Final Report
June 2020

2019
IES Sheridan Community Trail Improvement Project

Institute for Environmental Solutions

THE TREE PROJECT
ENERGY • WATER • AIR • CARBON

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Institute for Environmental Solutions
solutions@i4es.org
720-295-4437
761 Newport Street
Denver, CO 80220

Authors and Acknowledgements

Authors

Gabe Catenacci
Haylee Grace
Carrie Martin-Haley
Laura Prickett
John Rosol
Cathi Schramm

Thank you to our community partners

Sharena Del Brocco, Leadership Class Teacher, Fort Logan Northgate School
Devin Granbery, City of Sheridan, City Manager
Andrew Rogge, City of Sheridan, Senior City Planner
Bill Blandón, Principal, Fort Logan Northgate School
Randy Mourning, Superintendent of Public Works, City of Sheridan
Shawn Wissel, Trails and Open Space Manager, South Suburban Parks and Recreation District (former)
Dave Brueggeman, Trails and Open Space Manager, South Suburban Parks and Recreation District (current)
Cyndi Wright, Chief Operations Officer, Sheridan School District No. 2

IES Tree Project Team

Gabe Catenacci, Graduate Intern
Haylee Grace, Graduate Intern
Laura Prickett, Wheat Ridge Project Manager
Carol Lyons, Executive Director
Carrie Martin-Haley, Tree Project Manager
John Rosol, Graduate Intern
Cathi Schramm, Tree Project Associate

IES Tree Project Steering Committee

Desiree Cunningham, U.S. General Accountability Office, Denver
Danielle Di Mauro, U.S. Department of the Interior, Rocky Mountain Region
John Kelly, Colorado State Auditor's Office
Sabrina Kleinman, Enviroplan Partners LLC
Lloyd Levy, Lloyd Levy Consulting LLC
Sean Mangus, DaVita Inc.
Milly Nadler, Wheat Ridge Cultural Commission
Kelly O'Toole, Bureau of Land Management Colorado State Office
Judy Ward, Critical Habitats, Inc.

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Xcel Energy Foundation
Target

Executive Summary

The 2019 IES Sheridan Community Trail Improvement Project (CTIP) took place along the Quincy Trail in the City of Sheridan in the fall of 2019. This project built on long-standing partnerships among IES, the City of Sheridan, South Suburban Parks and Recreation District, Sheridan School District No. 2, and Fort Logan Northgate School. This year's trail improvement project benefited the local environment, provided an environmental education program, and enhanced the community space through a cooperative effort with local middle school students and community members.

This report includes information on the development, implementation, and evaluation of the project. The report describes the project goals, activities, and outcomes to evaluate its successes and provide information on implementing similar projects in the future. It also includes recommendations to improve the project and future programs.

The project met its stated objectives to engage with FLN students through two project workshops and two planting days. IES and its community partners planted a total of 124 native shrubs and perennial forbs along the trail and in native gardens on both ends of the trail. From Fort Logan Northgate, 25 Leadership students participated, along with school staff and community volunteers. A total of 96 volunteers assisted with the project, including Tree Stewards, IES Tree Project Team members, IES Board members, and participants in Xcel and DaVita civic engagement days. Tree Stewards and FLN students provided ongoing maintenance to ensure that the plants at the site establish successfully and thrive for seasons to come.

In this project season, IES stretched its goals to include installing permanent amenities at the trail, including benches, solar lights, kiosks, and a Zuni bowl. IES also added a new format to the student workshops, facilitating a mock community meeting to get the students thinking about what it means to be a member of a larger community and building skills of situational analysis and negotiation. These aspects of the project proved challenging, as IES was not able to install all of the amenities within the original time frame, and the mock meeting left room for improvement.

Nevertheless, the trail continues to grow into a welcoming space for community members, and IES plans to implement the remaining installations to make the Sheridan Quincy Trail a hub of activity in Sheridan.

Chapter 1: Introduction and Overview

This report details the 2019 IES Sheridan Community Trail Improvement Project (CTIP). The Institute for Environmental Solutions (IES) along with partners in the Sheridan community developed and implemented this project to improve the environmental quality of the Sheridan Quincy Trail and provide meaningful environmental education to local children. This project was developed through collaboration with local stakeholders to address environmental issues in the community.

The Sheridan Quincy Trail is a commuter trail located in Sheridan, CO. The trail connects Federal Blvd. and Irving Street, providing a critical non-motorized route for Sheridan residents and local students. It lies adjacent to a drainage area, where erosion, stormwater runoff, and noxious weeds create management concerns for local stakeholders. Together with project partners, IES works to address these problems using tree science.

The Sheridan Quincy Trail site map

2019 Sheridan CTIP goals and objectives

The 2019 Sheridan Community Trail Improvement Project goals and objectives were established with input from our project partners. Project goals included mitigating stormwater runoff and erosion near the trail, increasing native species, providing a replicable environmental education program for local Sheridan students and integrating stakeholder input into all phases of the project, from planning and designs to evaluations.

Project objectives were:

- Engage community stakeholders and develop a project plan and schedule
- Encourage use of the trail, by installing two trail signs, two benches, and a shade structure
- Plant approximately 80 native plants to intercept and slow water runoff and reduce erosion
- Install a Zuni bowl to mitigate the water drainage and erosion along the current drainage path
- Provide local students from FLN with opportunities to develop environmental leadership and civic skills during educational workshops and outdoor workdays
- Improve the trail corridor with a three-year maintenance plan involving planting native grasses, removing nonnative trees, and pulling weeds
- Create a Final Report and video showcasing the project

The project was successful, resulting in 55 new plants along the eastern entrance to the Sheridan Quincy Trail along Federal Blvd, a new bench at the eastern entrance, and the development of new installation features that will be planted in spring 2020. Stakeholders were instrumental in the planning and execution of the project, including Fort Logan Northgate School (FLN), Sheridan School District No. 2 (SSD2), the City of Sheridan and South Suburban Parks and Recreation District.

IES experienced a few challenges during the 2019 Sheridan CTIP. Most notably, inclement weather, permitting issues and difficulty planting due to hard-packed soil created new obstacles for IES to overcome. An evaluation of these setbacks and IES's response can be found in Chapter 6.

Generous funding was provided by The Colorado Health Foundation, The Outdoor Happiness Foundation, Great Outdoors Colorado (supplied through the City of Sheridan), the Xcel Energy Foundation and Target. This funding was critical in accomplishing project goals and objectives. More information about funding can be found in Chapter 2.

In this document you will find a comprehensive examination of the entire 2019 Sheridan CTIP, including project stakeholders, planning, project events, evaluation and funding. For more information, visit www.i4es.org or contact us at solutions@i4es.org.

Metrics

Number of people directly involved in the project	45
Number of people indirectly affected by the project	6,000
Years working in the Sheridan community	6

The Institute for Environmental Solutions and the Tree Project

IES is a Denver-based non-profit organization that engages a variety of stakeholders to deliver technically sound solutions to complex environmental and health problems – without unwanted side effects. Founded in 2004, IES applies an innovative approach to environmental problem solving that emphasizes asking difficult questions, reaching out to all potentially affected stakeholders to invite involvement in project design and oversight, and commitment to sound science.

Students from Fort Logan Northgate participated in both workdays for the 2019 Sheridan CTIP

The Tree Project improves Colorado cities through multi-disciplinary partnerships and urban forestry programs. We improve the environment and community health and educate children and adults to become environmental stewards. The Tree Project engages community members to rehabilitate, improve, and maintain urban natural resources.

IES history in Sheridan

The Tree Project has been working in the Sheridan community since 2014. The first IES initiative in Sheridan, the Sheridan Quincy Tree Project, engaged FLN Leadership Class students, grades 6-8, in environmental education workshops and planting days to plant trees and shrubs to improve the trail and create a more welcoming community space. The main efforts of the Sheridan Quincy project have been to reduce erosion and stormwater runoff near the trail, decrease invasive species, increase canopy cover and native plants, and provide ecological education to the next generation of environmental stewards. The 2019 Sheridan Community Trail Improvement Project marks the fifth successful IES project along the Sheridan Quincy Trail.

Chapter 2: Partnerships

The multidisciplinary 2019 Sheridan Community Trail Improvement Project (CTIP) would not have happened without the cooperation of several partners, including Fort Logan Northgate School, Sheridan School District No. 2, South Suburban Parks and Recreation District, and the City of Sheridan. Each of these organizations provided critical expertise and resources to the project in the form of space, materials, knowledge and planning authorizations.

The Fort Logan Northgate students and teachers who participated in the CTIP project

Fort Logan Northgate School (FLN)

Fort Logan Northgate was a project partner and host. FLN students and teachers both participated in the 2019 Sheridan CTIP. Instructors and administrators, most notably FLN Leadership Class teacher Sharena Del Brocco worked with IES to review and approve all curriculum and education materials. FLN was a project host, offering space to complete the workshops with students. Students from the Leadership Class participated in two educational workshops at Fort Logan Northgate, two work days along the SQT site and maintained the site once a week whenever school was in session.

Sheridan School District No. 2 (SSD2)

Sheridan School District No. 2 owns the property north of the Sheridan Quincy trail, where the community space is located. Cyndi Wright, Chief Operations Officer, met with IES to approve all project plans that occured on school property. SSD2 also provided material support for the project, including the storage and supply of plants and water used during maintenance and workdays. They also managed maintenance of the water tanks along the trail.

South Suburban Parks and Recreation District (SSPRD)

South Suburban Parks and Recreation District manages and maintains the paved portion of the Sheridan Quincy Trail. During the planning phase of the 2019 Sheridan CTIP, Trails and Open Space Manager, Shawn Wissel, and Senior Park Planner, Pam Cornelisse, provided guidance on planning and implementing the community space project. During the planting phase, SSPRD provided materials in the form of mulch, shovels, and wheelbarrows.

City of Sheridan (COS)

The City of Sheridan owns the Sheridan Quincy Trail property, and thus had approval authority for all project plans. COS was responsible for assisting IES in obtaining permits for kiosk and bench installation along the trail. During the planning process City Manager Devin Granbery and Senior City Planner Andrew Rogge provided critical project support and feedback to IES. Andrew Rogge met with members of IES during Workday 1 to plan and discuss the comprehensive implementation of solar lights along the trail. See Appendix C, the 2019 Sheridan CTIP Memorandum of Understanding, for information on what roles each organization agreed to fulfill.

Years of partnership:

FLN:	Partners since 2014, 6 years
SSD2:	Partners since 2014, 6 years
SSPRD:	Partners since 2014, 6 years
COS:	Partners since 2014, 6 years

Other organizations of note

Xcel Energy

This year marked the third consecutive year that Xcel Energy has partnered with IES for the Xcel Energy Day of Service. IES served as one of the host sites and worked with Xcel Energy volunteers to prepare the site for the fall planting event. IES participated in the associated social media contest and placed 3rd, thereby securing $2,500 of funding. See Chapter 7 for further details on the Xcel Energy Day of Service.

Jesse Johnson attended all IES SQT events to document the project

Denver Water

Due to utility pipeline easements along the trail, there are restrictions on planting and construction along the Sheridan Quincy Trail. Denver Water has authority to conduct maintenance and construction related to its pipeline easements. IES spoke with Denver Water Recreation Manager, Brandon Ransom, to plan the locations of kiosk posts along the SQT so we could minimize the likelihood of them being removed by future Denver Water endeavors.

Jesse Johnson, Carson McGabe, iotk media

Videographer Jesse Johnson filmed and edited the 2019 Sheridan CTIP videos associated with this project. They can be found on IES's YouTube channel or at www.i4es.org/. Carson McGabe filmed when Jesse Johnson was unavailable.

Moonshine Signs

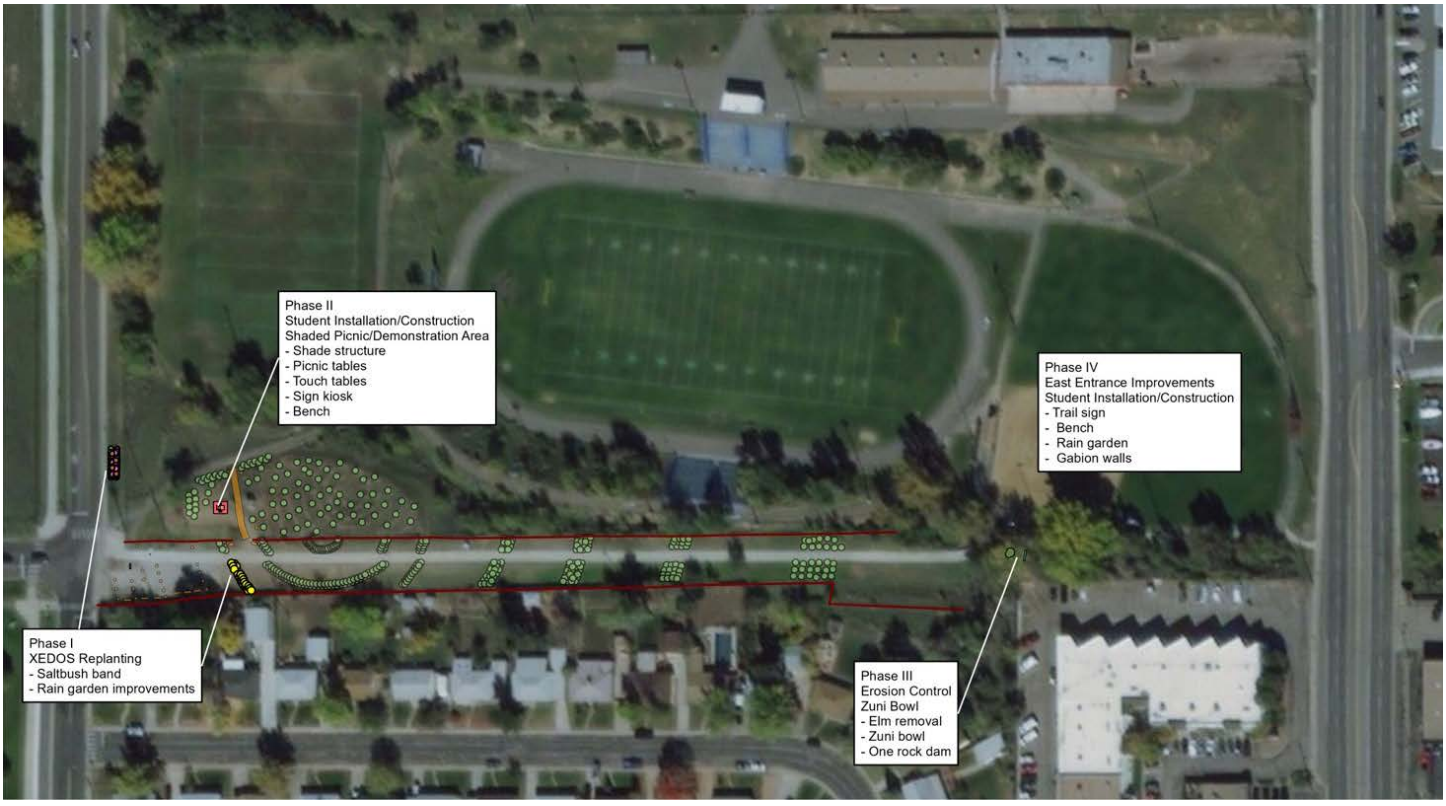
Moonshine Signs prints the student-designed banners now in place at the site. The 2019 Sheridan CTIP banner is planned to be added to trail in the spring when the students return to their routine maintenance days.

Chapter 3: Project Design

Project Planning

Project planning began in winter 2019, with preliminary stakeholder meetings to discuss initial ideas for the upcoming project. The 2019 Sheridan Community Trail Improvement Project (CTIP) design plan and budget was initially developed by IES Sheridan Project Manager Carrie Martin-Haley in summer 2019. The design plan included four phases, developed by Tree Project manager Sabrina Kleinman. Phases included:

- Phase 1: Xcel Energy Day of Service (XEDOS) replanting: install a rain garden, replant saltbush plants along the Sheridan Quincy Trail (SQT) at the west end
- Phase 2: Student installation/construction and shaded picnic/demonstration area: shade structure, picnic tables, touch tables, sign kiosk, bench
- Phase 3: Erosion control: elm removal, Zuni bowl, rock dam
- Phase 4: East entrance improvements and student installation/construction: sign kiosk, bench, rain garden, gabion walls



The original 2019 Sheridan CTIP design plan

University of Colorado Denver Urban and Regional Planning Student capstone projects

Each year IES collaborates with students from the University of Colorado Denver Master of Urban and Regional Planning (MURP) program. In spring 2018, graduate student Julia Dullien produced a capstone project for IES which offered

design suggestions to improve the aesthetic of the entire trail and the community space at the west end. IES referred to this capstone project when creating the project design. Ms. Dullien's capstone recommended:

- Re-aligning trail entrances and making them more obvious by adding signs
- Decorating the chain link fence that runs along the western half of the trail
- Adding inviting features such as benches and solar lights
- Adding rain gardens and a Zuni bowl for natural erosion and stormwater control
- Increased lighting along the trail

Due to the Phase 3 implementation delay in fall 2019, erosion and stormwater control remains a goal of IES along the SQT. IES's 2020 MURP capstone student, Nicole Bush, is in the process of creating an urban public stormwater management plan to be completed in spring 2020. This plan will build on Julia Dullien's capstone ideas for stormwater management through natural features and native plants. Julia Dullien's capstone can be found in Appendix G.

Stakeholder meetings

IES held stakeholder meetings with FLN, COS, SSPRD, and SSD2 throughout project development and implementation. IES met with all four stakeholders in late February 2019 both to evaluate the 2018 project and to also discuss ideas for the 2019 Sheridan CTIP. IES discussed its overall intentions for stormwater management and adding features such as trail signs. All stakeholders were on board with IES's plans and decided to reconvene towards the end of the following summer to discuss details for the project. Meeting notes can be found in Appendix B.

IES held a conference call on August 27, 2019 with FLN Leadership class teacher Sharena Del Brocco to discuss project details. IES and Ms. Del Brocco determined dates and times for both classroom workshops, both outdoor workdays, and weekly trail maintenance. Curriculum and activities were also discussed. Ms. Del Brocco noted that FLN was under new administration and suggested IES hold a site visit with the new principal, Bill Blandón. Meeting notes for the conference call with Ms. Del Brocco can be found in Appendix B. Although a site visit never occurred with Mr. Blandón, IES met with him at FLN on September 3 to discuss the details for the upcoming 2019 Sheridan CTIP. IES described its history as an organization and IES projects on the SQT, as well as current Tree Project goals to Mr. Blandón. This meeting agenda can be found in Appendix B.

IES held a conference call on September 13 with SSD2 Chief Operations Officer Cyndi Wright to discuss the 2019 Sheridan CTIP. Ms. Wright suggested IES research alternative stormwater management options in case the Zuni bowl did not work out. She also requested specifications for the shade structure, trail signs, and benches, and mentioned that special requirements such as permits would need research. Ms. Wright stated that SSD2 would be able to hold any large features for IES at their address until IES could install the features. Changes to the Memorandum of Understanding (MOU) were discussed to reflect the new project. Meeting notes can be found in Appendix B.

Students plant xeric plants to prevent erosion along slope

Site visits

Throughout fall 2019, IES held several site visits with stakeholders to discuss project details. IES met with Pam Cornelisse, Senior Park Planner for SSPRD, on August 19 to discuss plans for the 2019 Sheridan CTIP. Ms. Cornelisse observed that the rain garden IES had in its plans for the eastern entrance would no longer be feasible due to the construction of a concrete slab for a bus stop directly where the rain garden was proposed. She suggested using xeric plants to control erosion instead. Ms. Cornelisse also thought that the gabion walls IES had planned might not be worth installing. She informed IES team members that COS potentially has plans to continue the SQT under Federal Blvd. to the east, and therefore there is potential that IES installments might get torn up. She expressed concerns for placing any project features along Federal Blvd., as vandalism continues to be an issue. IES also discussed plans for a Zuni bowl with Ms. Cornelisse. She suggested removing several invasive trees around the area, which she stated SSPRD could do, and again warned of potential vandalism. Meeting notes can be found in Appendix B.

Flagged trees will be removed by SSPRD to prepare area for the Zuni bowl

On October 4, IES met with Andrew Rogge, Senior Planner for COS, to discuss plans for solar lighting. Mr. Rogge stated that COS has a comprehensive plan to light the entire trail with solar lights, but won't be able to complete in-depth planning or implement it until at least 2020. He confirmed a previous offer that the COS would be able to fund one solar light for the 2019 CTIP project, to add to the one IES currently has waiting to be installed. Mr. Rogge mentioned that he wanted to see how the installation of one or two solar lights would hold up during the year before revisiting the idea of a comprehensive plan, due to incidents of vandalism. One solar light has previously been stolen from the trail. Mr. Rogge suggested we transfer our communication regarding the solar lighting plan to Public Works Director Randy Mourning, as he would have more information on the timeframe, amount of lights, and other details. Meeting notes can be found in Appendix B.

On November 13, 2019, IES met with SSPRD Parks and Open Space Manager Dave Brueggeman to discuss tree removal and hole digging for the trail kiosks. Mr. Brueggeman offered to have SSPRD dig any necessary holes enabling IES to install sign kiosks on both ends of the trail. He also offered to dig holes for the solar light pole while they were out there with equipment. He requested IES inform him when our set installation dates were so that he could have the holes dug a day or two beforehand. Mr. Brueggeman stated that it wouldn't be a problem for SSPRD to remove a couple invasive trees from the Zuni bowl area. Meeting notes can be found in Appendix B.

Immediately following the meeting with SSPRD on November 13, IES met with Denver Water. Denver Water Recreation Manager Brandon Ransom visited the SQT to ensure IES would not run into any issues with two water conduits under the trail. He provided IES with maps of the conduits' exact locations to plan around them. Mr. Ransom mentioned that since the Zuni bowl is not considered a "permanent structure", it would not need a permit. However, if Denver Water digs up the pipes, they would have a right to remove the Zuni bowl. Meeting notes can be found in Appendix B.

2019 Sheridan CTIP stakeholder engagement

	Stakeholder Meetings	Site Visits
Fort Logan Northgate School	5 (including workshops)	12 (including workdays & maintenance days)
South Suburban Parks & Recreation District	1	2
City of Sheridan	2	1
Sheridan School District No. 2	2	0
Denver Water	0	1

Goals and Objectives

IES used Julia Dullien's 2018 capstone project to inspire and develop goals and objectives for the 2019 Sheridan CTIP. IES's goal describes planning and implementing environmental improvements on the eastern portion of the trail in addition to installing several large features and planting native plants along the entire trail. This project focused on improving stormwater runoff from neighboring properties and creating more inviting trail entrances to encourage heightened community use. Objectives for the 2019 Sheridan Community Trail Improvement Project included:

Students build and install a bench near the east end of the SQT to create an inviting trail entrance

- Create a master plan for the eastern trail design project in the summer of 2019,
- Plan and implement the first year of planting at the eastern trail entrance with students from the FLN Leadership Class,
- Plan and implement two classroom workshops and two trail improvement days with Fort FLN's Leadership Class,
- Conduct weekly plant maintenance visits with students until the end of the school year in May for the 2016-2019 sites, and
- Evaluate the program and publish a final report and project video for the 2018-2019 project in the winter of 2019, finalizing the report in the spring of 2020.

Due to freezing winter weather occurring much earlier than anticipated, IES was not able to complete all phases of the 2019 Sheridan CTIP during the fall. Phases 2 to 4 required warmer weather to continue progress. IES implemented an installation date on March 17, 2020 to build the second bench and install both trail kiosks. IES is actively collaborating with outside contractors to design and construct the Zuni bowl by the end of spring and will also use the 2020 MURP capstone results to develop additional stormwater management techniques along the SQT.

Chapter 4: Project Development

The development of the 2019 Sheridan CTIP was based on the project design and project budget. Tree Project Manager Sabrina Kleinman developed the project design, which outlined the layout of the plants, necessary permitting, and specifications for the large installations. Sheridan Project Coordinator Carrie Martin-Haley created the project budget, which provided a detailed account of the plants, materials and supplies, and expenditures associated with the project. The budget for the project is available in Appendix A.

IES held preliminary meetings with stakeholders including the COS, SSPRD, SSD2, and FLN to inform the development of the CTIP. Stakeholder meetings contributed to the design of the workshops, workdays, and large installments detailed in the following sections.

FLN Leadership students practicing proper planting techniques

Workshop designs

Sheridan Project Coordinator Carrie Martin-Haley designed Workshops One and Two. IES met with FLN Leadership Teacher Sharena Del Brocco on August 27 to discuss the curriculum and structure of the workshops. The meeting also discussed the schedule for the workshops, the community space building days, and the regular maintenance to be performed by FLN students. Debrief notes for the meeting with Ms. Del Brocco are located in Appendix B.

Workshop One consisted of three modules: how to properly plant, how to build a touch table, and creating designs for fence decorations. Workshop Two was structured as a mock meeting where students worked through a hypothetical situation to learn how different stakeholders need collaboration to overcome obstacles. IES designed both workshops to develop the students' skills in preparation for the workdays and built upon their leadership skills. The agendas for Workshop One and Two can be found in Appendix D.

Workday Designs

Tree Project Manager Sabrina Kleinman designed the workdays to meet the following goals:

- Encourage the use of the trail by installing two sign kiosks, two benches, two touch tables, and a shade structure,
- Plant approximately 80 native plants to intercept and slow water runoff and erosion, and
- Provide local students from FLN with opportunities to develop environmental leadership and civic skills during educational workshops and outdoor workdays.

Ms. Kleinman developed the overall site design to detail where to place plants and other installments. The design of the workday was made in collaboration with input from the meeting with Ms. Del Brocco on August 27. The design plan is

Sabrina Kleinman's Planting Design for the 2019 Sheridan CTIP

located in Appendix A. Ms. Kleinman designed Workday One to be built on learning that took place during Workshop One. Students would use the information they learned to build and install two touch tables at the project site. Students would install the fence decorations they designed to the fence that parallels the southern border of the trail. Students would also construct and install fencing around certain plants to help encourage plant survival rates. The design for Workday Two consisted of planting, painting the touch tables, and weeding and mulching the site. Ms. Kleinman designed Workday Two to be built on the proper planting component of Workshop One to help promote plant survival rate.

In preparation for the Workdays, IES designed t-shirts for the students, staff, and IES team members. Students voted on the color of the shirt during the workshops, while IES team members brainstormed the idea for the design. IES Graphic Designer Danielle Granquist used input from IES and FLN students to create the final design for the t-shirts.

Large Installations

The design for the 2019 Sheridan CTIP featured several large installations to improve the site, which included the installation of a shade structure, sign kiosks, a Zuni bowl, and a solar light. These installments were based on recommendations from MURP graduate student Julia Dullien discussed in the previous chapter. IES met with SSD2 Chief Operations Officer Cyndi Wright on September 13 to discuss the specifications of these installments. Ms. Wright identified the permitting necessary for these features and stated the SSD2 could provide the construction equipment if not in use. Ms. Wright also stated that an engineer would be needed to construct the Zuni bowl. Debrief notes from the meeting with Cyndi Wright are found in Appendix B.

As discussed in Chapter 3, IES met with COS City Planner Andrew Rogge on October 8 to discuss the installation of

solar lights at the trail. Mr. Rogge identified that a comprehensive solar lighting plan was not feasible for the COS at this time and would have to wait until next year. In the meantime, he confirmed that the COS could fund one solar light for the trail. Debrief notes for the meeting with Mr. Rogge are located in Appendix B.

On October 11, IES met with the engineering firm Valerian LLC to discuss the installation of a Zuni bowl at the project site. Valerian had not built a Zuni bowl before but had constructed similar stream structures. Valerian expressed some concern about utility exposure as a result of construction and suggested we contact Denver Water for clarification on the water easement. However, Valerian agreed to create the design and submit it to the COS for approval. Debrief notes from the meeting with Valerian are available in Appendix B.

On November 18, IES met with Denver Water Recreation Manager Brandon Ransom to discuss the possible conflicts that the large installments may have with the water easement. Mr. Ransom suggested IES move the kiosk on the western end to the north side of the trail to minimize the potential that they might need to dig it up in the future. Mr. Ransom did express concern about the placement of the Zuni bowl as the conduit may be closer to the surface because the trail is much lower there. However, he stated that there should not be any additional permitting needed because none of the features are permanent structures. Debrief notes from the meeting with Mr. Ransom are located in Appendix B.

Designing the project with stakeholders helped ensure the successful implementation of the 2019 Sheridan CTIP. More information on implementation can be found in Chapter 5.

Chapter 5: Project Implementation

IES successfully implemented two workshops and two planting and workdays to fulfill the plans for the 2019 Sheridan Community Trail Improvement Project (CTIP). These student interactions are the heart of each project as the IES Tree Project fulfills its mission to educate children to become environmental stewards.

Workshop 1

The first workshop of the IES 2019 Sheridan Community Trail Improvement Project (CTIP) took place on September 23, 2019, at FLN in Sharena Del Brocco's Leadership classroom. The workshop began with Carrie Martin-Haley proving introductions and an overview of the day's activities. The class then split up into three groups and moved to stations around the classroom. The groups rotated through the three stations of the workshop: Building Model Touch Tables, led by Sabrina Kleinman; Designing Fence Decorations, led by Carrie Martin-Haley; and Planting Techniques and Tools Safety, led by Cathi Schramm.

Students practice building touch tables during Workshop 1

The students participated actively and boisterously in all stations, managing group dynamics in a race to design and build model touch tables, drawing out their ideas for how to decorate the fence along the trail, and re-potting live plants after a refresher on using planting tools safely. At the end of the workshop, IES raffled off the three plants that the students had planted. The kids were excited for the opportunity to take home a plant. The students also voted for their favorite design for the fence decoration, which they would install on the first workday.

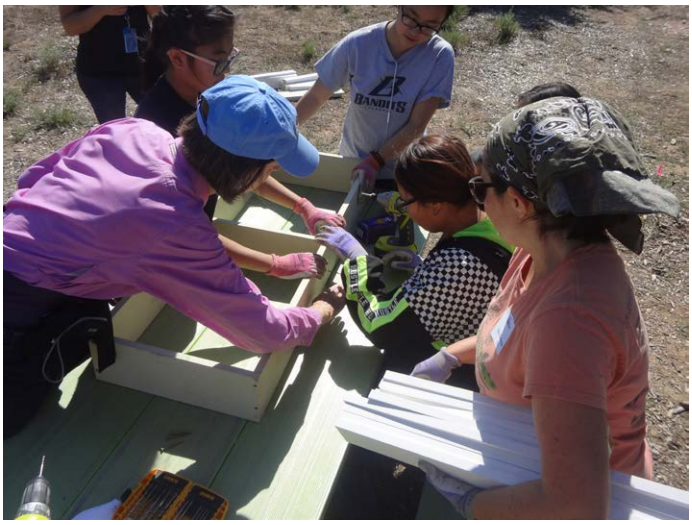
This workshop primed the students for the work that they would do along the trail on the workdays to come. Ms. Del Brocco commented that the students liked that each station had either a prize or a competitive aspect to keep them engaged. The IES team felt that it would have been helpful to have at least one more IES team member present to take photos and monitor the time while the others were leading groups.

Materials from this workshop are in Appendix D.

Planting and Workday 1

On October 4, 2019, IES and the FLN Leadership students headed to the Sheridan Quincy Trail for the first of two planting and workdays. The students arrived before their lunch did, so they helped IES set up equipment and tools while they were waiting. IES distributed reusable stainless-steel water bottles to the students as a keepsake and to do away with the environmental impact of providing disposable water bottles.

After lunch, the students worked on the west end of the trail to make improvements in the community space. They worked in rotations to assemble two touch tables, learning how to safely use power tools and practicing their teamwork skills in the process. The students installed fence decorations according to the winning design from Workshop 1, built and placed rabbit caging around existing plants to protect them from herbivory, removed weeds and invasive Siberian elm trees from along the trail, and watered all the IES plants.



Students work together to assemble touch tables for the community space

IES team members Carol Lyons, Sabrina Kleinman, Carrie Martin-Haley, Laura Prickett, and Honor Stoner worked in teams to lead the activities. The Leadership students made quick work of the tasks IES had planned, and then helped clean up after the work was done. Once again, the students participated with enthusiasm and did everything that was asked of them and more.

A couple of community members visited the site during the workday, including a woman who had provided funding for the students' lunch, and two members of the City of Sheridan staff, who observed the day's activities and then met with IES team members after the students returned to the school.

The workflow could have been more efficient if each IES team member had had a copy of the internal agenda so that they could keep track of when rotations needed to change. The agenda should have included time to apply sunscreen, as some students did end up with minor sunburns at the end of the day. Also, for future events, IES should consider planning alternative activities for students who finish early or who needed a less taxing task.

Agendas and task lists from this planting and workday are in Appendix E.

Planting and Workday 2

The second planting and workday of the CTIP took place on October 25th. Many of the activities of this day took place on the east end of the Sheridan Quincy Trail, where IES had staked out a xeriscape garden to slow stormwater runoff on the slope at the Federal Boulevard entrance to the trail. In addition to planting these 55 plants, the students were to build and secure a bench at the east end of the trail, paint the touch tables they had built on Workday One, and perform general trail maintenance such as watering, mulching, and securing the plant cages.

The students and their lunches arrived on time, and the work began soon after. IES team members Carol Lyons, Sabrina Kleinman, Carrie Martin-Haley, Laura Prickett, and Haylee Grace distributed project t-shirts to the students, then introduced the activities. The students broke into pre-arranged teams and got to work. Each team had the opportunity to participate in each of the three main activities of planting, bench-building, and site maintenance.

The planting proved to be extremely difficult, as the ground near Federal Boulevard was very compacted and rocky. As a result, three teams of students were only able to plant 20 of the plants in the planting plan. Had IES been aware of this beforehand, we could have taken measures to either soften the ground with water, pre-dig the holes, or both.

FLN students applied fence decorations based on the winning design

Because there is no water tank near the east end of the trail, IES had purchased a wagon and portable water tank to haul water from the tank along the trail to the plants on the east end. IES ensured that the students always had an adult with them, as the tank full of water is heavy, the slope is steep, and we wanted to ensure that the kids maintained control of the wagon. The process worked well until one of the tires deflated, at which point the process became much more difficult. Nevertheless, they managed to water the plants along the trail, mulch all the IES plants on the trail and in the tree spiral, and secure the rabbit cages that they had put up on Workday One.

FLN students painted the touch tables on Workday 2

The students built and installed a bench near the bus stop along Federal, using the manufacturer's instructions to assemble it with little adult intervention. There were a few lost and broken pieces of hardware, but they still managed to complete the job. The task was not enough to keep three teams of students busy, though, and some of the students started to lose focus.

The students also painted the touch tables a bright shade of blue. While there were no issues with the task, some students did not want to get paint on their clothes, hands, or hair. IES should provide advanced notice for any future painting activities and possible also supply protective gear.

Overall, the day was a mixed success. While we accomplished many of the planned tasks, the workday ended with many plants unplanted. IES volunteers needed to return to the site to finish the task. These additional workdays are described later in this chapter.

Agendas and task lists from this planting and workday are in Appendix E.

Workshop 2

The final workshop of the 2019 Sheridan CTIP took place at FLN on November 11th. The workshop took the format of a mock meeting to discuss an issue impacting the community. In this case, the topic of discussion was how the community would respond to homeless camps set up along the SQT. As with previous workshops, the students split into groups. This time, each group represented a different group of stakeholders in the community. IES team members Carrie Martin-Haley, Cathi Schramm, Haylee Grace, Laura Prickett, and Carol Lyons participated as facilitators and roving monitors for the workshop.

The kids read handouts that explained the situation from the perspective of the City of Sheridan, the local resident community, the staff of Fort Logan Northgate school, and an advocacy group dedicated to helping people experiencing homelessness. The stakeholder groups discussed the topic among themselves, and then the whole class reconvened to have a group conversation to come to a consensus as a community.

The students exhibited compassion and a strong desire to help the community experiencing homelessness, and their solutions focused on ways that they could help these people. By the end of the meeting, the students seemed to grasp the complexity of the situation and that this situation does not have a quick, easy solution.

As a learning device, however, the exercise fell short. The concepts of a 'mock' meeting, 'stakeholders,' and 'advocacy groups' were foreign to the students. Although we had discussed the workshop content and format with Ms. Del Brocco prior to the event, she did not completely understand what we would be doing until we were there and conducting the workshop. The students seemed reluctant to contribute to the discussion, and had a hard time putting themselves in the roles of other members of their community.

The students commented that they enjoyed the opportunity to bounce ideas off each other in a group discussion and preferred the larger group discussion to trying to tackle these concepts in small groups. They also said it was refreshing to follow a different format from the three-rotation model IES has used for the last several workshops.

Leadership students discussed a community issue during Workshop 2

The workshop could have been improved by choosing a different topic, such as one related to concepts that they were studying in class, so that they would have had background knowledge prior to the discussion, or a topic focused on an environmental issue. We should also come prepared with more questions to lead the discussion if it stalls and include some basic terminology as part of the workshop materials. Finally, it was difficult to present the topic and have a discussion in the brief time that we were in the classroom. If we decide to take on a mock meeting in the future, it would be beneficial to send questions or background information to the students ahead of time so that they are already thinking about it before we arrive. This workshop was outside of the normal work that IES usually does, and it was a learning experience for the team.

Materials from this workshop are in Appendix D.

IES team members returned to the trail to finish planting

Extra planting and workdays

To complete the planting that the FLN students were not able to finish on Workday Two, IES team members returned to the trail on October 31, November 3, and November 5. Carrie Martin-Haley, Honor Stoner, Laura Prickett, Mike Smith of the Chemical Footprint Project, Tree Steward Lloyd Levy, and community member Kathy Haley each visited the site at least once over these three days to get the plants in the ground before colder weather moved in.

The original site design had also included a second bench, solar lights, and trail kiosks for both ends of the trail. The kiosks and bench were ordered and ready to go, but we had not requested the necessary permits early enough to have them ready for the workdays. We also needed to meet with Denver Water to obtain approval to install these items in their easement. Therefore, IES postponed completing these elements of the plan until spring of 2020.

Maintenance

From the beginning of the school year in August, FLN Leadership students took up their weekly maintenance at the SQT site. The kids weeded, watered, and mulched the plants along the trail every week until the weather grew too cold to continue. The Tree Stewards program will restart in the spring of 2020 to continue maintenance and ensure high survival rates for all new plants.

Workshop and workday metrics

Participating students	23
Participating IES team members	10
Participating FLN staff	1
Community volunteers	2
Hours of student contact time	9

Chapter 6: Project Evaluation

This chapter provides an assessment of project successes and areas for improvement. Feedback was gathered from stakeholders, IES volunteers, students and community members throughout the project and after all project events had been completed. Project evaluation is crucial to IES's methodology. All feedback is used to determine areas for growth and continued improvement for future projects.

Plant survival rates

A unique and important part of all IES planting projects is the maintenance program at planting sites. Our Tree Stewards are dedicated community volunteers who provide weekly maintenance to IES plants and help to increase survival rate until plants are fully established at the site. This typically takes three years. IES strives for an 80% survival rate for all plants following the three-year maintenance program.

Through observation and communication with Tree Stewards, IES has deduced several factors that affect survival rates at the Sheridan Quincy Trail.

- Slow, intentional planting by students and community volunteers is more successful than hasty planting. In areas of the trail where students and IES volunteers were not attentive to proper planting techniques, survival rates were decreased.
- IES team members should verify that soil composition is adequate to successfully plant and allow root systems to establish.
- Plants that attract herbivorous animals should be immediately caged when planted to increase their chances to establish roots.
- Proper maintenance techniques (weeding, watering and mulching routinely) create a significantly stronger chance that plants will survive long-term.

Recommendations for Tree Stewards record-keeping moving forward

In future projects, IES would like to:

- Request that Tree Stewards complete regular check-ins with IES to ensure all plants are healthy,
- Create comprehensive site maps for all IES plants at the Sheridan Quincy Trail site, and
- Develop a Tree Stewards evaluation sheet to gather specific data on all IES plants from our volunteers.

These measures will provide a better structure to maintain and increase plant survival rate.

Student evaluations

A month after Workshop 2 at FLN, IES team members returned to the Leadership class to request feedback from the students. Students were given an evaluation worksheet with 6 questions, including what they most enjoyed about the projects, recommended areas for improvement and any suggestions to guide future projects.

In their evaluations, students commented that they enjoyed:

- Working in groups,
- planting,

- painting the touch tables,
- providing trail maintenance; and
- improving the environment.

In particular, students liked working in their community to make a marked difference for all Sheridan residents who visited the trail.

Students recommended that IES:

- Replace the fencing along the trail,
- plan for more contact time with the students,
- prepare more hands-on activities,
- involve students in project planning during the initial stages,
- plant more plants, and
- make the workshops more engaging and implement more activities that engage the group as a whole.

The students provided valuable information to the Tree Project team which will be used when planning and designing future projects in Sheridan. Student evaluation worksheets can be found in Appendix F.

Students participated in rotations during Workshop 1 to prepare them for Workdays

Stakeholder feedback

Feedback from our project partners is an integral aspect of all IES projects. Following all project events, IES met with each stakeholder individually and requested feedback on the 2019 Sheridan CTIP.

City of Sheridan

IES team members met with the City of Sheridan on January 29, 2020 to debrief the 2019 Sheridan Community Trail Improvement Project and plan for future projects. Devin Granbery, City Manager, and Andrew Rogge, Senior City Planner, spoke highly of the 2019 project. They stated that they always looked forward to working with the Tree Project and that the work that had already been accomplished along the Sheridan Quincy Trail was substantial. No negative comments or areas for improvement were discussed. Appendix B holds the debrief meeting notes.

Sheridan School District No. 2 (SSD2)

On March 19, 2020 IES team members held a conference call with Cyndi Wright to discuss the 2019 Sheridan CTIP and plans for the 2020 project. Cyndi Wright thought that the 2019 Sheridan CTIP had been successful and agreed to help house and obtain permits for the future installations that were not completed during this project's timeframe. Ms. Wright thanked IES for our flexibility and commented that she always enjoyed walking down the Sheridan Quincy Trail and seeing new IES implementations each year. Meeting notes from the conference call can be found in Appendix B.

Fort Logan Northgate (FLN) School

On January 29, 2020, IES team members visited Leadership Class teacher Sharena Del Brocco in her classroom to

evaluate the 2019 Sheridan Community Trail Improvement Project and look ahead toward the next project in 2020. Ms. Del Brocco said the students greatly enjoyed the project and looked forward to planting events and workshops. She enjoyed the departure from our traditional workshop model during Workshop 2. In this new format, rather than rotating among stations, students participated in a mock meeting to use their leadership skills. Instead of leaving it as an open-ended discussion, Ms. Del Brocco said she would prefer that the students prepare a presentation to encourage participation from all students, rather than the few who spoke up. She also stated that students liked the "how to plant" rotation in Workshop 1, in which the recently potted plants were raffled off at the end of the class period. Ms. Del Brocco had no specific feedback for the workdays, and reflected that students were enjoying their time during their weekly maintenance days. Notes from this meeting are in Appendix B.

South Suburban Parks and Recreation District (SSPRD)

During the 2019 Sheridan CTIP, the SSPRD Parks and Open Space Manager, Shawn Wissel, stepped down from his position. The new Parks and Open Space Manager, Dave Brueggeman, was unfamiliar with the 2019 Sheridan CTIP. IES team members met with Mr. Brueggeman along the trail in November 2019 to show him the site and the work that IES has accomplished along the SQT. Mr. Brueggeman had no specific feedback regarding the 2019 Sheridan CTIP but enjoyed learning about our accomplishments and stated that he looked forward to seeing what IES's next project in Sheridan involved. Debrief notes can be found in Appendix B.

Permit issues

IES experienced several hiccups with completing all necessary permits required to install the large features along the trail. This delayed the process and prevented IES from installing all intended features along the trail during 2019.

One difficulty was the shade structure permit, which IES had originally thought was not required. Sheridan School District No. 2 Chief Operations Officer Cyndi Wright took on responsibility for contacting the required entities to request permitting for IES's chosen shade structure that was scheduled to be placed on SSD2 property during 2019. However, after several weeks of waiting and attempted follow-ups, Ms. Wright still had not received a response. By the time it was determined that IES would not be able to use the proposed shade structure in the community space due to wind restrictions, it was too late in the year to choose another shade structure, fill out the permit again and install the shade structure before the start of 2020. In future projects, IES should give ample time to research potential permitting requirements for all features placed along the trail and build in a schedule to the project plan to allow for alterations if needed.

Soil composition issues during Workday 2

During Workday 2, IES and FLN students found that the ground for planting at the east end of the trail was incredibly tough to dig in. This was due to the large deposits of clay, nearly freezing temperatures in the area close to the planting day, and the large amount of rock in the soil. This made digging so arduous that, by the end of the day, only 20 of the 55 intended plants had been successfully planted.

Planting during Workday 2 proved challenging due to difficult soil composition

An IES team member took the plants home and cared for them before they were able to be planted in the ground. The team had to wait for a strong winter storm to pass and the ground to thaw before planting could resume. Extra planting days occurred on October 31, November 3, and November 5, 2019 to finish all planting. Over a cumulative period of 4.5 hours and involving IES team members, Tree Steward Lloyd Levy and community member Kathy Haley, the remaining 35 plants were planted.

During future projects, IES should take measures to determine the ability to plant in each proposed site. These measures may include testing the soil before the planting plan is created, taking core sample of the soil, and other strategies to identify soil composition.

Challenges to completing planting and installations

IES was unprepared for the winter weather to hit the region as early as it did in October 2019. The day after the second workday with FLN students, a strong winter storm moved in causing a significant drop in temperature, freezing the ground and preventing any further work from being accomplished. Tree Project team members had not anticipated this weather when creating the project plan for the 2019 Sheridan CTIP, and thus did not give enough time to complete all activities in the event of snow. Additional planting days took place several days after Workday 2, and were planted into nearly frozen ground, which may impact their ability to root properly. Because of the frozen ground, although the kiosks and benches had both been ordered and were ready for installation, SSPRD was unable to dig holes for the installations as IES had requested. These installations were moved to spring 2020 to allow the ground to thaw completely.

IES team members will need to take extra precautions in future projects to ensure there is enough time planned in the scheduled events to account for unanticipated weather events. This will ensure that all tasks are still completed on time.

Herbivory and damage

The Sheridan Quincy Trail was prone to herbivory during this project due to the expanding rabbit population in Sheridan. Rabbits frequently ate new IES plants down nearly to the roots, which risks killing the plants. To combat this, during Workday 1 IES team members and FLN students installed cages around each endangered IES plant using ground staples. IES plans to continue using cages and ground staples to prevent herbivory in future projects.

Vandalism

The Sheridan Quincy Trail continued to experience vandalism in 2019. In the past, the SQT has been vandalized by a riding lawn mower that damaged or destroyed plants, destroyed bee houses and bat boxes, missing banners and stabbed water tanks. This year, vandals removed the banner once again that had been placed along the trail from the 2018 Sheridan Quincy Trail Project, only for it to reappear further down the trail approximately a month later. The border for the rock garden was found broken apart late in 2019, and the storage Cube in the community space was found with the door ajar, the cut lock lying on the ground nearby. Luckily, no tools were taken from the Cube. The ties securing the

FLN students placed cages around IES plants to prevent rabbits from lunching on them

portable tank to the wagon were stolen during this vandalism event as well. The water tanks were frequently maliciously drained. One tank was stabbed for the second time in 2019, rendering it again unusable.

All of these events have been recorded and reports filed with the Sheridan Police Department. IES has requested that Sheridan police officers patrol the area more closely. We continue to seek additional ways to mitigate vandalism. Such measures in the future may include lighting along the trail, a camera installation, and establishing a more welcoming community space to encourage increased foot traffic, and therefore fewer opportunities for vandals to do harm. A comprehensive list of all vandalism to occur on the Sheridan Quincy Trail is in Appendix H.

Conclusion

The 2019 Sheridan Community Trail Improvement Project was a success, despite some setbacks and unforeseen obstacles. All stakeholders agreed that the project accomplished many of the goals set forth during initial planning, and the objectives that were not met due to weather will be completed during the spring of 2020. Despite the delay in installing the Zuni bowl and shade structure, the 2019 Sheridan CTIP was another effective project that decreased erosion and stormwater runoff, created a welcoming space for the Sheridan community, and educated local students about ecology and their role as leaders in improving their communities.

Chapter 7: Other IES Activities in Sheridan

IES and engage the local community by hosting events with local companies and organizations. Examples include DaVita Village Green Earth Day, Xcel Energy Day of Service, and Mile High Youth Corps. During these events IES gives volunteers an opportunity to make an impact in their community and learn about current IES projects. IES appreciates the time and hard work these volunteers provide when they participate in these activities.

Three DaVita volunteers next to the tree they just mulched and watered

DaVita Village Green Earth Day

The IES Tree Project was approached by DaVita to host an event to celebrate Earth Day, which took place on April 27, 2019 along the Sheridan Quincy Trail (SQT). Fifty DaVita volunteers, IES team members, and IES Board members prepared the site for the summer months by watering, mulching, and weeding. During this three-hour event they watered plants, removed invasive weeds, and mulched trees.

The IES Chemical Footprint Project (CFP) also participated in DaVita's Earth Day event. CFP team members hosted a table where volunteers learned how contaminants in household and personal care products can pollute waterways and harm the environment and our health. The event took place on a warm, sunny day, and team members spoke about the benefits of using mineral-based sunscreens over those containing oxybenzone. Volunteers made and used natural bug spray in between stints of trail work. The CFP team also provided materials to make natural hand sanitizer using common and safe ingredients.

MHYC volunteers weeded along the SQT

Mile High Youth Corps

The Mile High Youth Corps (MHYC) is a nonprofit organization that connects young adults to leadership and service opportunities in their local communities. MHYC offered to work with IES performing maintenance along the Sheridan Quincy Trail. Since IES had received feedback from the City of Sheridan that community members wanted better weed control along the fence line, this is the activity MHYC focused on. Their work combating the weeds near the trail entrance proved to be difficult, as the weeds that grow by the paved trail are in compact soil. The MHYC group responded with positive energy and hard-hitting equipment like pickaxes.

In one day, the group of eight young adults filled nine large trash bags with weeds. In addition to plant maintenance, the Mile High Youth Corps removed the trail sign at the entrance, which had been vandalized by spray paint.

Xcel Energy Day of Service

On September 7, IES was honored to host an Xcel Energy Day of Service (XEDOS) project with Xcel Energy employees and family members working together along the Sheridan Quincy Trail (SQT). This was the fourth year IES partnered with Xcel Energy for this event. The goals of this event were to plant a rain garden, restore plants along the trail, and remove noxious weeds. Volunteers also included participants from Denver Water, the Colorado Bar Association Environmental Law Section, the local community, IES Board members, IES Tree Stewards, and IES team members. Several residents of the adjacent neighborhood showed up to help as well.

Throughout the morning, volunteers rebuilt a rain garden that was damaged by strong stormwater runoff earlier in the summer, mulched and watered dozens of new plants, and filled 34 bags with weeds. Volunteers learned about the trail and prepared the site for the 2019 Sheridan CTIP. The IES CFP team set up a booth to engage volunteers about contaminants of emerging concern, providing materials to make bug spray and hand sanitizer. This gave volunteers a natural way to clean up so they could enjoy some snacks without worrying about bug bites.

As part of the day of service, IES participated in Xcel Energy's social media contest. Participating organizations earned points by posting to Instagram and Facebook with photos and tagging them with #XEDOS, #contest, and the organization's profile. IES team members created handouts for volunteers to increase participation. Two IES team members were assigned to take photos and create posts for the contest. Through everyone's effort, IES was eligible to apply for a $2,500 grant for placing in the top 5 out of 300 non-profit organizations This is the number I have in my head, it was available to all those that participated in day of service.

Metrics

Number of volunteers attended during external IES activities	45
Number of plants maintained	124

Chapter 8: Project Evaluation

Volunteers plant new plants near the western entrance of the SQT during XEDOS

The 2019 Sheridan CTIP marked IES's fifth consecutive annual collaborative project with Fort Logan Northgate School, among other stakeholders, along the Sheridan Quincy Trail. IES maintained support and communication from all stakeholders involved throughout the course of the project in addition to support from the community. IES developed a four-phase design plan. Certain objectives from three out of four phases were not completed in the estimated timeline. IES still considers there to be several successful elements to the project and developed an active plan for project completion. IES held two classroom workshops and two outdoor workdays with FLN Leadership students, who managed to accomplish a significant amount of progress along the trail. Students were engaged and excited to learn about planting during their first workshop. The second workshop engaged the class as a whole group during a mock community meeting. Despite a couple overall flaws, the students enjoyed the concept. It introduced the idea of problem-solving among diverse stakeholders.

During both workdays, students had the opportunity to use power tools to build interactive touch tables and a bench. They enjoyed decorating the community space fence and painting the touch tables in their school colors. The students worked hard on trail maintenance during both workdays as well as during their weekly maintenance visits. In addition to FLN maintenance, the DaVita Village Green Earth Day event and the Xcel Energy Day of Service event provided significant trail maintenance thanks to a large hardworking volunteer turnout on both days. The Mile High Youth Corps was a notable partner in keeping up the SQT during the 2019 summer months.

Comprehensive project totals

Total partnerships	8
Total stakeholder meetings	10
Total site visits	23
Total plants planted	124
Total trail features installed (completed and pending)	10
Total students engaged	25
Total volunteers	96
Extra planting days required	3
Extra feature installation days	3

Lessons learned and plans for unfinished elements

IES experienced several setbacks from the onset of the 2019 Sheridan CTIP that necessitated modifications. Factors such as unexpected bus stop construction, extremely hard-packed soil, permitting issues, and weather all contributed

to the delay of project phases 2 to 4. Although IES did not finish the 2019 CTIP in the original projected timeline, these setbacks have proven IES's ability to adapt to circumstances. IES will use these lessons to mitigate similar issues in future projects. The unexpected bus stop construction required IES to modify plans for a rain garden and gabion walls to planting xeric plants along the slope. IES was not aware of how hard-packed the soil was along the slope and was not able to plant all plants during the workday with students. IES conducted three extra workdays by team members and volunteers to plant all plants. IES has learned to check soil conditions before creating a planting plan. Freezing temperatures moved in much earlier than expected, which hardened the ground and prevented IES from being able to install the Zuni bowl, second bench, trail kiosks, and solar lights. In the future, IES should consider unpredictable weather when creating timelines. Permitting issues delayed IES's plan for a shade structure in the community space, suggesting that IES should begin permitting processes as quickly as possible. IES was able to evaluate these challenges and create a plan to finish these elements by spring 2020. The Zuni bowl and shade structure are both in the design and planning phases. IES plans to have both installed before the end of fall 2020. The second bench and trail kiosks were built and installed by IES team members and associates on March 17, 2020. The solar lights are still pending, as the school district began installing a large, comprehensive solar light plan in the community space over the winter. IES will need to decide on another location for the two solar lights. All stakeholders have been informed of the project delay, evaluations, and plans to mitigate similar problems in the future.

Project overview:

	Finished plans	Unfinished plans
Plants	124	0
Rain garden	1	0
Benches	2	0
Touch tables	2	0
Fence decorations	1	0
Trail kiosks	2	0
Solar lights	0	2
Zuni bowl	0	1
Shade structure	0	1
Final video	1	0

IES installed the SQT eastern entrance kiosk on March 17, 2020

Student evaluations and 2019 Sheridan CTIP banner

On December 4, 2019, IES returned to the Fort Logan Northgate School Leadership Class to conduct student evaluations. These evaluations were designed to gain insightful student feedback on the project, including what students enjoyed specifically, what could be improved, and ideas for the next year's project. IES takes these evaluations into serious consideration when creating project plans. The FLN students all gave positive feedback on decorating the fence, painting touch tables, planting new plants, and building things with tools. Students also have expressed how much they enjoy spending time outdoors and working together to improve their own community. Some ideas suggested for the next project include more fence decorations, planting more flowers in the community space, and building an official 'entryway' arch into the community space. During the evaluation meeting, students were asked to design a project banner to hang on the fence at the SQT. Each student sketched a design and made a statement about their work along the trail. IES will take their design ideas and quotes to create the 2019 Sheridan CTIP banner. IES will also incorporate several photos that were taken throughout the project onto the banner. The project banner will be hung on the fence along the SQT to showcase student involvement and excitement about SQT projects to trail users.

Funding and collaboration

It is with support from our funders and our partners that IES is able to achieve its objectives and implement new projects each year. IES thanks our generous funders:

- Xcel Energy Foundation
- The Colorado Health Foundation
- Great Outdoors Colorado through the City of Sheridan
- Outdoor Happiness Movement; McKee Foods
- Target

And our partners:

- Fort Logan Northgate School
- Sheridan School District No. 2
- South Suburban Parks and Recreation District
- City of Sheridan
- Mile High Youth Corps
- DaVita
- Colorado State Forest Service

If you would like to make a tax-deductible donation to IES, please visit our website at www.i4es.org. Donations and community support are equally important to the success of IES as our funders.

Conclusion

The IES Tree Project has made incredible overall progress with the aesthetic and usability of the Sheridan Quincy Trail. The entire SQT and the community space alike become more inviting to community members with each project, especially with the addition of features such as benches and informative trail kiosks. Building and installing trail features introduced a new area of expertise to IES. These trail features, in addition to soil composition and the weather, also introduced several unexpected challenges. Due to these unforeseen obstacles, IES was not able to complete all stated objectives for the 2019 Sheridan Community Trail Improvement Project. IES modified certain aspects of the design plan and actively has plans in motion to complete

FLN students build a touch table during the first workday

the remaining project objectives by the end of spring 2020. Recommendations for future projects include the following:

- Conduct a pre-workday site visit to check soil composition, allowing time to obtain any extra necessary tools or prepare the ground for students, mitigating the need for extra workdays.
- Begin all permitting processes as soon as possible to allow plenty of time if plans need to be adjusted.
- Expect unexpected weather, and plan for any feature which requires digging deep holes in the ground to occur earlier in the fall to avoid freezing ground temperatures.

Students take a moment to enjoy the bench they have just built

- During any future workshops which involve large group discussions, create a system that prompts more than a select few students to engage in conversation.
- Add to the MOU that IES should be notified if any stakeholders are implementing any similar plans to avoid spending funding and time on a plan that is already in the works by said stakeholder.

IES engaged 25 students and around 90 volunteers to plant 124 plants this past year and continued several multi-year partnerships. IES looks forward to completing all the trail feature installations and using feedback and evaluations to implement better planning strategies in the future.

Final video and report

IES videographer Jesse Johnson and his colleague, Carson McGabe, filmed during XEDOS, both student workdays, and both student classroom workshops. Mr. Johnson took this footage to compile a video showcasing the 2019 Sheridan CTIP progress. Long and short versions of the video can be found on IES's website at https://www.i4es.org/videos/ and on IES's YouTube channel at https://www.youtube.com/channel/UCfvC8v-AXKH-U2aJFrF7yfA. The Colorado Health Foundation, an IES funder, added the video to its LinkedIn profile with a supportive message.

This report and its appendices will be available electronically via the IES website, www.i4es.org, through its Publications login page. A limited number of printed and bound copies will be distributed to project stakeholders. If you would like a printed copy of the report, please email Solutions@i4es.org.

Appendices

A. Project Plan, Design, and Budget

B. Stakeholder Meeting Agendas and Notes

C. Memoranda of Understanding

D. Workshop Materials

E. Planting Day Agendas and Task Lists

F. Student Evaluation Forms

G. University of Denver MURP Student Capstone

H. Summary of Vandalism at Sheridan Quincy Trail

Appendices are available on the IES website, www.i4es.org, and on request at Solutions@i4es.org.