

**Central Vermont Regional Planning Commission**  
*And the*  
**Town of Fayston**

**Safe Routes to School  
Travel Plan Infrastructure Study**

**Alternatives**



*Submitted by:*

**Broadreach Planning & Design**

*In conjunction with*

**Toole Design Group  
Heritage Landscapes, LLC**

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## A. INTRODUCTION

### 1. OVERVIEW

The Town of Fayston (the Town) is exploring the best way to implement the recommendations for sidewalks and crosswalk in the recently completed Travel Plan for Fayston School. **Attachment EC-A** includes a copy of the Fayston School Travel Plan. The Central Vermont Regional Planning Commission (CVRPC) has been able to assist with funding for the study. With the assistance of the Town, the CVRPC organized a Steering Committee (SC) of local officials, residents and parents of students at the school to provide direction for the study. The CVRPC solicited proposals for a Consulting Team (CT) to provide technical assistance for the study. The team they selected is led Broadreach Planning & Design with assistance from Toole Design Group and Heritage Landscapes LLC.

The Study Area for this project includes the parking areas on the campus as well as German Flats Road in front of the school and the Outdoor Classroom site on the south side of the road. **Figures EC-1** shows the location of the project and the general extent of the Study Area.

This summary report is the second product of the work of the SC and the CT. It describes and compares the various different alternatives under consideration for this project. The report is formatted for double-sided printing; blank pages are intentional.

### 2. PURPOSE AND NEED

The purpose of the infrastructure improvements is to provide secure walking facilities between the school building and adjacent learning sites, nature trails, the school evacuation site and bicycling and walking routes to or near the school.

Needs for the improvements include:

- The lack of shoulders on German Flats Road wide enough to accommodate students walking to the Outdoor Classroom site on the other side of the road;
- No delineated walking space between the school entrance and German Flats Road; and
- No delineated walking space connecting the school and the nature trail at the western end of the parking area.

### 3. ALTERNATIVES DEVELOPMENT PROCESS

Once the CT had examined existing conditions and held an initial public work session on June 12, 2013 with assistance from the School, the CT identified as many alternatives as possible for improving student access to the outdoor destinations. The CT sent the draft alternatives to the SC for review and initial analysis. Subsequently, the CT conducted a more detailed analysis of the remaining alternatives and developed a concise, viable set for public discussion. The CT prepared an initial comparison matrix to help in reviewing and understanding the various initial alternatives. **Attachment AL-1** contains more information on the initial list of alternatives considered by the CT and SC.

**Figure AL-1** shows the location of the alternatives initially developed by the CT; **Figure AL-2** shows the alternatives that remained viable after the initial analysis. **Tables AL-1** provides a comparison of the different remaining alternatives.

## B. ALTERNATIVES

### 1. OVERVIEW

The following descriptions of alternatives typically start from the front entrance of the school and proceed outward from there. The CT divided them into two sections: German Flats Road and the internal parking area. Additionally, there are several options that could be added to most of the alternatives. The options include:

- Redefining the entrance to the school driveway,
- Creating a rain garden at the entrance to the school,
- Creating a rain garden near the retaining wall to the west of the school,
- Pedestrian-activated flashing crosswalk warning sign, and
- Providing different ways to create a separation between the internal walkway for students and the parking area.

The CT identified them in a separate section.

The elements of each alternative are interchangeable at the intersection points. The final recommendations may actually be a combination of elements from several alternatives along with one of more option described below.

### 2. GERMAN FLATS ROAD

*Alternative 1:* Sidewalk starts near front door, stays behind existing curb; relocates planter; stays on top side of slope; avoids manholes, gas tanks and trees; ramps downhill side starting near blue spruce tree ramp is approximately 225 feet long at eight percent with one level bench); reaches road grade east of culvert; crosses road; sidewalk stays at edge of road, separated by a curb; crosses outdoor area driveway and curves downward to entrance to McCullough Barn.

Alternative 2: Sidewalk starts near front door; curb is removed and relocated 2.5 feet in from existing curb; sidewalk passes just at edge of planter; cuts into bank four feet with retaining walls (insulation added to sewer tank); sidewalk cut in as bench into slope in front of school using retaining walls; crosses road; sidewalk begins to ramp down to level of fence (ramp is approximately 100 feet long at five percent); crosses fence and stays at grade to edge of parking lot.

Alternative 3: Sidewalk starts at front door; planter is relocated; sidewalk starts at the bottom of the slope following it around to road situated six inches higher than driveway; driveway is narrowed by four feet to accommodate sidewalk; sidewalk continues along the edge of the road, separated by a curb; drainage swale is placed into a culvert under sidewalk; create small natural retention area from additional reclaimed driveway at culvert inlet; shift sidewalk away from the road to outer edge of ROW east of existing culvert under road; cross road near residential driveway; wrap sidewalk around to parking area at same grade as existing parking entrance. A separate ramp up to the playfields would start near the existing swale just west of the retaining wall. It would head up the hill behind the school building and switchback at least once to create a better, more visible access to the upper fields that meets or is closer to ADA requirements.

Alternative 4: New access is created to Outdoor Classroom parking; sidewalk reached area opposite driveway via B or C routing; crosses road; access follows along upper edge of new driveway to east end of parking area.

### 3. INTERNAL PARKING AREA

Alternative 6: Crosswalk from corner of covered walkway to opposite side of the parking lot; outer four feet of existing parking is converted to walkway, separated from parking area by a railing of bumpers, existing parking is expanded north where existing walkway is removed. (Bus turn around radius is reduced by four feet.) The sidewalk would be raised with a curb along the edge of the parking area to collect stormwater and treat it prior to releasing to Chase Brook.

Alternative 7: Existing walkway is raised and paved to maintain a six to eight feet walkway to existing dumpster enclosure (see separation options & drainage options); The dumpsters are moved further back about 80 feet to be placed into the bank below the road up to the playfields; walkway continues straight towards the back parking areas where the walkway moves to the northern edge of gravel parking area; a railing separates the walkway from the rest of the gravel parking area as trail wraps around to trailhead; existing drive to upper level is extended to lessen the grade and links with gravel parking areas about 50 to 75 feet further west. (Bus turn around radius reduced by four feet.)

Alternative 8: Existing walkway is kept heading in straight line after edge of existing retaining wall; small amount of cut and new, short retaining walls may be needed; walk passes to the north of the existing dumpster enclosure; new dumpster enclosure is added to the south of the existing one; the path continues around just outside of the gravel area to the trail head,

separated from the gravel by railing, rocks, parking barriers or similar item; the swale at the top of the existing retaining wall is improved into a pedestrian ramp and continued up the hill, switching back as needed to reach the upper area while meeting ADA requirements. (Bus turn around radius maintained as is.)

#### 4. OPTIONS

Redefined Entry: The entry driveway can operate as effectively as it does now even when narrowed by approximately 10 feet on the eastern side. The curve radius of the drive as it enters German Flats Road would be at more of a 90-degree angle, requiring vehicles to make the turn into the driveway from German Flats Road at reduced speeds. The exit should also be marked with a stop bar and a STOP sign, to reinforce the need to stop before entering German Flats Road from the driveway.

Entry Rain Garden: If the entry drive is narrowed, the space created could be used for a small rain garden which would help control the runoff coming down the driveway. The rain garden would collect the runoff; hold the water to allow it to percolate into the ground faster than running quickly through the storm sewer into Chase Brook. The rain garden could alleviate the erosion problems now exhibited in the drainage swale along the front of the school by reducing the overall flow passing through the swale and slowing the velocity of the runoff that does pass through it.

Internal Rain Garden: There are several locations near the upgraded walkway to add a rain garden that would help control runoff coming down the hill and onto the existing walkway and/or parking area. The rain garden could be located above the existing retaining wall to capture more of the water that currently makes its way over the retaining wall. One could also be added either at the base of the retaining wall to capture storm and ground water that does make its way to the base of the wall or between the walkway and the parking area. In both cases, the slope of the walkway direct storm water into the rain garden.

Chase Brook Forest Rain Garden: Each of the German Flats Road alternatives allows for the creation of a small rain garden on the lower side of the road to catch and treat runoff coming through the culvert under the road before it enters Chase Brook.

Flashing Crosswalk Warning Sign: To increase awareness of walkers in the crosswalk by motorists, warning signs located on either side of the road, approximately 1,000 feet away from the crosswalk to the east and west of the crosswalk, can be equipped with flashing lights that are activated by walkers as they enter the crosswalk to inform motorists that they are approaching a point where crossing activity is occurring. Alternately the flashing lights can be placed on the crosswalk warning signs that are located at the crosswalk itself – a Rectangular Rapid Flashing Beacon.

East Side Stairway Option: Each of the alternatives would support the addition of a stairway and sidewalk heading down the slope on the east side of the school property that links with the crosswalk (where ever it might be located) Alternative 1 would also allow the creation of

a ramp that heads down the slope to intersect the ramp coming from the entrance to the school. The other alternatives would rely on the ADA accessible route through the school to the front entrance that would link with whichever sidewalk alignment is recommended.

Barriers: The CT identified three different ways to separate the internal sidewalks suggested for the parking area from the parked cars:

- Individual Bumper Stops - These dividers are placed on the parking area and serve as a stop for the wheels of vehicles. Up to two feet of vehicle overhang can occur with bumpers, which affects the usable width of the adjacent sidewalk when vehicles are parked in the parking lot. Individual bumpers are relatively easy to install but create problems for snow plowing. Bumpers allow access to the parking lot from the sidewalk at any location and vice versa.
- Wooden Railing - A wooden railing provides a more vertical, visual separation between walkers and motor vehicles. A railing does not allow any vehicle overhang, so it defines the full width of an adjacent sidewalk as well as the parking limits of vehicles. A railing needs to be visible for snow plows but allows for snow clearing relatively close to the edge of the railing. A railing limits circulation between the walkway and the parking area to just those locations where openings are provided.
- Rain Garden - A planted separation between parked vehicles and walkers can provide a visual separation if the plants are tall enough and remain in place during the winter. A rain garden would assist in treating the existing runoff problems along the walkway adjacent to the parking lot. It would provide little real limits to how far a vehicle could intrude into the walkway unless the garden was surrounded by a raised curb with openings to allow runoff to enter. Overhanging vehicles could also affect the plants by shading or physically damaging them. A rain garden could be used in conjunction with one of the other two types of separations.
- Shoulder Extensions – It would be beneficial to extend the gravel or paved shoulders beyond the limits of this project. The wider shoulders could create better bicycling and walking conditions all along German Flats Road.

## 5. NO ACTION

Another alternative that needs to be included when improvements are being considered is the option of doing nothing. The CT has labeled this the No Action alternative. Under this alternative, both the access along the two-foot shoulder on German Flats Road to the Outdoor Classroom and the internal walkway to the nature path would remain as they are now.

## C. IMPACTS, ISSUES & BENEFITS

### 1. OVERVIEW

Each of the potential alternatives has issues and potential impacts, as well as benefits for the school or the students, associated with them. **Tables AL-1 and AL-2** provide a comparison of several issues and impacts of the different alternatives as well as view of the various benefits for each. **Figure AL-3** shows the locations of various issues and potential impacts of the different alternative alignments and facilities. There are several common issues that are shared by the alternatives. The following text briefly presents these issues, which should be considered when comparing the different alternatives and evaluating which alternative, or combination of alternatives, would be the most appropriate solution for the towns.

### 2. PURPOSE AND NEED

Each of the alternatives addresses the purpose of the project.

### 3. TRAFFIC CALMING

The placement of sidewalks, especially sidewalks with curbs, along the sides of the road tends to create a narrower roadway perception for most drivers. Research has shown that the perception of a narrower road by drivers tends to induce lower driving speeds. The alternatives that are located adjacent to the roadway, even without curbs may help to reduce the speed of motorists on German Flats Road. The crosswalk warning signs may also assist in slowing drivers, at least when the crosswalk advanced warning signs are flashing.

### 4. SECONDARY BENEFITS

The addition of better walking facilities around the school also provides an opportunity to incorporate other secondary improvements on the campus.



- Landscaping - Each of the German Flats Road alternatives creates the potential to redesign and update the school entry area, including the upgrading and potential relocation of the existing planter and the addition of new trees, shrubs, perennials and/or other types of gardens or plantings explored in the Fayston School Landscape Vision.
- Stormwater Management - The current stormwater management system on the campus has some on-going problem areas that hinder the safe passage of walkers. In order to create better walking conditions, the school will also need to address the stormwater issues. The suggestions for additional planting of rain gardens can help to address this issue by capturing the errant runoff and allowing it to percolate into the ground rather than pooling in inappropriate locations or creating erosion problems as it flows towards Chase Brook .
- Brook Buffers – Two of the internal parking area alternatives create the potential for shifting the cars at least a few feet further away from Chase Brook. This may create the potential for adding more vegetation in the existing vegetation adjacent to the parking that may be able to grow better without the ongoing impacts of vehicles either:
  - Driving over them as the push their front wheels past the edge of the pavement of bending or
  - Breaking anything that grows taller than the bottom of the vehicles that overhang the vegetation.
- Rearranged Vehicular Flows – Better walking access to the Town Forest/Outdoor Classroom parking area could make it easier to place visitor, faculty or staff parking in the remote location, freeing up more spaces in the parking area on the school property. The option of creating a second access and one-way drive pattern to the Town Forest/Outdoor Classroom parking area opens even more possibilities, when combined with better walking conditions between it and the school. It may be possible to move parent drop-offs to this lot, providing a greater separation between the parents’ automobiles and the school busses. It would also incorporate a little walking into the students’ daily routine as they walk from the drop off location to the school entry.
- ADA Compliance – At least one of the alternatives creates the potential for a more accessible path to the upper play fields.
- Dumpster Enclosures – Two of the Internal Parking Area alternatives include creating a more defined location for the two existing dumpsters so that the walkways around them can be set. This has the added benefit of reducing visual clutter in the parking area and improving health conditions.



**Attachment AL-1  
Initial Alternatives**

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