the first round of games designed to build design vocabulary.



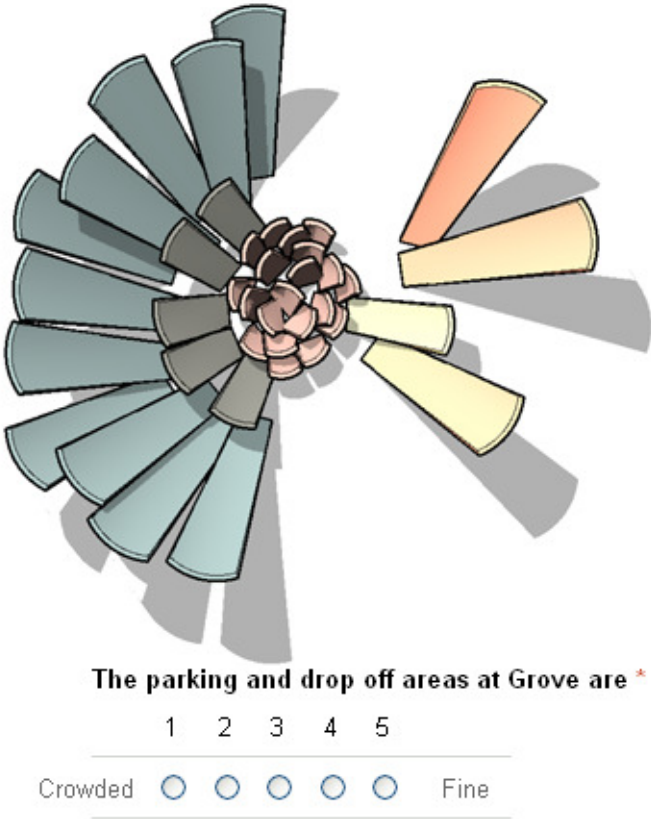
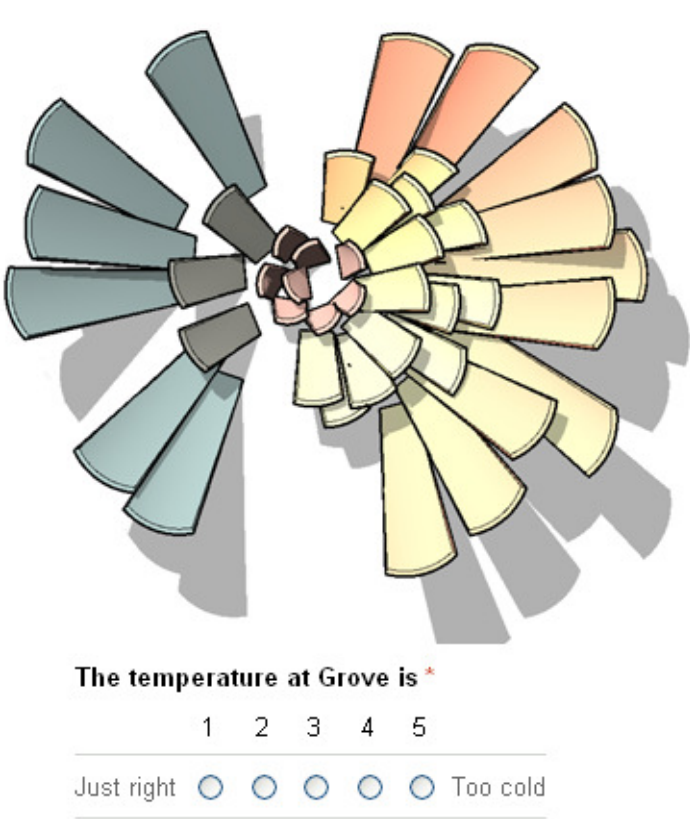
Grove Elementary

Flower Chart Explanation:

To help visualize the data from several of the design games, I created a “flower chart.” The intent of this information plotting system was to enable an understanding of the data at a glance. They are primarily designed to work with a Lycard scale (rating system, best defined as 1-5), but could be applied to any number of question types.

Each response is given one pedal on the flower. Positive responses (as I set up Grove) are located on the left and given a warm tone. Neutral responses in the middle, and negative responses on the left with a cool tone. Once the flower is composed, you can quickly discern the information as a weighted value by observing the chart. By stacking a series in a row, you can track progress across a series of questions.

The diagram itself was very useful for explaining the data to the faculty, staff, and administration at Grove. And I will definitely refine the process. The goal however, is to not make the flowers manually in the computer. It should be plausible to create a program that can read information from a Google Documents file, assign a location (with a small variable applied to rotation and placement to make each flower unique) a height and color based on the data.



Flower Chart examples.

[Grove Elementary...](#) >

Game One - Wish

In the blank below, complete the single sentence to express your "wish" for Grove Elementary. It may be that you "wish my school would have recess for teachers!" Or "I wish my school had an office for the vice principal." We want to know what you wish...

* Required

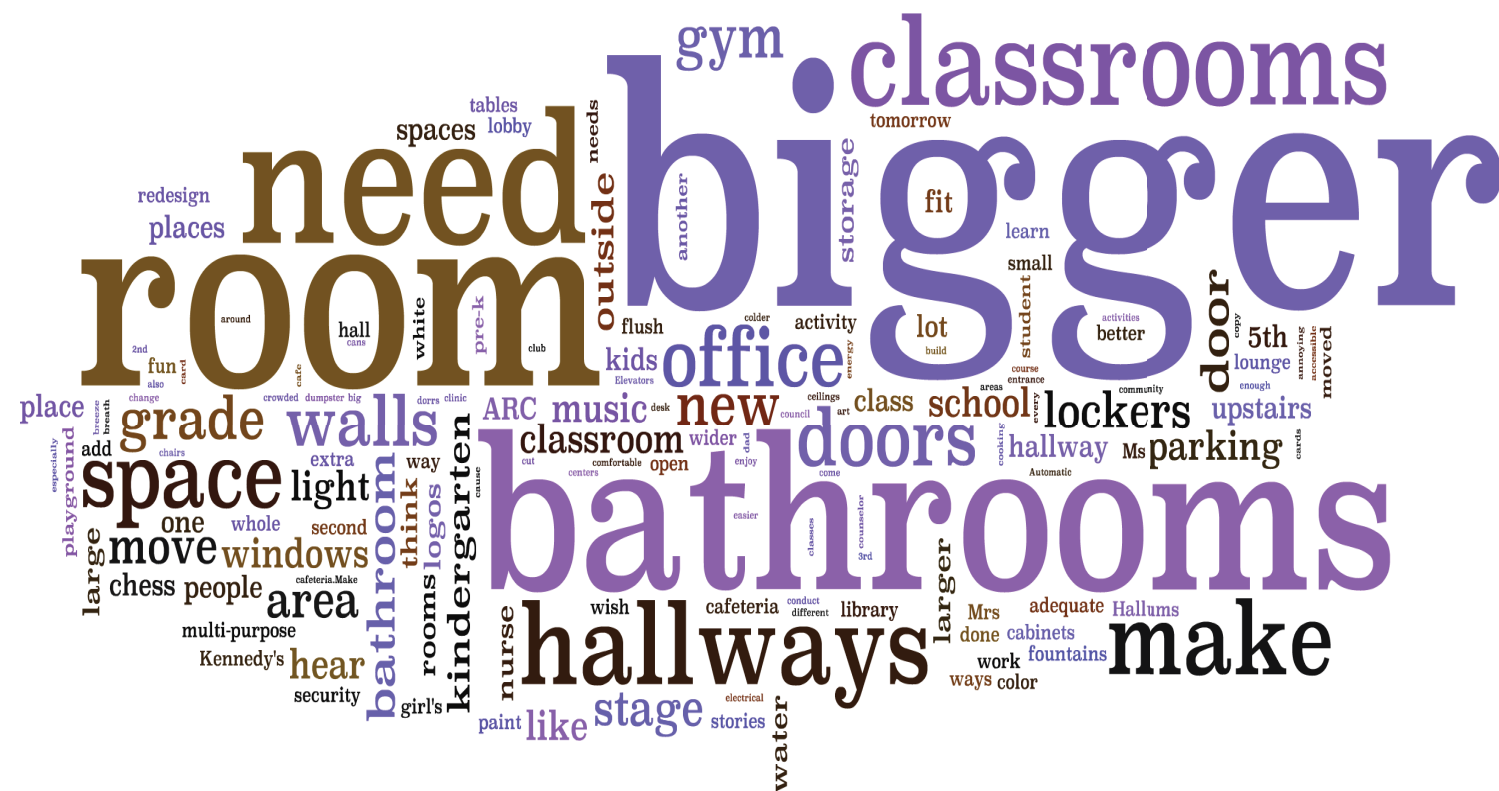
Your name: *

I wish my school... *

Submit

A screen capture from the Grove Elementary site, Design Game One: Wish.

The Grove Wish Cloud...



Wish Cloud results for Grove Elementary - Design Game One.

Grove Elementary

I wish Grove...:

The first design game came directly from Henry Sanoff's book Design Games. It is an open ended question designed to evoke imagination. No idea is excluded and the bolder, the more interesting. Along with sparking the imagination, if there is a reasonable large number of respondents, "wishes" begin to overlap and take the more overt tone of "demands." The original game was designed to generate a poem. Updating the process to satisfy our more immediate feedback web culture, I converted the list of wishes in to a word cloud through wordle.com.

The words that pop out of the cloud become clear areas for to prioritizing work. First, and quite simply: More space. As the design evolves, attention to understanding growth, space, and the importance of being comfortable to learn must be a priority.

If I created an open invitation to faculty, staff, and students of an elementary school, new bathrooms would be at the very bottom of my list of expectations. Why not larger playgrounds or a better gym or a better computer lab? In the mind set of any school client, it is difficult to imagine bathrooms to be the item of design dreams. After talking with the diverse client base at Grove however, it became apparent that the existing bathrooms are actually a nightmare. They are undersized and overused which means they are unsanitary and malicious on all sensory levels. The existing condition inhibits the learning environment.

Seeing the word “hallways” in the cloud informed me that the circulation system at Grove was neither creating nor conveying a sense of navigation, security, and safety. Upon further study, I found that the existing corridors at Grove were too narrow (about 6’ wide) and did not provide additional width where pathways converge.



The next game in the Grove site was called the Wait Weight. The premise of this game was to evaluate current spaces and user perception of those spaces. This would build a dialogue about which could begin prioritizing the design elements.

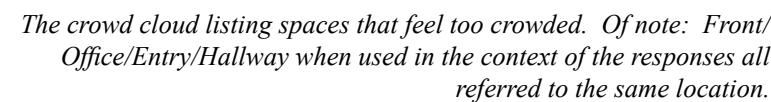
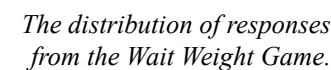
One very interesting finding was the separation of responses between students and faculty regarding the question: “The hallways at Grove feel...Comfortable or Crowded?” The front entry is terribly undersized (about 6 feet wide), and serves as the waiting area, entry, and axis between all the classrooms, gym, and cafeteria. When I ran the initial response, I found indifference to the situation, and was shocked. Separating the feedback into categories, I found that the students quite enjoyed the crowded bustling space. They are of course smaller which helps, but they also do not sense the security and safety issues that the faculty does. The faculty responded very negatively to how crowded the halls feel. Understanding this kind of data swing should be a crucial issue to a designer, tapping the perceptions of the user base to understand design client typology. In the case of a school, we tend to neglect the needs of the faculty, thinking first for “kids,” and forgetting that a school is full of professional teachers in need of spaces to help accommodate their jobs.

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Screen capture from Game Two: Wait Weight.



[Grove Elementary...](#) >

Game Three - Sense

In the blank below, complete each sentence with one to four words.

* Required

Your Name: *

The front entry at Grove Elementary makes me feel... *

I feel the most tired at Grove when... *

The place that smells the best at Grove Elementary is... *

The place that smells the worst at Grove Elementary is... *

The most exciting place at Grove Elementary is... *

It is always too loud in Grove Elementary at... *

The classroom that is the most fun is... *

A screen capture from the Grove Site- Game Three: Sense.



The “Loud Cloud” for the “What space is loudest at Grove?”



*The combined entry cloud answers from
all participants.*



The entry space cloud broken down into two groups, faculty and staff answers (top cloud), and students (lower).

Grove Elementary

Sense:

The third vocabulary building game that I developed for Grove Elementary was called “Sense.” This game requested the participant to link their memories of the school with their senses. The objective was to create discussions on the positive and negative sensations regarding the spaces and generate a design dialogue regarding improvement to those situations.

As mentioned previously, there was a very direct split regarding the sensation of the front entry. Listed on the right for the question “The front entry at Grove Elementary makes me feel...” are word clouds from the combined responses, the students only, and the faculty only. While I shifted the color palettes of each to visually exemplify the difference, reading the words aloud has the most profound impact. Looking at the repeated and emphatic statements regarding the entry several times over justified a complete rework for the entry scheme.

The other overwhelming response from this game was the cafeteria. In the “Loud Cloud” from the question: “It is always too loud in Grove Elementary at...” The cafeteria, even for elementary students, should be a place of refuge than something that assaults the senses. A VCT floor and concrete block walls do more to reverberate noise than the ceiling tiles can make up for. This combined with a dramatically undersized kitchen is enough evidence to consider a complete rework on the cafeteria.



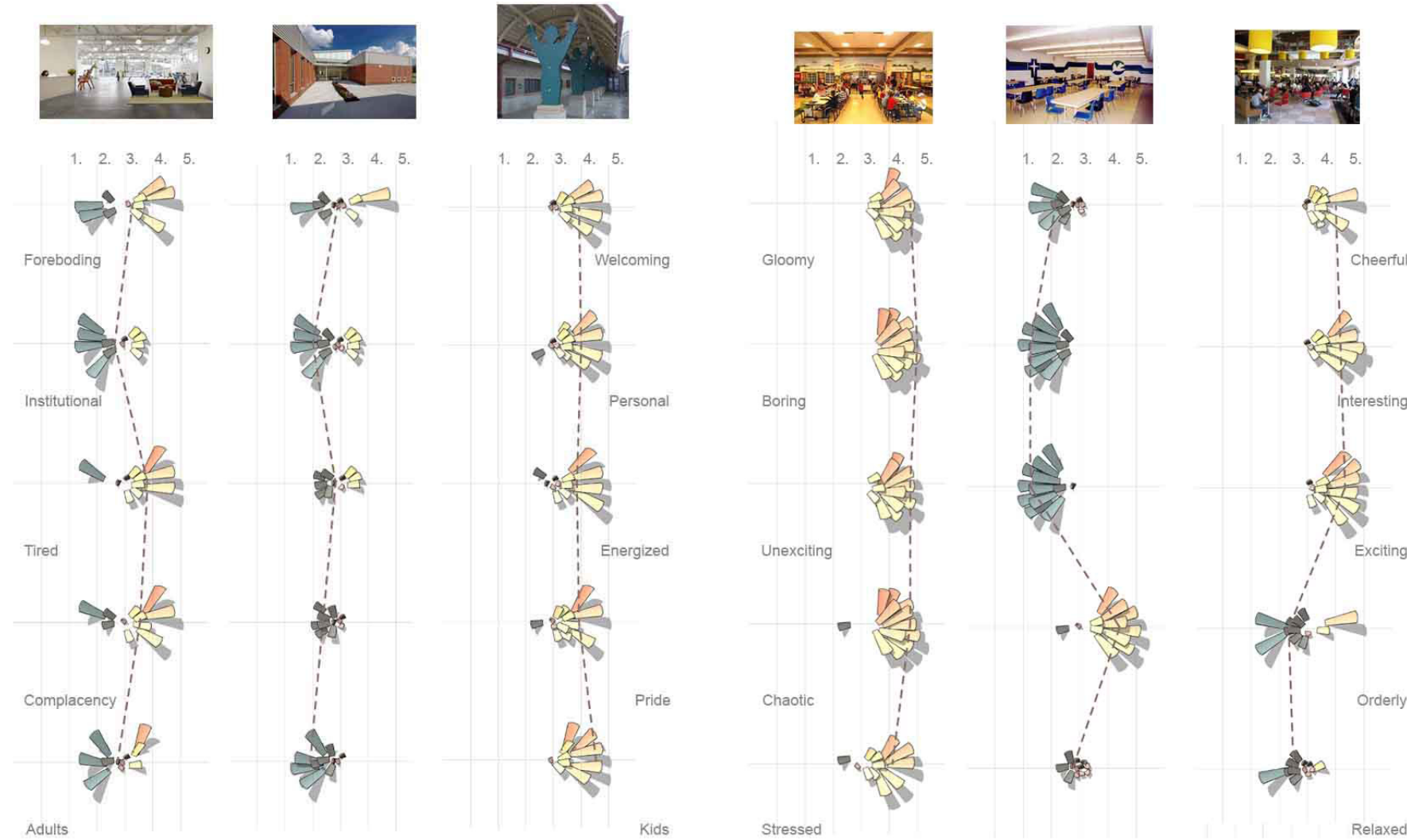
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Entry images from the Visual Values design game. The graph below each image charts the responses of each participant, with 1 relating the strongest to the word on the left (Foreboding, Institutional, etc.) and 5 relating the strongest to the word on the right (Welcoming, Personal, etc.).

Cafeteria images and responses from the Visual Values design game.

Grove Elementary

Visual Values:

Game four, Visual Values, introduced the client group to visual vocabulary games. The game paired images from selected school projects with a list of questions. The results do two things:

First, they provide the design team with a set of visual design ideas and precedents to work through with the client. Establishing visual parameters prior to beginning a “form” for either a building or space helps establish and more

Classroom - Image One

* Required

Name *

This classroom seems... *

1 2 3 4 5

Repelling ☐ ☐ ☐ ☐ ☐ Inviting

The space feels... *

1 2 3 4 5

Simple ☐ ☐ ☐ ☐ ☐ Complex

The classroom is... *

1 2 3 4 5

Unimaginative ☐ ☐ ☐ ☐ ☐ Imaginative

The space is... *

1 2 3 4 5

Rigid ☐ ☐ ☐ ☐ ☐ Flexible

Students in this class would be... *

1 2 3 4 5

Chaotic ☐ ☐ ☐ ☐ ☐ Attentive

Submit

Screen capture of the Visual Values Game questions.



Grove Elementary

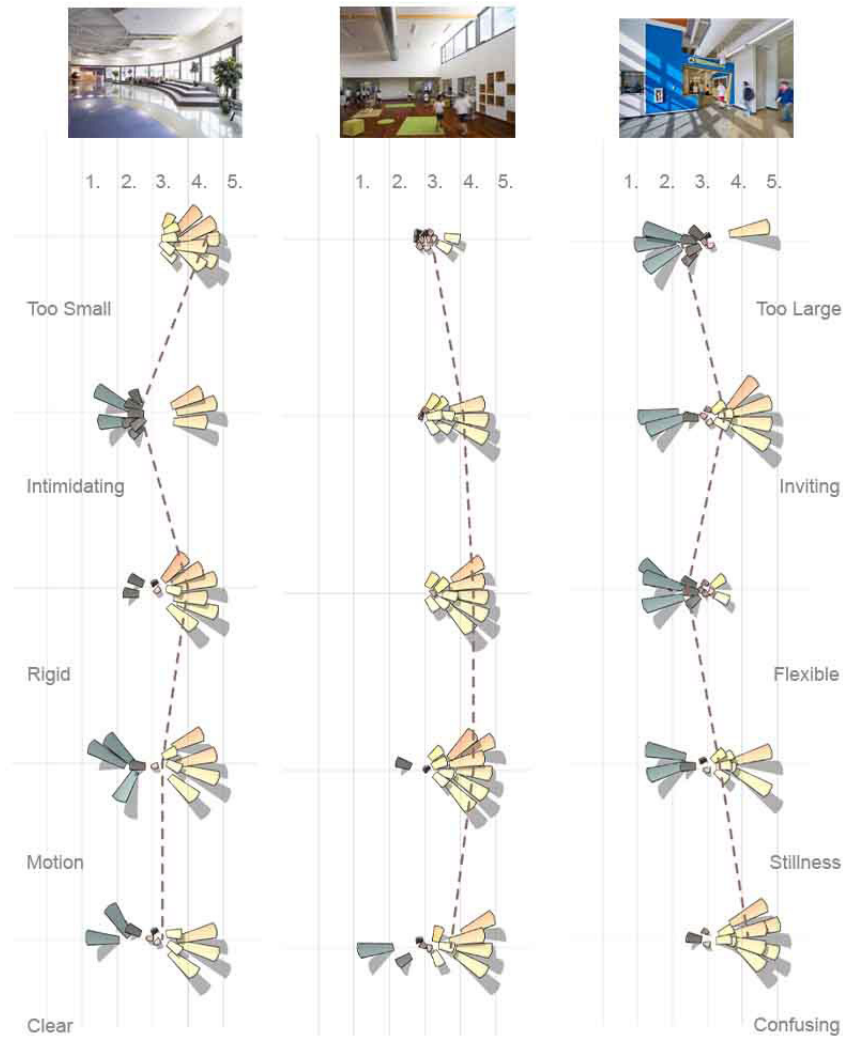
Visual Values:

of what architecture can and should accomplish for them. The client should hold the design team, by the nature of this game, to a higher standard for their product.

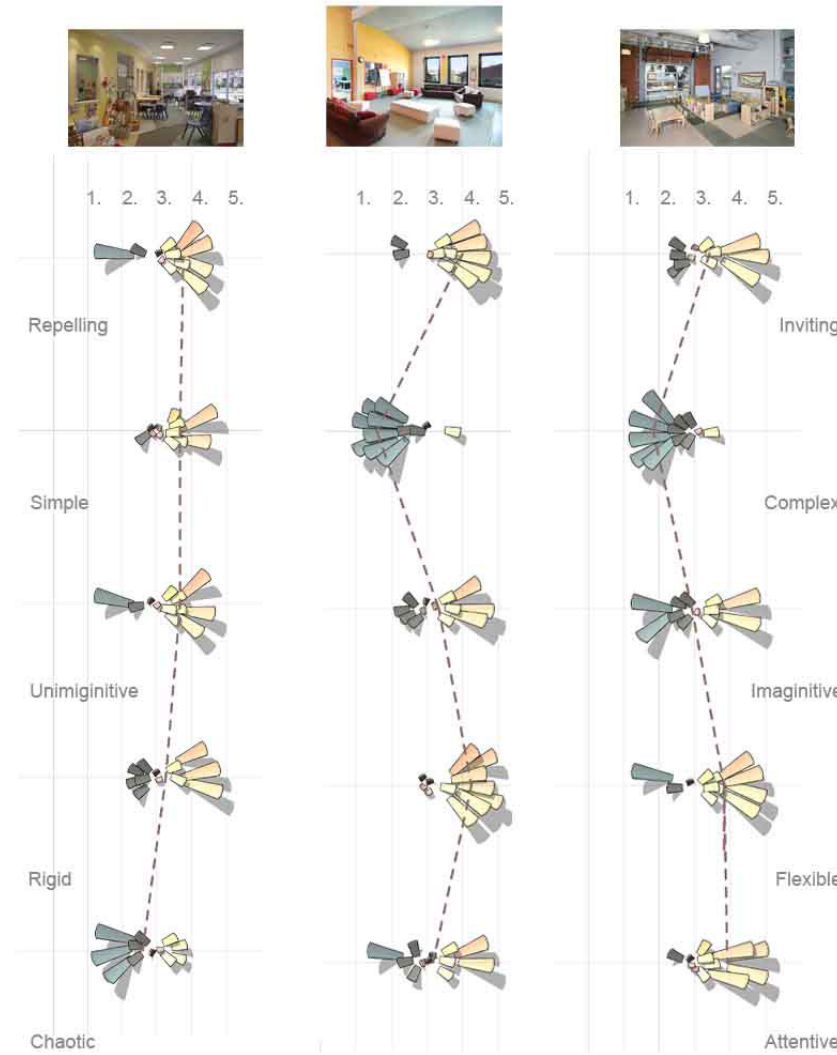
The first image set was based around three different school entries. As I discovered from the first round of games, a new entry was very relevant to the redesign. Selecting three different approaches to a school allowed me to get a pulse on the type of entry the client would be excited about. Reading the charts from top to bottom for each individual image, positive responses were categorized on the right, more negative responses to the left. The entry with the most popular score had a “theme” about the design (the standing cut out kids holding the entry canopy).

The second image set was a series of cafeteria spaces. With this group, I purposely placed an image of a cafeteria space, approximating what Grove currently had. It scored incredibly low on all issues except “orderly.” This served as my visual soapbox to speak directly with the client about demanding better than what they currently have and understanding why. The current cafeteria is not cheerful, interesting or exciting, rather it is quite gloomy, boring, and unexciting.

The third and fourth image sets dealt with classrooms by looking at both the transition between rooms (halls) and the rooms themselves. I intentionally added spaces with natural light bringing a more open feel to all the spaces. Many of Grove’s current classrooms are buried in the center of the building. They are crowded and have no natural light. The images that scored well had an intimate comfortable setting, which did a good job separating institution from school.



Hallway images and responses from the Visual Values design game.



Classroom images and responses from the Visual Values design game.

Grove Elementary

Pod Places:

The final two design games for the Grove Elementary Renovation were based on establishing an online interactive environment. This allowed the client to observe three dimensional schematic design options, understand the design from multiple vantage points, and provide opportunity for feedback on various design options.

The interactive environments were created by building a file in Revit over a provided survey plan from the Union School District. After adding in walls, doors, and windows the file was exported to Google SketchUp to add color and entourage, and then exported to Esperient Creator to create the interactive 3d elements. The files were then published to the internet.

The first interactive 3d environment posted on the Grove renovation web site was designed to look at two different plan options within the existing school building area. The teacher and administration staff at Grove mentioned, in one of our face to face meetings, that they were interested in switching the corridors and classrooms to a “pod” concept. The pods would be an extension of the hallway and would bridge the space between the corridor and the classroom. This would provide spaces for student and class storage, joint learning (combined classes) and special needs learning spaces (one or two students from each class), as well as shared resources available for all associated classrooms. I saw the pods as a design opportunity to create an improved sense of community with common classes, and a situation that could be used to do some roof renovation bringing natural light into what would essentially be a classroom courtyard.

Pod Plan option “A” looked to find compromises with the original goal: Provide every classroom with a pod.

Please review the Grove Elementary Pod Diagram interactive, and answer the following questions:

* Required

Name and: Student, Faculty, or Staff. *

Is it more important to create... *

A classroom "pod" will provide: A common space for classes, much needed storage, reduced congestion in the hallways, and can bring natural light to the center of the building.

- ☐ a new pod arrangement for all classes, requiring 10 new classrooms to be constructed. Option "B" in the interactive file.
- ☐ pods where possible, reducing the need for new classrooms in an addition. Option "A" in the interactive file.
- ☐ an addition focusing on new or improved spaces (cafeteria, offices, community rooms, etc.) without the need for new classrooms. The existng conditions plan (opening model) in the interactive file.

Which scheme best fits with a desired growth for Grove as a community school? *

- ☐ Existing Classroom Layout.
- ☐ Pods where possible (Option "A").
- ☐ All classes with pods (Option "B").

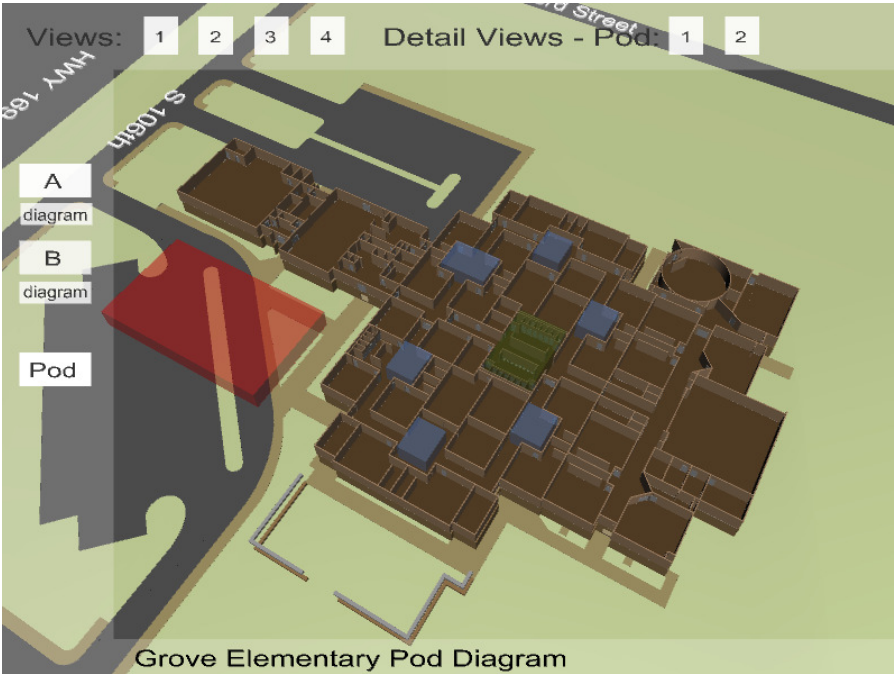
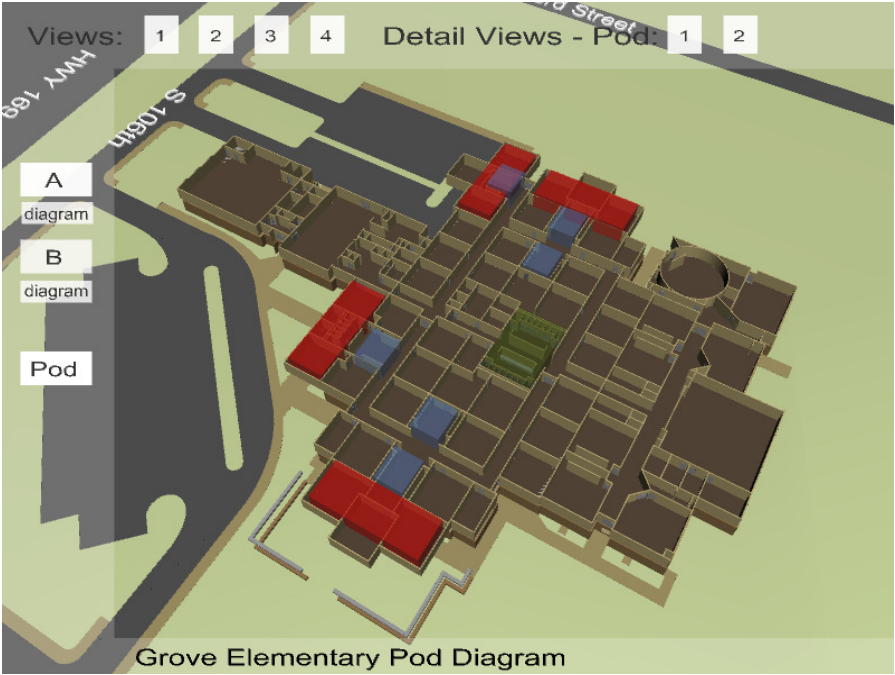
Is it more important to have flexibility at... *

12345

all of the classroom spaces☐ ☐ ☐ ☐ ☐ the new addition

Submit

Screen capture of the Pod Plan Game questions.



Screen captures from the Pod Plan 3d interactive.



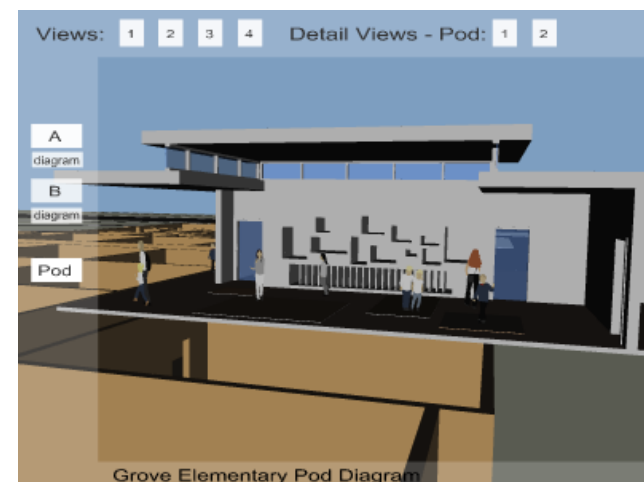
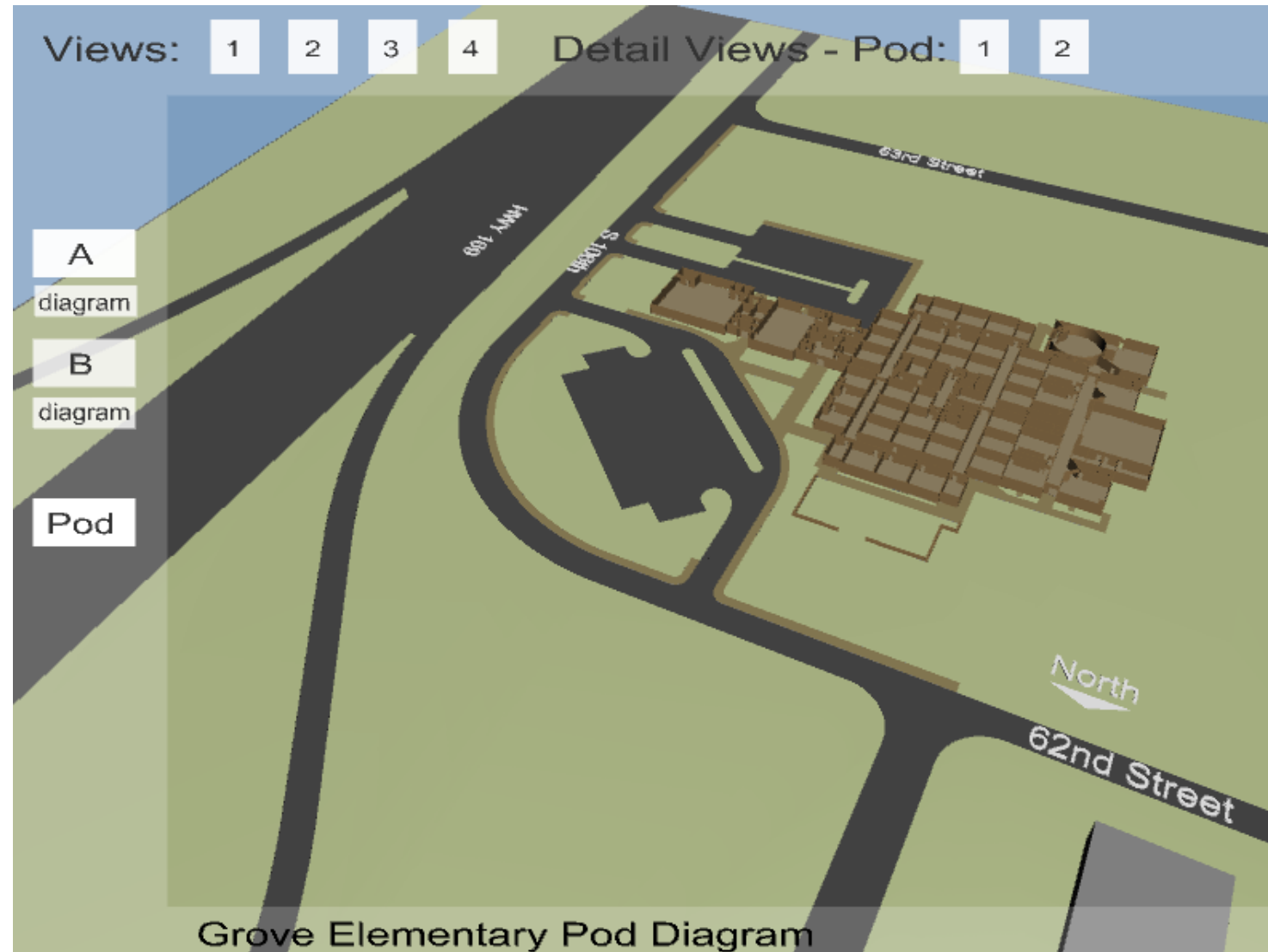
Grove Elementary

Pod Places:

In doing the initial layout, it quickly became obvious that bringing a pod to each class would be difficult. So I compromised the goal to make pods available where it would make sense given the renovation and addition of classrooms. In total, this design provided six pod spaces in exchange for the demolition of six classrooms. Eleven new classrooms were designed to function with the new pods, providing a net gain of five classrooms with an additional 8500 square feet of space.

Pod plan option “B”, sticks with the goal of a pod for every class. This scheme causes the demolition of eight classrooms, and keeps the building confined to its existing footprint. This caused a displacement of about 8500 square feet that would need to be created to make up for the eight lost classrooms, with no net gain. In my evaluation of the plan, providing a pod for every class was not worth square footage offset and cost that would be required just to keep the existing number of classrooms. However, a balance between classes with and without pods could add to the school and improve circulation by adding an entry space to the classrooms. It could also create a transition space through the existing building shell eliminating the need to add extensive corridors and hallways.

The decision on the pod plans leaned toward Option A (adding pods where possible). The feedback from my live meeting was a definite majority swinging to Option A, but my form results did not come back correctly, so I am only posting the “official results.” I did swing the plan in the direction of Option A, basing my final decision off of a combination of direct (as opposed to online) feedback, and the official forms. In my evaluation of this project as a whole, it is important to note the difficulties experienced in the interactive online files, and their impact on the results for this particular design game.



Proposed Pod options.



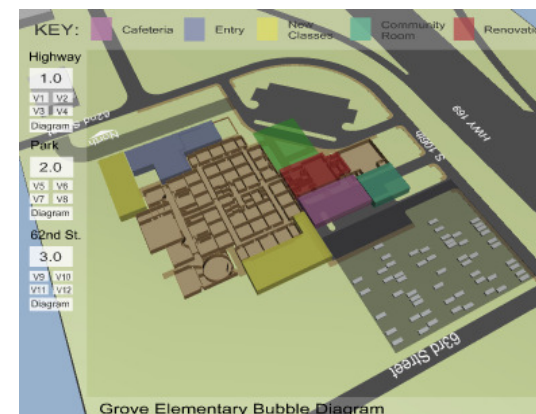
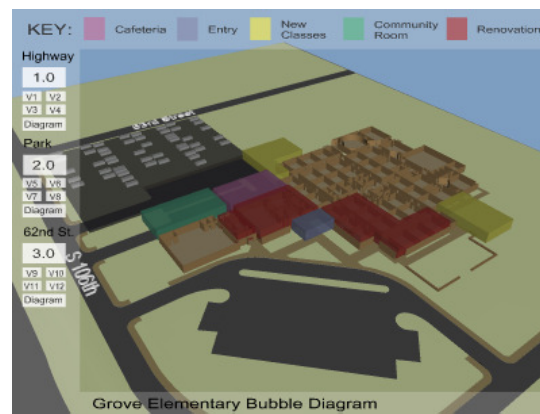
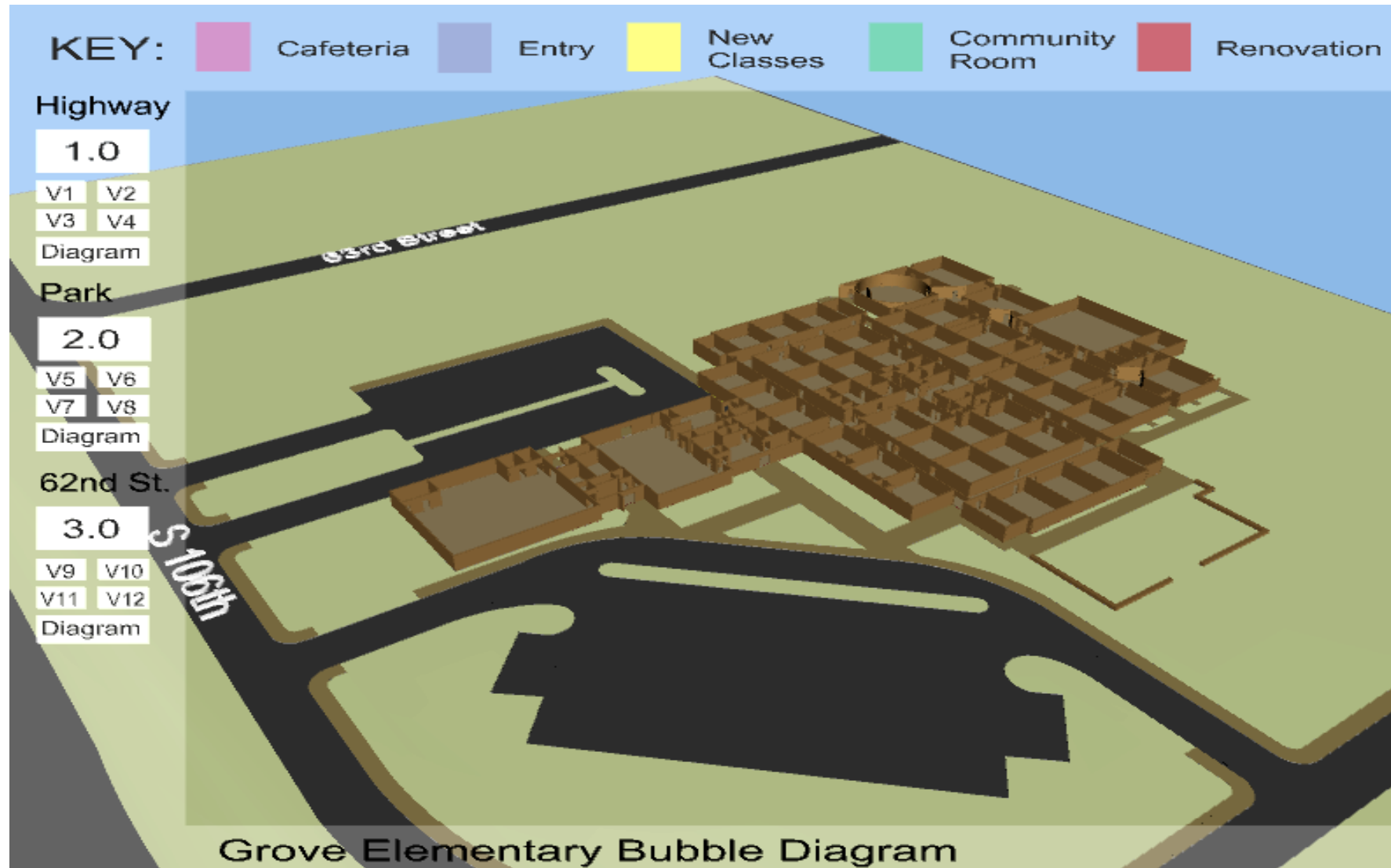
Grove Elementary

Bubble Balance:

The final design game for Grove Elementary was created to analyze the potential of three options for the schools expansion (figure 27a). Early on in the process, there was expressed interest in working the new entry and community school wing along the East, or Highway 169 side of the building. The goal for the expansion to the East was to increase the public awareness of the school, allowing it to address the highway corridor as a marquee for the Union School District. While there is a workable solution to an East expansion, it may not have be the ideal choice:

- The East edge is *literally* adjacent to the highway.
- It is already home to parking and an entry that is too crowded.
- The highway generates an aggressive amount of noise.
- An entry on the East would separate potential existing community functions like the computer, science and art labs.

Because the East edge was not the easy and obvious choice (see the points above), three more design schemes were created. As a designer, it is not impossible to develop three completely different, fully realized floor plans. However, that would mean an enormous time investment, resulting in a major portion of the design budget spent on this preliminary phase of the project. Instead of displaying three full floor plans, which may also be more difficult for a client to discern, it is just as effective to create a volumetric bubble diagram, showing the size, location and configuration of spaces. This allows the client to quickly see the potential of different schemes, without getting wrapped into the specifics of individual spaces. This approach turns into a very efficient and effective means for the design team to present design options. It also became an engaging means of forming an interactive that the client could navigate and study online, with a series of questions that could provide insight into



Bubble Shifting 3d interactive game options.



Bubble shifting.

* Required

Name *

Which design scheme best addresses the idea of Grove becoming a "Community School?" *

- ☐ Highway Scheme (1.0)
- ☐ Central Park Scheme (2.0)
- ☐ 62nd Street Scheme (3.0)

Which scheme that best improves the entry and drop off? *

- ☐ Highway Scheme (1.0)
- ☐ Central Park Scheme (2.0)
- ☐ 62nd Street Scheme (3.0)

Which design best improves the parking situation? *

- ☐ Highway Scheme (1.0)
- ☐ Central Park Scheme (2.0)
- ☐ 62nd Street Scheme (3.0)

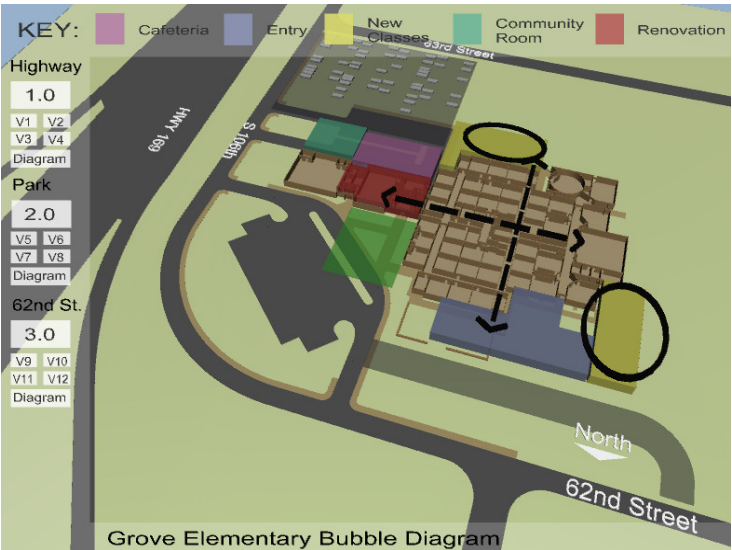
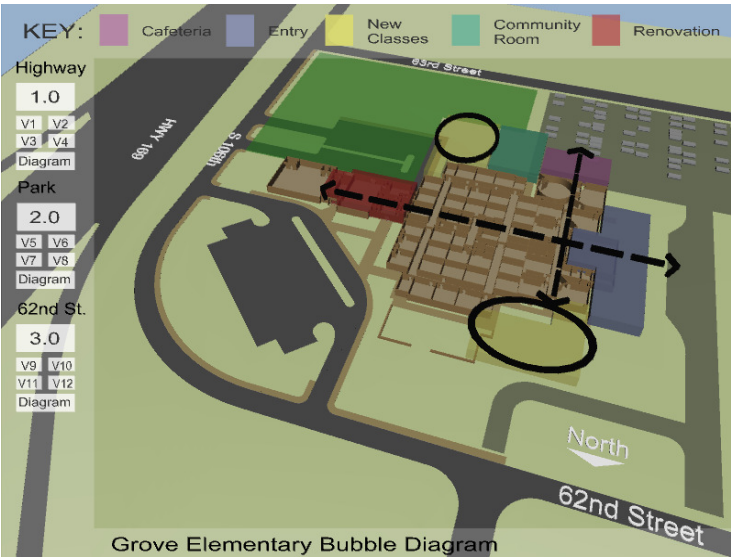
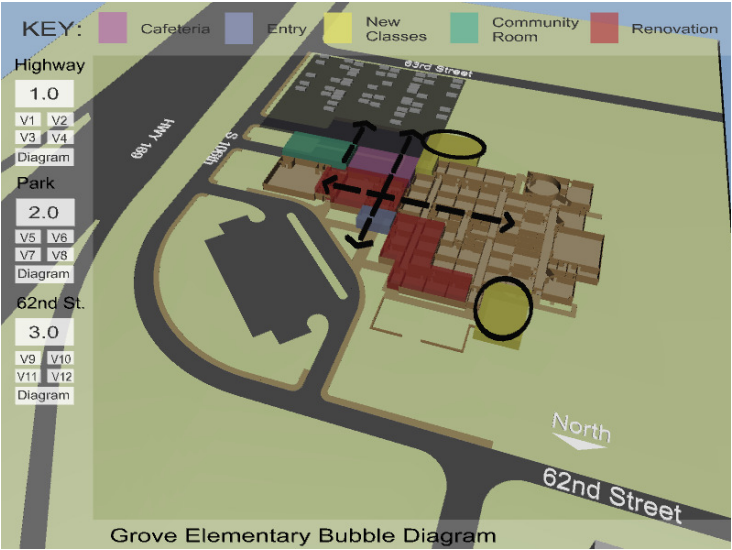
Which school best provides the opportunity to expand in the future? *

- ☐ Highway Scheme (1.0)
- ☐ Central Park Scheme (2.0)
- ☐ 62nd Street Scheme (3.0)

If you could combine any elements of the different designs, it would be combining:

Such as: Use the location for the cafeteria in scheme one, in scheme two.

Submit



Grove Elementary

Bubble Balance:

balancing what the client values: Appearance of the building, connection to the community, ease of development.

The three different plan diagrams were grouped so they would be easy to remember when filling out the survey: Highway Scheme, Central Park Scheme, and 52nd Street Scheme.

The key elements of the Highway Scheme:

- New entry in the same location as the existing.
- A total renovation of the current administrative offices combining the current cafeteria and offices into one larger space.
- The community wing placed on the South East.
- New parking on the South East.

The key elements of the Central Park Scheme:

- Connects the school directly to the new park adjacent to the West by relocating the front entry.
- Creates a community wing on the West, combining functions with the park.
- Adds parking to the South West.
- New drive for drop-off and pick-up along the North West.

The key elements of the 52nd Street Scheme:

- Relocates entry for ease of drop-off and pick-up.
- Keeps the community wing adjacent to the gym, but separated from the front entry.
- Leaves the playground adjacent to the park, and away from the highway.
- Adds new parking on the East, adjacent to the community wing.

Screen capture of the questions asked in the Bubble Shifting interactive.

Screen capture of the Bubble Shifting interactive.



Grove Elementary

Education, community, space.

Teaching and learning are the constant and dynamic goal we have as a nation for our youth. As a society, we recognize the goal of education with such prominence, that we readily invest our tax dollars, and our time debating the validity of different pedagogical techniques. However, one primary issue that needs to be addressed is the architecture creating the environment for learning. In particular, how can we create spaces promoting a learning environment? How do we design, and modify buildings that enforce interaction between parents, students, teachers, and community?

The typical school has the opportunity to become the center of its community. This core idea, an educational facility as a community hub, provides children the most important component of learning – being both physically and emotional prepared to absorb knowledge. The community school, and all of its elements are ultimately tied to the idea of creating an environment that prepares a students to discovery the opportunities of education.



The library at Grove elementary.



(Left) Current front entry at Grove Elementary. The entry leads into the offices at a corridor at that connects the cafeteria, gym, offices, and classrooms.



(Right) The entry doors at Grove Elementary.



Grove Elementary

Community Schools:

Education is the gateway to opportunity. Using architecture to create the best possible scenario to enhance learning preparedness is crucial. The architecture of a community school should perform several key tasks, defined by the National Clearinghouse for Educational Facilities KnowledgeWorks Foundation, by:

- **Enhancing** the capability to teach, and accommodate the needs of all learners.
- Creating a learning environment that serves as the **center** of the community.
- Becoming architecture that engages and **involves** the community and its interests.
- Promoting a sense of **health, safety, and security** is imperative to increase educational potential.
- Effectively using all of the available **resources** to improve and enhance education.
- Remaining **adaptable** for future demands of both education and community.



The computer lab (above) and library (below). The library is the current “hub” for the building, and acts as the core for circulation along with the cafeteria.



Grove Elementary

Enhance:

Learning is not a *passive* process, it is an *active* process. As a result, the classroom that enhances education needs to be a space that is flexible, adaptable, and can provide the opportunities for interactive education. When looking at a renovation project like Grove, it is important to evaluate the existing facility, demographic composition of the community, and the educational methods the faculty implements.

The design changes to the classrooms at Grove are:

- Providing natural light where possible.
- Fix bathroom classroom sound problem.
- Add bathrooms with additional classrooms.

Teachers need efficiency in their workspace and classroom to meet the demands of their curriculum. In particular to Grove:

- The faculty needs storage – many of the rooms have none.
- A dedicated conference or meeting location.
- Smaller meetings rooms for faculty or parent meetings.

For the students to learn, the parents need to be engaged in the school. To enhance the education process, the school must be accommodating and inviting to parents. To achieve this, Grove needs:

- An improved and clear entry sequence.
- Adequate signage, in both English and Spanish.
- Improved circulation at the pick-up drop off points.
- An arrangement and security system that promotes safety.
- A parent reception area.



(Above) The playground area on the North side of Grove Elementary.



Parking and bus lanes on the South side of Grove Elementary.



Existing entry along the gym.



Grove Elementary

Center:

“Educational problems reflect community and family problems in all of their complexity, diversity, and intractability.” -Decker and Decker (2000) *Engaging Families and Communities*.

An educational facility should fully embrace its context, and its community. It is necessary to do this to create a sense of belonging, and attachment to a facility that is involved with a major portion of the development of our youth.

Grove can embrace its community by:

- Not assuming all communities are the same, but molding itself with the **attributes of its context**.
- Understanding its significance as an **urban landmark**.
- Providing a **place of connection** between parents, staff, and children.
- Helping **fulfill the needs** of the community.

There are several items specific to Grove that can help the school become a center for the community:

- Help to transform the playground into a community park.
- Providing meeting locations and educational opportunities for adults in the school district.
- Improving the front entry to become a focal point.
- Improve the safety of the drop off and pick-up locations.
- Provide locations for continuing education.



The playground at Grove Elementary along the South side of the existing building.



Mural at the main corridor.



Grove Elementary

Involve:

A public school has the opportunity to embrace and create a feeling of inclusion throughout its community. The feeling of inclusion reinforces the idea that both schools and parents share in the responsibility of the education of children. The involvement with the school becomes increasingly important in an urban area, like Grove, where student turnover happens at an extremely high rate. As teachers have little time to build relationships with students, a connection to family and community becomes increasingly important to create a sense of comfort, well being, and an atmosphere to learn.

Needs specific to Grove:

- Creating a better locations for parents and teachers to meet.
- Creating a location for a potential community service (therapist, clinic, etc.).
- Expanding the kitchen area (or creating a new kitchen) to allow for health and cooking community classes.
- Providing “flex” space for the community.
- Other continuing education classes for: Computers, Health, English, Library Skills, etc.

“...when teachers make parent involvement part of their regular teaching practice, parents increase their interactions with their children at home, feel more positive about their abilities to help their children in the elementary grades, and rate the teachers as better teachers overall....” - Joyce Epstein, School, Family and Community Partnerships.



The connection area and entry at Grove elementary. This area is one of the biggest design obstacles...as it is the entry, the lobby for the offices, the connection between classes and cafeteria, as well as the classes and the gym.



(Left) Science lab.



(Right) Stage area at the existing gym.



Grove Elementary

Health Safety and Security:

A child and their family must be physically and mentally **healthy** to be prepared to learn. Necessary services need to be provided within the community school to aid in both aspects of well being. At times a nurse and counselor are not enough...the community school may actually need to provide a medical clinic, and a therapist to help with the health of both the students, and their family.

A sense of **safety** within the community school is imperative to create trust with both the students and their parents. Safety accommodates protection of children and staff from environmental factors, ensures building codes and workplace standards are met, and adequately creates and promotes a sense that the spaces, class rooms, hallways and etc. are well lit, well marked, and have an open feeling throughout.

Security within schools has become a focus of national attention, and has largely changed how schools are designed, occupied and staffed. To improve security, the primary system must be rooted in design and reinforced by the practices of the school. Site lines and entry sequence convey a control point without becoming intimidating, or over bearing, and achieve better results than simply relying on electronic surveillance. Breaking down classes into the smallest possible sizes, along with having “schools within schools” improve the teacher’s direct connection with the children and their parents improving interaction, understanding, and providing foresight. Increased community use through after school programs directly improves security as well. “Since most school violence happens between the hours of three and six p.m., after-school programs have become key components of violence prevention plans.” - *Schools as Community Centers*.



One of the many hallways Grove. The building format for the classroom wing is a “square doughnut” with one large hallway that completes a central loop, on one hallway bisecting the “doughnut.”



Typical hallway - orientation within Grove is not bad, but it is easy to get confused in the main loop.

At Grove, several specific concerns need to be addressed:

- A community wing for the school to create additional functionality for the building.
- An improved entry, with wider spaces, and no “traffic jams.”
- Long site lines through the building to create a more “open” feeling.
- Improved bathroom facilities.
- Improved parking and site design.
- Additional class rooms to help minimize crowding, and maximize student teacher interaction.
- Isolate the community school “wing” for security within the building after hours.



Grove Elementary

Resource:

The public school system must become more adept at utilizing its available resources, as well as becoming a resource for its local community. As a community school, Grove can provide opportunities, leverage its location within the community, and create a positive example for the conservation of natural resources.

Resources that Grove needs to expand upon:

- Global gardens.
- Kitchen renovation/expansion with a learning area. This will allow for opportunities in learning for health, science, mathematics, etc.
- Creation of a stronger tie to the community by finding available local resources to help with improving the playground, deferred maintenance, learning opportunities.

Resources Grove needs to create:

- Kitchen – learning opportunities.
- Community Room and Community Wing.

Natural Resource Conservation:

- Envelope design.
- Reduction of waste, recycling center.
- Life cycle based design.
- Conservation site design with new construction – water retention and bioswales.



The library space at Grove is a very attractive and open space, but might not be located in the best possible spot for the current needs of the school.



(Left) Exit area from the library.



(Right) One of several small classrooms branching off of the library.



Grove Elementary

Adapt:

While several of the needs at Grove are immediate, and most design strategies are regarding current issues, the concept of making the building adaptable for the future is crucial for the success of a community school. As the school evolves over time, the facility must adapt to new methods in education, changes to the community, and fluctuations in student population.

Principles for Grove to adopt:

- All new spaces should be built with a flexible “**shell**” type of structure to allow easy interior renovations.
- “**Flex**” spaces that can accommodate school activities, as well as social and educational activities for the community.
- Classroom should be adapt to a variety of teaching styles, classes, and methods.
- The kitchen should function as both a class space, and a functioning work space for food preparation.



The cafeteria at Grove is over crowded, noisy, and is also the connection/circulation space between the classrooms and the gymnasium.



(Left) Lockers within the classrooms are desirable, or a pod space with lockers shared by a group of classes.



(Right) The class millwork spaces have been successful at Grove, and is a simple request to improve storage and flexibility within each classroom.



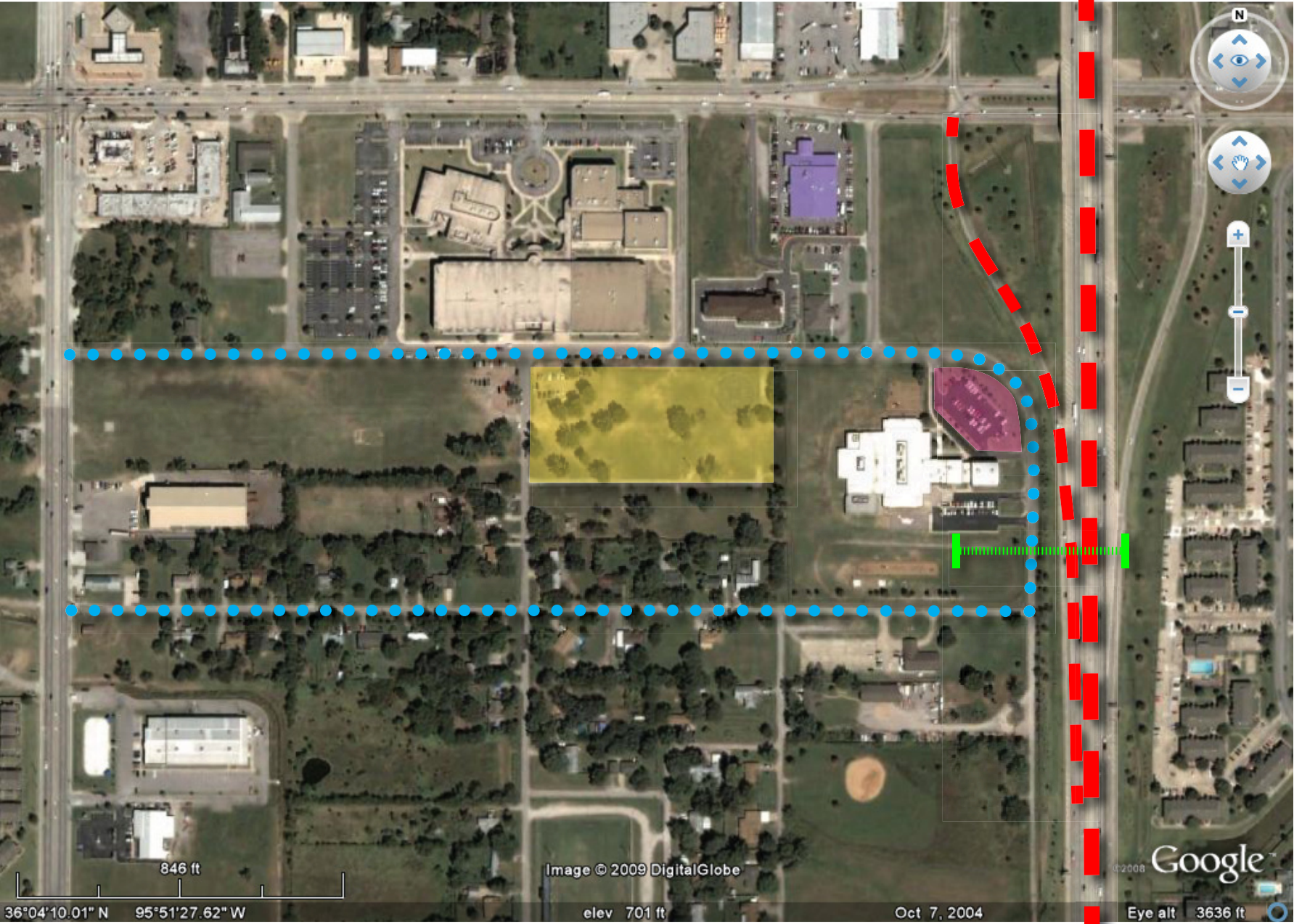
Grove Elementary

Urban Analysis:

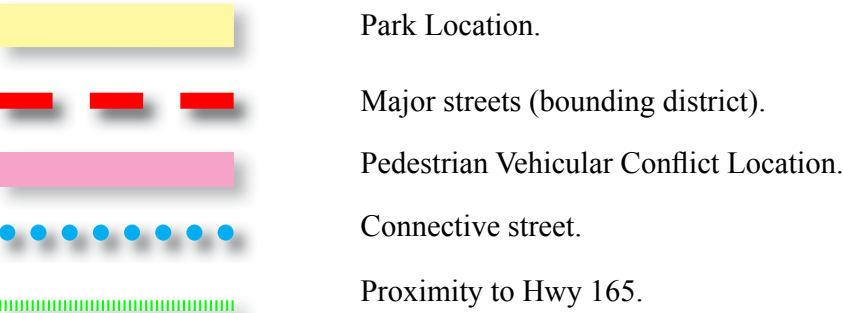
The immediate area around Grove has a direct impact on the way the school functions. By dissecting the urban area, several indicators provide direction on how the school can grow, opportunities for further connection to the community, and potential concerns that need to be addressed.

The primary urban issues at Grove are:

- Close proximity between playground and major highway (Hwy 165).
- Bad parking situation causing clogging, and conflicts between pedestrians and cars.
- Proximity to local park, but no relationship/interaction with it.



Grove site plan.



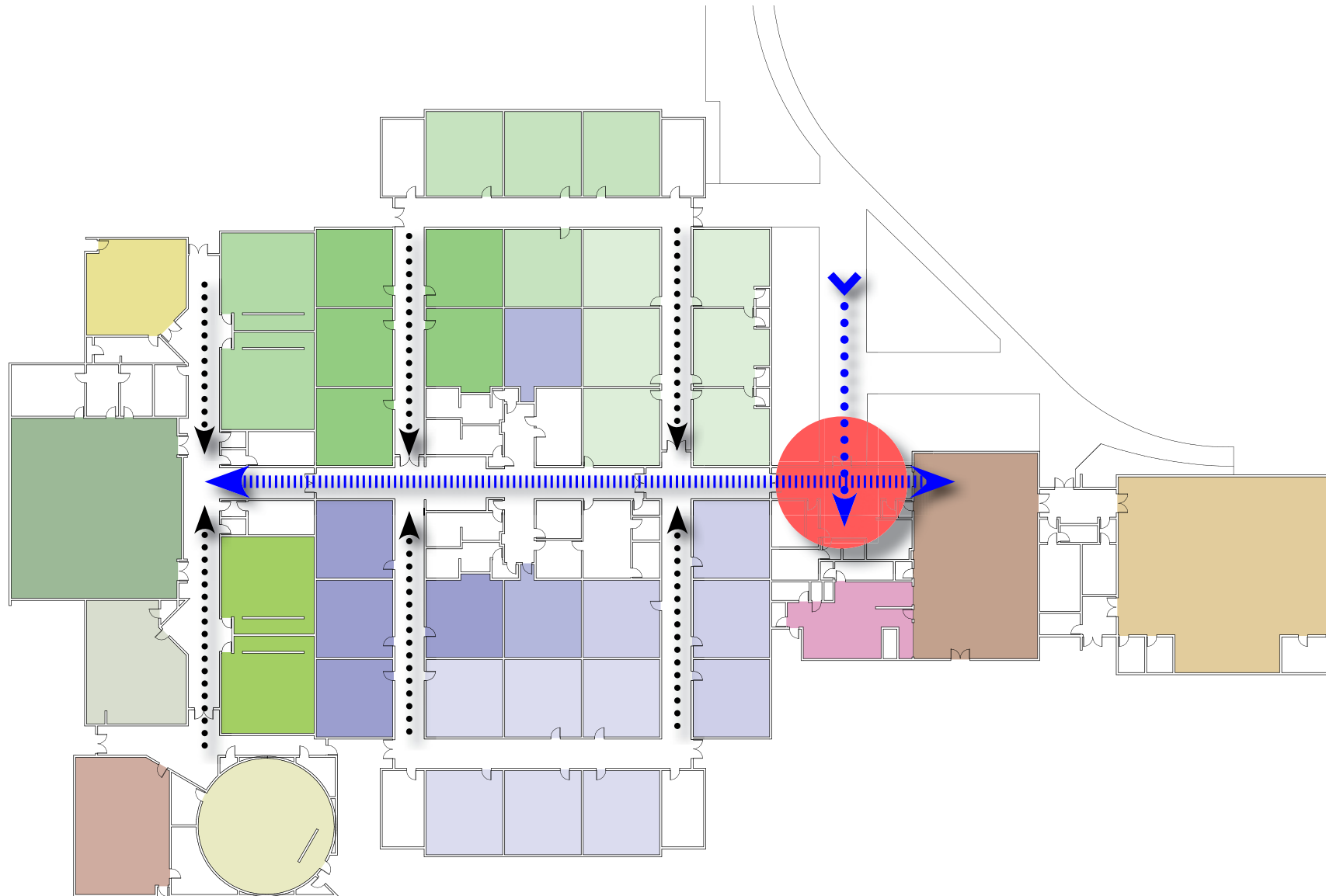
Grove Elementary

Plan Analysis:

The existing plan at Grove has several major issues that are impairing the ability of the school to be as effective as it can be for students, and for the community. The dashed lines overlaying the existing plan overlay the primary, secondary, tertiary circulation routes. The core problem of the layout is the front entry, which is also the main corridor of circulation, connecting the cafeteria, gym, administration offices, parking lot, and all the elementary classes. It is a bit of a traffic jam.

As a result, the existing plan at Grove has a series of significant issues that need to be considered in the process of transforming to a community school:

- Improve the circulation, and entry sequence.
- Provide long views through the spaces to improve security.
- Provide storage.
- Provide better administrative offices and work spaces.
- Create informal meeting locations for parents and teachers.
- Add community use spaces (therapist, flex room, global garden, etc.).
- Improve entry security point, and create clarity about the entry location.
- Find opportunities for expansion - adding on a new library, new kitchen, and new classrooms.
- Add daylighting to the “light locked” central spaces in Grove.



Grove existing floor plan analysis.

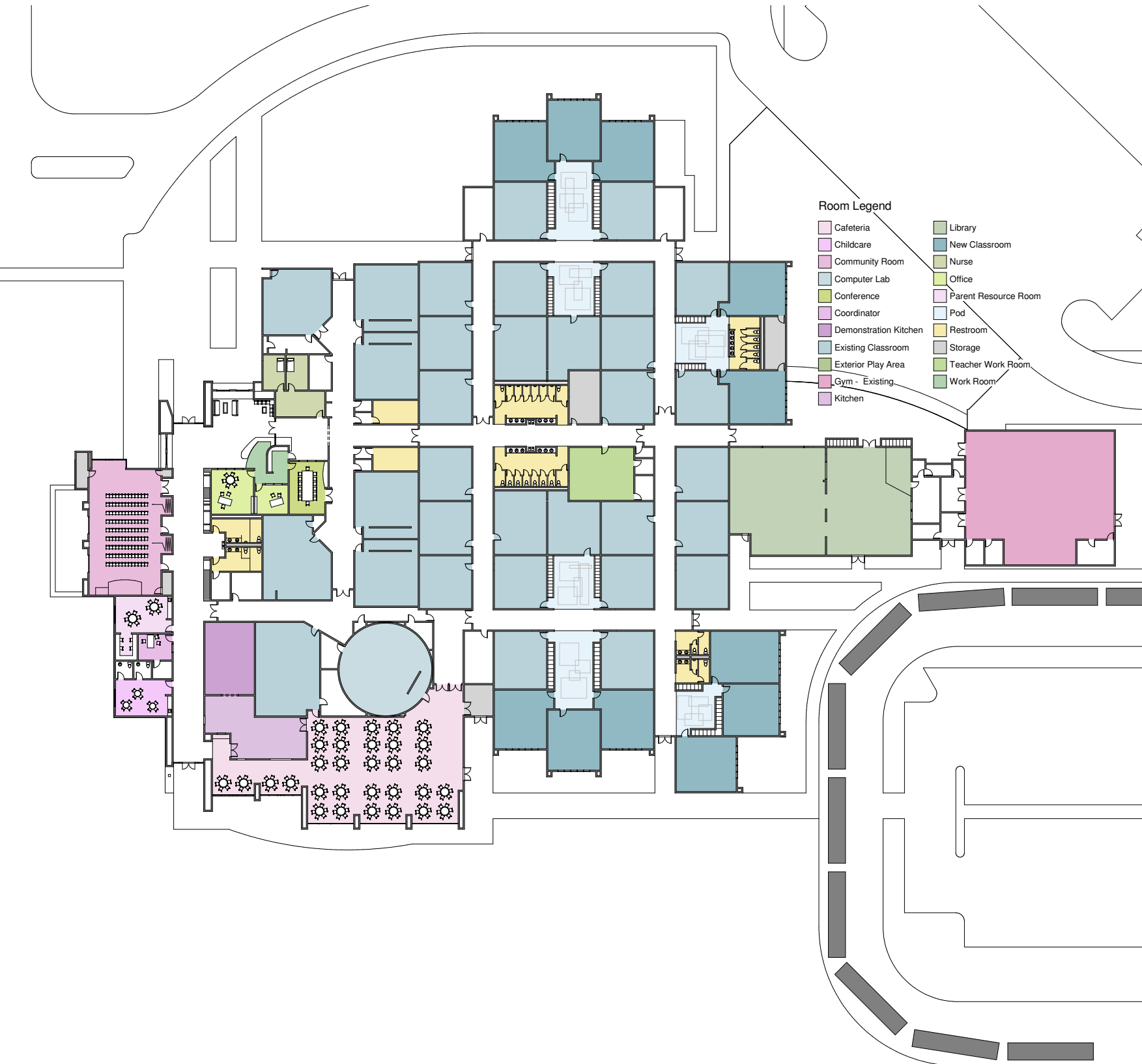


Grove Elementary

Plan Opportunities:

The overall building renovation, and the transformation of Grove Elementary into a community school involve:

- Improved entry sequence providing for better internal traffic, and easier exterior (auto and bus) traffic.
- Revised circulation allows for long views and improved passive security throughout the building.
- New community spaces which include:
 - New flex room.
 - New cafeteria.
 - New library.
 - Isolated community corridor for security.
 - Linking between Cafeteria Kitchen and Learning Kitchen.
 - Service spaces for community program.
- Eleven new classrooms.
- Addition of “pods” and clerestory windows for natural light in more classrooms and corridors.
- More storage throughout - with associated workspaces.
- New meeting locations for teachers and parents.
- New administration core - consolidating:
 - Principal, Vice Principal offices.
 - Faculty conference.
 - Faculty work room.
 - School nurse.
 - School counselor.
 - School support staff.



New Schematic floor plan of Grove Elementary. The plan shows the revisions as completed, demolished walls are not shown for clarity of the floor plan.

Grove Elementary

Classroom Renovation:

This central core of classrooms at Grove had several issues that can be improved upon. The primary issue is lack of storage, and lack of natural daylight in the existing classes. Reworking the classroom spaces and adding additional classrooms on the perimeter can open up several opportunities within the existing classroom spaces:

Changes made to the classroom core are:

- Removal of a central classroom in each major group of classes, renovating that space, and the entries to the existing classrooms to work with the classroom pod concept.
- Addition of daylighting in the pod space, to allow for natural light into the halls and existing classes.
- Addition of a new restroom core for each wing.
- Provide storage and lockers for each classroom.



Renovation and addition to the north Existing Classroom Cluster.



Grove Elementary

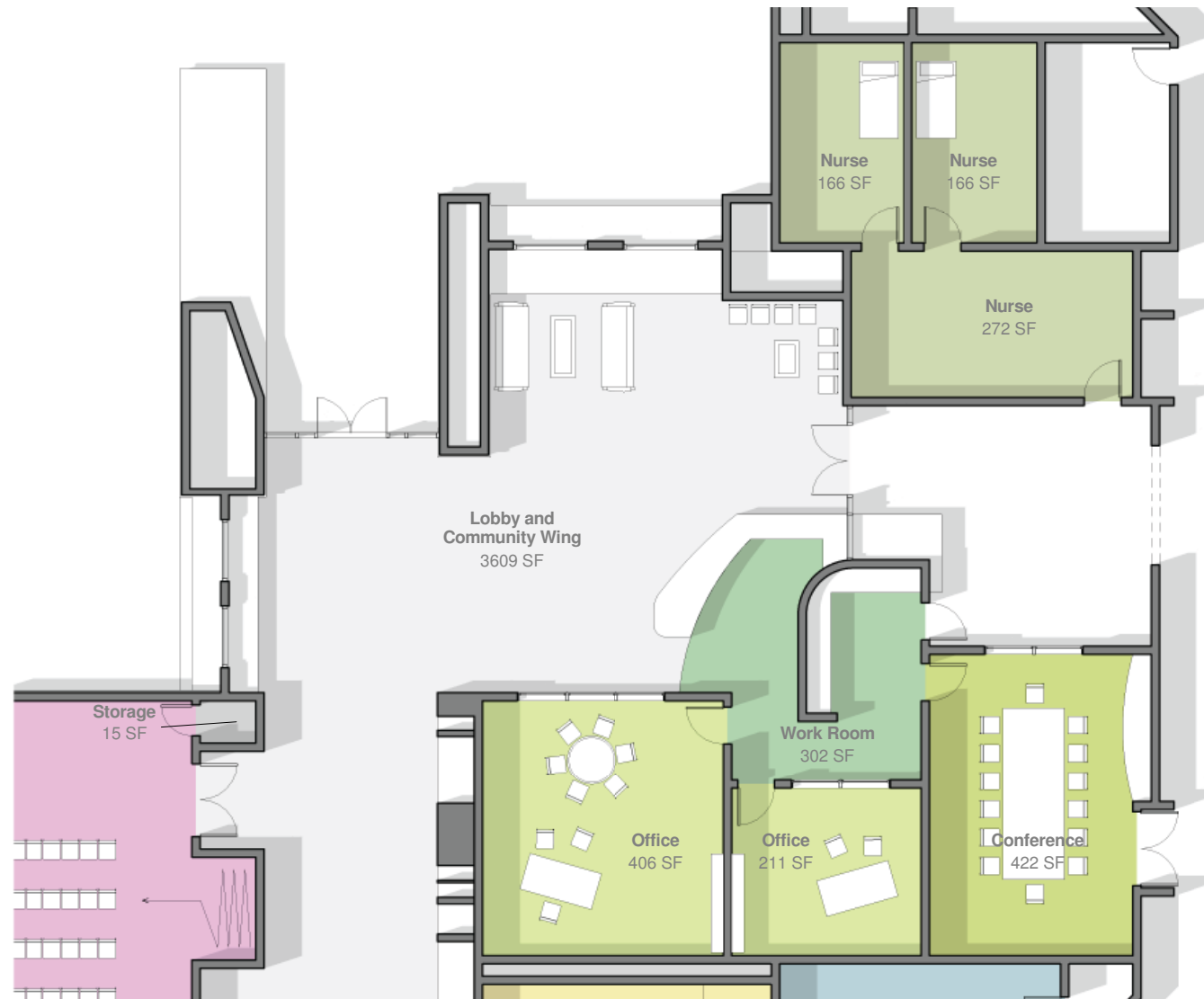
Entry Renovation:

The primary day time entry to Grove is currently a hallway. This hallway is also the lobby for the entry, and the connective element between the gym, cafeteria, nurse, and classrooms. This presents two problems: First, it is a bit difficult to work your way through the space, and maintain security with all the activity in such a small space. Second, the space does not create a sense of “welcome” to the school, but rather introduces a minor sense of chaos right upon entry to the building.

With the adoption of the community school concept, several key components needed location for direct access to the entry space. By relocating the existing library and cafeteria, the center of the building opens up to be more accommodating, and allows all of the administration functions to become centralized. This will help improve the interaction between parents and teachers by breaking down the formality of office spaces, and creating a more relaxed, less intimidating environment.

The changes to the front entry include:

- Prominent entry, clarifying the pathway into the building.
- Providing a casual meeting place for parents and teachers.
- Direct access to nurses office.
- Improved transparent security checkpoint for the school.
- Consolidation of all administration functions into entry core.
- Work space for faculty.
- Conference room for faculty.
- Student atrium.



Renovation to the entry at Grove, providing a space for parents, informal meetings, security check point, administrative offices, conference room, nurse, work space, and “staging area” for the kids before and after school.

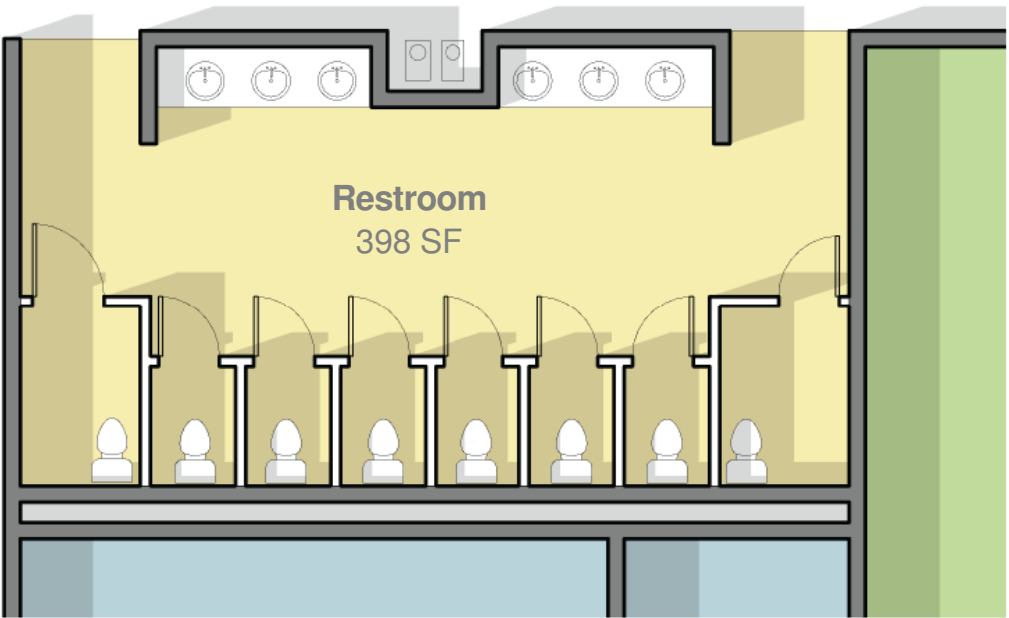
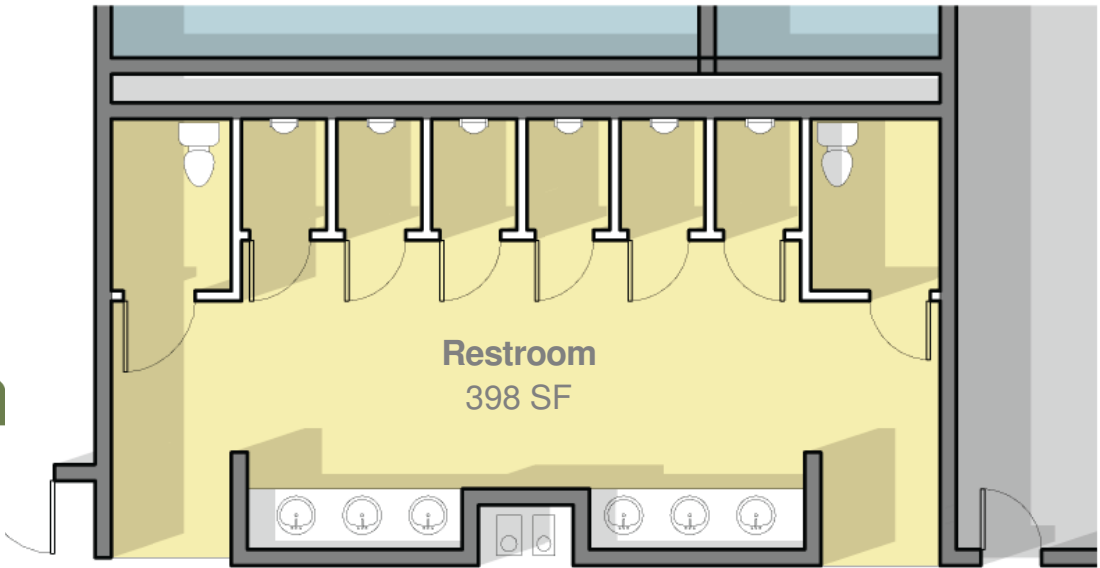


Grove Elementary

Restroom Renovation:

The design process, as made apparent by the surveys, needed to start with the restrooms. The current, and most effective strategy for elementary school restrooms is an open sink design. This design creates privacy at the individual stalls, but uses an open hallway at the sink location. This allows a teacher to stand in proximity to the restroom, and make sure kids are behaving, and using the facility as intended.

The design also opens up for about four times the existing number of fixtures. This is done by eliminating the walls, and decreasing the space typically used to create the restroom entry and, in the case of an elementary school, counter productive privacy.



Renovation plan of new restrooms



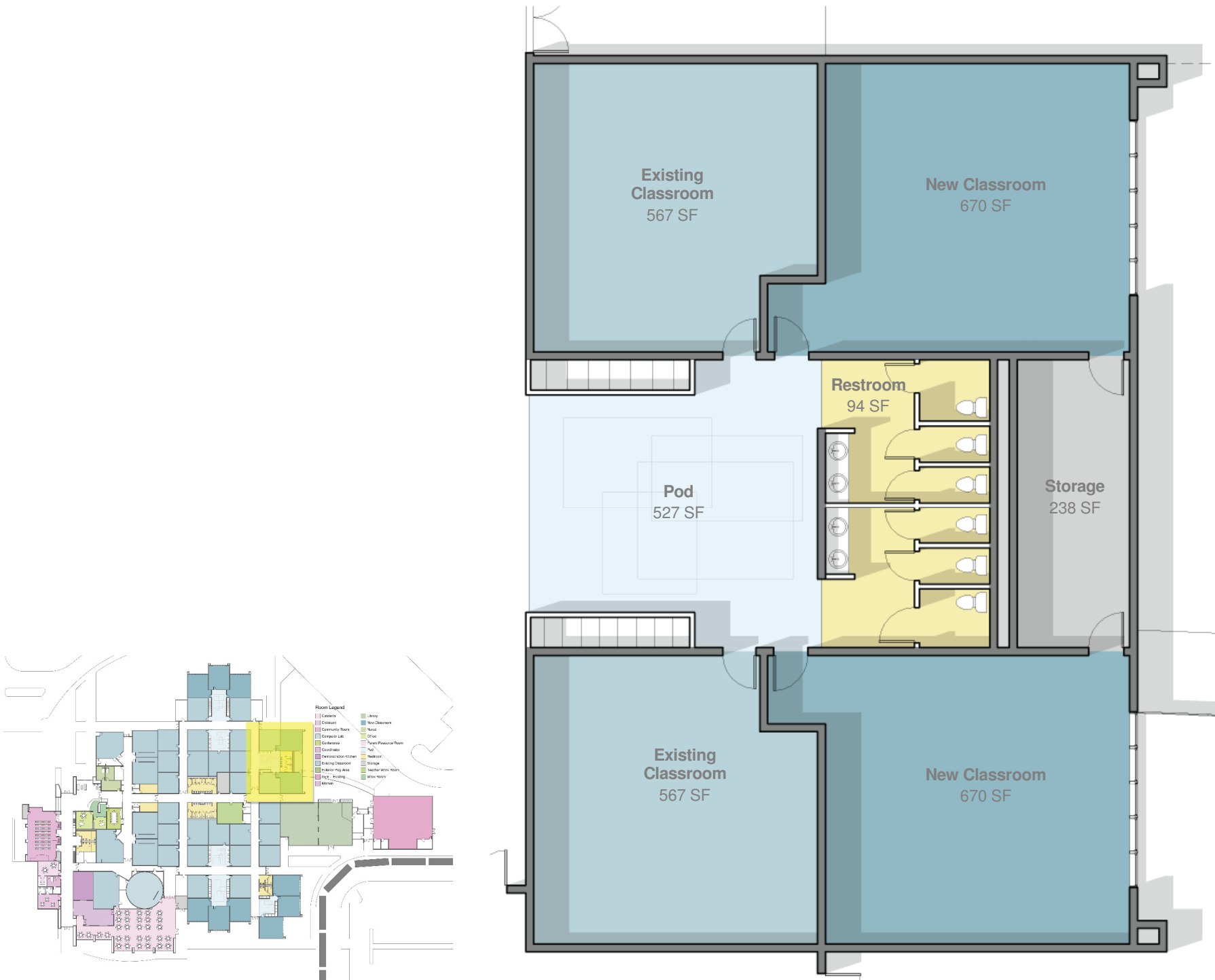
Grove Elementary

Kindergarten Core Renovation:

By consolidating the pre-elementary classrooms, and moving the entry to the school to the west, you open up the current entry location to act as the new wing for the kindergarten and pre-kindergarten classrooms. These rooms could have direct access to the current North East parking lot for direct child pickup. The current exterior entry path could be demolished and replaced with a new enclosed playground with equipment especially designed for kindergarten and pre-k kids.

The redesign kindergarten core includes:

- New consolidated open sink restrooms.
- New shared space.
- New faculty work space.
- New direct entry.



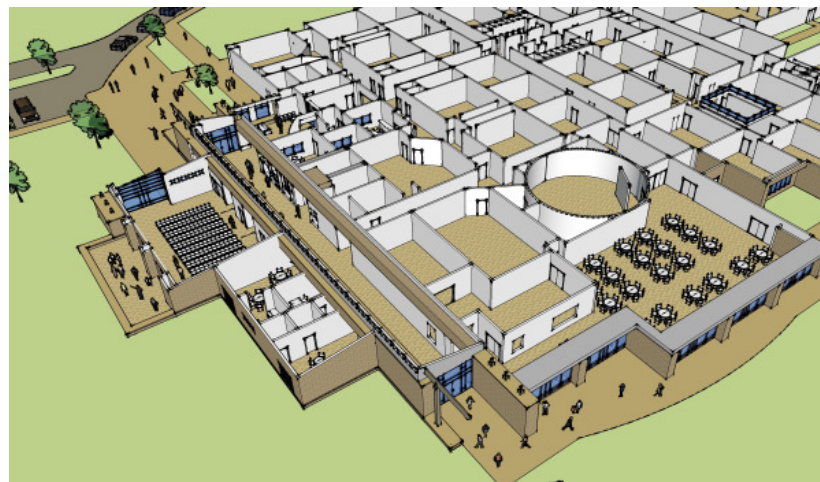
Renovation to the Kindergarten and Pre-K rooms.



Grove Elementary

Entry Renovation:

- Providing a new prominent entry at Grove will help direct visitors to the school to the correct location. By providing a clerestory to the west, the morning sunlight will not come directly into the space, but be filtered by the overhanging form. By consolidating the community wing, cafeteria and new school administration wing all on the West side of the building, the construction can be completed without interrupting the school year.
- The new community wing opens up to the park just West of Grove. The goal is to tie in the community functions of the park, with the community wing of the school. Along the West elevation, several large windows will help with a visual connection, on the site plan, a proposed pathway will help make a physical connection.
- More natural light is a running theme for the entire design. This both helps with energy costs by daylighting, as well as creates a stronger sense of orientation within a building. Currently, Grove is a big box, with little natural light in the center of the building. New classrooms all have a series of windows, and the pod renovations have a clerestory window system to bring more light into the hallway spaces, and into classrooms with no natural light.



Renovated West Side Community Wing .

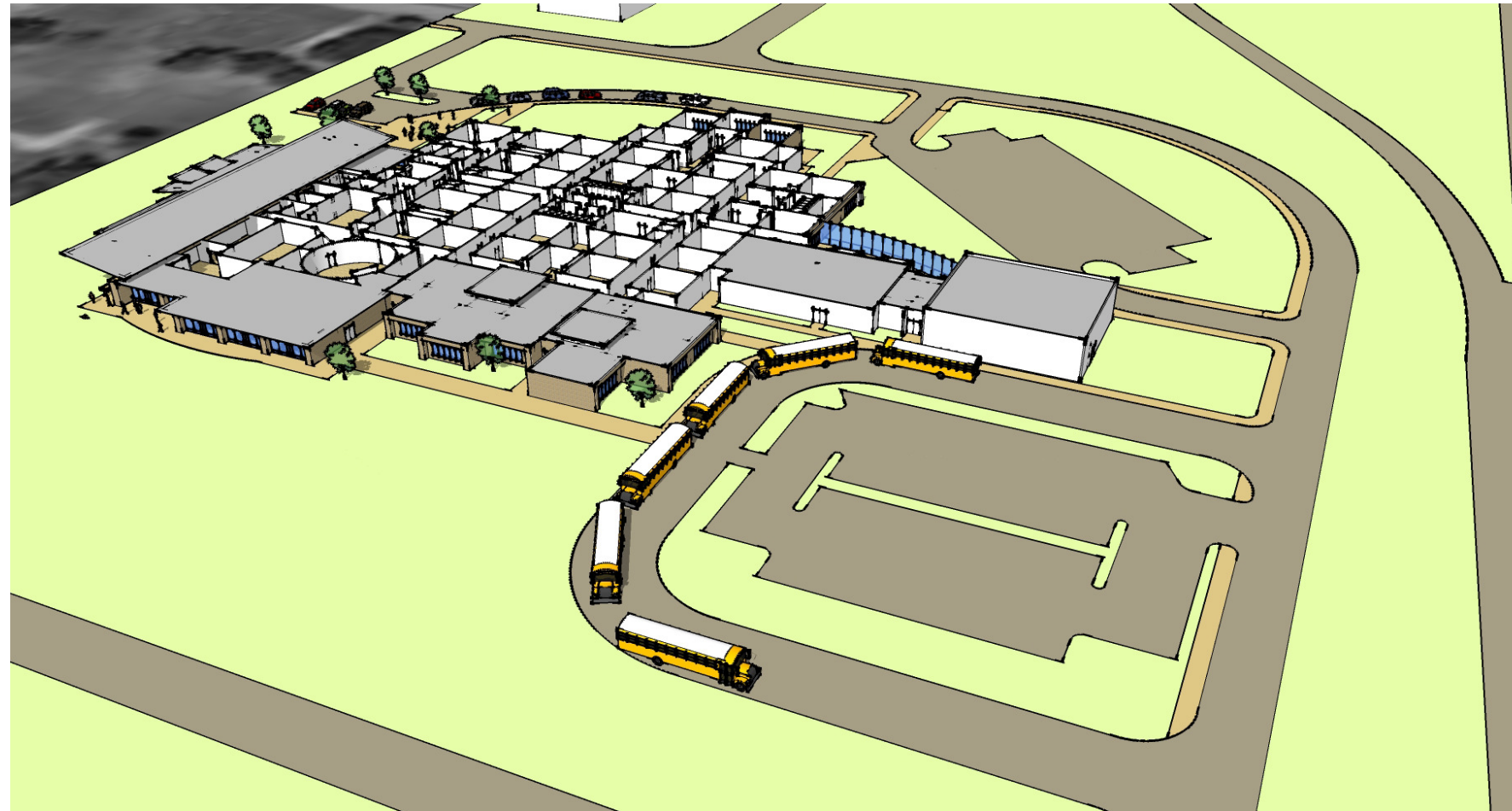


Grove Elementary

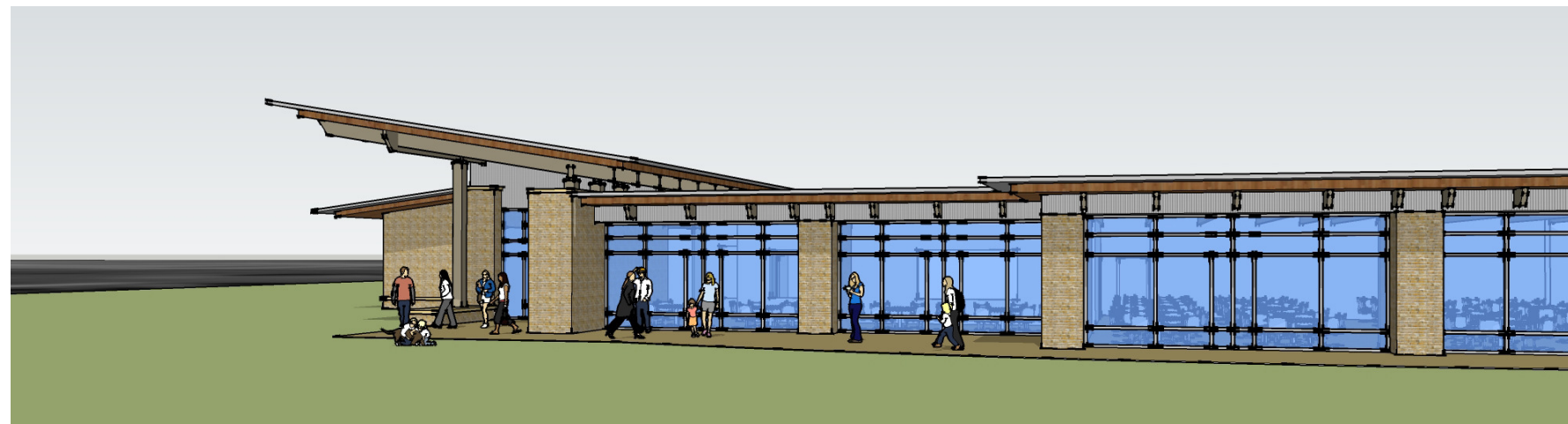
Architectural Opportunities:

Traffic circulation is a major issue at Grove, from the design game process, and site analysis I am proposing the following modifications:

- Expanding the parking area on the South East corner of Grove. This will reduce the size of the playground, but it will also create a larger buffer from Hwy 165.
- By modifying the front entry location, the parent pickup and drop off que can be greatly improved. This will keep parents from parking in the street, reduce traffic congestion, and most importantly eliminate kids from walking between cars to cross traffic.
- Keep the existing parking on the North East Corner. Additional parking will be needed for the new community functions, and to accommodate additional faculty and staff as the school increases in its size.
- Create a pedestrian connection to the community wing on the West, to the two larger parking lots on the East. Provide only a few short term parking spaces at the front entry. This will keep car traffic away from the front door, and the major route of pedestrian circulation.



Renovated site plan view.



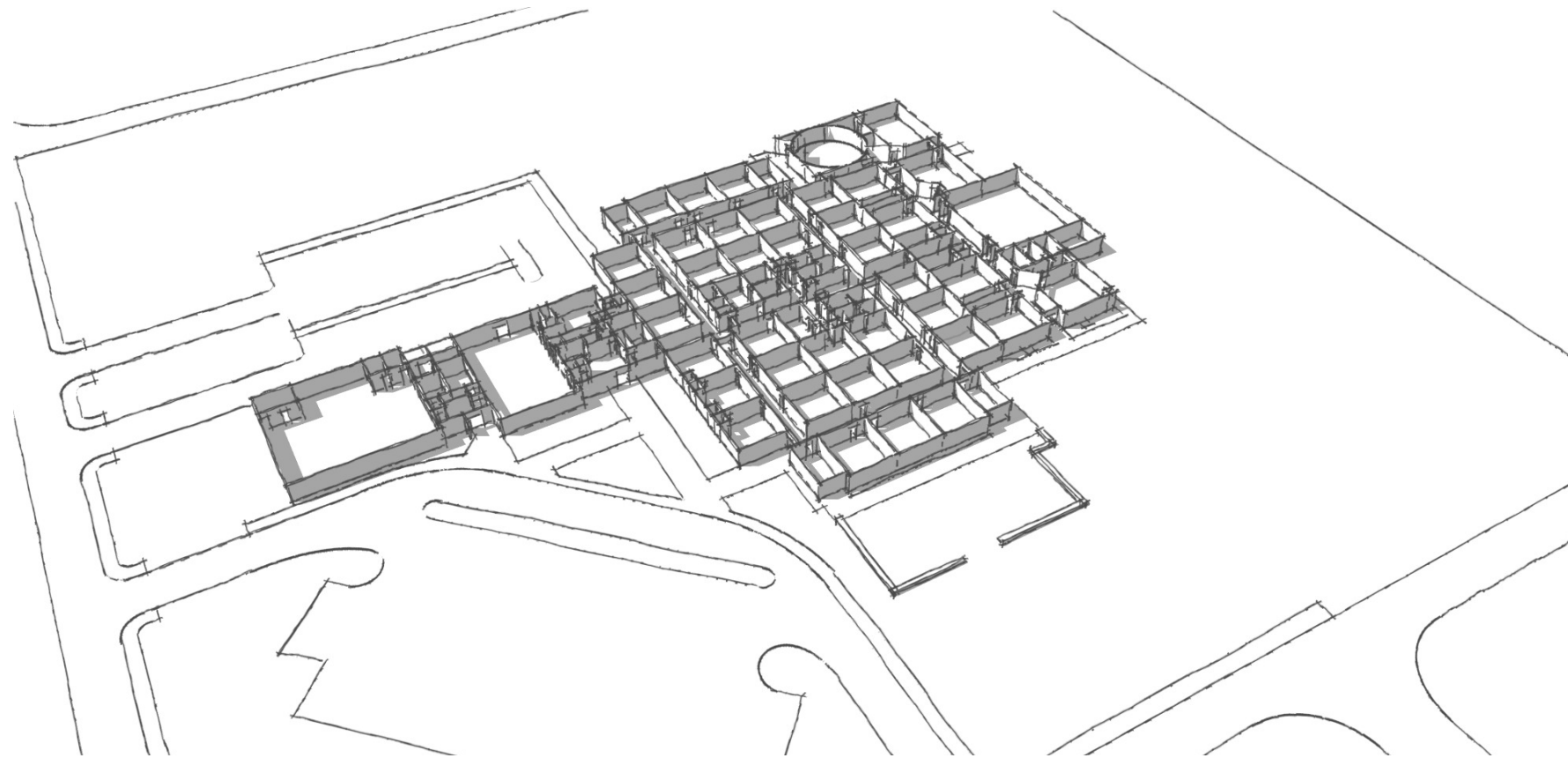
Renovated cafeteria/South Elevation.



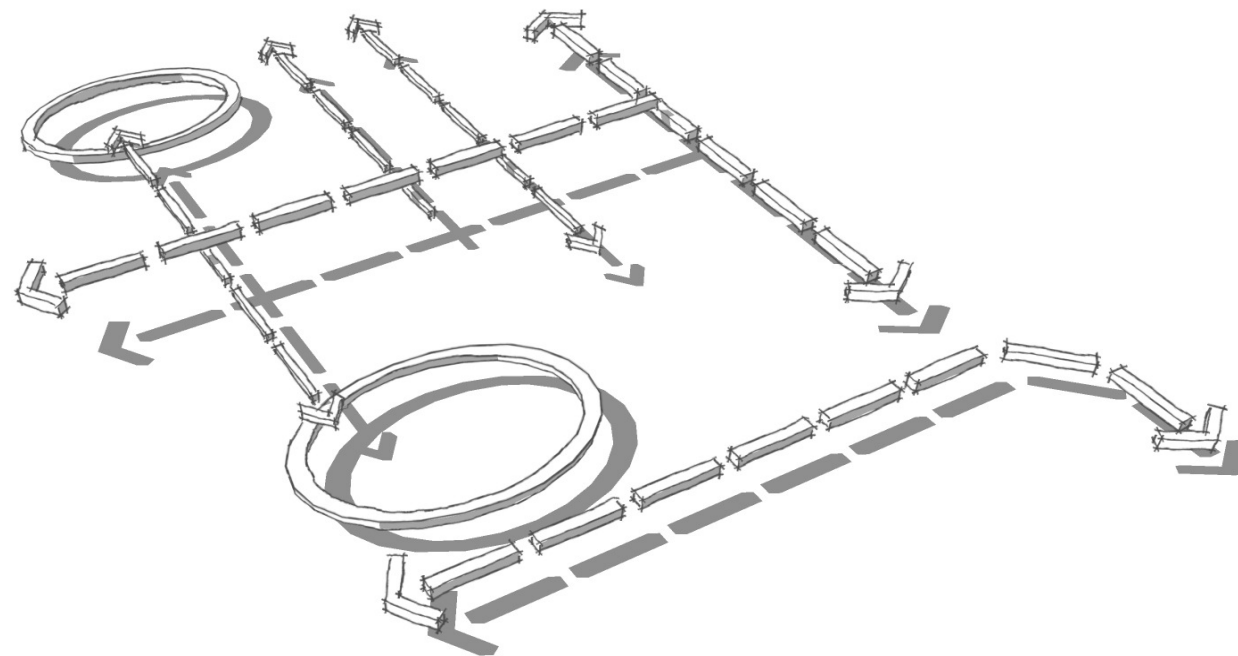
Grove Elementary

Architectural Opportunities:

The following series of images walk through the new design at Grove elementary. Starting with the existing facility (top left), and overlaying the schematic diagram for circulation, additional classrooms, and new community wing.



Grove Elementary existing.



Grove Elementary renovation diagram.

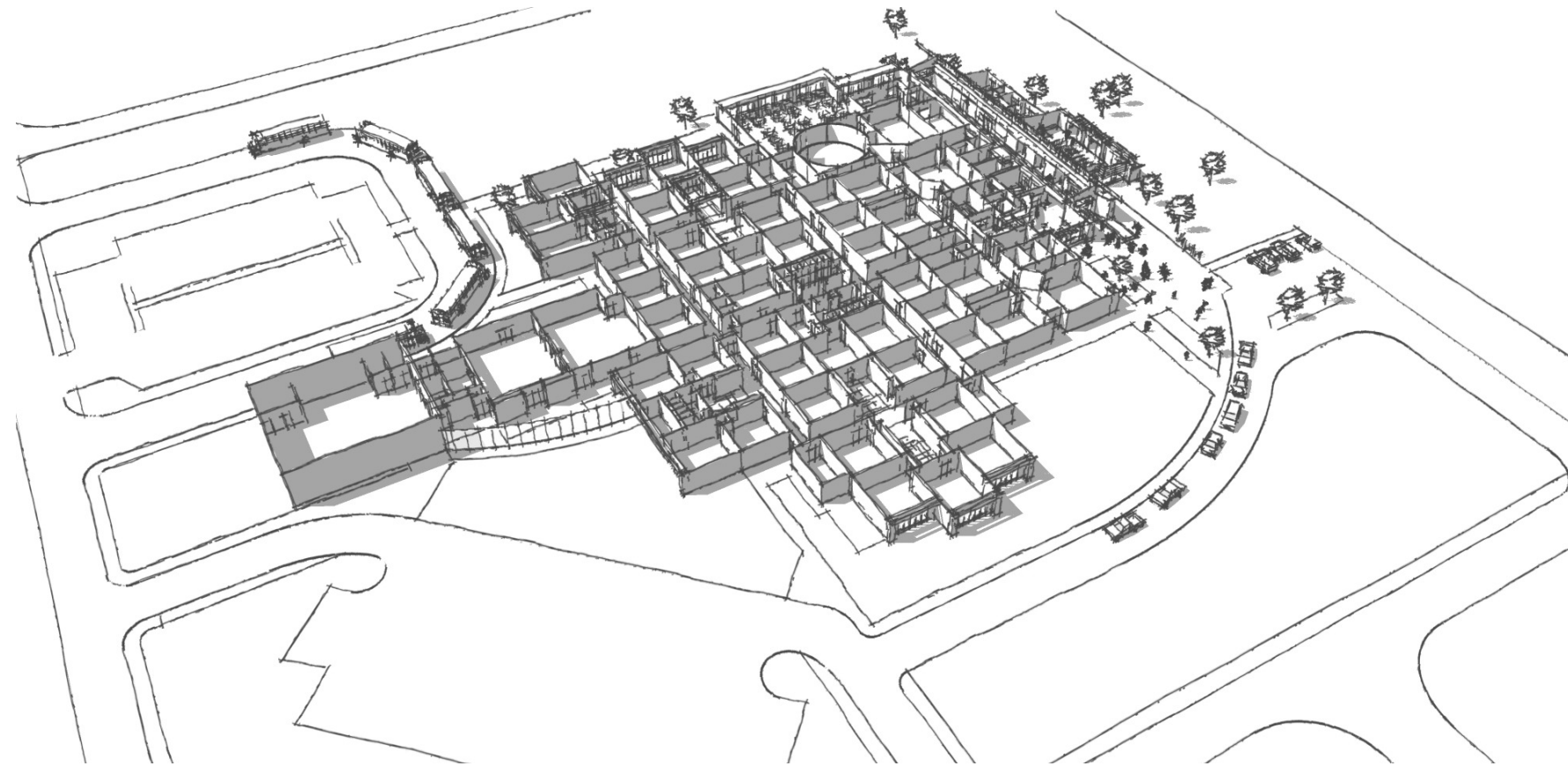


Grove Elementary

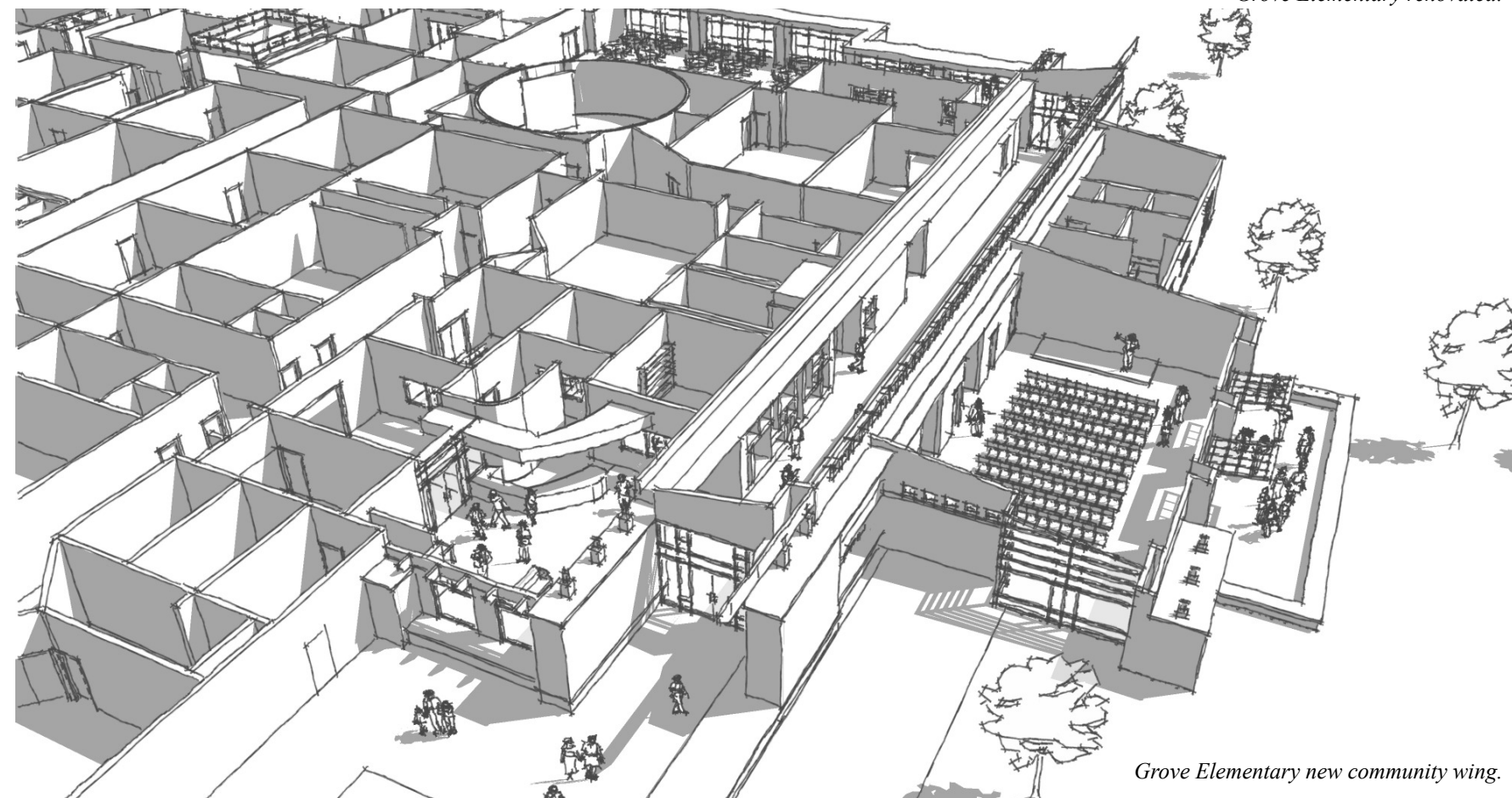
Architectural Opportunities:

The new addition allows for a pick up drop off que along the North, and new community wing along the West edge. The entry is tall with a roof and clerestory windows that open to the West to orient the form to the adjacent park. The community room functions open directly to the West to start engaging both activity at the park, and create activity at Grove as a Community School.

The goal for the form is to bring in natural light, create a large open volume at the entry, and expose all the building components. Duct work and structural members are generally cool if expressed with design intent, and provide a great learning opportunity for architecture and building components.



Grove Elementary renovated.



Grove Elementary new community wing.



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Tulsa Area Community Schools Initiative



The University of Oklahoma Urban Design Studio

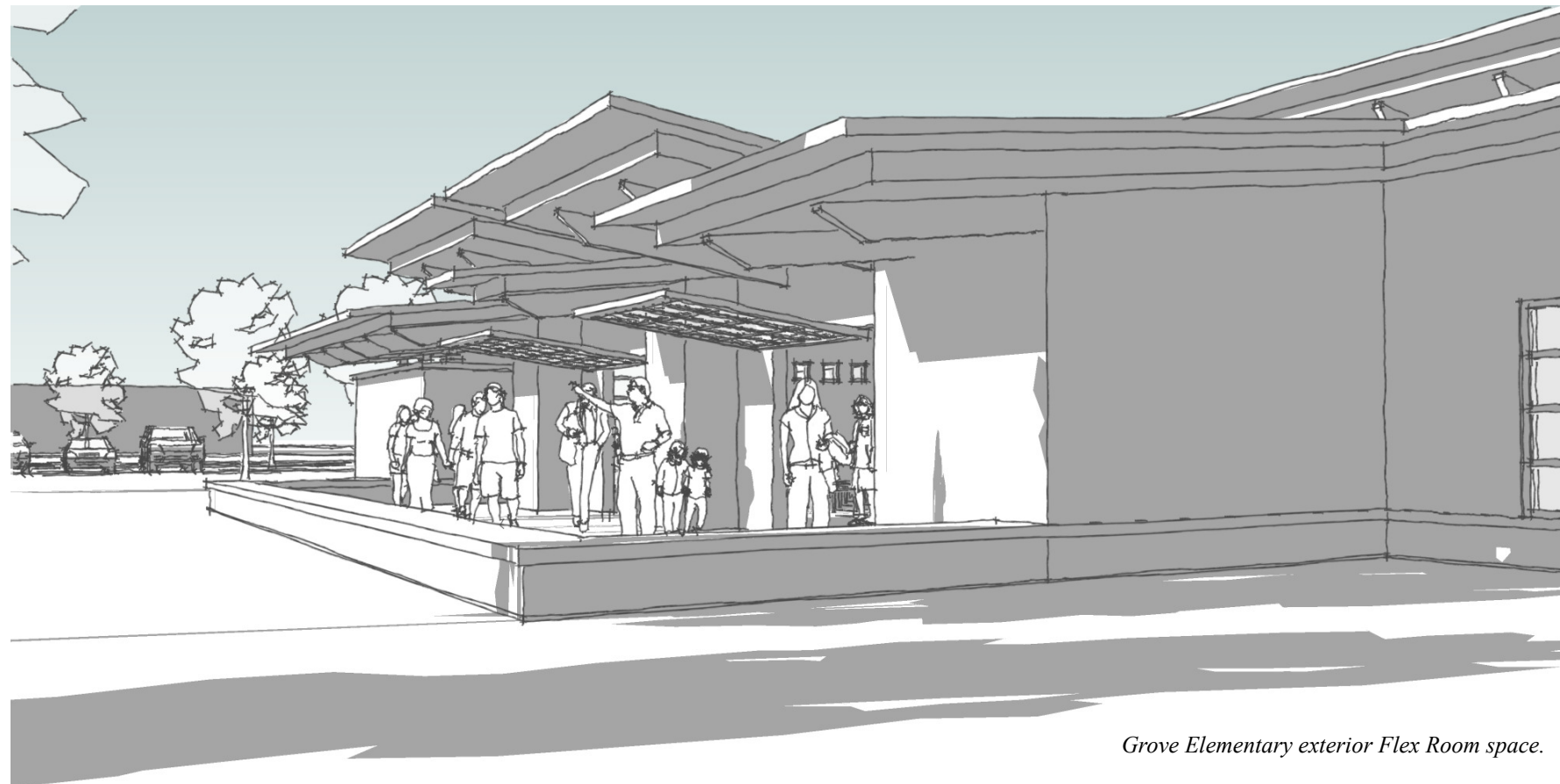
Grove Elementary

Architectural Opportunities:

Along the South edge, the new cafeteria at Grove should bring in natural light, and open up to the playground. The new entry along the South edge allows the cafeteria space to double as the bus loading “staging” area, and also creates a secure entry point for kids in the morning. The primary entry is a direct North to South connection along the community corridor, that leads directly to the office area, and secure entry into the school.



Grove Elementary South playground entry.



Grove Elementary exterior Flex Room space.



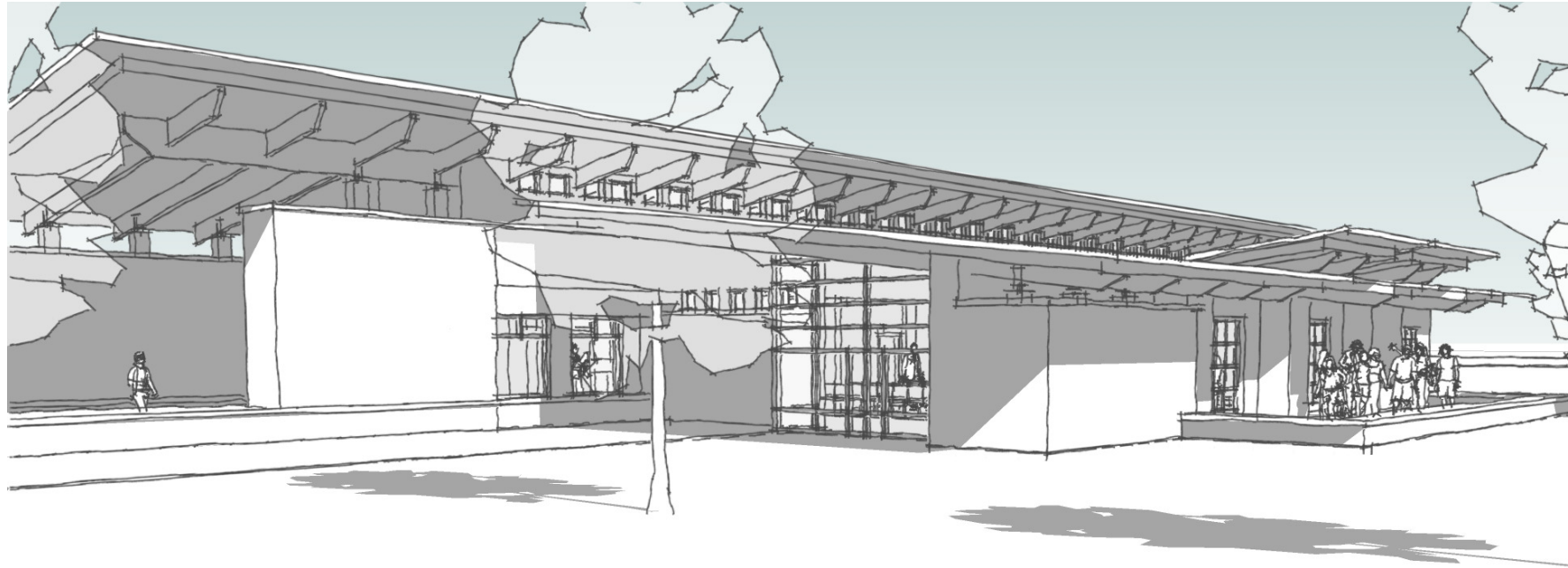
Grove Elementary bus drop off.



Grove Elementary

Architectural Opportunities:

The new front entry should begin blending the materials of the new park structure with the existing materials at Grove. The flex, or community room should also be adjacent to the front entry with glazing facing the entry. This provides an instant building orientation (prior to entry) for someone visiting a community event after school hours.



Grove Elementary West elevation.



Grove Elementary Main (North) Entry.



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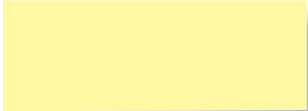

Tulsa Area Community Schools Initiative

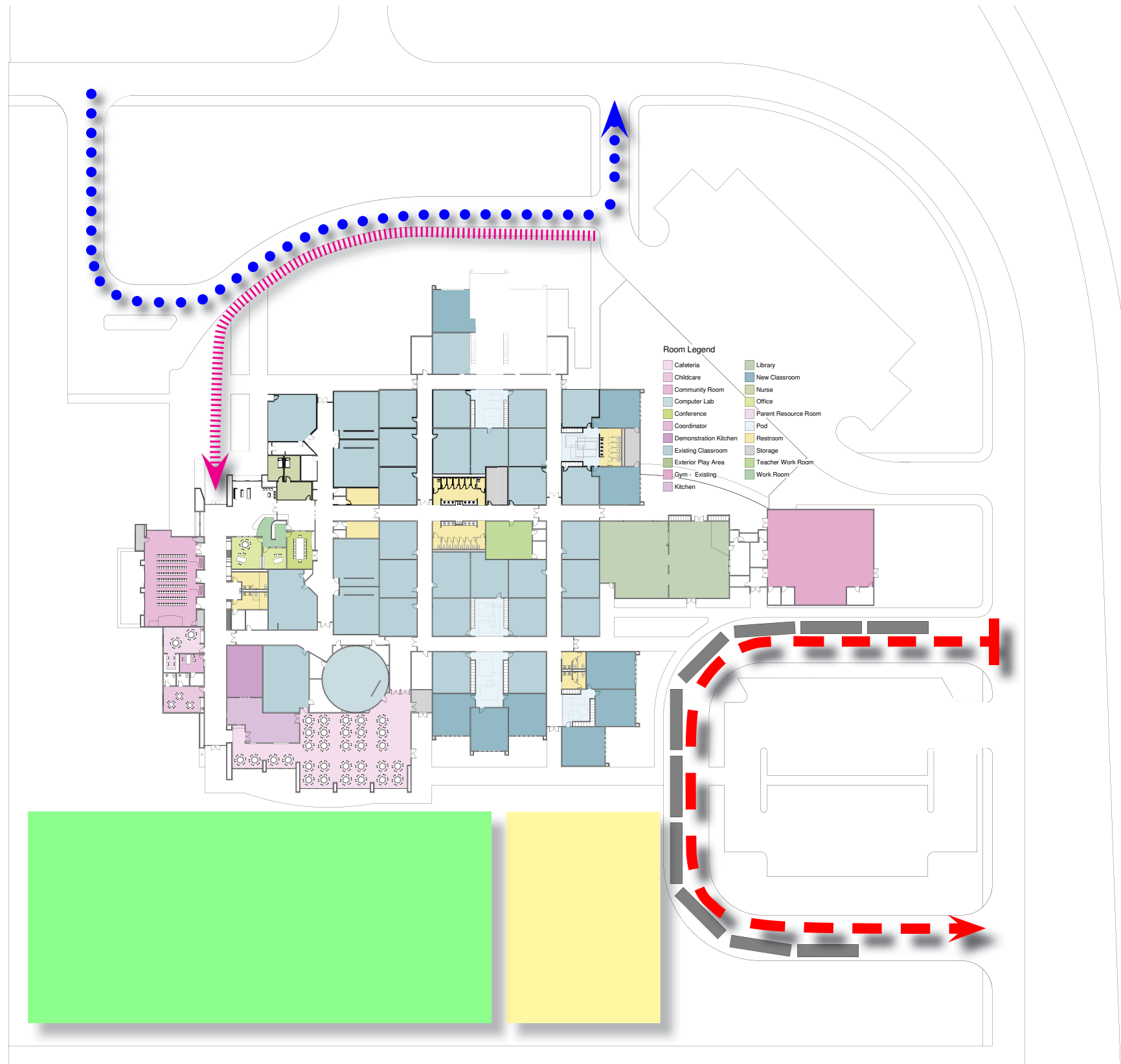


The University of Oklahoma Urban Design Studio

Grove Elementary

Architectural Opportunities:

-  New Playground Location.
-  New Bus Drop Off.
-  Parent Pickup Que.
-  Proposed CAPS Site.
-  New Pedestrian Path.



New site plan - Grove Elementary.



Grove Elementary

Expansion Phasing:

- Phase One** develops a new cafeteria on the South edge of Grove. This new addition allows for a renovation in the existing cafeteria location to open up the location for the library. This phase can be completed any time during the school year.
- Phase Two** is the swap between the existing library, renovated to hold the new office wing. Along with this phase, is the new entry, and the renovation of the old offices and cafeteria into a new library.
- Phase Three** adds the community wing along the West edge of Grove.
- Phase Four** (no color scheme shown) adds on new classroom additions and pod connections.

