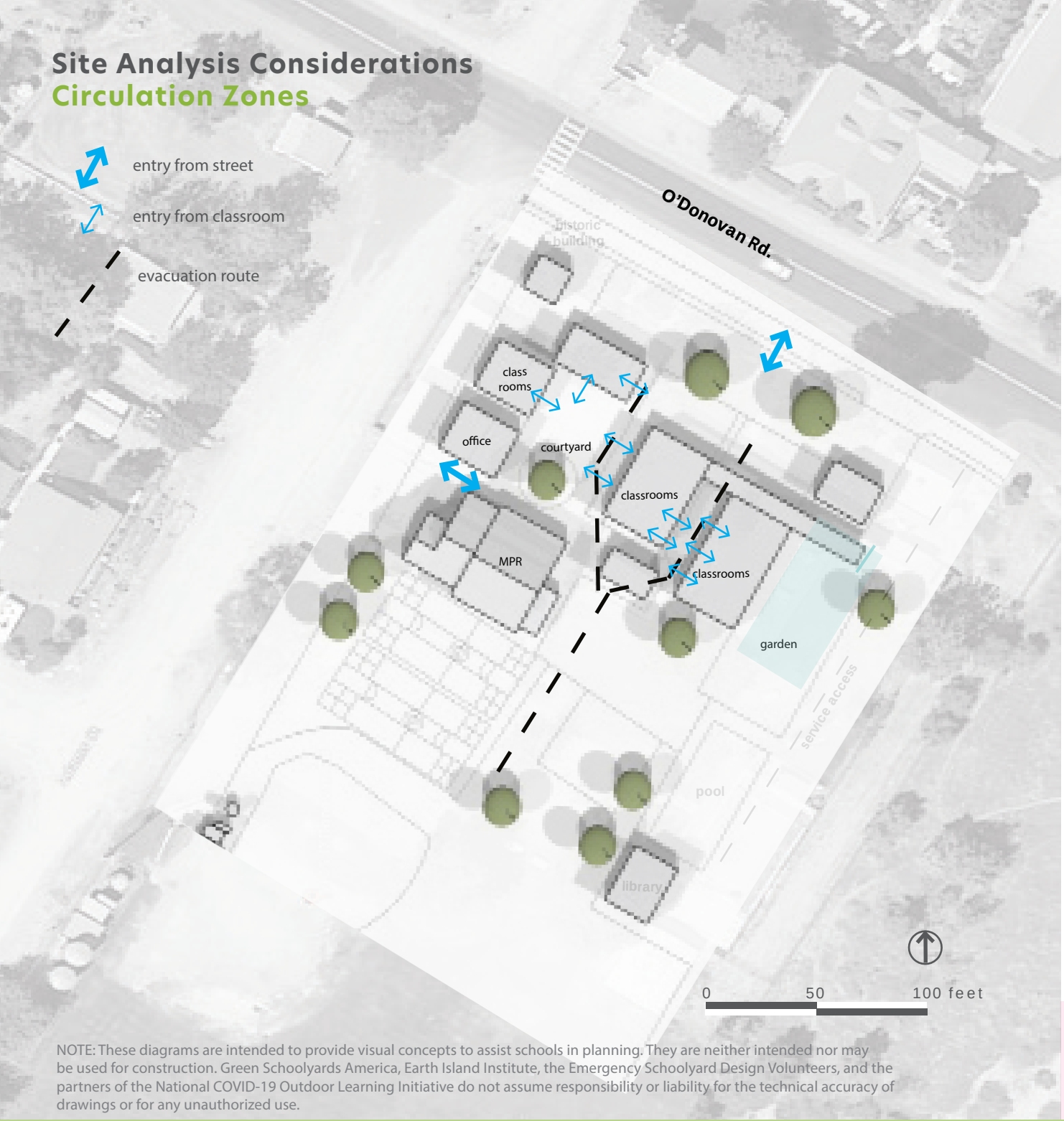
EMERGENCY SCHOOLYARD DESIGN VOLUNTEERS

CRESTON ELEMENTARY SCHOOL — CRESTON, CALIFORNIA

Located on the rural central coast of California, Creston Elementary School has a large food garden with hands-on learning opportunties, but few trees located within the school grounds. A small team from Cal Poly San Luis Obispo conducted an extensive shade study to uncover opportunties for outdoor classrooms that can be used immediately, such as the many covered walkways with benchs and picnic tables. Ideas for infrstacture investment include a courtyard sensory path and additional seating throughout the campus.

Site Analysis Considerations
Circulation Zones



NOTE: These diagrams are intended to provide visual concepts to assist schools in planning. They are neither intended nor may be used for construction. Green Schoolyards America, Earth Island Institute, the Emergency Schoolyard Design Volunteers, and the partners of the National COVID-19 Outdoor Learning Initiative do not assume responsibility or liability for the technical accuracy of drawings or for any unauthorized use.

Creston Elementary School
Creston, California

School Characteristics

Students

- 50-100 students in grades TK-5 | currently 44
- Currently 3 TK-5 classes.
- Need at least 3 breakout areas | 1 for each class
- There are 7 grades with at least 5 sections each: Math, ELA, Science, Social Studies, and P.E.

School Grounds

- Rural location, 7-10 acres
- Campus outdoor space is made up of 1/3 structures and 2/3 playground with sandbox, bike track, vegetable garden and fruit trees, as well as softball field and outer field area.
- Green space is primarily lawn but also has a large garden area that has 6 raised beds, chicken coop, 8-10 large raised bins, and 2 greenhouses grounded with bark.
- Trees along the perimeter on all sides, and a few large trees inside campus.

Climate

- Historically very windy in September and October; often poor air quality also with wildfires—20 days. Rain in January and February—10 days. Very hot in May and August, September—25 days.

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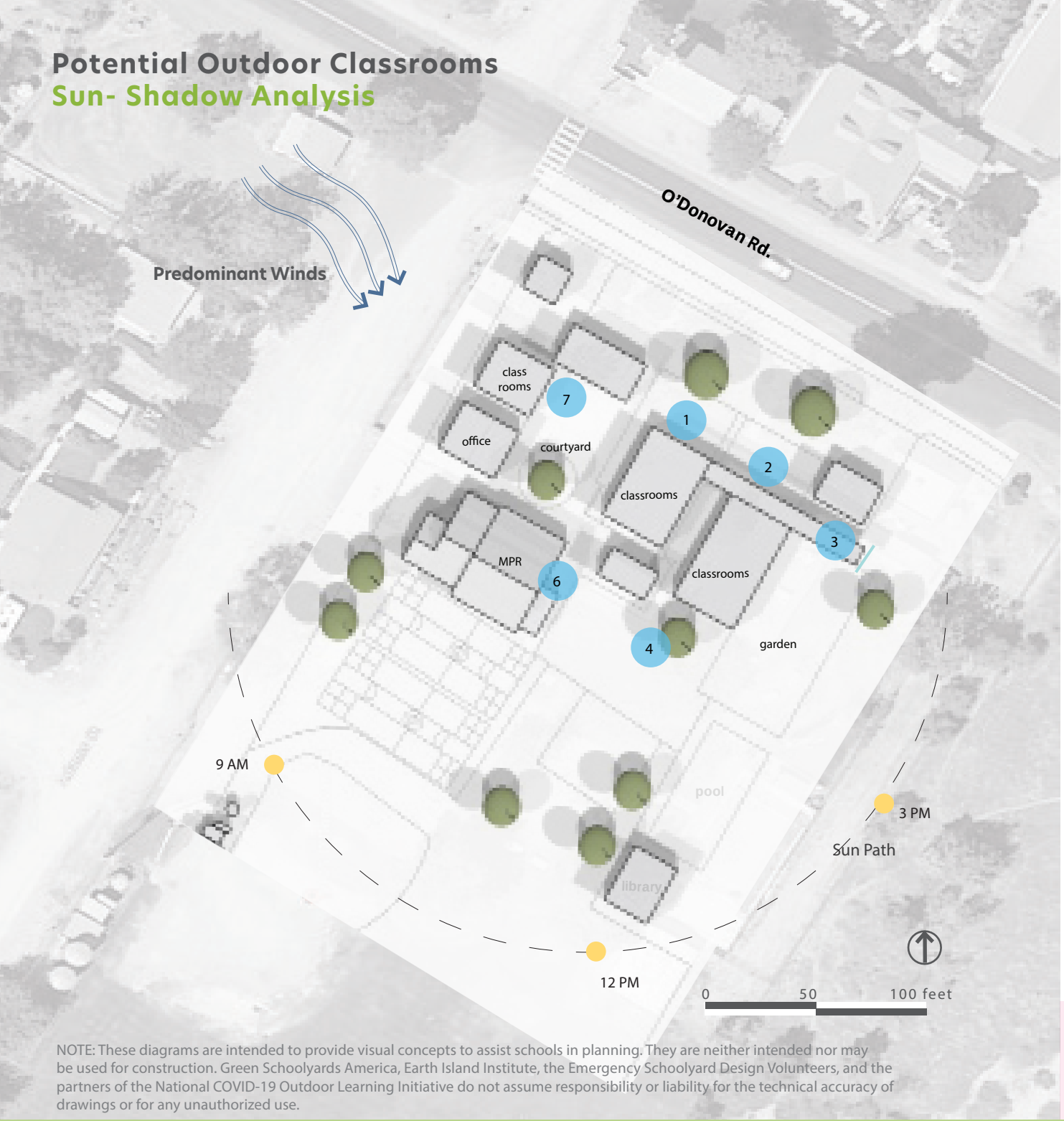
Students: Hannah Cho, Margaux Elliot, Mehul Sathya Narayan, Katherine Young, Serah Kallerackal, Tyler Naumann, Nehansh Saxena

Potential Outdoor Classrooms
Sun- Shadow Analysis



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Shade Analysis

- Shading analysis identifies areas that can be used without adding shade and areas that will need additional shading.
- Sun angles shown at the Equinox- 9am, noon and 3pm.

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Potential Outdoor Classrooms
Sun- Shadow Analysis

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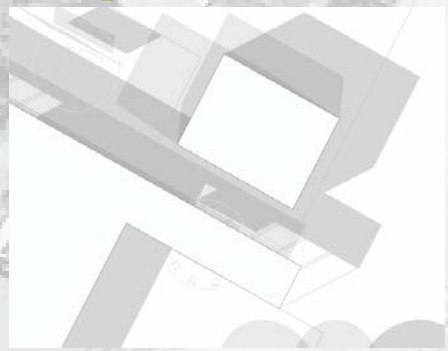
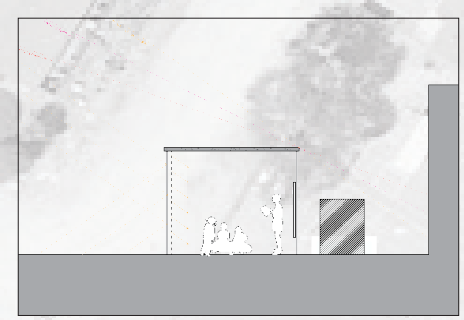
Individual Location Studies

O'Donovan Rd.

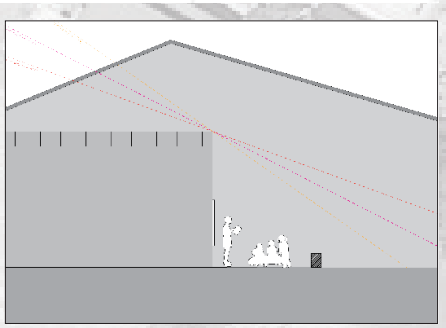
Location 3_PTA





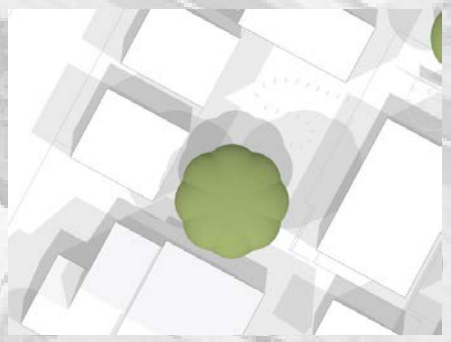
With the addition of vertical shading on the South side of the existing structure, there is ample shade both under the exsting structure an in the area directly to the North.

Location 6_MPR



This location is shaded by the exsisting building during a substantial portion of the day.

Location 7_Courtyard



This location is shaded in the morning only. Additional shade may be needed.

Shade Analysis

- Shading analysis identifies areas that can be used without adding shade and areas that will need additional shading.
- Sun angles shown at the Equinox- 9am, noon and 3pm.

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Site Photographs

Photographs, top row to bottom row

1. Outdoor courtyard space that connects the offices, classrooms, and multipurpose room. The "heart" of the campus.
2. Outdoor multi-use play yard.
3. Food garden space with trees and planters that provides hands-on learning opportunities.
4. Covered Pathway with existing picnic tables.
5. Covered Pathway

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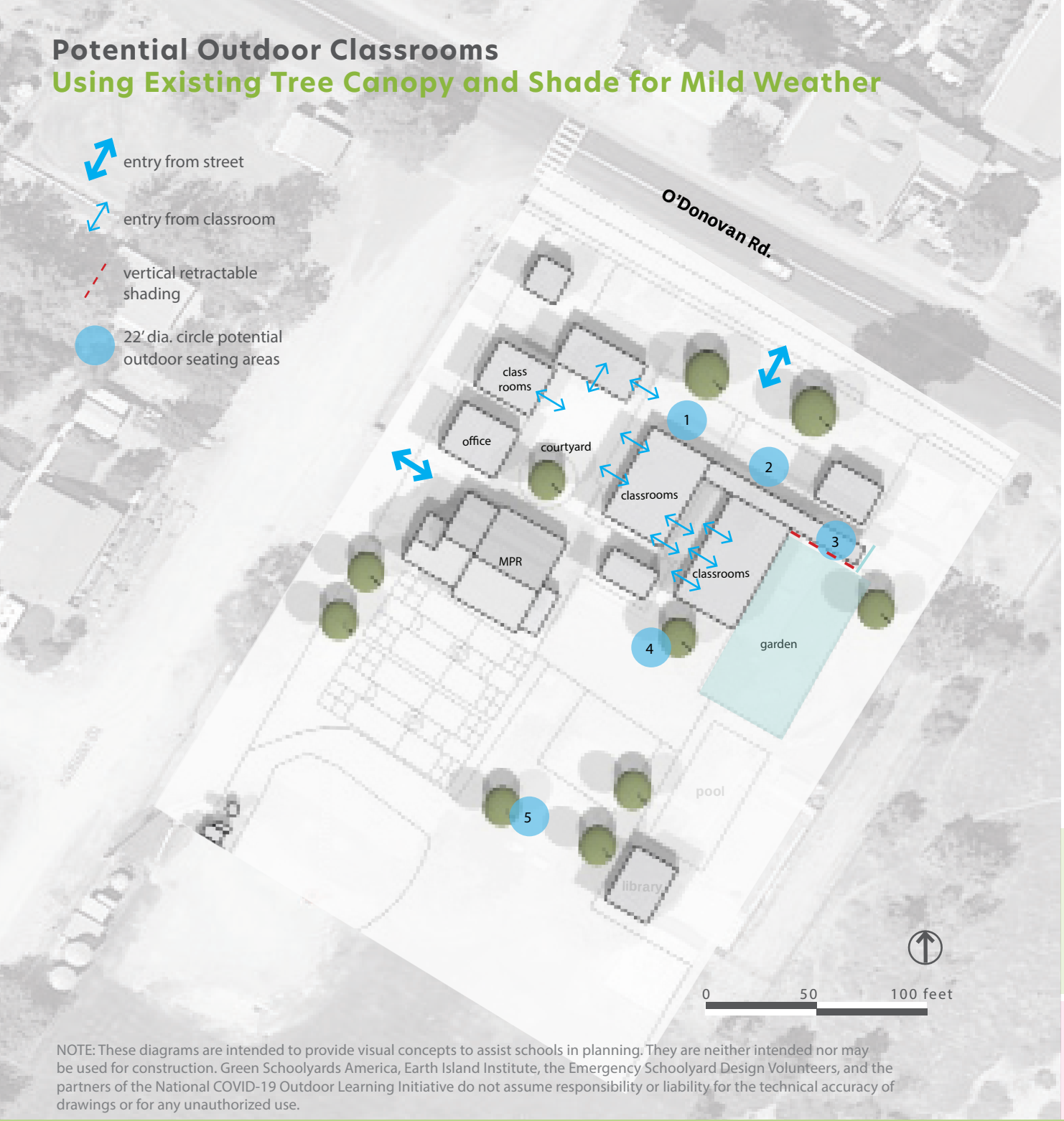
Potential Outdoor Classrooms
Using Existing Tree Canopy and Shade for Mild Weather



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Scenario #1: Low Cost

Climate Considerations

- Warm climate is comfortable most of the year, however requires sun protection during hotter months and possible rain protection during the winter.

Climate Adaptation Strategies

- Use outdoor classrooms as "Plan A" when the weather is nice; go inside or online when it is raining or too cold
- Place seating in areas where existing tree canopies provide morning or afternoon shade, and away from street to reduce noise.

Low Cost Strategies

- Location 3: Table and chair seating for 8-10 students. Add vertical retractable shading for use when sunlight is too intense
- Location 1,2 and 4 : Loacte seating for 8-10 students on grass under tree canopy.
- Location 5: Locate tree stump seating for 12 students under tree canopy.

Scenario #1: Outdoor Capacity

- Max: 44-52 students in 5 seating areas
- Max: 44-52 students in active garden areas
- Capacity: 100% of current enrolled students

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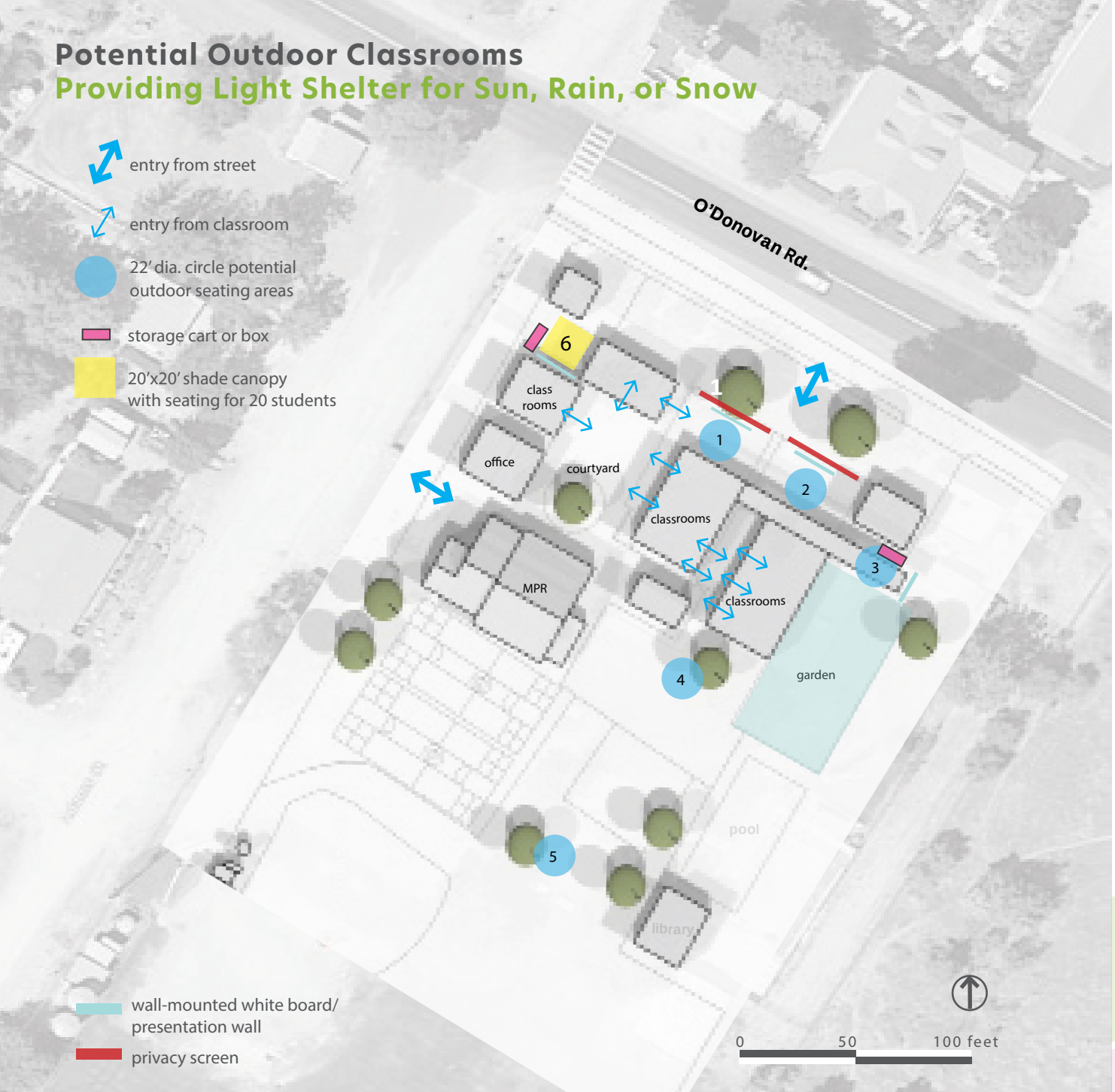
Potential Outdoor Classrooms
Providing Light Shelter for Sun, Rain, or Snow



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Scenario #2: Moderate Cost

Climate Considerations

- Warm climate is comfortable most of the year, however requires sun protection during hotter months and possible rain protection during the winter.

Climate Adaptation Strategies

- Use outdoor classrooms as "Plan A" when the weather is nice; go inside or online when it is raining or too cold
- Place seating in areas where existing and planned tree canopies, buildings, and existing roof structures provide morning or afternoon shade, and away from street to reduce noise.

Use and Augment Existing Infrastructure

- LOCATION 1 & 2: Install a privacy screen on the street facing entry that will provide space for a wall-mounted white board/presentation wall.
- LOCATION 3: Level out ground and remove fencing to North of existing patio. Install Pavers to make space useable for tables and seating for up to 16 students. More than half of area will be shaded by existing roof.
- LOCATION 4: Install a shade canopy to the northern corner of the campus to create a permanent outdoor classroom for 20+ students with a presentation board and storage cart/ box. The buildings provide some shade but a shading structure will be required to use it effectively.

Scenario #2: Outdoor Capacity

- Max: 72-82 students in 7 seating areas
- Max: 16 students in active garden areas
- Capacity: 100% of current enrolled students

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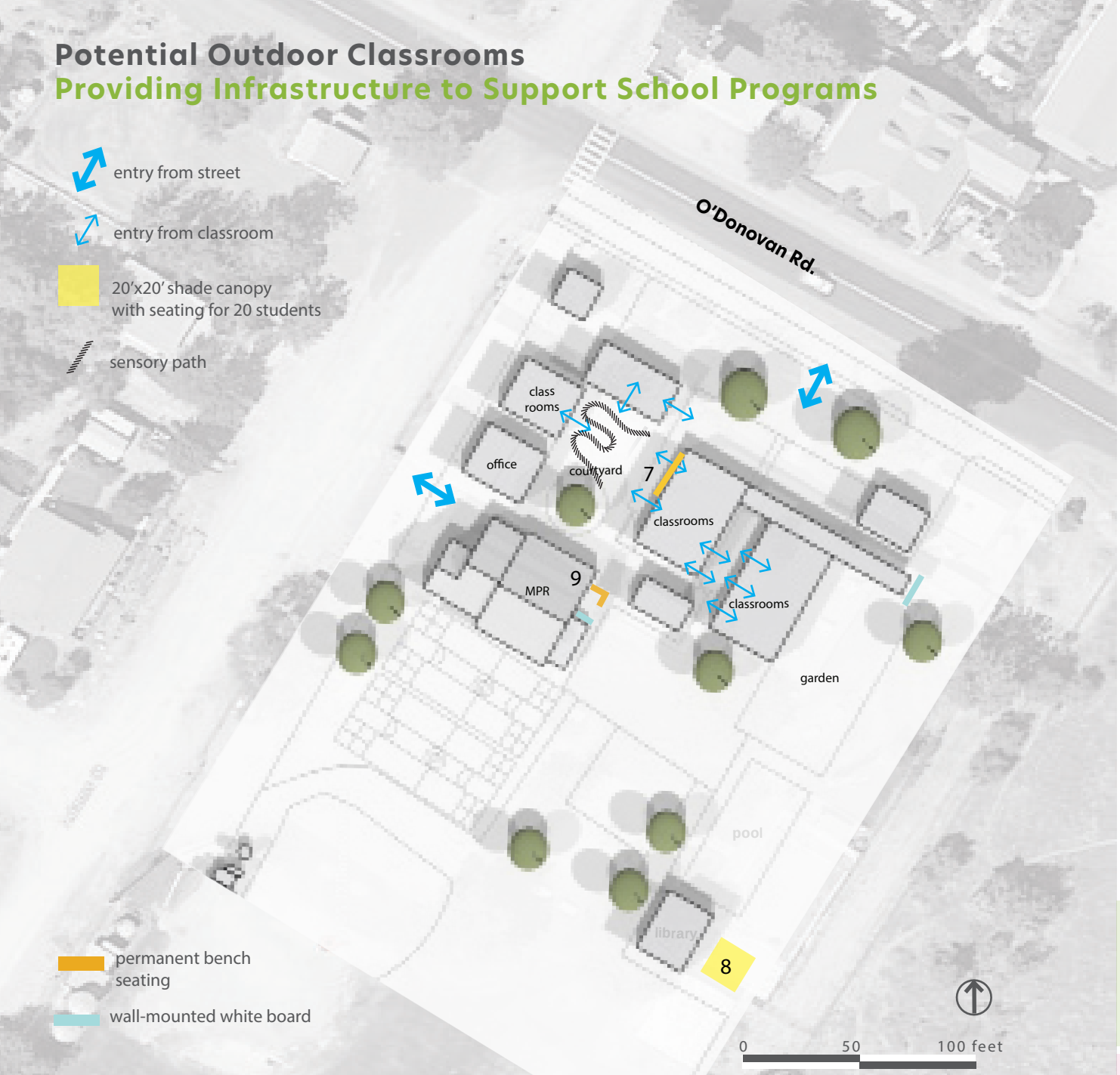
Potential Outdoor Classrooms
Providing Infrastructure to Support School Programs



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Scenario #3: Permanent Infrastructure Investment

Climate Considerations

- Warm climate is comfortable most of the year, however requires sun protection during hotter months and possible rain protection during the winter.

Climate Adaptation Strategies

- Use outdoor classrooms as "Plan A" when the weather is nice; go inside or online when it is raining or too cold
- Place seating in areas where existing and planned tree canopies, buildings, and existing roof structures provide morning or afternoon shade, and away from street to reduce noise.

Use and Augment Existing Infrastructure

- Location 7: Permanent seating bench to the NW wall of the classrooms that are facing the courtyard.
- Location 8: Shade canopy and permanent bench seating to the side of the library that creates seating for up to 20 students. The ground will need to leveled out and covered in gravel or pavers.
- Location 9: Small outdoor classroom for up to 12 students in the existing North corner near the MPR. Add permanent seating benches and a display board mounted to the existing wall. The ground surface will need to be replaced.
- Courtyard: Sensory pathway in the courtyard to provide a unique outdoor learning experience that offers a place for students to release some of the sensory tension The materials should be durable and integrated with the existing surfaces.

Scenario #3: Outdoor Capacity

- Max: 82-94 students in 9 covered seating areas
- Max: 16 students in active garden areas
- Capacity: 100% of enrolled students

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