Boulder County

Community Planning & Permitting

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BOULDER COUNTY
PLANNING COMMISSION
PUBLIC HEARING

March 16, 2022 at 3:00 p.m.
Hearing to be Held Virtually due to COVID-19

STAFF RECOMMENDATION

STAFF PLANNER: Sam Walker

Docket SU-20-0005: Hillside School Modification

Proposal:	Modification to an existing Special Review and Site Specific Development Plan (SU-03-09) to approve the phased construction of a new school building and reconstruction of an existing school building, for a total floor area of 14,284 square feet, containing 13 total classrooms for up to 136 students (68 during a morning session, and 68 during an afternoon session).
Location:	7415 Lookout Road, located on the north side of Lookout Road approximately 650 feet west of its intersection with N. 75th Street, in Section 1, Township 1N, Range 70W.
Zoning:	Suburban Residential (SR) Zoning District
Owner:	Hillside Learning Center
Applicant:	Caddis PC

PACKET CONTENTS

SUMMARY

The applicant requests to modify an existing Special Review and Site-Specific Development Plan approval for the Hillside School in order to allow for the phased construction of a new school building, reconstruction of the existing school building, and a total of 136 students on the property on a 1-acre parcel within the Suburban Residential (SR) Zoning District. With the recommended conditions, staff finds the request can meet the Special Review Criteria set forth in Article 4-601 of

the Boulder County Land Use Code and recommends that the Planning Commission recommend conditional approval of the proposal to the Board of County Commissioners.

DISCUSSION

The subject parcel is approximately 1 acre in size and is platted as part of the Gunbarrel Estates 2nd Replat. It is located on the northern side of Lookout Road, adjacent to the Niwot United Methodist Church and homes within the Gunbarrel Estates subdivision, and is currently developed with a 4,264-square-foot school building, as seen in Figure 1, below.

Figure 1: Aerial photograph of subject property

The Boulder County Comprehensive Plan indicates that the parcel is located entirely within an area of Very High Swelling Soil Potential, as seen as Figure 2, below.

Figure 2: Comprehensive Plan Geological Hazard Map

The applicant requests a modification of the existing Special Use approval as an Educational Facility to add a new building and replace the current building, as well increase the number of allowed students.

The current proposal results from a long history of schools being operated on the subject parcel, with multiple approvals modifying the original Special Use approval. A school was first proposed and approved on the parcel under SU-71-0591 Raggedy Ann Preschool (approved September 30, 1971) when the Board of County Commissioners conditionally approved the operation of a preschool on the property with a cap of 80 students of 3 and 4 years-old. SU-71-0591 was subsequently modified in 1979 (Docket SU-71-0591-SR Children's World Early Learning Center) to allow for the construction of an addition to the school building, an increase in the allowed number of students to 110, and provisions for preschool, kindergarten, and before-, after-, and summer-school programs for students ranging in age from 2-12.

SU-71-0591-SR was then modified with a new proposal in 2003 as part of docket SU-03-0009 Boulder Jewish Day School. SU-03-0009 conditionally approved the establishment of a new kindergarten-through-fifth-grade school for 110 students along with regular- and after-school programming, evening events, seasonal festivals, and a carnival.

The Hillside School moved onto the property and began operating under the existing special use approval in 2005.

In 2019, the Hillside School submitted MD-19-0023 (SU-03-09): Hillside School Classroom Building, a request to modify the existing Special Use approval to allow for the construction of a 960-square-foot modular classroom building and the allowance of 80 total daily students on the property (students were split into morning and afternoon sessions such that 40 were present on the property at any given time). This modification request was found to be minor according to the process outlined in the Boulder County Land Use Code Art. 4-603, and was approved

administratively by Community Planning and Permitting staff on October 9, 2019. The project narrative submitted by the applicants for the current proposal indicates that, although this minor modification was approved, it was never acted on. Instead, the school currently operates in a morning and an afternoon session, each with 32 students, and the approved classroom building was never constructed.

The new proposal for the parcel seeks to modify the existing approvals of SU-03-09 and MD-19-0023 to allow the continued use of the property as an Educational Facility through phased expansion of the school facilities (from 4,264 square feet to 14,238 square feet) and an increase in the number of students (from 64 to 136, again split into morning and afternoon sessions). Staff note that, although the Hillside School currently serves a total of 64 students, the existing Special Use approval allows for up to 110.

The project narrative also indicates that the school currently serves students aged 6 -14 years, but may extend the program to include an additional classroom for students aged 14-18. The Land Use Code requires the provision of three parking spaces per elementary- and middle-school classroom, and ten spaces per classroom for all other facilities (including high schools). These requirements have been incorporated into the Development Review Team – Access & Engineering referral response as well as the recommended conditions of approval.

Details of the proposed new structures can be seen in Attachments A and D. Although the application materials indicate a phased construction plan, with Phase 1 being construction of the new northern building and Phase 2 being the reconstruction of the existing building, no timeline for construction phases was indicated in the project narrative. Discussion with the applicant indicates that there is no specific timeline because the project is dependent on fundraising by the school.

Because the proposed modifications to the existing approval(s) are substantial in nature, a new Special Use Review and Site Specific Development Plan is required. As detailed in the criteria review below, staff finds that the proposed Educational Facility can meet the Special Review Criteria in Article 4-601 of the Boulder County Land Use Code, with the recommended conditions of approval.

REFERRALS
This application was referred to the typical agencies, departments, and adjacent property owners. All responses received are attached and summarized below.

County Development Review Team – Access & Engineering: This team reviewed the proposal and responded with several notes and requirements, including:

- Legal access to the property has been demonstrated.
- A requirement that the applicants provide a letter or other written confirmation of no conflict from the City of Boulder regarding both the anticipated traffic impacts of the development, and the proposed pick-up/drop-off plan.
- A requirement that a City of Boulder access permit be included with the permit submittal.
- A requirement for the submittal of a shared parking agreement from the Niwot United Methodist church with the permit application.
- A requirement for the installation of erosion control measures downslope of construction areas.
- A requirement that plans submitted for permitting indicate staging and worker parking areas.
- A requirement for the provision of 48 total parking spaces.
- A requirement for two ADA-accessible parking spaces including at least one that is van-accessible, to be shown on a revised parking plan submitted for permitting.
- A requirement for a minimum of four bicycle parking spaces.

- A requirement for the provision of Electric Vehicle Service Equipment.
- A note that the drainage study submitted to Access & Engineering adequately addresses drainage on the property, and should be resubmitted at permitting with minor revisions.

County Building Safety & Inspection Services Team: This team reviewed the proposal and noted that permits are required for the new buildings, requirements for plumbing fixtures and accessibility, wind and snow loads for the property, a requirement that written documentation approving the building permit plans and specifications from the Fire Protection District be submitted before permit issuance, that a detailed plan review will take place at the time of permit application, and offering a meeting with the Plans Examiner Supervisor.

Mountain View Fire Protection District: The Mountain View FPD referral response indicated that the new structures will require a fire suppression system, and that plans submitted for permitting must demonstrate fire apparatus access within 150 feet of the ground level exterior of buildings.

Xcel Energy: The Xcel referral response noted that the Public Service Company of Colorado (PSCo) owns and operates existing natural gas service and electric distribution facilities within the subject property, that an application is required to connect new services or modify existing ones on the property, that new easements may be required, and that the developer should call the Utility Notification center for locates prior to construction.

Niwot Sanitation District: Niwot Sanitation did not respond to the updated referral sent on December 28, 2021. Their response to the original project referral (dated October 7, 2020) noted that the property currently has six sewer taps, but may be required to purchase additional taps based on the results of an annual commercial water audit.

Lefthand Water District: Lefthand Water did not respond to the updated referral sent on December 28, 2021. Their response to the original project referral (dated October 7, 2020) indicated the general process for updating the water connection on the property, and noted that the availability of water for the project would not be a limiting factor for the application.

City of Boulder Planning & Development Services: The City of Boulder's Planning & Development services did not respond to the updated referral sent on December 28, 2021. In their response to the original referral (Dated October 7, 2020), the Transportation Engineer noted that city design standards require the applicant to replace the existing attached sidewalk along Lookout Road with an eight-foot wide detached sidewalk separated from the back of the street curb by an eight-foot wide landscape area, which is the minimum standard for a detached sidewalk on an arterial street. This improvement would require a public access easement, which City of Boulder staff support being dedicated to Boulder County. The response also noted that the sidewalk improvement was only required for the frontage of the school property, and not for the Niwot United Methodist Church property.

Adjacent Property Owners: Notices were sent to 531 adjacent property owners on October 7, 2020, and again on December 28, 2021. Staff received 35 public comments related to the first referral, and 13 comments related to the second referral.

12 comments related to the first referral expressed concerns with:

- Lack of neighborhood compatibility;
- The proposed development being oversized for the property;
- Anticipated traffic impacts;
- Increased noise relating to the higher number of students;
- Visual impacts related to the building design and height;
- Construction impacts on the property, in the neighborhood, and in the Lookout Road ROW;

- Positioning of the new structure on the eastern lot increasing negative impacts to the neighborhood;
- Runoff and drainage impacts;
- Increased water usage;
- Lack of scholarship opportunities for underprivileged children;
- Size of the building not being justified by the use;
- Potential for the building to be sold and used for something else with higher intensity;
- Loss of privacy due to building design; and
- Decreased property values.

23 comments in support of the proposal indicated:

- Support for the expansion of the school;
- The school is an amenity for children with learning disabilities;
- Shared parking plan makes good use of existing infrastructure;
- The school has been an excellent neighbor to the church;
- Schools in residential areas are essential for the community; and
- Expansion will allow the school to serve more families.

Staff received 13 comments related to the second referral.

3 commenters expressed largely the same concerns with the development as before, while also noting that:

- There was a lack of neighborhood outreach from the school throughout the process;
- The revised designs did not mitigate visual impacts of the development;
- There is a lack of sound mitigation; and
- There are visual impacts related to landscaping.

10 commenters expressed support for the revised proposal while indicating the same positive comments outlined above.

Agencies that responded with no conflict: Boulder County Parks & Open Space, Boulder Valley & Longmont Conservation Districts, Urban Drainage & Flood Control District, and Boulder County Public Health.

Agencies that did not respond: Northern Colorado Water Conservancy District, St. Vrain & Left Hand Water Conservancy District, Centurylink Communications, and Colorado Office of Early Childhood.

SPECIAL REVIEW CRITERIA

The Community Planning & Permitting staff has reviewed the standards for approval of a Special Review for an Educational Facility in the Suburban Residential Zoning District, per Article 4-601 of the Boulder County Land Use Code (the Code), and finds the following:

(1) Complies with the minimum zoning requirements of the zoning district in which the use is to be established, and will also comply with all other applicable requirements;

Educational Facilities are an allowed use in the Suburban Residential Zoning District if approved through the Special Review process as described in Article 4-105.B.4.d of the Code. The Hillside School currently operates under an existing Special Review approval, and seeks to modify that approval such that the school can continue operating while expanding their facilities and student capacity.

Article 4-504.E of the Code includes parking requirements and loading requirements for Educational Facilities, which are addressed relative to criteria 7, below. This section also contains the additional provisions for Educational Facilities, which require that the use receive and maintain all applicable local, state, and federal permits. Staff recommend a condition of approval requiring that the Hillside School receive and maintain all applicable local, state, and federal permits.

Article 4-602.C of the Code outlines floor area limitations for Community Uses (including Educational Facilities) that are approved through the Special Review process. Pursuant to Article 4-602.C.2, expansions of existing Community Uses that were legally approved or established prior to November 4, 2010 shall not cause the total floor area to exceed 15,000 square feet on parcels less than 10 acres in size. The current use was legally approved and established in 2003, the subject parcel is approximately 1 acre in size, and the total floor area proposed as part of the revised submittal is 14,238 square feet.

The new construction must meet requirements of the Building Code as described in the attached referral response from the Building Safety & Inspection Team including, but not limited to, building permits, minimum plumbing fixtures, accessibility, wind and snow loads, and fire department requirements. Staff recommend a condition of approval requiring that the new development meet the requirements outlined in the Building Safety & Inspection Team referral response.

Therefore, as conditioned, staff finds this criterion can be met.

(2) Will be compatible with the surrounding area. In determining compatibility, the Board should consider the location of structures and other improvements on the site; the size, height and massing of the structures; the number and arrangement of structures; the design of structures and other site features; the proposed removal or addition of vegetation; the extent of site disturbance, including, but not limited to, any grading and changes to natural topography; and the nature and intensity of the activities that will take place on the site. In determining the surrounding area, the Board should consider the unique location and environment of the proposed use; assess the relevant area that the use is expected to impact; and take note of important features in the area including, but not limited to, scenic vistas, historic townsites and rural communities, mountainous terrain, agricultural lands and activities, sensitive environmental areas, and the characteristics of nearby development and neighborhoods;

The area surrounding the subject property is entirely characterized by single-family residential uses within several subdivisions, with the exception of the western adjacent property that houses the Niwot United Methodist Church. Staff finds that the proposal to continue the parcel's use as an Educational Facility will be compatible with the surrounding area. Schools have used the property for approximately 50 years and the proximity of the school to residential areas improves ease of access for students and families.

The revised plans included as part of a revised referral packet (issued December 28, 2021) indicated that the new school buildings would total 14,191 square feet when both phases of construction are completed, but staff noted minor discrepancies in the total proposed floor area between the submitted narrative and plans. Revised calculations submitted to staff by the applicant on March 9, 2022 (included as part of Attachment D) indicate that the total resulting floor area will be 14,238 square feet.

Phase 1 construction will include the new one-story building to be built north of the existing school building, and will result in a total floor area of 10,983 square feet on the parcel

(including the existing 4,264-square-foot building and the new 6,719-square-foot building). Phase 2 will include deconstruction of the existing 4,264-square-foot school building and its subsequent replacement with a new 7,519-square-foot structure (including a 4,445-square-foot first floor and 3,074-square-foot second floor). Floor area details are illustrated on page A32 of Attachment A and the amended calculations are shown on page D2 of Attachment D.

Consistent with Site Plan Review Standard 1 (Article 4-806.A.1), the applicable defined neighborhood relevant for comparison for lots inside platted subdivisions where seven or more lots have been developed is the platted subdivision where the lot is located. Therefore, the applicable neighborhood for the proposal is the Gunbarrel Estates subdivision. Although the resulting square footage will be much higher than that which currently exists on nearby residential lots, the proposed use is not residential in nature and requires a higher amount of floor area to adequately serve the students of the Hillside School. The only other parcel within the defined neighborhood that has non-residential floor area is the Niwot United Methodist Church property, located immediately to the west of the subject parcel at 7405 Lookout Road, which is developed with a 9,850-square-foot building. Staff finds that the proposed size of the development is necessitated by the number of classrooms required to maintain low student-teacher classroom ratios (see applicant's narrative in Attachment A), will be compatible with the surrounding area, and recommend approval of the size as proposed in the amended floor area calculations.

The plan submitted by the applicant indicates that the peak height of the new structures will be approximately 29 feet above existing grade. In the Suburban Residential zoning district, the maximum allowed building height is 35 feet on subdivided land with a final plat approved by the County prior to August 29, 1994; Gunbarrel Estates was originally platted in 1963. Staff find that the proposed building height is compatible with the neighborhood because it is below the height limit, and does not result in the creation of any undue visual impacts as described in criteria 9, below.

The project narrative indicates that the new physical development is proposed in conjunction with a desire to increase the number of students attending the school from 64 (current number) to 136 (proposed). SU-03-0009 is the current governing approval for the operation of an Educational Facility on the property, and allows up to 110 students. The school proposes to continue their current program of morning and afternoon sessions on the property, such that 68 students will be attending class on the property at any given time. Staff finds that the proposed number of students will be compatible with the surrounding area, and recommends a condition of approval capping the total number of students to 136 split into morning and afternoon sessions of 68 students.

Therefore, as conditioned, staff finds this criterion can be met.

(3) Will be in accordance with the Boulder County Comprehensive Plan;

The Comprehensive Plan Housing Element Policy HO 1.07 states that "*Quality residential neighborhoods, which function as integral neighborhood units with schools, parks, and other similar facilities as centers, should be encouraged.*" Staff finds that the proposed continued use of the subject property as an Educational Facility supports this policy; the school is centrally located between the Gunbarrel Estates subdivision and the Country Club Estates subdivision (located within the City of Boulder municipal boundary). Additionally, the Comprehensive Plan does not identify any environmental or other resources to be protected or avoided on the subject parcel.

Staff finds the proposal is in accordance with the Comprehensive Plan and therefore finds this criterion can be met.

(4) Will not result in an over-intensive use of land or excessive depletion of natural resources. In evaluating the intensity of the use, the Board should consider the extent of the proposed development in relation to parcel size and the natural landscape/topography; the area of impermeable surface; the amount of blasting, grading or other alteration of the natural topography; the elimination or disruption of agricultural lands; the effect on significant natural areas and environmental resources; the disturbance of plant and animal habitat, and wildlife migration corridors; the relationship of the proposed development to natural hazards; and available mitigation measures such as the preservation of open lands, the addition or restoration of natural features and screening, the reduction or arrangement of structures and land disturbance, and the use of sustainable construction techniques, resource use, and transportation management.

The applicant proposes a total resulting development size of 14,238 square feet on the parcel, which is approximately 1 acre (43,560 square feet) in size. This results in a floor area ratio of .33, although the Code does not consider floor area ratios in determining whether or not the size of a given development is appropriate for the land where it will be located.

Although the ratio of enclosed floor area to the size of the parcel as a whole is higher than typical for development in the unincorporated county, staff finds that the proposal will not result in an over-intensive use of land. The size of the development is necessitated by the low student-to-teacher ratios implemented as part of the Hillside School curriculum as well as revisions to the original design to reduce height and massing in favor of protecting views from within the adjacent neighborhood. Higher ratios of floor area to lot size are also common in subdivisions.

Staff analysis of the site plan indicates that approximately 25,835 square feet of impermeable surface will be installed on the parcel according to the proposed plan, including the parking area (approximately 9,500 square feet) and the school buildings, concrete paths and walkways (approximately 16,335 square feet).

Staff finds that the impermeable surface is not an over-intensive use of land because the submitted drainage study (addressed in detail under criteria 13, below) adequately addresses drainage concerns that would result from a high amount of impermeable areas by incorporating stormwater detention facilities and pervious landscaping treatments. Staff recommends that the submitted site plan be approved as proposed.

Therefore, as conditioned, staff finds this criterion can be met.

(5) Will not have a material adverse effect on community capital improvement programs;

There is no indication the proposal will have an adverse effect on community capital improvement programs, and no referral agency has responded with such a concern.

Therefore, staff finds this criterion is met.

(6) *Will not require a level of community facilities and services greater than that which is available;*

Staff does not anticipate the proposal will have an adverse effect on community facilities and services, and referral responses from Xcel Energy, the Niwot Sanitation District, and the

Lefthand Water District did not indicate any concerns regarding the proposed expansion of the existing use.

The Mountain View Fire Protection district referral response indicated that the plans submitted for permitting should show access for fire apparatus within 150 feet of all ground-level areas of the building exterior, and staff recommend a condition of approval reflecting this requirement.

Therefore, as conditioned, staff finds this criterion can be met.

(7) ***Will support a multimodal transportation system and not result in significant negative impacts to the transportation system or traffic hazards;***

The subject property is accessed via Lookout Road, a City of Boulder owned and maintained right-of-way (ROW) with the Functional Classification of Minor Arterial. Legal access is demonstrated via adjacency to this public ROW.

Staff recommend several conditions of approval intended to mitigate negative impacts to the transportation system. Because Lookout Road is a City of Boulder ROW, the applicant must submit a letter or other written confirmation from the city that expressly confirms the city has no concerns with both anticipated traffic impacts identified in the Transportation Impact Study dated 9/16/20 and the proposed student pick-up/drop-off plan. The applicant must also include a copy of a City of Boulder access permit (or other documentation of access permission) for each point of access to Lookout Road with the permit submittal.

Plans submitted for permitting must also identify designated staging and worker parking areas.

To ensure that student pick-up and drop-off does not create traffic hazards or impose negative impacts to the transportation system, staff recommend a condition of approval requiring the applicants to submit a pick-up/drop-off plan as part of the permit application. This plan can be included as part of the parking plan as detailed in recommended condition ten.

As stated in the revised calculations submitted by the applicant, the new development will result in a total of 14,238 square feet of floor area and, of the proposed total number of classrooms on the school campus, 12 will be used for elementary- and middle-school and 1 will be used for high-school programs. Per Article 4-504.E.3 and E.4 of the Code, a total of 48 spaces is required- 36 for the elementary/ middle school use, 10 for the high school use, and 2 to comply with loading requirements. The application materials indicate 19 parking spaces will remain on the subject property and the additional spaces required will be located in the existing parking lot for the Niwot United Methodist Church at 7405 Lookout Road.

The application materials state that 2 ADA-accessible parking spots will be included in the parking spaces on the subject property. In accordance with the Boulder County Multimodal Transportation Standards ("the Standards") Section 5.6.4 – Accessible Parking, at least one of those must be van-accessible.

Per Section 5.6.5.3 in the Standards, a minimum of 4 bicycle parking spaces are required (ten percent of the total number of required vehicular parking spaces). The applicant should consult with Alexandra Phillips (aphillips@bouldercounty.org), the county's Bicycle Planner, on the appropriate location and rack style for this site.

Per Article 4-516.W.5.c of the Code, Electric Vehicle Service Equipment (EVSE) must be provided for new or expanded parking lots that total 15 or more automotive parking spaces.

Staff recommend a condition of approval requiring the submittal of a revised parking plan, as well as a signed parking agreement with the Niwot United Methodist Church, at the time of building permit application to reflect the above requirements.

Therefore, as conditioned, staff finds this criterion can be met.

(8) Will not cause significant air, odor, water, or noise pollution;

Several comments from nearby property owners expressed concerns regarding the level of increased noise as a consequence of increasing the number of students at the school. Staff find that, while the level of noise will likely increase, the resulting level of noise will not have a significant negative impact. Students will not be outside during the entire schooling session, and the school program completes both student sessions between 8 AM and 3 PM each day. In addition, all persons must abide by the Boulder County Noise Ordinance (No. 92-28) at all times. With the recommended conditions of approval, staff does not anticipate that the proposal will cause significant air, odor, water, or noise pollution, and no referral agency has responded with such a concern.

Therefore, staff finds this criterion can be met.

(9) Will be adequately buffered or screened to mitigate any undue visual impacts of the use;

The current design for the proposed development reflects revisions based on feedback received from staff and the public during the initial phase of the project. This new design seeks to reduce east-west massing of the new structures by lowering the base-floor elevation and keeping the northern structure to one story (rather than two as was originally proposed).

The proposed maximum height of construction is approximately 29’ 5” above existing grade, as shown on the revised elevations submitted to staff on Thursday, March 3, 2022 and included as part of Attachment D. Although the proposed maximum height is nearly 30 feet, this area of maximum height is located at the northern end of the property at the lowest elevation of currently existing grade. For parcels on subdivided land with a final plat approved by the County prior to August 29, 1994 and located within the Suburban Residential zoning district (as applies to the subject parcel), the maximum building height is 35 feet above existing grade. In order to ensure that the visual impact to the nearby neighbors is reduced as much as possible, while allowing for small amounts of variance in the permitting process, staff recommend a condition of approval limiting the height of all portions of both structures to 30 feet above existing grade.

The application materials include several visual impact exhibits comparing the original design to the current proposal (Attachment A, pages A17 – A23) as well as a landscaping plan (Attachment A, page A35). Staff finds that these exhibits and the revised designs adequately address concerns of visual impacts to the surrounding neighborhood, and does not have concerns related to visual impacts to the Lookout Road ROW. Therefore, staff recommends approval of the submitted elevations and landscaping plan as proposed.

Therefore, as conditioned, staff finds this criterion is met.

(10) Will not otherwise be detrimental to the health, safety, or welfare of the present or future inhabitants of Boulder County;

Staff has not identified any indication that the proposed expansion of the school or redevelopment of the property will be detrimental to the health, safety, or welfare of present or future inhabitants of Boulder County. On the contrary, the proposal will allow the school to better serve the individual needs of families and other schools in the area.

Therefore, staff finds this criterion can be met.

(11) Will establish an appropriate balance between current and future economic, environmental, and societal needs by minimizing the consumption and inefficient use of energy, materials, minerals, water, land, and other finite resources;

With the recommended conditions of approval, staff finds that approving the expansion of the school operation and building footprint will allow a balance between current and future needs by redeveloping an existing property to increase its viability as a school, while minimizing external impacts to the surrounding area.

Therefore, as conditioned, staff finds this criterion can be met.

(12) Will not result in unreasonable risk of harm to people or property – both onsite and in the surrounding area – from natural hazards. Development or activity associated with the use must avoid natural hazards, including those on the subject property and those originating off-site with a reasonable likelihood of affecting the subject property. Natural hazards include, without limitation, expansive soils or claystone, subsiding soils, soil creep areas, or questionable soils where the safe-sustaining power of the soils is in doubt; landslides, mudslides, mudfalls, debris fans, unstable slopes, and rockfalls; flash flooding corridors, alluvial fans, floodways, floodplains, and flood-prone areas; and avalanche corridors; all as identified in the Comprehensive Plan Geologic Hazard and Constraint Areas Map or through the Special Review or Limited Impact Special Review process using the best available information. Best available information includes, without limitation, updated topographic or geologic data, Colorado Geologic Survey landslide or earth/debris flow data, interim floodplain mapping data, and creek planning studies.

The Comprehensive Plan identifies the entire area of the subject parcel as having Very High Swelling Soil Potential. Because this identified area encompasses the entire subject parcel, there is no conceivable way that development could avoid these swelling soils. Development on swelling soils is common in the plains areas of the County, and neither staff nor any referral agencies have identified concerns relating to the potential for swelling soils to cause an unreasonable risk of harm to people or property as part of this proposal.

Therefore, staff finds this criterion is met.

(13) The proposed use shall not alter historic drainage patterns and/or flow rates unless the associated development includes acceptable mitigation measures to compensate for anticipated drainage impacts. The best available information should be used to evaluate these impacts, including without limitation the Boulder County Storm Drainage Criteria Manual, hydrologic evaluations to determine peak flows, floodplain mapping studies, updated topographic data, Colorado Geologic Survey landslide, earth/debris flow data, and creek planning studies, all as applicable given the context of the subject property and the application.

A revised Drainage Study dated September 2021 demonstrates that all site runoff will be mitigated on-site through detention facilities and pervious landscaping treatments. Staff concurs with the study's findings that the proposed redevelopment of the site will not adversely affect downstream drainage facilities or properties, as post-development runoff rates will be less than the current runoff rates for the existing development on the site. However, the Development Review Team – Access & Engineering referral response notes that details of the drainage piping in the plan were inconsistent and must be rectified at permitting. Staff recommend a condition of approval requiring that a corrected drainage plan be stamped by a Professional Engineer and submitted as part of the building permit application.

To ensure that construction of the new school buildings does not negatively impact the surrounding properties through runoff, staff recommend a condition of approval requiring that appropriate erosion control measures be installed downslope of all construction areas.

Therefore, as conditioned, staff finds this criterion is met.

RECOMMENDATION

Staff has determined that the proposal can meet all the applicable criteria of the Boulder County Land Use Code for Special Review. Therefore, staff recommends that the Planning Commission recommend that the Board of County Commissioners ***conditionally approve docket SU-20-0005 Hillside School Modification*** with the following conditions:

1. The applicants shall provide a Development Agreement, for review and approval by County staff, prior to the issuance of a permits by the Boulder County Community Planning & Permitting Department and prior to the recordation of said agreement within one year of approval.

2. ***Prior to the issuance of a Certificate of Occupancy for Phase 1,*** the Hillside School must submit evidence that the school has obtained all applicable local, state, and federal permits for operation of the school.

3. The development must meet all requirements outlined in the Building Safety and Inspection Services Team referral response and the Building Code, including but not limited to:

    a. Building Permits;
    b. Minimum Plumbing Fixtures;
    c. Accessibility;
    d. Design Wind and Snow Loads; and
    e. Plan Review

4. The size of the development is approved as proposed in the revised calculations sent to staff on March 09, 2022. The total approved floor area is 14,238 square feet, including the 6,719-square-foot building (to be located north of the existing building) in Phase 1 and the 7,519-square-foot building that will replace the existing school building in Phase 2.

5. The maximum number of students allowed to attend the school is 136, split into a morning session and an afternoon session of 68 students each.

6. The submitted site plan dated 11/10/2021 is approved as proposed.

7. ***At building permit submittal,*** the plans should show access for fire apparatus within 150 feet of all ground-level areas of the building exterior.

8. ***At building permit submittal,*** the applicant must include a letter or other written confirmation from the City of Boulder expressly confirming that the city has no concerns with the following elements of the proposal:

    a. Anticipated traffic impacts as identified in the Transportation System Impact Study dated 09/16/2020; and
    b. The proposed student drop-off/pick-up plan that utilizes two access points to Lookout Road (one from the Hillside School parcel and one from the Niwot United Methodist Church parcel).

9. ***At building permit submittal,*** the application materials must include a copy of a City of Boulder access permit (or other documentation of access permission) for each point of access to Lookout Road.

10. ***At building permit submittal,*** a revised parking plan must be submitted with the permit application that includes:

    a. Clear identification of the required 48 designated parking spaces for the school, including those which will be located on the Niwot Methodist United Church Property;
    b. Dimensions and labels as necessary to demonstrate compliance with the Standards' ADA parking requirements, including the provision for two ADA-accessible spaces, at least one of which must be van-accessible;
    c. Provision for the minimum of four required bicycle parking spaces;
    d. Clear identification of where students will be dropped-off/picked-up and a traffic circulation pattern for vehicles used during drop-off/pick-up. If the drop-off/pick-up location(s) will be located off site, the plan must identify how students will get from those locations to the main entrance of the school; and
    e. The locations and type of EV parking to demonstrate compliance with article 4-516.W.5.c of the Code.

11. Plans submitted for permit must identify designated staging and worker parking areas.

12. The maximum height allowed for construction is 30 feet above existing grade.

13. The revised elevations dated 03/03/2022 are approved as proposed.

14. The submitted landscaping plan dated 11/10/2021 is approved as proposed.

15. ***Prior to issuance of building or grading permits,*** details regarding the placement and construction of the silt fencing or other appropriate erosion control measures must be submitted to and approved by the Community Planning & Permitting Department. The silt fence must be installed before construction commences and remain in place until vegetation is sufficiently established on the disturbed soil.

    Prior to any grading or site disturbance, the silt barrier location and materials must be installed as required per the approved plans.

At the time of the footing foundation inspection and all subsequent inspections, the Community Planning & Permitting Department must confirm the silt barrier location and materials have been installed as required per the approved plans. Any other areas on site are subject to installation of silt fences, if needed.

16. ***At building permit submittal,*** a revised drainage study must be included with the application materials that provides for consistent hydraulic details. The plan must be signed and stamped by a Colorado registered Professional Engineer, Landscape Architect, or Architect.

    a. The drainage study includes hydraulic analysis for 8-inch and 10-inch PVC pipes in Appendix C; however, plan sheet C1.O Drainage Plan in the application materials identifies 8-inch and 6-inch pipes, and the sheet notes mention the use of 4-inch perforated pipes. These issues must be rectified on the revised plan.

17. The applicants shall be subject to the terms, conditions, and commitments of record and in the file for docket SU-20-0005 Hillside School Modification.

Boulder County

Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • **www.bouldercounty.org**

MEMO TO: Referral Agencies
FROM: Samuel Walker, Planner II
DATE: December 28, 2021
RE: Re-Referral for Docket SU-20-0005

THIS IS A RE-NOTICE FOR THE DOCKET LISTED BELOW

This application is being re-referred because the applicant provided a revised project narrative, plan set, and floor area calculation.

Docket SU-20-0005: Hillside School Modification

Request: ORIGINAL: Modification to an existing Special Review and Site Specific Development Plan (SU-03-09) to construct a new 10,500-square-foot school building with 12 new classrooms for up to 68 students total on an approximately 1-acre parcel.
REVISED: Modification to an existing Special Review and Site Specific Development Plan (SU-03-09) to approve the phased construction of a new school building and reconstruction of an existing school building, for a total floor area of 14,284 square feet, containing 13 total classrooms for up to 136 students (68 during a morning session, and 68 during an afternoon session).

Location: 7415 Lookout Road, located on the north side of Lookout Road approximately 650 feet west of its intersection with N. 75th Street, in Section 1, Township 1N, Range 70W.

Zoning: Suburban Residential (SR) Zoning District

Applicant/Owner: Hillside Learning Center

Agent: Caddis PC

Special Use Review / Site Specific Development Plan is required of uses which may have greater impacts on services, neighborhoods, or environment than those allowed with only Building Permit Review. This process will review compatibility, services, environmental impacts, and proposed site plan.

This process includes public hearings before the Boulder County Planning Commission and the Board of County Commissioners. Adjacent property owners and holders of liens, mortgages, easements or other rights in the subject property are notified of these hearings.

The Community Planning & Permitting staff, Planning Commission, and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter to the Community Planning & Permitting Department at P.O. Box 471, Boulder, Colorado 80306 or via email to planner@bouldercounty.org. All comments will be made part of the public record and given to the applicant. Only a portion of the submitted documents may have been enclosed; you are welcome to call the Community Planning & Permitting Department at 303-441-3930 or email planner@bouldercounty.org to request more information. If you have any questions regarding this application, please contact me at 720-564-2738 or swalker@bouldercounty.org.

IF YOU HAVE REPLIED TO THE ORIGINAL REFERRAL LETTER AND HAVE NO FURTHER COMMENTS, NO ACTION IS REQUIRED.

Please return responses by **February 1, 2022.**
(Please note that due to circumstances surrounding COVID-19, application timelines and deadlines may need to be modified as explained in the CPP Notice of Emergency Actions issued March 23, 2020 (see https://boco.org/covid-19-cpp-notice-20200323).

_____ We have reviewed the proposal and have no conflicts.
_____ Letter is enclosed.
Signed _____ PRINTED
Name_____
Agency or Address _____

Please note that all Community Planning & Permitting Department property owner's mailing lists and parcel maps are generated from records maintained by the County Assessor and Treasurer Office. We are required to use this list to send notices to the "property owner" of land in Boulder County. If you feel you should not be considered a "property owner," or if the mailing address is incorrect, please contact the County Assessor's Office at (303) 441-3530.

Boulder County Land Use Department
Courthouse Annex Building
2045 13th Street • PO Box 471 • Boulder, Colorado 80302
Phone: 303-441-3930
Email: planner@bouldercounty.org
Web: www.bouldercounty.org/lu
Office Hours: Mon., Wed., Thurs., Fri. 8 a.m. to 4:30 p.m.
Tuesday 10 a.m. to 4:30 p.m.

Shaded Areas for Staff Use Only
Intake Stamp

Planning Application Form

The Land Use Department maintains a submittal schedule for accepting applications. Planning applications are accepted on Mondays, by appointment only. Please call 303-441-3930 to schedule a submittal appointment.

Project Number	Project Name

❑ Appeal	❑ Modification of Site Plan Review	❑ Road Name Change	❑ Special Use (Oil & Gas development)
❑ Correction Plat	☒ Modification of Special Use	❑ Road/Easement Vacation	❑ State Interest Review (1041)
❑ Exemption Plat	❑ Preliminary Plan	❑ Site Plan Review	❑ Subdivision Exemption
❑ Final Plat	❑ Resubdivision (Replat)	❑ Site Plan Review Waiver	❑ Variance
❑ Limited Impact Special Use	❑ Rezoning	❑ Sketch Plan	❑ Other:
❑ Limited Impact Special Use Waiver		❑ Special Use/SSDP	
❑ Location and Extent			

Location(s)/Street Address(es): 7415 Lookout Road				
Subdivision Name: Gunbarrel Estates 3rd Replat				
Lot(s): 9	Block(s): 13	Section(s): 01	Township(s): 01 North	Range(s): 70 West
Area in Acres: 1.005 acres	Existing Zoning: Suburban Residential	Existing Use of Property: Special Use for School		Number of Proposed Lots
Proposed Water Supply: Lefthand Water		Proposed Sewage Disposal Method: NIWOT Sanitation		

Applicants:

Applicant/Property Owner: Hillside School			Email: Jill@hillsidelearning.org
Mailing Address: 7415 Lookout Road			
City: Longmont	State: CO	Zip Code: 80503	Phone: 303-494-1468
Applicant/Property Owner/Agent/Consultant			Email
Mailing Address			
City	State	Zip Code	Phone

Agent/Consultant			Email
Mailing Address			
City	State	Zip Code	Phone

Certification (Please refer to the Regulations and Application Submittal Package for complete application requirements.)

I certify that I am signing this Application Form as an owner of record of the property included in the Application. I certify that the information and exhibits I have submitted are true and correct to the best of my knowledge. I understand that all materials required by Boulder County must be submitted prior to having this matter processed. I understand that public hearings or meetings may be required. I understand that I must sign an Agreement of Payment for Application processing fees, and that additional fees or materials may be required as a result of considerations which may arise in the processing of this docket. I understand that the road, school, and park dedications may be required as a condition of approval.

I understand that I am consenting to allow the County Staff involved in this application or their designees to enter onto and inspect the subject property at any reasonable time, without obtaining any prior consent.

All landowners are required to sign application. If additional space is needed, attach additional sheet signed and dated.

Signature of Property Owner: Jill Michaud	Printed Name: Jill Michaud	Date: 9/14/2020
Signature of Property Owner	Printed Name	Date

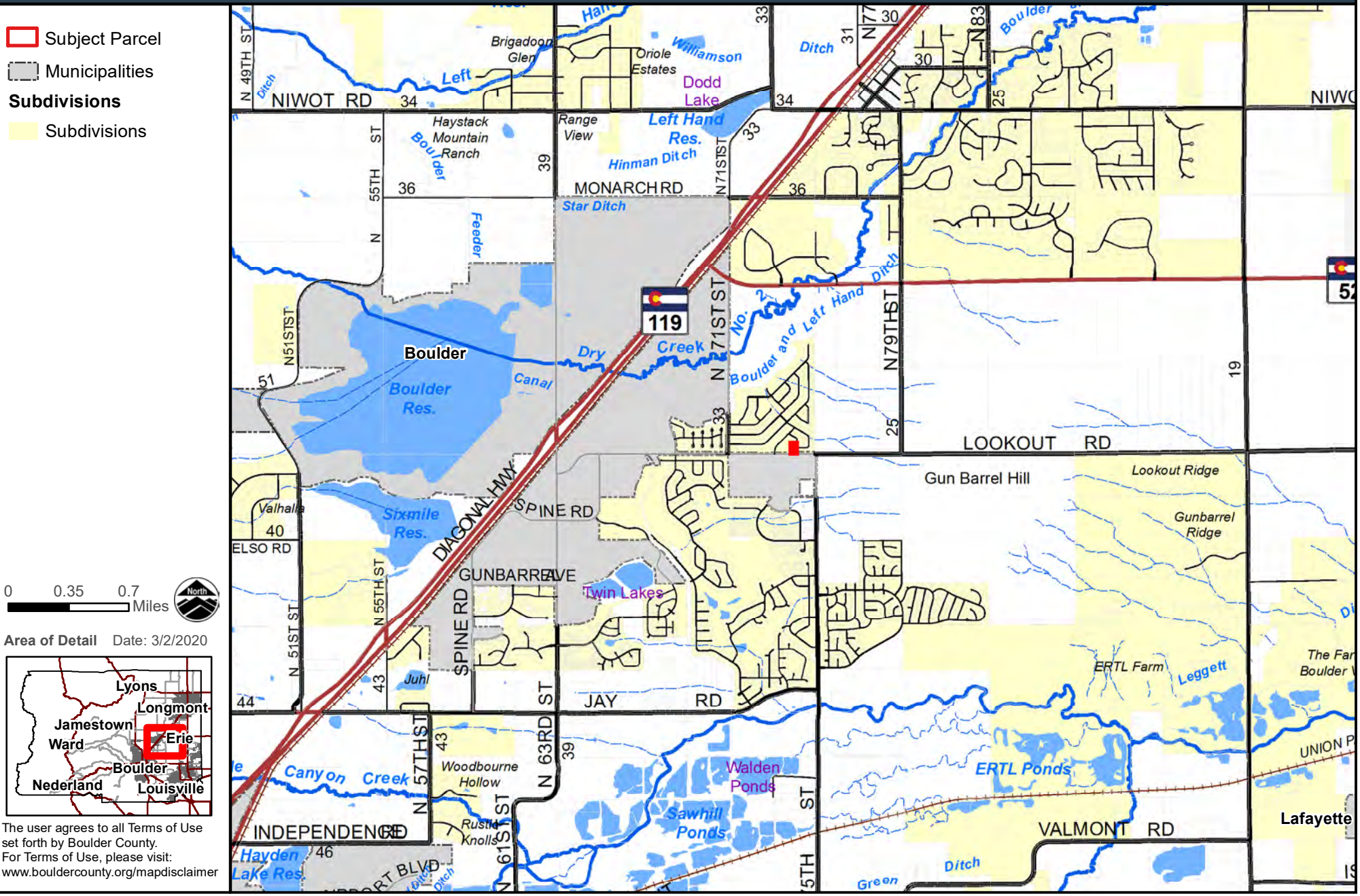
The Land Use Director may waive the landowner signature requirement for good cause, under the applicable provisions of the Land Use Code.

Community Planning & Permitting

2045 13th Street, Boulder, CO 80302 303-441-3930 www.bouldercounty.org

Vicinity

7415 LOOKOUT RD



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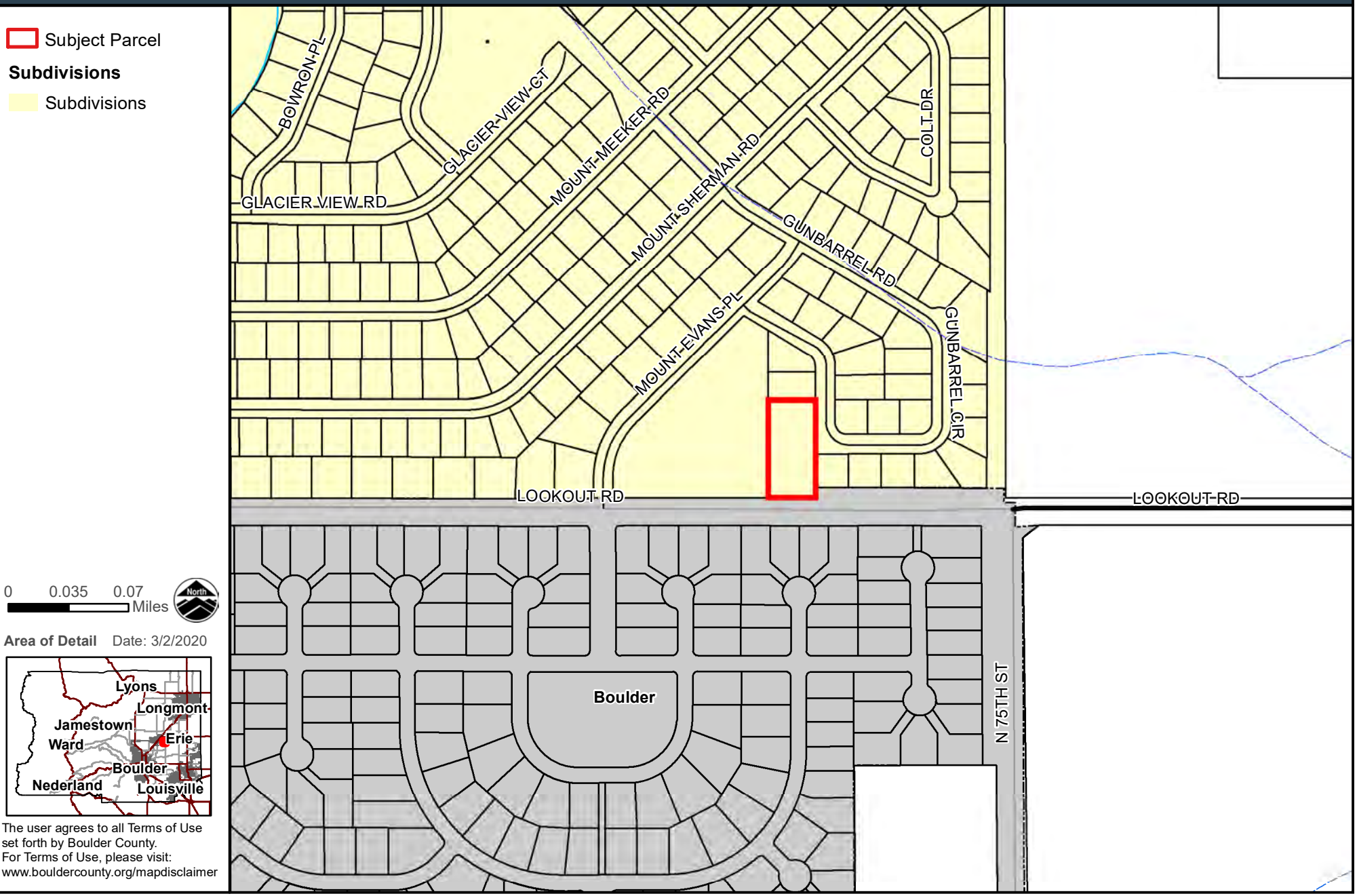
Location

7415 LOOKOUT RD



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Aerial

7415 LOOKOUT RD

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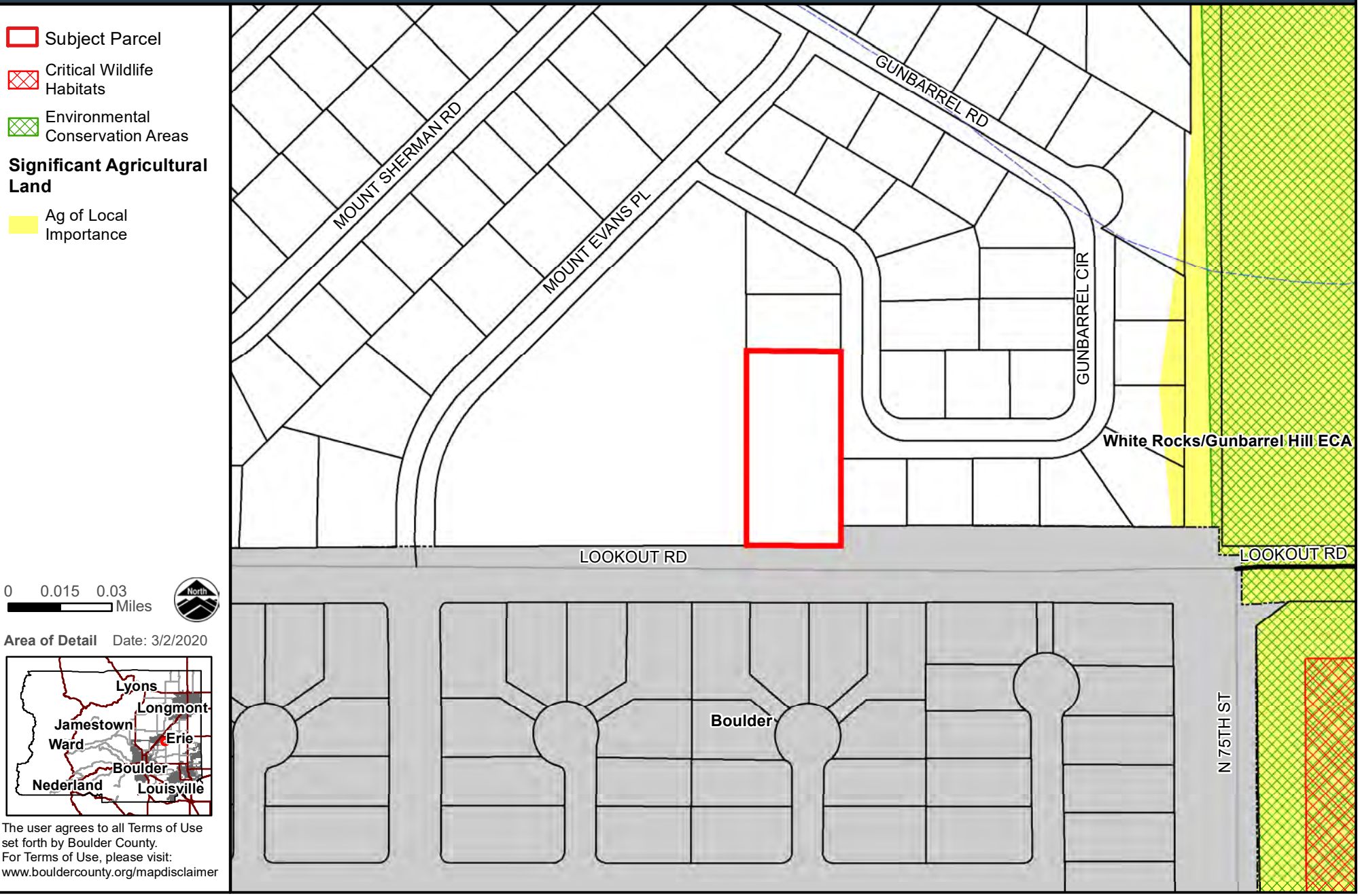
Comprehensive Plan

7415 LOOKOUT RD



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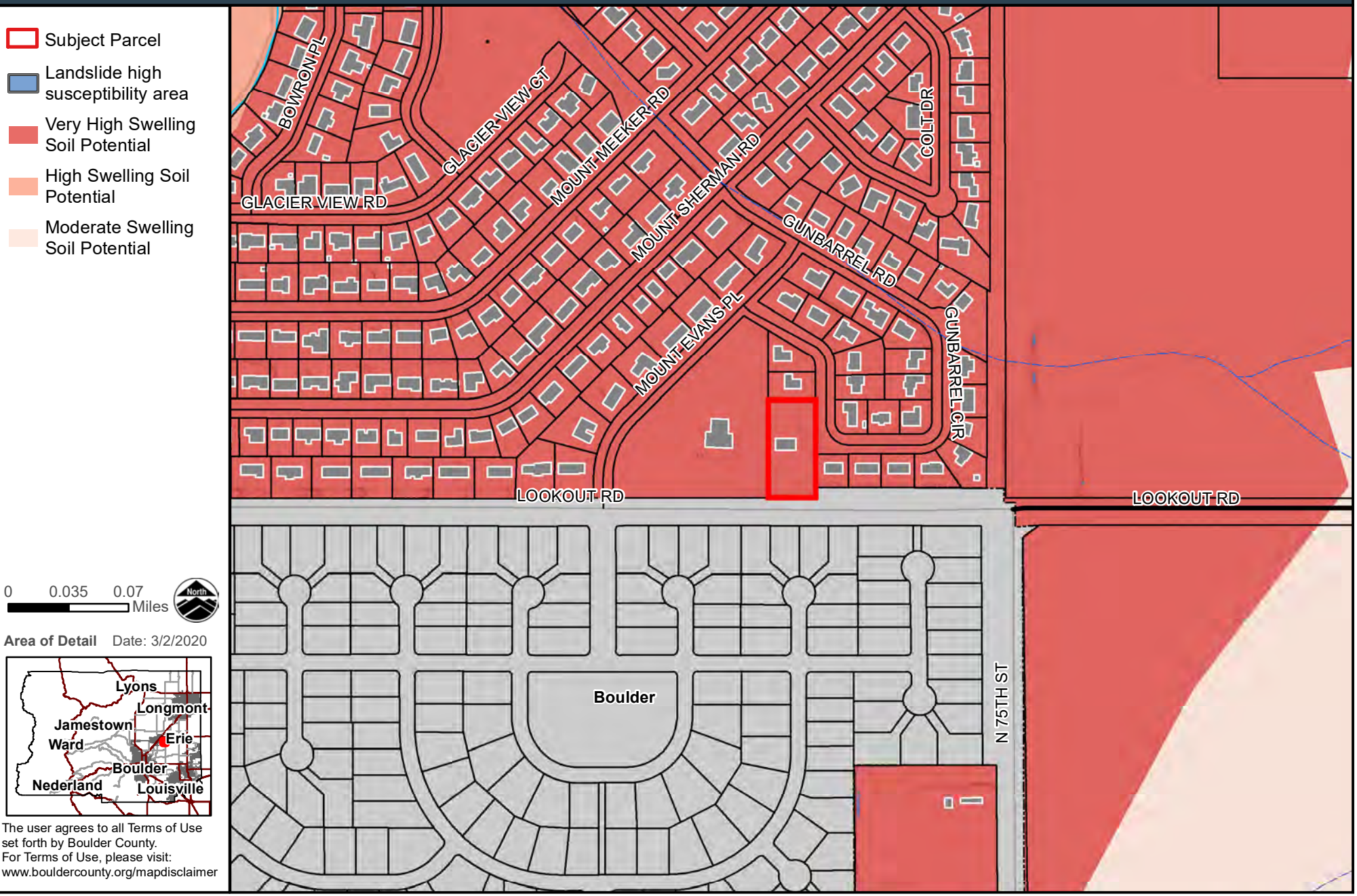
Geologic Hazards

7415 LOOKOUT RD



Area of Detail Date: 3/2/2020

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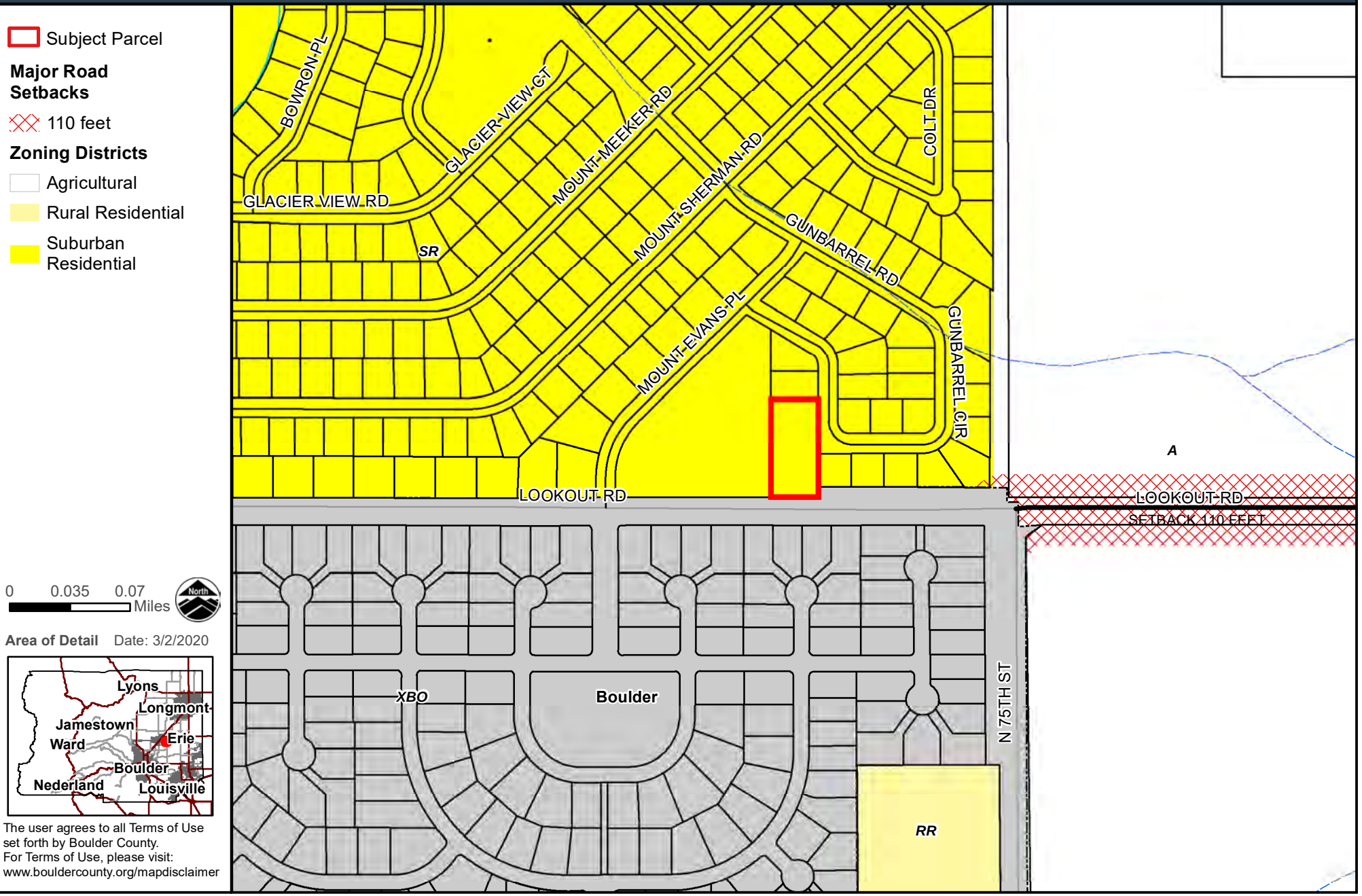
Zoning

7415 LOOKOUT RD



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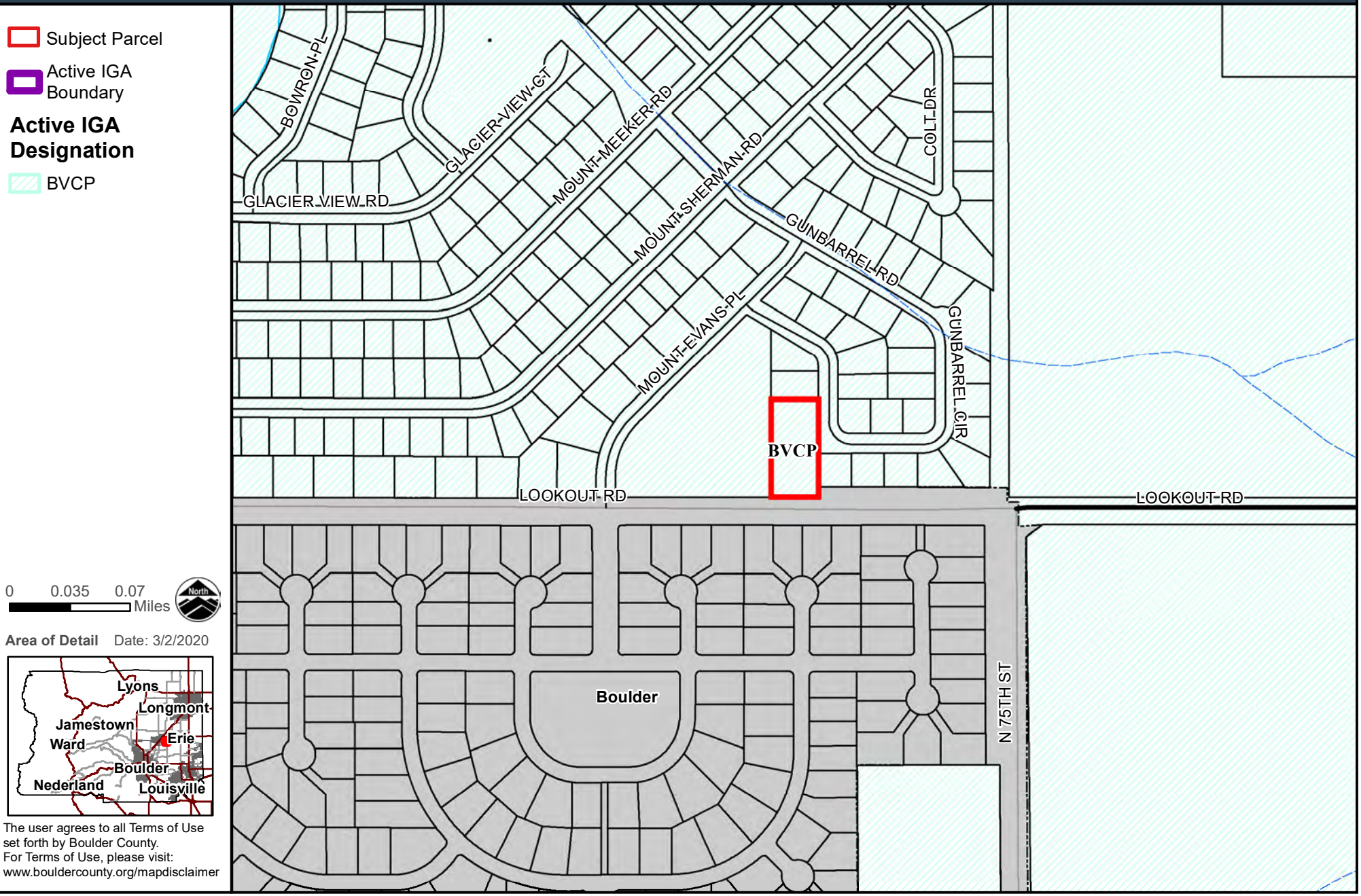
Planning Areas

7415 LOOKOUT RD



wtodacheene

Hillside School – Narrative for Resubmittal

7415 Lookout Road SU-20-0005, Modification to Special Use, Resubmittal
October 1, 2021

Boulder County Community Planning and Permitting
Courthouse Annex Building
2045 13th Street, PO Box 471, Boulder, CO 80302, 303-441-3930

Dear Boulder County Land Use Department and Case Manager,

This narrative letter accompanies the re-submittal for a re-designed proposed development after initial input from Boulder County Community Planning staff and adjacent neighbors on the original design submitted on 9/22/2020. The project has undergone a major re-design to accommodate planning staff and neighbors' concerns.

In order to expand the number of Boulder-area students served by Hillside School, the school proposes to build approximately 14,191 square feet for a new school on its property located at 7415 Lookout Road in Boulder County. There currently is an existing 4,262 square foot structure on the property serving as the school. The full project is proposed to be built in two phases. The north, one story wing, will be built in the 1st phase with the existing building to remain. The two-story wing, on the south side, would be built in the second phase, after the existing building is demolished to make room for it and connect to the phase one building to become the full build-out proposed for this resubmittal.

Hillside School is a 501c3 nonprofit, independent school for students with dyslexia. Founded in 2005, Hillside has helped hundreds of Boulder County students and their families by providing evidence-based remediation for dyslexia in the areas of reading, written language, and math. The unique program at Hillside involves one teacher working with four students in intensive daily sessions. On average, students transition back to their traditional schools within two years. Students make tremendous academic gains during this time and grow into confident learners. Hillside School currently has a total of 32 full-time students, and admissions requests continue to climb annually. With a new 14,191 square foot building, Hillside School would be able to accommodate an additional 36 students annually, while serving the greater dyslexia community with a great room to host community events.

The following is a list of items to consider when evaluating this re-submittal for the special use permit application:

1. Change of Use - The currently approved use of the property will remain. The property is zoned as Suburban Residential (SR) and one of the principal uses permitted is an Educational Facility under Community Uses. The current day use schedule is divided in two half-day shifts: one in the morning and a second one in the early afternoon. The proposed use is not expected to generate excessive noise, light trespass or produce offensive odors. The proposed building would continue to operate on two half-day shifts.

2. Number and Age of Students - The number of full-time students will increase by 36, from 32 to 68, with a total trip count of 136 students, 68 in the morning session and 68 in the afternoon session. The approved number of students in the current special use permit is 110 students. Hillside is an ungraded system, with student ages ranging from 6-14 years old. Hillside is exploring the idea of extending the program for a small group of students (around 8 total) that would include older students in the 14-18 age range. Hillside school expects there to be 1 or 2 high school age students within this program. Hillside School also wants to have the option to add one or two additional classrooms, within the proposed building footprint, based on future demand for their educational program, which remains to be determined. Those rooms are currently shown as multi-purpose in the drawings. As of today, additional classrooms are not planned to be added but adding students and classrooms would follow the

caddis collaborative
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hello@caddispc.com www.caddispc.com

requirements by the County if additional student capacity were needed in the future based on relevant circumstances.

3. Parking - There are a total of 19 existing parking stalls on-site and the shortfall of required parking spaces will be provided by spaces in the Niwot United Methodist Church parking lot via a signed agreement with them, to provide sufficient parking per guidelines in Section 4-504 of the Boulder County Land Use Code. Hillside School has a written contract with the church for 40 parking spaces in the church parking lot for their use. Based on the County Land use parking requirements for parking spaces, it is calculated that a total of 46 parking spaces would be needed, based on 12 classrooms for elementary middle school and 1 classroom for older high school age students. The Church has raised the possibility that their parking lot could be connected to Hillside's if needed, by a signed agreement between them – details to be worked out as necessary in the future. As part of the proposed project, minor reconfiguration of parking is expected to accommodate two ADA accessible stalls and an accessible route and ensure adequate emergency vehicle access to the property as required by Mountain View Fire Rescue.

4. Number of Classrooms - The total number of classrooms in the new full built-out project will be a total of 13. The total number of classrooms in phase one or two will be the same at 13 classrooms total on-site during either phase. Because of the special needs student population (dyslexia), the classroom to student ratio is not typical; each classroom typically supports 4 students and 1 teacher. The proposed two new classrooms in the lower level of the new two-story building are planned to have a higher student to teacher ratio of between 4:1 up to 8:1, but never more such that would exceed the cumulative total student body of 68 during each period. The third classroom in the lower level of the new two-story building would accommodate older students at a student to teacher ratio of 8:1. Hillside School also wants to have the option to add additional classrooms, within the proposed building footprint, based on future demand for their educational program, which remains to be determined. As of today, they are not planned to be added in the current submittal but including them in the future would follow the requirements by the County if they were needed, based on future relevant circumstances.

The low student to teacher ratio allows Hillside School to provide intensive instruction in literacy and math. Classrooms spaces are also smaller than traditional spaces, with the proposed classroom spaces each being around 340 square feet in the one-story structure, and around 476 square feet each for the new classrooms in the new two-story building.

5. Services - The property is served by Left Hand Water District. Gas and electric service is provided by Xcel Energy. There is an existing fire hydrant within 65 feet of the property on Gunbarrel Circle on the east side of the property. The property is served by Niwot Sanitation District and the survey shows a 6" sanitary sewer line serving property. Depending on future water use, the connection line to the sanitary sewer manhole on Gunbarrel Circle may need to be updated. It is anticipated that we will likely need an increase in water meter size and, possibly, a branch line upgrade. The Hillside team will provide a Tap Availably Review Form and a Commercial Supplemental Form once the plumbing engineer is on the design team and calculations for water demand are made.

Refer to Water and Sanitary Sewer Information, and letters from Left Hand Water District and Niwot Sanitation District for more info.

6. Development - The existing parcel is approximately 1.01 acres (43,800SF) and meets the minimum 7,500 square foot lot size for the SR zoning. The proposed new full build-out of approximately 18,181 square foot building will not exceed the 15,000 maximum square footage allowed on a parcel less than 10 acres for an existing community use legally approved prior to November 4, 2010, per Boulder Land Use Code Section 4-602 C 2. In phase 1, with only the one-story new wing and the existing building the total sf on-site would be 10,895 sf and under the 15,000 maximum square footage allowed. The property is located in the Gunbarrel Estates 3rd Replat Subdivision recorded May 11, 1977.

The proposed project is a two-story light wood frame building of approximately 14,181 sf with the lowest level dug into a sloping grade on its south end. The proposed new building is not expected to exceed the 35 ft maximum height as allowed on final plats approved by the County prior to August 29,1994. The finishes on the exterior will be a combination of fiber cement panel/board, stucco and possibly metal panel. There will be ADA accessibility to both levels. The proposed building will be built within the zoning setbacks and will include landscaping.

Attentively,

Bryan Bowen
Principal Architect, Caddis PC

Hillside School SUR – Applicant Response to County Comments on Original Design

7415 Lookout Road SU-20-0005, Modification to Special Use, Resubmittal
October 1, 2021

Boulder County Community Planning and Permitting
Courthouse Annex Building
2045 13th Street, PO Box 471, Boulder, CO 80302, 303-441-3930

Dear Boulder County Land Use Department and Case Manager,

Caddis submitted original conceptual design documentation to the Boulder County Planning Department for initial Modification to Special Use Review for a proposed new 10,500 square foot, two-story school building at 7415 Lookout Rd on 9/22/2020. The case manager assigned to the application at that time was Raini Ott. We communicated with her, previous to the submittal, for advice on the overall process and after the initial submittal to coordinate initial development concerns and comments by the county. We met with Raini on two occasions on-site to evaluate the proposed development. Raini also met with neighbors to understand their concerns and inform the review comments. The review of the initial documentation, site visits, and neighbor's input pointed to concerning impacts by the case manager and planning staff on neighboring residential properties for the initial submitted design. We later met with Nathaniel Shull, the new case manager, and reviewed the response and design adjustments with him. As a result of those interactions, we have prepared this response.

The main concern was that a two-story structure on the east side of the property, right next to Gunbarrel Circle, and close to the property to the north would have *"…a pretty big impact on the neighborhood character..."* The height pole study that Raini Ott conducted during one of her site visits pointed to the same concern on the height and massing of the initial proposed design. We have compiled staff concerns below and show how the revised design addresses them. Additionally, Raini Ott had asked for views from Gunbarrel Circle looking west, and from Lookout Road looking north to evaluate visual and character impacts on the neighborhood and streetscape.

Caddis has made major design changes from the initial design submitted to effectively address all the concerns expressed by Raini Ott, planning staff and input provided by local residents directly impacted by the proposed development. The new design is sensitive and scaled to its setting, neighbors and the residential context of the neighborhood and the Gunbarrel Circle residential streetscape.

Refer to the accompanying exhibit "20210001_1923_HillsideSchool_DiagramPacket.pdf" for views requested by Boulder County planning staff and diagrams that explain the design measures taken to address the impact concerns from the previous design.

1. Height and Massing
Comments:
11/24/2020, Staff, Raini Ott
"Relocating the structure to the western side of the property would direct noise impacts towards residents to the east while the proposed location helps to buffer them, as we discussed on-site. However, we still find the proposed location plus height and massing to be a pretty big impact on the neighborhood character. Could part of the structure, especially the northern half, be reoriented at a 45 or 90 degree angle so that it more closely hugs the existing structure and also removes some of the massing from along Gunbarrel Circle while leaving the play yard open? Are there other ways to soften the massing on the east and north sides of the structure?

12/21/2020, Raini Ott
My conversation with Mary Eldred (northern neighbor) was very informative. Although I am going to follow-up with the other closest neighbor to the east as well to see if they concur, it seems she is very involved with the

neighborhood community and she felt that others shared her overall opinions on this matter. Basically, noise is not the biggest issue. And so she strongly feels that the new building should be moved to the west side of the property, even if that means noise reflects off of it towards Gunbarrel Circle. Her logic in balancing this was that noise from the school really only occurs during the daytime when most people are (under normal circumstances) not home, while the visual impact is permanent and three-fold. First, as shown in the height pole pictures, the building will eliminate any mountain views that currently exist from Gunbarrel Circle (she talked about spending time with neighbors watching sunsets). Second, she said it feels like an invasion of privacy to have a two-story structure with balconies "looming" over their street. And lastly, she had a concern about losing solar access in her garden that's on the south side of her house, both from the building and any large landscaping trees that might be installed along the fence. As currently proposed, this impact on her private property would be significant, in my opinion.

So, in conclusion, if the neighbor immediately east of the project agrees with Mary's concerns, staff would like to consider the implications of relocating the structure to the west side based on the visual impacts since they outweigh noise impacts. I was also looking more closely at still potentially lowering the height of the structure on the northern side, regardless of whether it's located on the east or west side. The way I see that working would be the section that is farther north on the property than the existing church structure to the west must not exceed one story.

Response:
The north and east part of the two-story structure original design that had the greatest impact on the neighborhood character was relocated further to the west, away from Gunbarrel Circle and was reduced in height to be a one-story structure on the north end past a line extending east from the existing church two-story structure to the west, onto the Hillside School property. This would follow the form of the adjacent church while providing heigh impact relief to the adjacent residential properties. The suggestion of re-orienting to a 45- or 90-degree angle was considered but did not work with the school's program and did not result in a significant reduction of visual impact. The original design finish floor elevation was also lowered by another foot. These design changes significantly reduce the visual and the neighborhood character impacts, help maintain a view of the front range peaks from Gunbarrel Circle Road, preserve the residential character streetscape along Gunbarrel Circle and minimize the cut and fill disruption impact on the site. Additionally, a pitched gabled roof has been designed for the north wing of the school to help it "fit in" with the neighborhood character as opposed to the flat roof with a parapet that was initially proposed.

Caddis also proposed, based on the height pole study, and the concern on a two-story height on the north end, to limit the extent of a new two-story structure to the vicinity of the existing two-story original structure. Caddis re-designed the structure such that the new two-story structure stayed out of the northern part of the lot per the review comments, reducing the impact to the residential property adjacent to the north and Gunbarrel Circle. This strategy also minimized the impact to the western view from the adjacent residential property to the east along Gunbarrel Circle, as it basically ends up occupying the two-story volume of the existing structure, which is planned to be demolished. The roofs over the proposed two-story portion have also been pitched to help reduce the institutional look along Lookout Road that the previous design, with flat roof and parapet, expressed. The low ends of these roofs are pitched to the east such that they have a lower profile on the east side where there are residential structures, further reducing the visual and massing impact to the neighbors.

The revised design also addresses the concerns of the residential neighbor to the north (Mary Eldred) by including small screening trees, and stepping the building down as it approaches the north property so as not to impact the solar access to the north property owner's garden during the Colorado short growing season, when the sun is highest. There is an existing 6-foot-high fence the full length of the back property line that separates the properties that will be kept or replaced. The owner of the property to the north also has a PV system on the roof of their home and the re-designed school will have zero impact on her PV system for solar access.

1. Screening

Comment:
11/24/2020, Staff, Raini Ott
"What additional screening could be added along the north and east property lines to help buffer the residences?

Response:
By moving the new building to the west, away from Gunbarrel Circle, there is more room that is being provided between it and Gunbarrel Circle. Vegetative screening is being provided on both east and west elevations of the one-story structure along its length to screen and reduce the visual impact to the residential street and the neighbor's property to the east. The landscape architect and civil engineer have terraced the finish grade at the north side of the building and provided it with vegetative screening to create a layered screening approach that will provide appropriate visual screening for the residential property to the north. The new clerestory on the re-designed one-story structure has been designed as a gabled structure, resembles other residential gabled roofs in the neighborhood, and is in character with the residential setting, further reducing the impacts to the neighbor to the north and to Gunbarrel Circle.

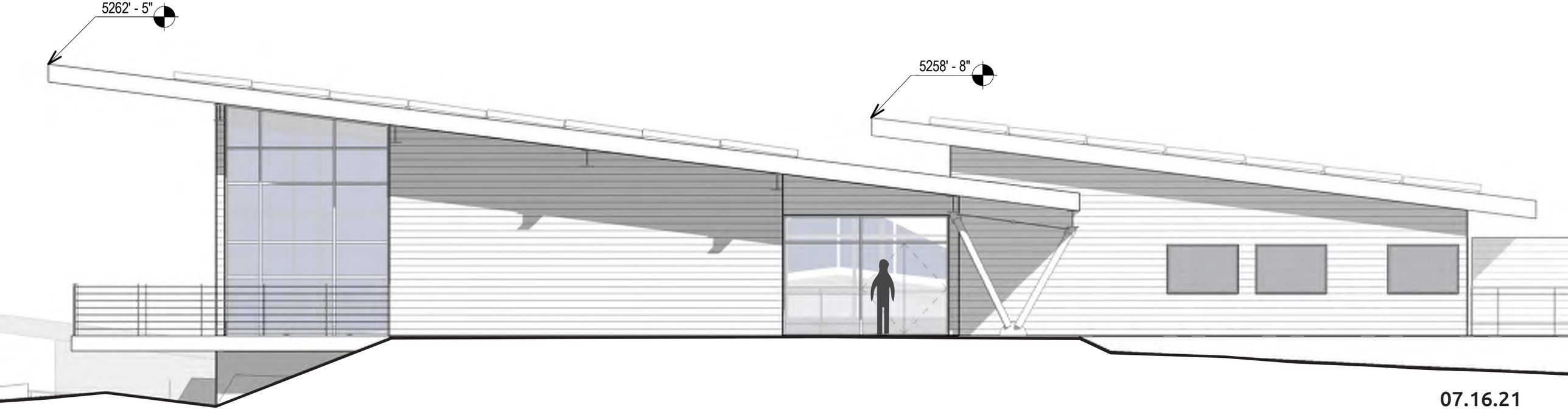
Attentively,

Bryan Bowen
Principal Architect, Caddis PC

caddis
Architecture, planning, etc.

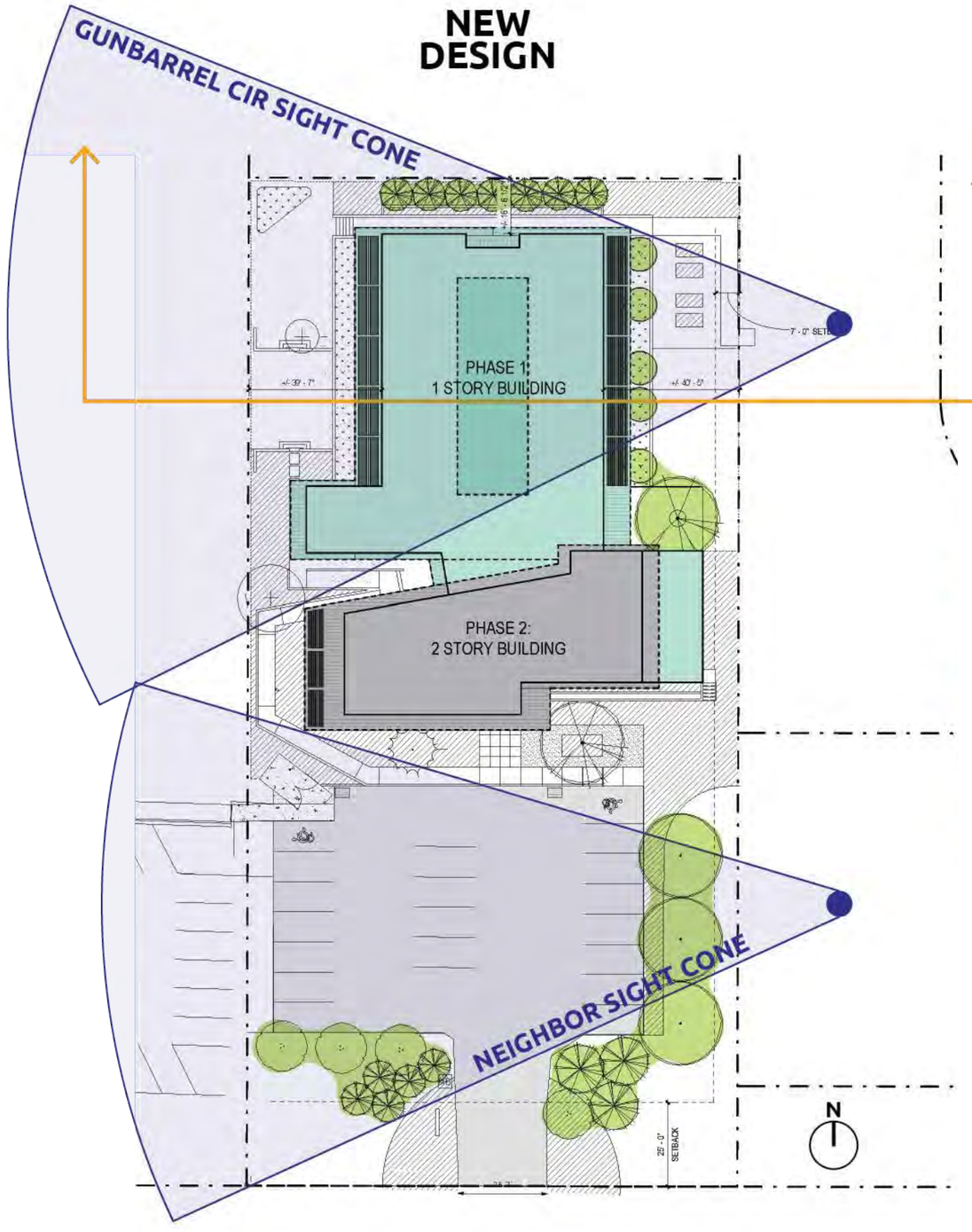
HILLSIDE SCHOOL
7415 Lookout Road
Longmont, CO 80503

DIAGRAMS



07.16.21
PROJECT # 1923
CADDIS PC

NEW DESIGN



DESIGN STRATEGY:
NEW DESIGN LIMITED TO 1 STORY NORTH OF ADJACENT CHURCH ON WEST SIDE

2 STORY

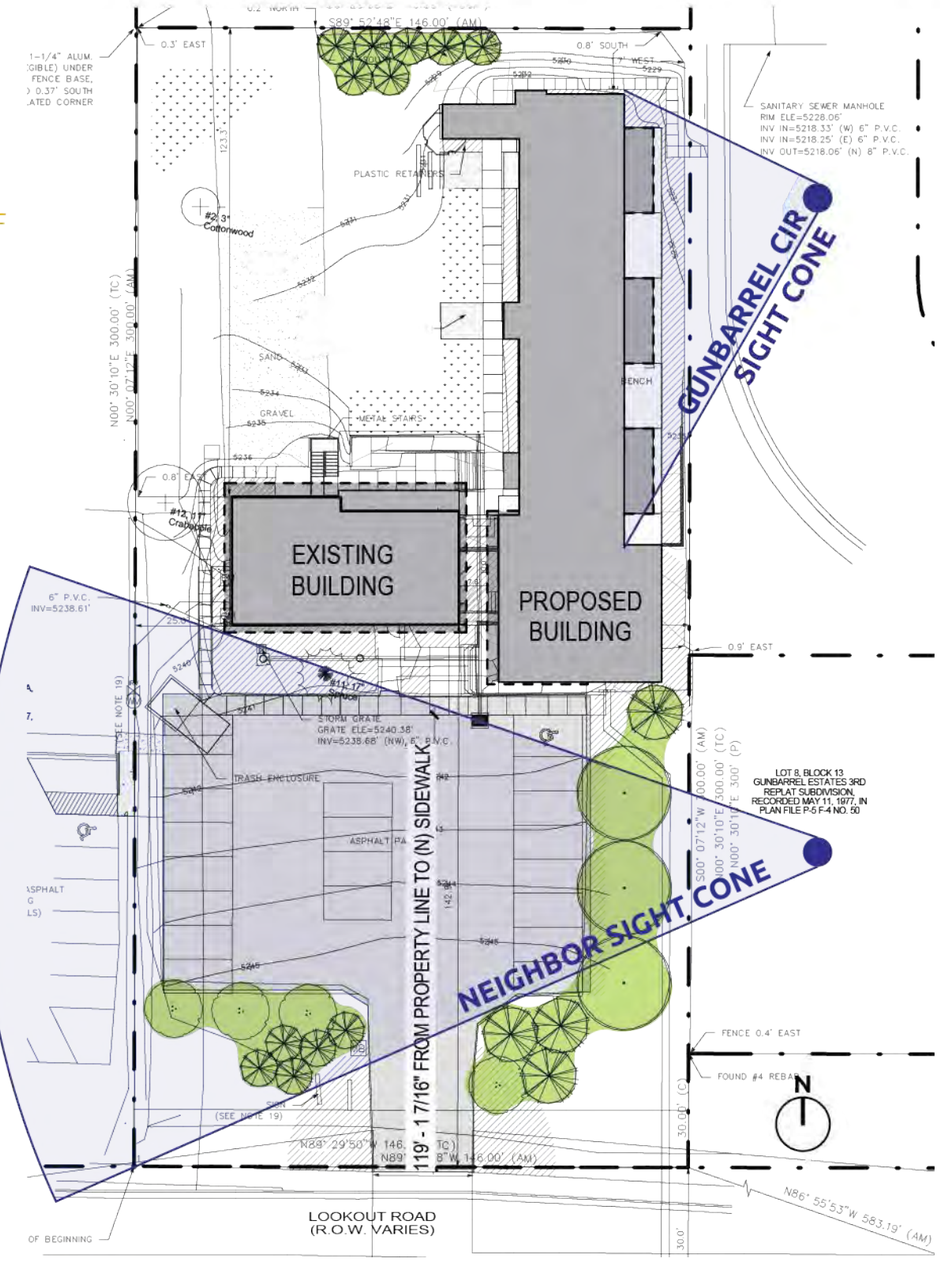
CLERESTORY

1 STORY

SIGHT CONE

LANDSCAPE BUFFER

PREVIOUS DESIGN

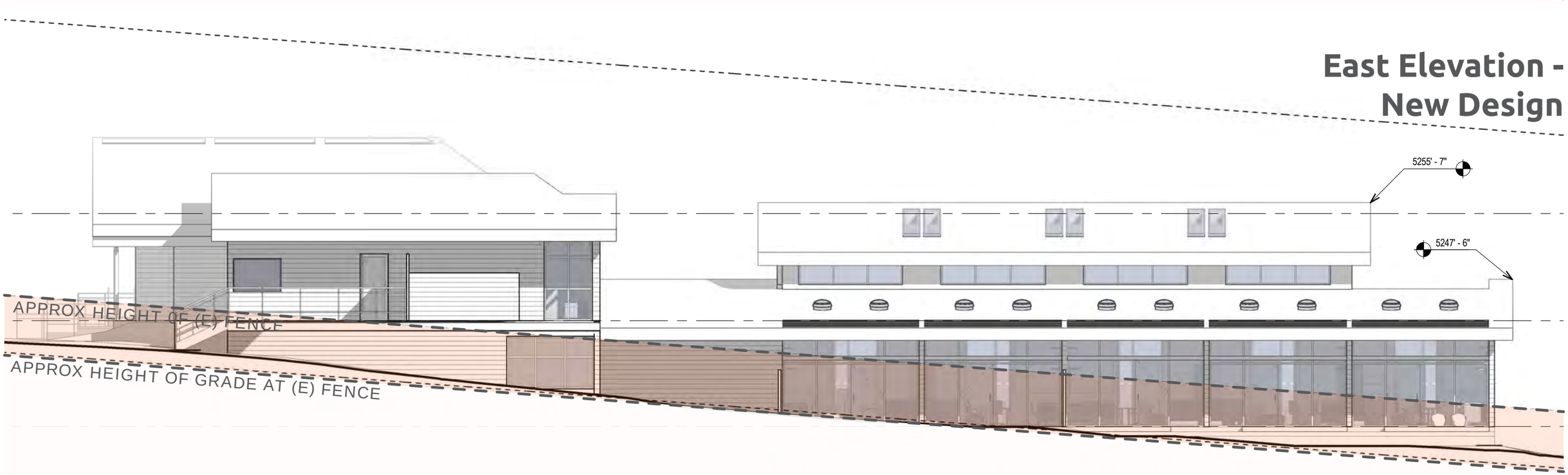



VIEW SOUTHEAST


VIEW WEST

East Elevation - Previous Design

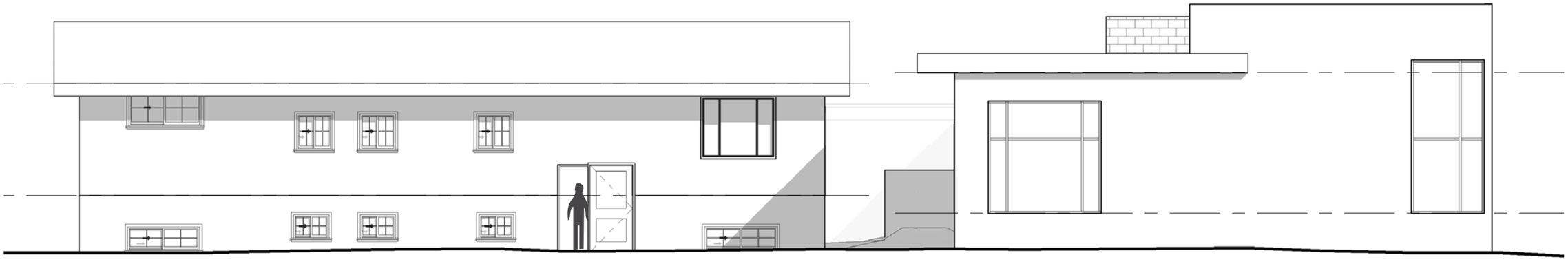
East Elevation - New Design



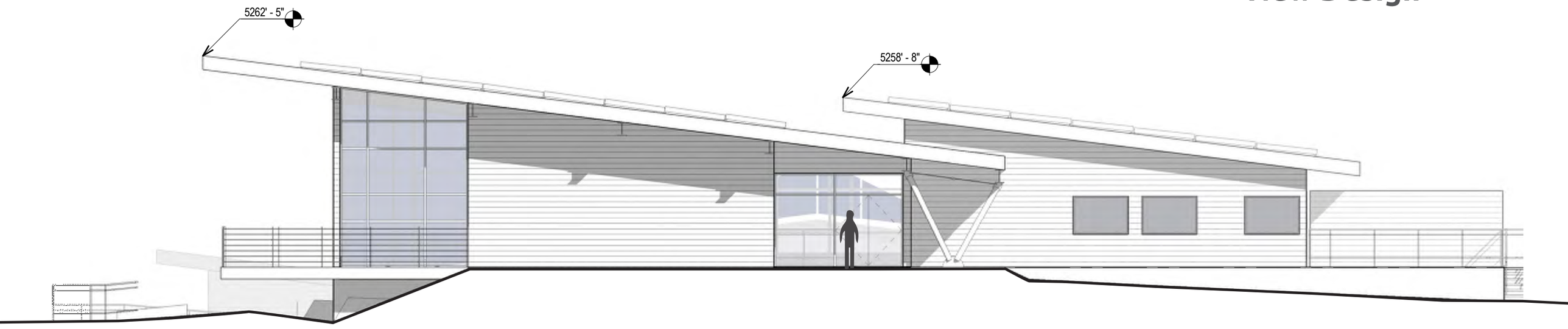
Looking West from Gunbarrel Cir - Previous Design

Looking West from Gunbarrel Cir - New Design

South Elevation - Previous Design



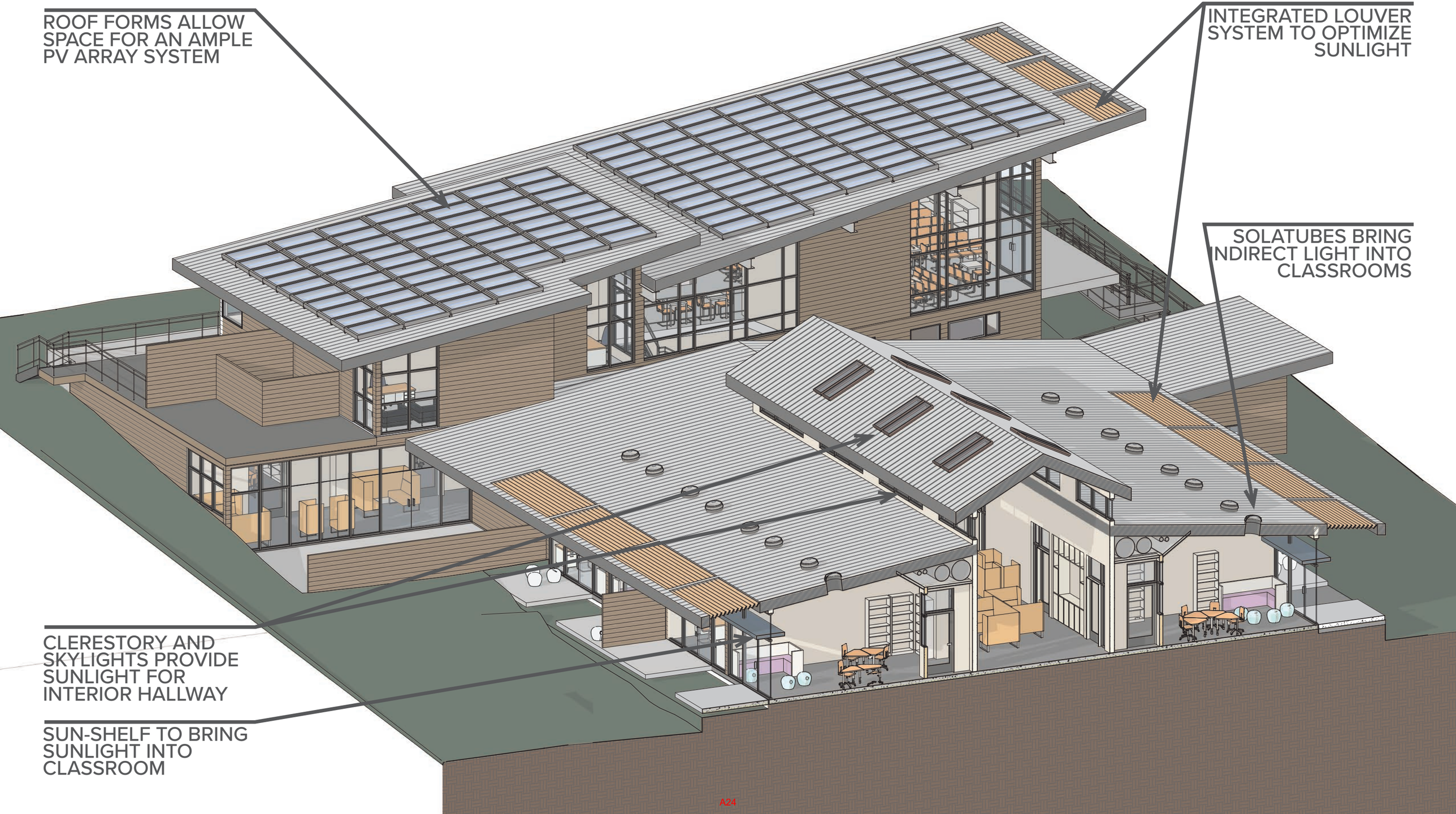
South Elevation - New Design



View North from Lookout Rd - Existing (left) and Previous Design (right)

View North from Lookout Rd - New Design

Environmental and Energy Strategies



Water and Sanitary Sewer Information

Date: 09/21/2020
To: Boulder County Engineering Development Review
From: Jesus Bendezu, Caddis Architecture
Regarding: 7415 Lookout Rd, Longmont, CO 80503 - Modification to Special Use Review Application

Existing Conditions

The property is served by Lefthand Water District and there is a 5/8-inch water meter on-site serving the existing two-story building. The size of the branch line off the water main serving the property is unknown but will be investigated for the purposes of the new development and upgraded if needed. The sanitary sewer is provided by Niwot Sanitary District and there is currently a 6-inch sewer line that serves the existing building that drains to the northeast corner of the property and connects to a manhole in the right of way of Gunbarrel Circle. The existing building has a total of (4) four water closets, (5) five lavatory sinks, (2) two kitchen sinks, (1) one janitorial sink and (1) dishwasher. The flow rates of the existing plumbing fixtures are unknown but we are including within this document bills from the service utilities that show what the water use is for the most current normal (pre-COVID) one-month billing cycle from the last regular school session in 2019 for information purposes. In October of 2019 the actual water use was around 3,000 gallons, and the previous year in the same month was around 7,000 gallons. The current building serves a total of 34 students during each shift in eight classroom facilities. There are two shifts, one in the morning and one in the afternoon. Current water demand includes irrigation of the site. The number of students, staff and teachers using the existing building will be reduced once the new building comes into service, and will result in lowering the potable water use in the existing building.

Proposed New Development

The proposed new building will add a number of plumbing fixtures to serve the increase in student body and the increase in teachers needed. The administrative staff is expected to be evenly divided between the new and the existing building. Based on the number of students, teachers, staff, transients visiting the new facility, the shift periods, and the type of plumbing fixtures and their flush and flow rates, Caddis' in-house LEED Accredited Professional has estimated, by way of using a LEED 2009 water use calculator, an expected water use. This number is being provided as an estimate for information purposes and will need to be confirmed by a plumbing engineer that will be performing the design of the utility systems serving the future development. The estimate is based on meeting current Boulder County code for EPA "WaterSense" labeled flush and flow rates for the plumbing fixtures. It is estimated that the expected water use demand will be around 44,240 gallons per year for the new building. Since the school is in session approximately 9 months out of the full year this roughly translates to around 4,916 gallons per month when the school is in session for the new building.

Hillside School's new development has a strong environmental design component and will be implementing a number of green building strategies that will very likely exceed those mandated by current building codes. It is expected that the water use will end up being less that what is estimated in this document. Irrigation water use demand for the new development is not included in this estimate given the conceptual landscaping plans remain to be approved by the county as part of this modification to special use application. New irrigation of the proposed landscaping will be by way of water efficient irrigation system that meets Boulder County irrigation requirements.

Hillside School plans on renovating the existing building as part of the project. It remains to be determined if this renovation will be executed pending a project budget and available funds. It presents an opportunity to further increase water efficiency if building code mandates replacement of plumbing fixtures as part of a proposed renovation, the scope of which remains to be determined. Whether renovated or not, the existing building will have a lower water use as it will serve a reduced number of students after the new building is completed.

caddis architecture, etc.
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info@caddispc.com • www.caddispc.com

Hillside School plans on providing Left Hand Water District with a Tap Availability Review Form, a Commercial Supplemental Form describing the projected water use and submit construction plans to their district engineer. The Hillside Design Team will engage a plumbing engineer to design the plumbing systems for the new building and will be able to provide more detailed future, expected service demands for both water and wastewater and make recommendations as needed for sizing of water and sanitary services to ensure these utilities are capable of accommodating the future proposed building and the current existing building.

Left Hand Water District

September 3, 2020

Hillside Learning Center
7415 Lookout Rd.
Longmont, CO 80503-8631

Re: Parcel ID #146301320001
Owners: Hillside Learning Center
Address:7415 Lookout Rd. Longmont, CO 80503
Legal: E 146 FT OF W 622.25 FT OF S 300 FT OF OUTLOT A GUNBARREL ESTATES REPLAT FULLY EXEMPT PER DPT 07-01935-01

TO WHOM IT MAY CONCERN:

The property located at the above address or legal description is within the "SERVICE AREA" of Left Hand Water District. The tap fee for the above named property has been paid and the tap is active and in good standing. This entitles one commercial 5/8" tap equivalent to receive water service at this location.

Prior to beginning any construction on the parcel, the owner will need to provide a Tap Availability Review Form, a Commercial Supplemental Form that describes the Projected Water Use, submit construction plans to the District Engineer for approval and pay all associated review fees.

If you have further questions regarding this matter, you may contact me at the District office.

Sincerely,

Lilah Imes

Lilah Imes
Executive Assistant
Left Hand Water District

Niwot SANITATION DISTRICT

September 3, 2020

To: Boulder County Land Use

RE: 7415 Lookout Road

To Whom This May Concern:

The current facility at the above referenced address receives sanitary sewer service from Niwot Sanitation. If they were to add an additional building to this property it would also be served by Niwot Sanitation.

Sincerely,

Karen Behne

Karen Behne
General Manager

7395 N. 95th Street • Niwot, CO 80504 • 303-652-2525 • FAX 303-652-2392

Traffic Access and Parking Plan Narrative

Date: 09/21/2020
To: Boulder County Engineering Development Review
From: Jesus Bendezu, Caddis Architecture
Regarding: 7415 Lookout Rd, Longmont, CO 80503 - Modification to Special Use Review Application

The following are the existing conditions and the proposed Traffic Access and Parking Plan that Hillside School will implement as part of the proposed new development.

Existing Conditions

Current traffic access and parking is provided both on-site and off-site. There are a total of 19 existing parking stalls on the property. The adjacent Niwot United Methodist Church parking lot, by way of a written agreement with Hillside School, accommodates the excess traffic and additional parking needed for the school users. There are 81 existing parking stalls on the adjacent church property to the west. The school operates Monday through Friday during weekdays, and the church holds services typically on Sundays from 9:30-10:30 am; their times of regular operations do not overlap.

The school currently operates in two shifts, one in the morning (8 am -11 am) and one in the afternoon (12 pm - 3 pm). Up to Sixty eight students are expected to arrive and depart during the first shift, and the same number are expected to arrive and depart during the second shift. Refer to the provided Traffic Study Report in the application for further details. Traffic from parents dropping off and picking up, teachers and staff arriving and departing work, generally occurs from and to the west side of Lookout Road. There is a center turning lane in the middle of Lookout Road that accommodates traffic coming in from the west that turns in front of incoming traffic from the east to enter each of the properties. The church and the school's entry drives are approximately 276 +/- ft apart to their centerlines, and the church entry drive to the corner of Mt. Evans Place is approximately 290 +/- feet to the west.

Parents that drop off and pick up their children are requested to park in the existing stalls of the school parking lot and the existing stalls of the parking lot of the church. Forming a vehicular queue in the drive aisle for pick-up is not allowed by the school. Teachers and staff typically park on the adjacent church parking lot.

New Development Proposed Traffic Access and Parking Plan

Because the proposed new development is expected to increase the number of vehicular trips Hillside School will continue to have a written agreement with the Niwot United Methodist Church to have access to 40 stalls on their parking lot. The parking lots are proposed to be linked by means of a walkway extension from the east end of the church's walkway, that is on the north side of their parking lot, to the Hillside School parking lot. This will allow students, teachers and staff pedestrian access between the parking lots.

Hillside School plans to continue requiring the parents of enrolled children to park in the stalls of both parking lots for pick-up. Drive up pick up in the drive aisle is not going to be allowed by the school, and the design team plans to add "No Parking" striping in the drive aisles. Drive up drop-off will be allowed, as it is a quick process that does not create back-up traffic in the drive aisles. Hillside will also ask parents that are running late or behind for their scheduled children drop off or pick up to use the church parking lot so as to not generate out of sequence

caddis architecture, etc.
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congestion in the smaller parking lot at the school. Hillside School plans to divide the use of the two parking lots proportionately, for parent drop off and pick up, based on the number of parking stalls in each. Parents will be advised, based on the class their children attend, where they are to be dropped off and picked up. Students will enter and leave from different entrances and exits based on their drop off location, so that no one path of egress will be overwhelmed at any given time. Separating by class, and by staggering the entry and release from classes will insure the vehicular trips required are spread out over time and across lots, allowing for a smooth flow of vehicular traffic at the points of entry and exit of the parking lots during the active periods of drop off and pick up.

HILLSIDE SCHOOL

7415 Lookout Road
Longmont, CO 80503

Modification to Special Use, Resubmittal
12/13/2021

SHEET NO.	SHEET NAME
00 GENERAL	
A003	FLOOR AREA DIAGRAMS PHASE 1 & 2
02 CIVIL	
C1.0	CONCEPTUAL GRADING PLAN
C2.0	UTILITY CONNECTION PLAN
03 LANDSCAPE	
L1.0	OVERALL LANDSCAPE PLAN
L2.0	LANDSCAPE PLAN ENLARGEMENT
L2.1	LANDSCAPE PLAN ENLARGEMENT
04 ARCHITECTURE	
A100	EXISTING CONDITIONS SITE PLAN
A102	ARCHITECTURAL SITE PLAN PHASE 1 & 2
A104	ENLARGED SITE PLAN PHASE 2
A121	PHASE 2 - LEVEL 1
A122	PHASE 2 - LEVEL 2
A132	PHASE 1 & 2 ROOF PLAN
A203	PHASE 2 EXTERIOR ELEVATIONS
A221.2	PHASE 2 3D VIEWS

PROJECT INFORMATION

SCOPE OF WORK

14,284 +/- SF NEW BUILDING ON PROPERTY
3,970 +/- SF EXISTING BUILDING

PROPERTY INFORMATION

LOT AREA: 43,341 SF, 0.99 ACRE
SETBACKS: FRONT - 25FT
SIDE - 7FT
REAR - 15FT
HEIGHT: 30FT (35FT WITH SITE PLAN REVIEW APPROVAL)
LEGAL DESCRIPTION: E 146 FT OF W 622.25 FT OF S 300 FT OF OUTLOT A GUNBARREL ESTATES REPLAT FULLY EXEMPT PER DPT 07-01935-01
PARCEL #: 146301320001
WIND LOAD: 155 MPH (VULT)
GROUND SNOW LOAD: 40 LB/SF
FLOOD ZONE: NO
FLOODWAY: NO
SOLAR ENERGY: BUILDING MOUNTED SYSTEM ALLOWED

BUILDING INFORMATION

EXISTING GROSS FLOOR AREA: 3,970 SF
PROPOSED GROSS FLOOR AREA: 14,191 +/- SF NEW BUILDING

	PHASE 1	PHASE 2
LEVEL 1:	**6,765 SF**	**4,445 SF**
LEVEL 2:	**N/A**	**3,074 SF**
EACH PHASE TOTAL:	**6,765 SF**	**7,519 SF**
TOTAL PHASE 1 & 2:	**14,284 SF**	

PRIOR APPROVALS

SPECIAL USE REVIEW SU-03-0009 - BOCC APPROVED

BUILDING CODE & ZONING INFORMATION

CODE TYPE	APPLICABLE CODES/ STANDARDS	APPLICABLE AMENDMENTS
BUILDING	2015 INTERNATIONAL BUILDING CODE (IBC)	R2015-104, 2016-96
ACCESSIBILITY	AMERICANS WITH DISABILITIES ACT (2010 ADAAG) ICC A117.1-2009 ACCESSIBLE AND USABLE BUILDINGS AND FACILITIES	
ELECTRICAL	2017 NATIONAL ELECTRICAL CODE (NEC)	R2015-104, 2016-96
MECHANICAL	2015 INTERNATIONAL MECHANICAL CODE (IMC) 2012 FUEL GAS CODE (IFGC)	R2015-104, 2016-96
PLUMBING	2015 INTERNATIONAL PLUMBING CODE (IPC)	R2015-104, 2016-96
ENERGY CONSERVATION	2015 ENERGY CONSERVATION CODE (IECC)	R2015-104, 2016-96

ZONING INFORMATION

ZONING: SR - SUBURBAN RESIDENTIAL
LANDUSE: 4.d. EDUCATIONAL FACILITY (S)
"S": PERMITTED BY SPECIAL REVIEW - ARTICLE 3 AND ARTICLE 4-600

PROJECT CONTACTS

OWNER
Hillside Learning Center
Contact: Jill Michaud & Lindsay Eddy
7415 Lookout Road
Longmont, CO 80503
P: 303.494.1468
Jill: jill@hillsidelearning.org
Lindsay: lindsay@hillsidelearning.org

CIVIL ENGINEER
The Sanitas Group, LLC
Contact: Curtis C. Stevens
801 Main St, Ste. 225
Lousville, CO 80027
P: 720.346.1656
Curtis: cstevens@the sanitasgroup.com

STRUCTURAL ENGINEER
Glenn Frank Engineering
Contact: Jesse Sholinsky & Vignan Beesam
4735 Walnut St., Suite 250
Boulder, CO 80301
P: 303.554.9591
Jesse: jesse@gfrankeng.com
Vignan: vignan@gfrankeng.com

INTERIOR DESIGN
Shalls Design Studio
Contact: Sara Shalls & Natalie Goodman
1529 Easy Rider Lane, #101
Boulder, CO 80304
P: 303.596.5235
Sara: saras@shallsdesignstudio.com
Natalie: sdsnatalie@gmail.com

SURVEYOR
Flatirons, Inc
Contact: Sterling Bennink
3825 Iris Avenue, Suite 395
Boulder, CO 80301
P: 303.443.7001
Sterling: sterling@FlatironsInc.com

ARCHITECT
Caddis, P.C.
Project Architect: Bryan Bowen
1521 Easy Rider Lane #102
Boulder, CO 80304
P: 303.443.3629
Bryan: bryan@caddispc.com

LANDSCAPE ARCHITECT
Tope Landscape Architecture
Contact: Bill Gotthelf
1466 N. Franklin Ct.
Louisville, CO 80027
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Bill: bill@topelandscape.com

MEP ENGINEER
PCD Engineering, Inc.
Contact: Peter D'Antonio & Brian Ehle
323 3rd Avenue, Suite 100
Longmont, CO 80501
P: 303.678.1108
Peter: peter@pcdengineering.com
Brian: brian@pcdengineering.com

GEOTECHNICAL
Soilogic, Inc
Contact: Darrel DiCarlo
3522 Draft House Court
Loveland, CO 80538
P: 970.535.6144
Darrel: darrel@soilogic.com

GENERAL CONTRACTOR
Faurot Construction
Contact: Jason Goode & Joe McNeil
4824 Sterling Drive
Boulder, CO 80301
P: 303.642.7212
Jason: jgoode@faurotconstruction.com
Joe: joe@faurotconstruction.com

VICINITY MAP (NTS)

caddis
Architecture, planning, etc.

BOULDER
1521 Easy Rider Lane #102
Boulder, CO 80304
tel: 303.443.3629

hello@caddispc.com
www.caddispc.com

HILLSIDE SCHOOL

7415 Lookout Road
Longmont, CO 80503

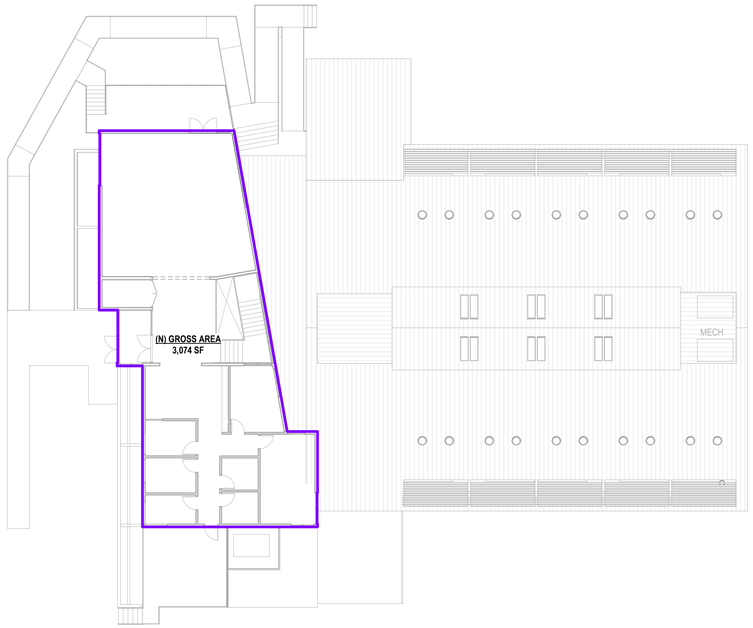
Full Size: 0" 1" 2"
Date: 12/13/2021
Project: Project #1923
Archive:
Plot Date: 12/13/2021 4:17:10 PM
Revisions:

Rev#	Date	Description

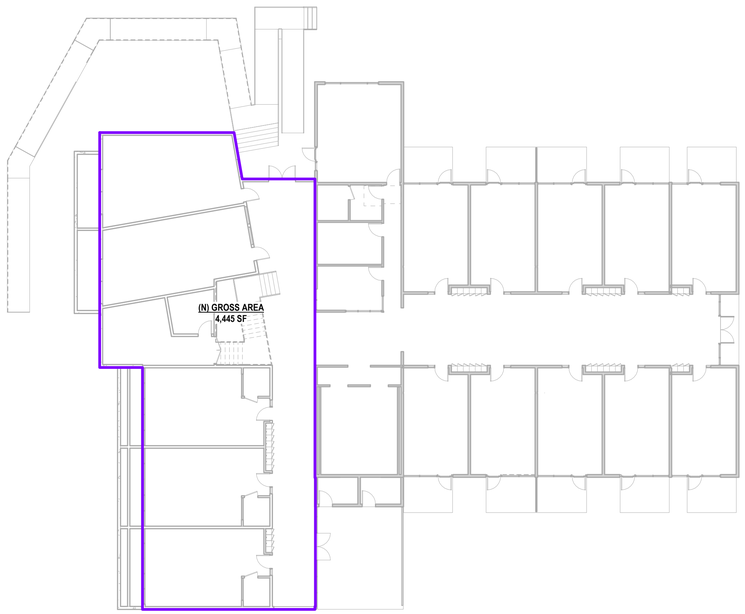
Modification to Special Use, Resubmittal

COVER SHEET

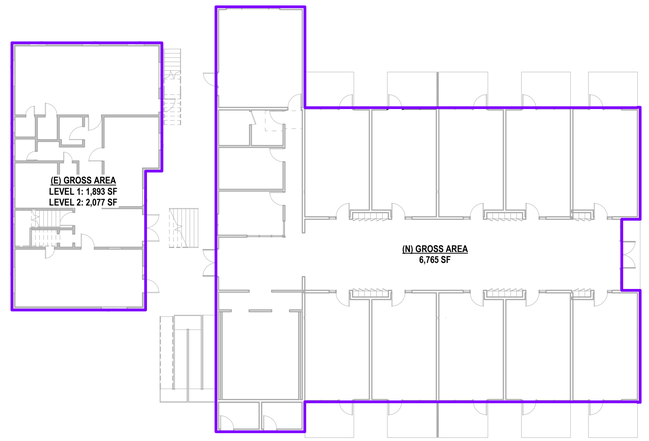
A000



3 LEVEL 2 PHASE 2 - GROSS AREA
1/16" = 1'-0"



2 LEVEL 1 PHASE 2 - GROSS AREA
1/16" = 1'-0"



1 LEVEL 1 PHASE 1 - GROSS AREA
1/16" = 1'-0"

FLOOR AREA SUMMARY:

(E) TOTAL GROSS FLOOR AREA: 3,970 SF

(N) TOTAL GROSS FLOOR AREA:

	PHASE 1	PHASE 2
LEVEL 1:	**6,765 SF**	**4,445 SF**
LEVEL 2:	**N/A**	**3,074 SF**
PHASE TOTAL:	**6,765 SF**	**7,519 SF**
TOTAL PHASE 1 & 2:	**14,284 SF**	

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Architecture, planning, etc.

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Boulder, CO 80304
tel: 303.443.3629

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www.caddispc.com

HILLSIDE SCHOOL

7415 Lookout Road
Longmont, CO 80503

Full Size: 0" 1" 2"
Date: 12/13/2021
Project: Project #1923
Archive:
Plot Date: 12/13/2021 4:17:11 PM
Revisions:

Rev#	Date	Description

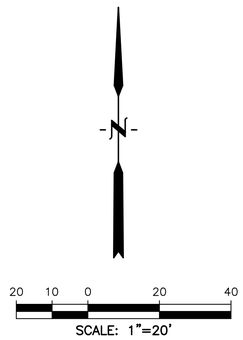
NOT FOR CONSTRUCTION

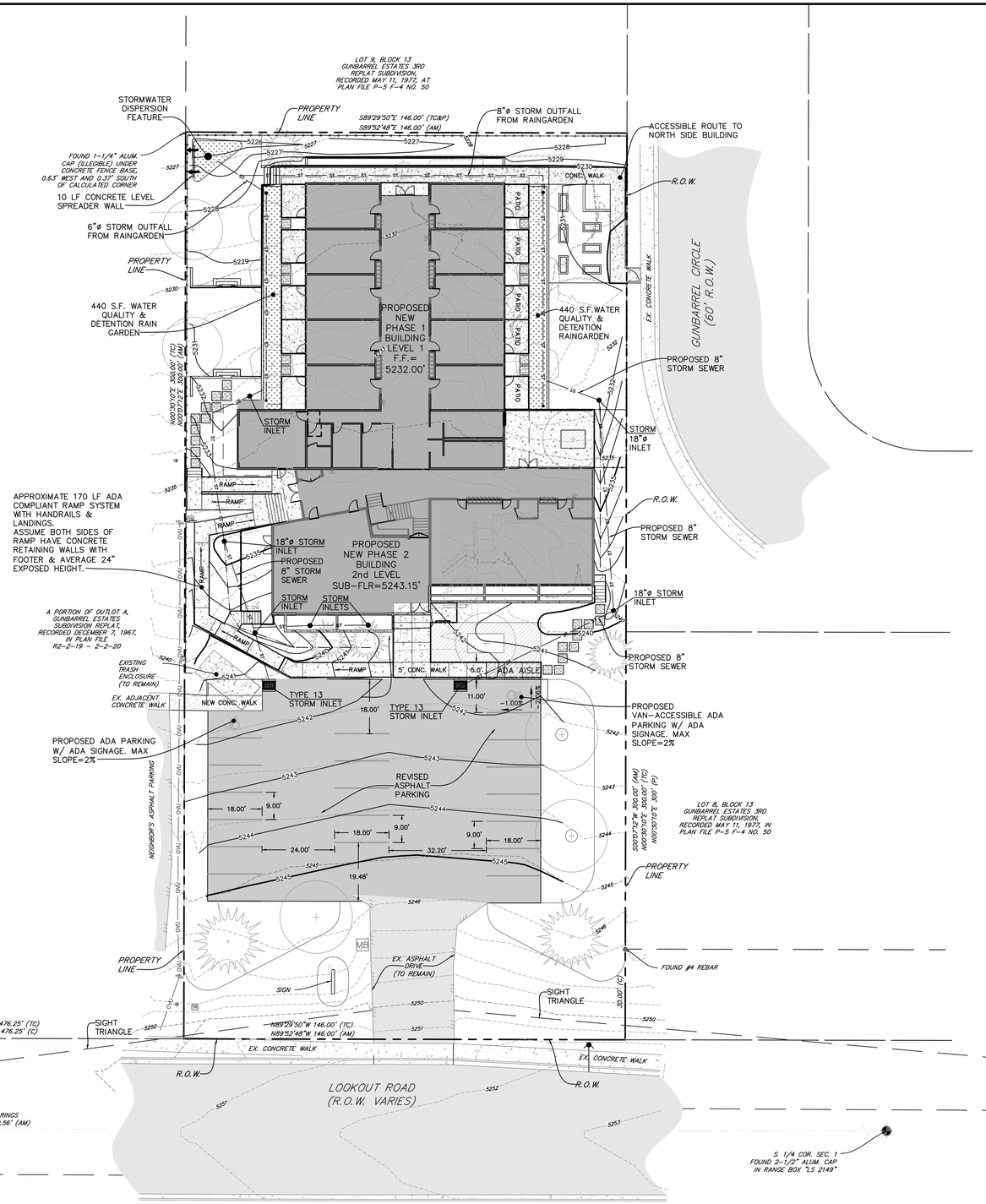
Modification to Special Use, Resubmittal

FLOOR AREA DIAGRAMS PHASE 1 & 2

A003

N





RAINGARDEN FACILITY NOTES:

FORMAL WATER QUALITY RAINGARDENS SHALL CONSIST OF 6" THICK CAST-IN-PLACE CONCRETE BARRIER WALLS W/ FOOTING ON ALL 4 SIDES.

SOIL SHALL CONSIST OF 18" OF PLANTING MEDIA OVER MIN. 6" FILTER/UNDERDRAIN LAYER.

UNDERDRAIN SHALL CONSIST OF 4" PERFORATED PIPE ALONG ENTIRE LENGTH WITH CLEANOUTS.

PIPE INLET AND ROOFDRAIN INLET LOCATIONS SHALL HAVE COBBLE EROSION CONTROL FEATURE.

SITE PHASING NOTES:

1. PRIMARY STORM DRAINS AND INLETS TO CONVEY PARKING LOT AND SITE DRAINAGE TO RAINGARDENS TO BE INSTALLED IN PHASE 1.
2. RAINGARDENS AND OUTFALL TO BE INSTALLED IN PHASE 1.
3. INITIAL PARKING LOT IMPROVEMENTS TO PROVIDE ADA PARKING AND REQUIRED PARKING SPACES TO OCCUR IN PHASE 1. NOTE: PARKING LOT TO BE RE-GRADED, NOT JUST RESURFACED.
4. PROVIDE BUDGET FOR PARKING LOT REPAIR WORK IN PHASE 2.
5. ACCESSIBLE ROUTE RAMP SYSTEM TO BUILDING 1 REQUIRED WITH PHASE 1. CONSTRUCTION PHASING AND RECONSTRUCTION/REPAIR MAY BE NECESSARY AS PART OF PHASE 2 CONSTRUCTION. RAMP SYSTEM TO INCLUDE RETAINING WALLS ALONG EACH SIDE. SEE PLAN NOTE.

PREPARED BY:
The Sanitas Group
801 MAIN STREET, SUITE 225
LOUISVILLE, CO 80027
303.481.2710
PROJECT CONTACT:
CURTIS C. STEVENS, P.E.

PREPARED FOR:
CADDIS COLLABORATIVE
1510 ZAMIA AVE, UNIT 103
BOULDER, CO 80304
CONTACT: JESUS BENDEZU
303.443.3629

SCHEMATIC DESIGN DOCUMENTS FOR:

HILLSIDE SCHOOL
7415 LOOKOUT ROAD
UNINCORPORATED BOULDER COUNTY, STATE OF COLORADO

ISSUE	DATE
SD REVIEW	11/10/2021

DESIGNED BY:	CCS
DRAWN BY:	TSG
CHECKED BY:	

DRAWING SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: NONE

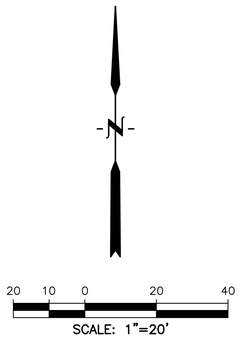
CONCEPTUAL GRADING PLAN

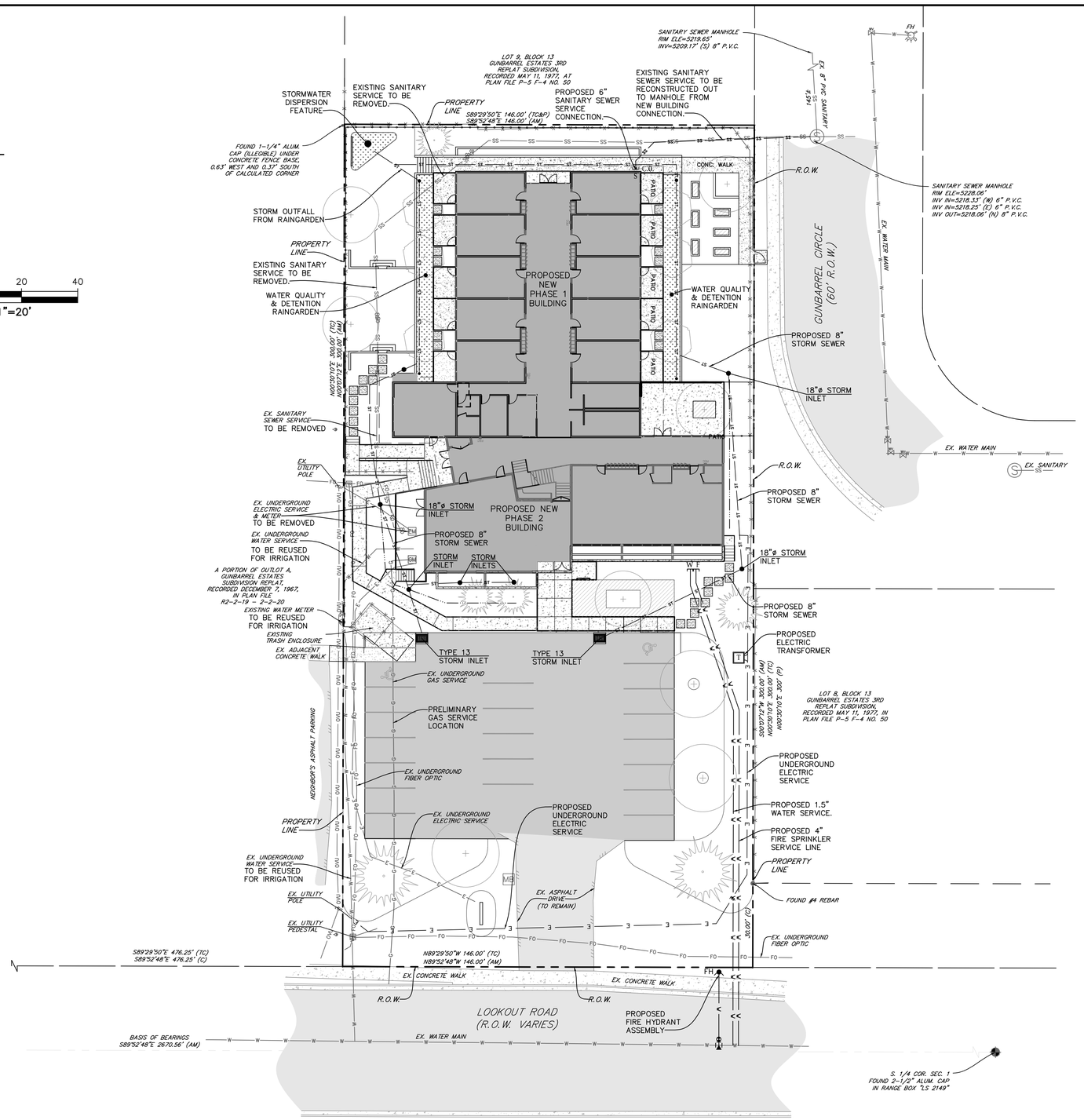
PROJECT NO. B1335

C1.0

SHEET: 1 OF 2

1335GP-SD





UTILITY PHASING NOTES:

1. EXISTING SANITARY SEWER SERVICE TO BE RECONSTRUCTED OUT TO MANHOLE IN PHASE 1.
2. EXISTING STRUCTURE SANITARY SEWER SERVICE TO BE REROUTED AND TIED INTO NEW PHASE 1 BUILDING SEWER SYSTEM AS PART OF PHASE 1.
3. EXISTING STRUCTURE WATER SERVICE TO BE TIED INTO NEW MASTER WATER SERVICE WITH PHASE 1 WORK.
4. EXISTING WATER SERVICE TO BE RE-PURPOSED AS DEDICATED IRRIGATION WATER SERVICE IN PHASE 1.

1335UP-SD

PREPARED BY:

The Sanitas Group
801 MAIN STREET, SUITE 225
LOUISVILLE, CO 80027
303.481.2710
PROJECT CONTACT:
CURTIS C. STEVENS, P.E.

PREPARED FOR:

CADDIS COLLABORATIVE
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BOULDER, CO 80304
CONTACT: JESUS BENDEZU
303.443.3629

SCHEMATIC DESIGN DOCUMENTS FOR:

HILLSIDE SCHOOL
7415 LOOKOUT ROAD
UNINCORPORATED BOULDER COUNTY, STATE OF COLORADO

ISSUE	DATE
SD REVIEW	11/10/2021

DESIGNED BY:	CCS
DRAWN BY:	TSG
CHECKED BY:	

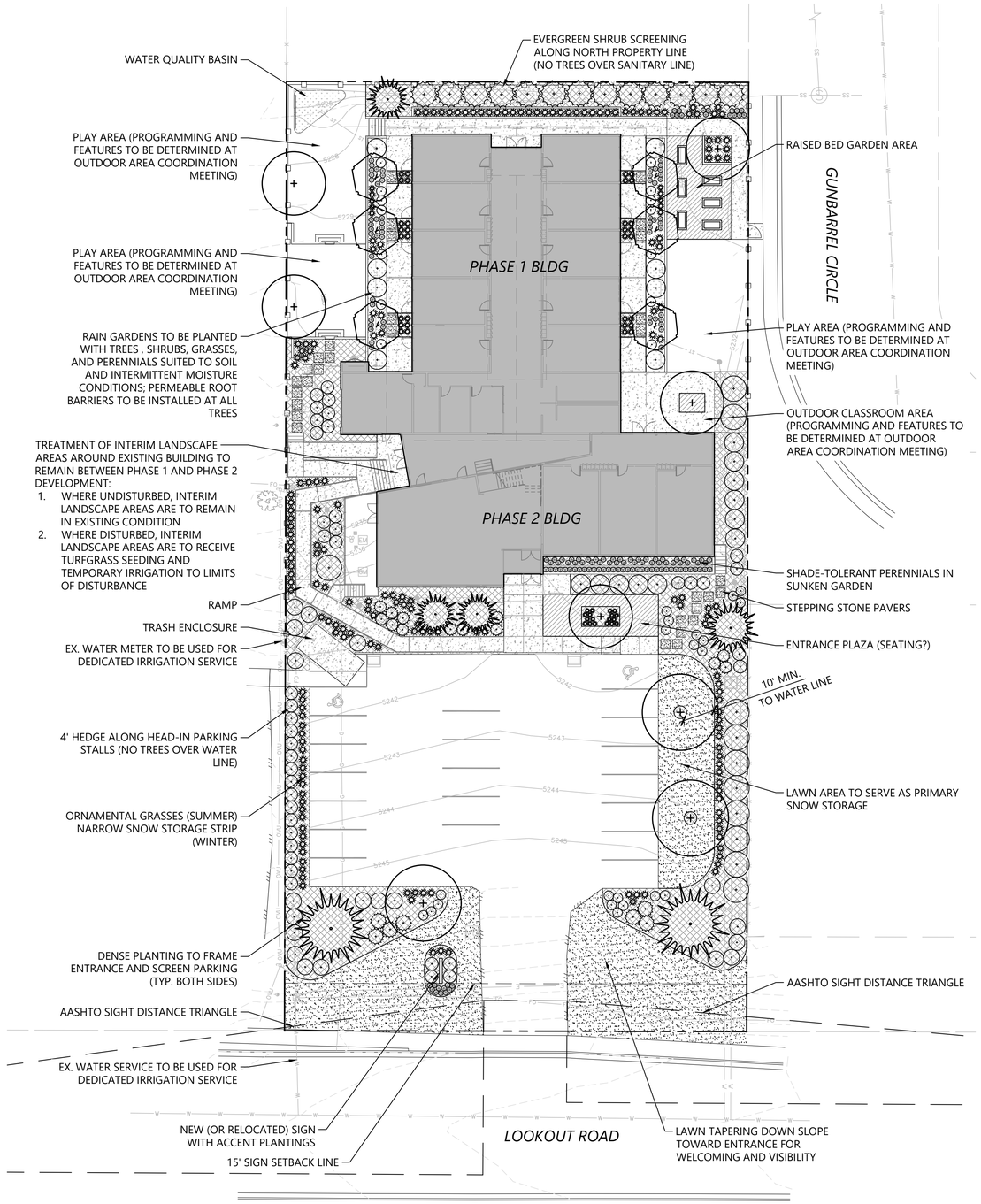
DRAWING SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: NONE

UTILITY CONNECTION PLAN

PROJECT NO. B1335

C2.0

SHEET: 2 OF 2



LEGEND

- SOD
- MULCH
- STABILIZED CRUSHER FINES
- CONCRETE (RE: CIVIL)
- WATER QUALITY FEATURE (RE: CIVIL)
- DECIDUOUS SHADE TREE
- DECIDUOUS ORNAMENTAL TREE
- EVERGREEN TREE
- DECIDUOUS SHRUB
- EVERGREEN SHRUB
- ORNAMENTAL GRASS
- PERENNIAL
- CONCRETE STEPPING STONE PAVER

1 OVERALL LANDSCAPE PLAN

Scale: 1" = 20'

Know what's **below.** **Call** before you dig.

tope landscape architecture
1466 N. FRANKLIN CT.
LOUISVILLE, CO 80027
(3 0 3) 5 0 0 - 1 0 5 8
bill@topelandscape.com

Hillside School

7415 Lookout Road | Longmont, CO 80503

SEAL

NOT FOR CONSTRUCTION

REVISIONS

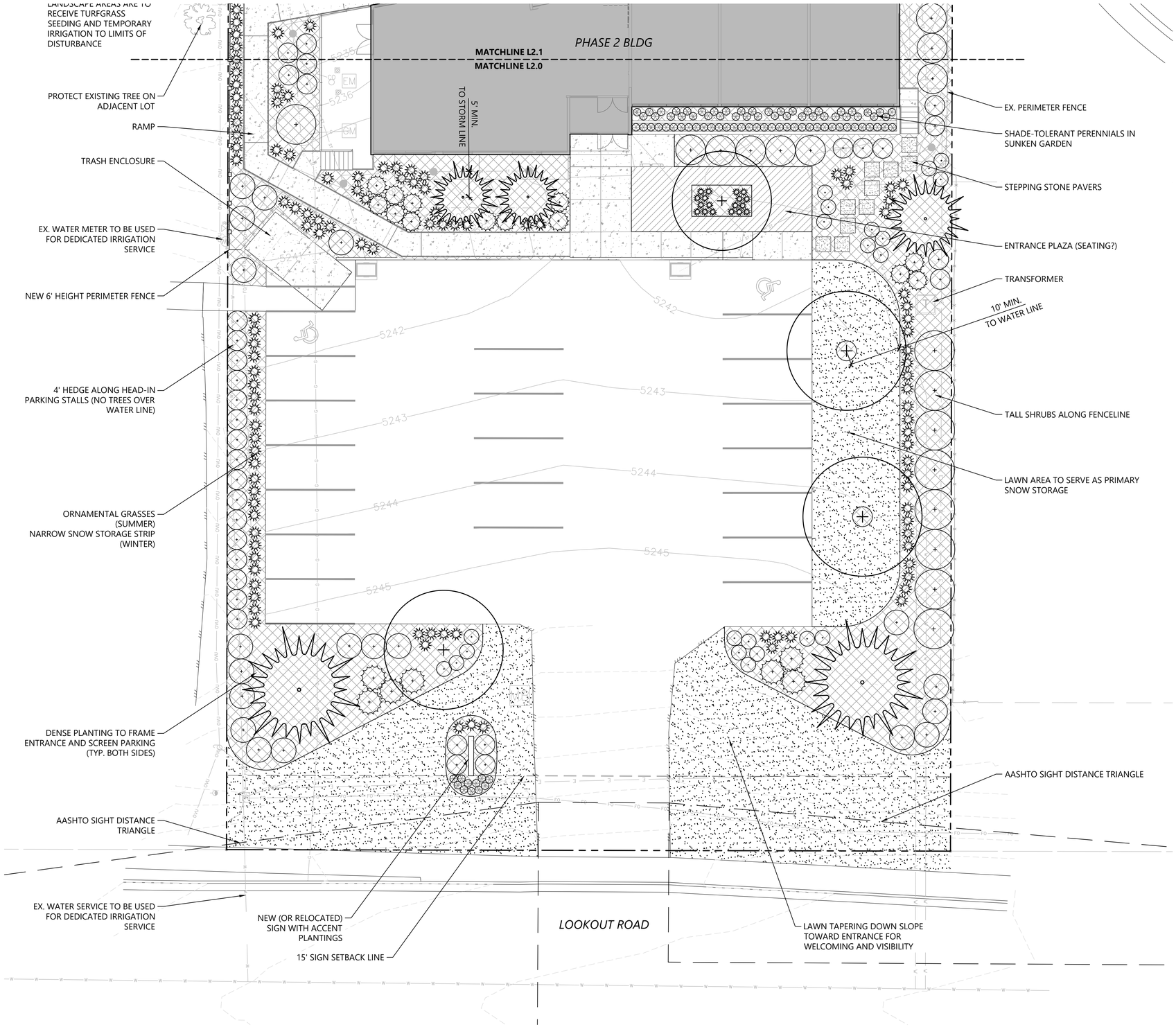
NO.	DATE	DESCRIPTION

ISSUED FOR: 100% SCHEMATIC DESIGN

ISSUE DATE: 11/10/2021

SHEET TITLE: OVERALL LANDSCAPE PLAN

SHEET NUMBER: L1.0



LEGEND

- SOD
- MULCH
- STABILIZED CRUSHER FINES
- CONCRETE (RE: CIVIL)
- WATER QUALITY FEATURE (RE: CIVIL)
- DECIDUOUS SHADE TREE
- DECIDUOUS ORNAMENTAL TREE
- EVERGREEN TREE
- DECIDUOUS SHRUB
- EVERGREEN SHRUB
- ORNAMENTAL GRASS
- PERENNIAL
- CONCRETE STEPPING STONE PAVER

1 LANDSCAPE PLAN ENLARGEMENT - SOUTH

Scale: 1" = 10'

NORTH 0 10' 20'

Know what's **below.** **Call** before you dig.

tope landscape architecture
1466 N. FRANKLIN CT.
LOUISVILLE, CO 80027
(3 0 3) 5 0 0 - 1 0 5 8
bill@topelandscape.com

Hillside School

7415 Lookout Road | Longmont, CO 80503

SEAL

NOT FOR CONSTRUCTION

REVISIONS

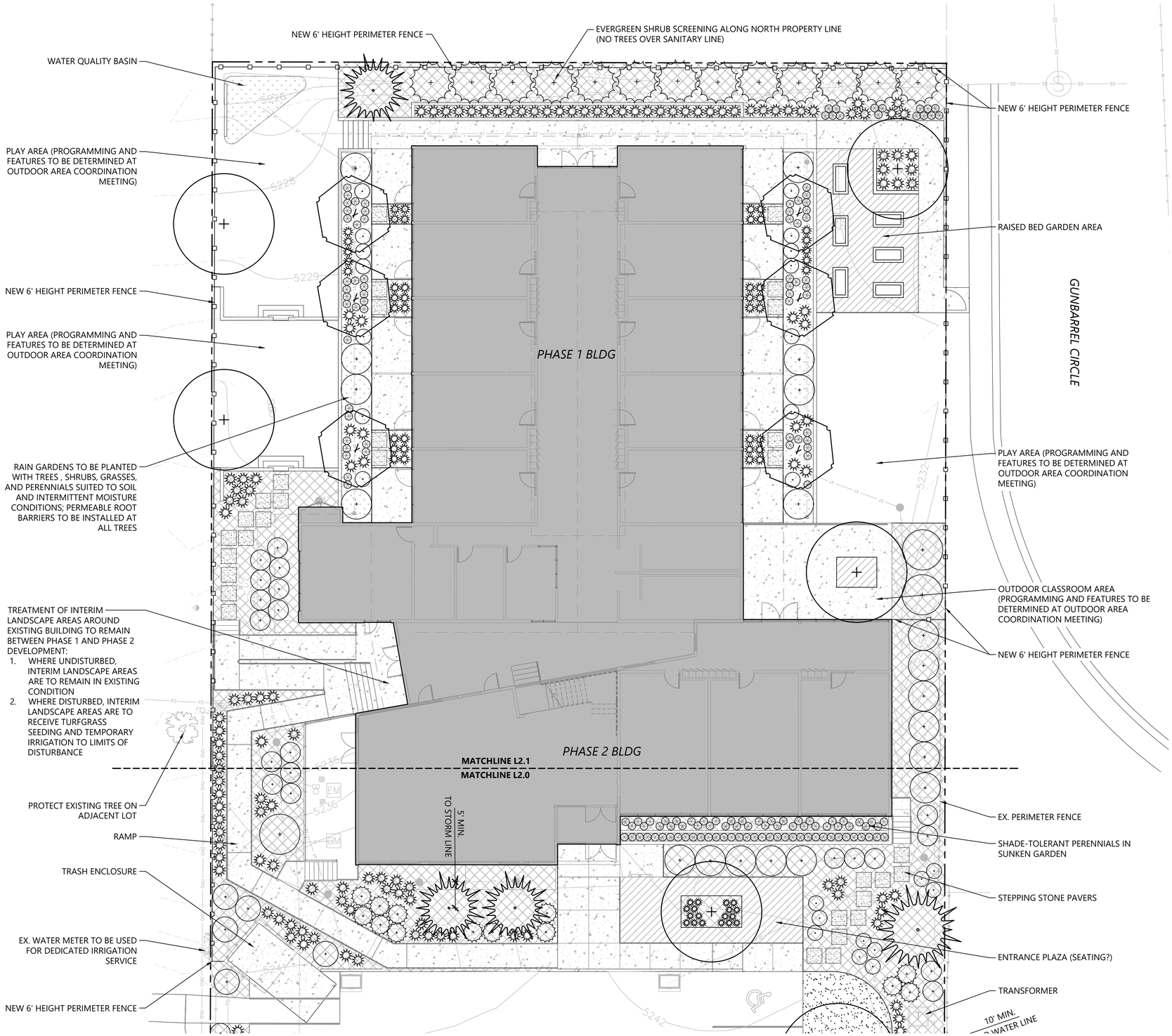
NO.	DATE	DESCRIPTION

ISSUED FOR: 100% SCHEMATIC DESIGN

ISSUE DATE: 11/10/2021

SHEET TITLE: LANDSCAPE PLAN ENLARGEMENT

SHEET NUMBER: L2.0



LEGEND

- SOD
- MULCH
- STABILIZED CRUSHER FINES
- CONCRETE (RE: CIVIL)
- WATER QUALITY FEATURE (RE: CIVIL)
- DECIDUOUS SHADE TREE
- DECIDUOUS ORNAMENTAL TREE
- EVERGREEN TREE
- DECIDUOUS SHRUB
- EVERGREEN SHRUB
- ORNAMENTAL GRASS
- PERENNIAL
- CONCRETE STEPPING STONE PAVER

1 LANDSCAPE PLAN ENLARGEMENT - NORTH

Scale: 1" = 10'

NORTH 0 10' 20'

Know what's **below.** **Call** before you dig.

tope landscape architecture
1466 N. FRANKLIN CT.
LOUISVILLE, CO 80027
(3 0 3) 5 0 0 - 1 0 5 8
bill@topelandscape.com

Hillside School
7415 Lookout Road | Longmont, CO 80503

SEAL

NOT FOR CONSTRUCTION

REVISIONS

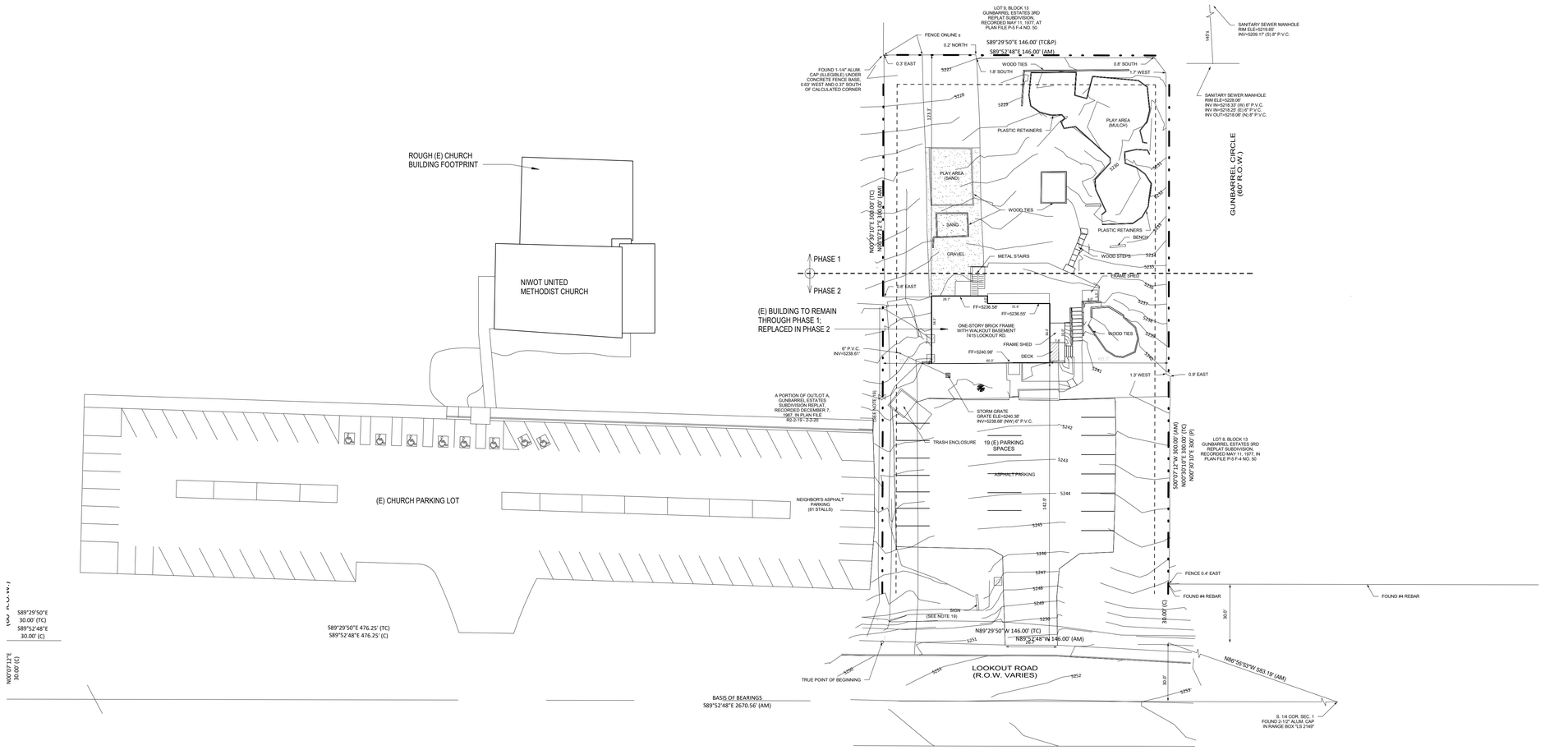
NO.	DATE	DESCRIPTION

ISSUED FOR
100% SCHEMATIC DESIGN

ISSUE DATE
11/10/2021

SHEET TITLE
LANDSCAPE PLAN ENLARGEMENT

SHEET NUMBER
L2.1



(PER SURVEY 2019 BY FLATIRONS, INC.)

1 EXISTING SITE PLAN
1" = 30'-0"

caddis
Architecture, planning, etc.

BOULDER
1521 Easy Rider Lane #102
Boulder, CO 80304
tel: 303.443.3629

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www.caddispc.com

HILLSIDE SCHOOL

7415 Lookout Road
Longmont, CO 80503

Full Size: 0" 1" 2"
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Plot Date: 12/13/2021 4:17:11 PM
Revisions:

Rev#	Date	Description

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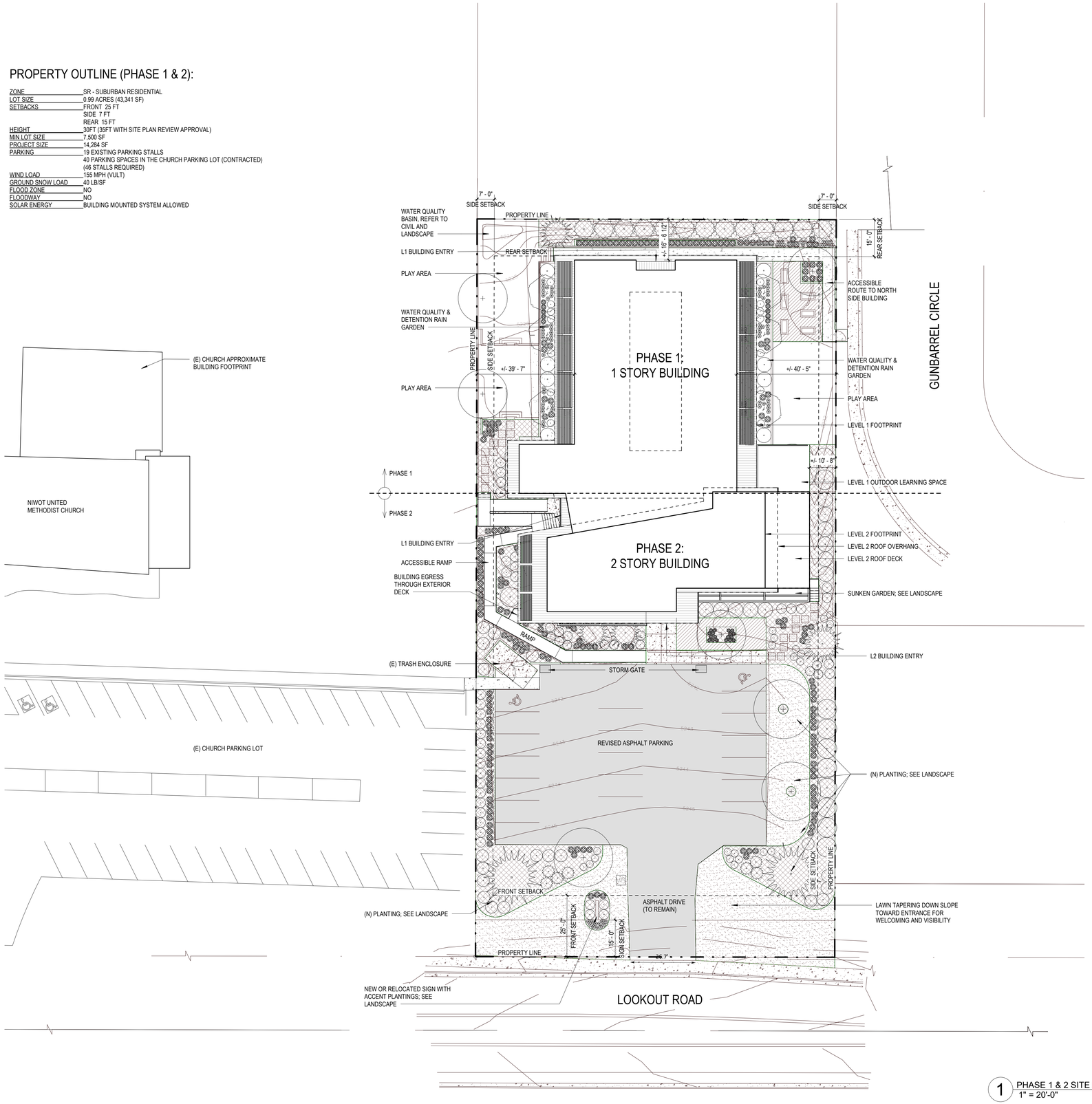
EXISTING CONDITIONS SITE PLAN

A100

PROPERTY OUTLINE (PHASE 1 & 2):

ZONE	SR - SUBURBAN RESIDENTIAL
LOT SIZE	0.99 ACRES (43,341 SF)
SETBACKS	FRONT 25 FT
	SIDE 7 FT
	REAR 15 FT
HEIGHT	30FT (35FT WITH SITE PLAN REVIEW APPROVAL)
MIN LOT SIZE	7,500 SF
PROJECT SIZE	14,284 SF
PARKING	19 EXISTING PARKING STALLS
	40 PARKING SPACES IN THE CHURCH PARKING LOT (CONTRACTED)
	(46 STALLS REQUIRED)
WIND LOAD	155 MPH (VULT)
GROUND SNOW LOAD	40 LB/SF
FLOOD ZONE	NO
FLOODWAY	NO
SOLAR ENERGY	BUILDING MOUNTED SYSTEM ALLOWED



1 PHASE 1 & 2 SITE PLAN
1" = 20'-0"

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Rev#	Date	Description

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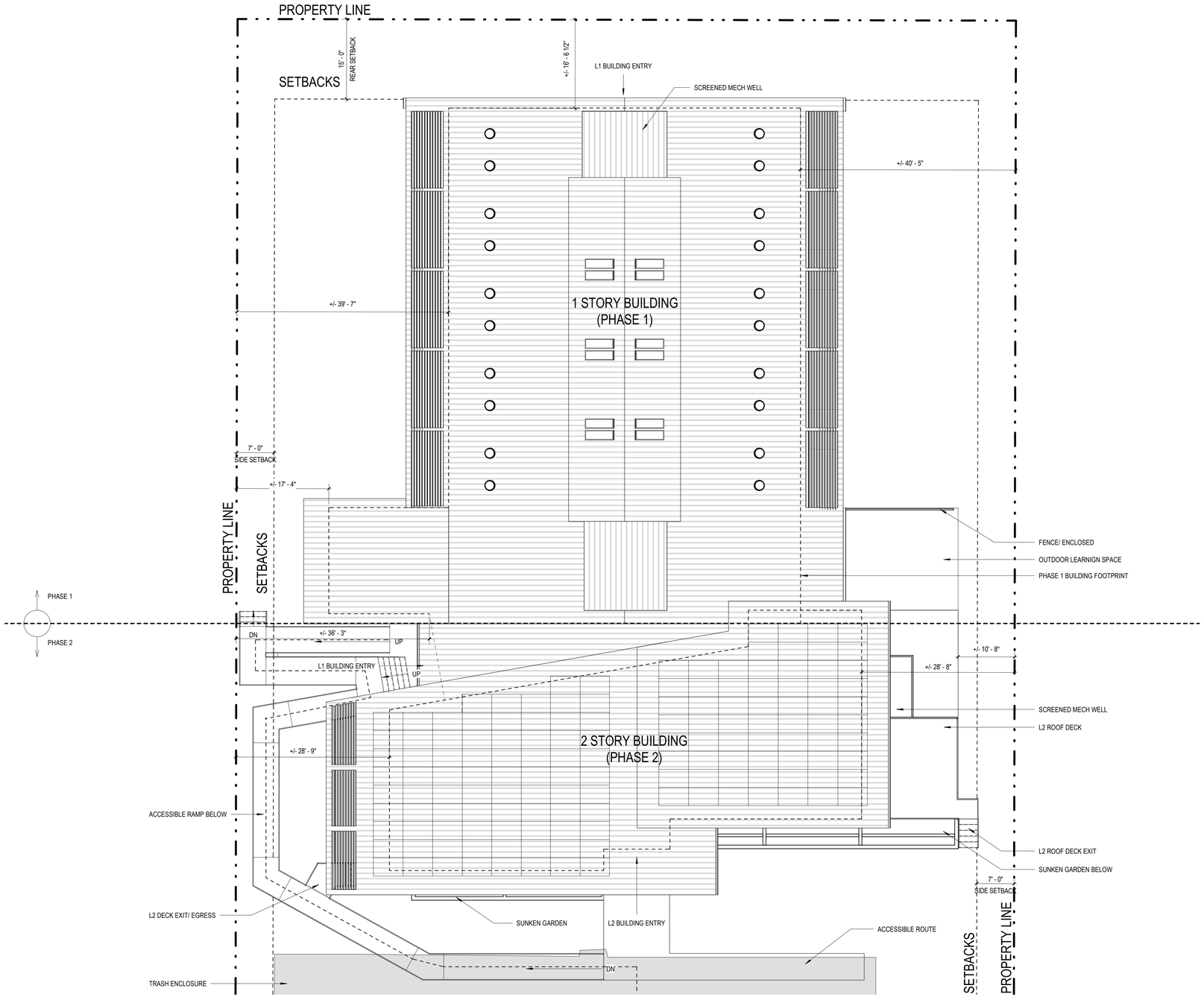
ARCHITECTURAL SITE PLAN
PHASE 1 & 2

A102



1 SITE PLAN_PHASE 2 BUILDINGS
1" = 10'-0"

NORTH

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ENLARGED SITE PLAN PHASE 2

A104

GROSS AREA: PHASE 1 6,765 SF +/-
PHASE 2 4,445 SF +/-
TOTAL LEVEL 1 GROSS: 11,210 SF +/-
(SPACE NET AREA AS LABELED)

1 LEVEL 1
1/8" = 1'-0"

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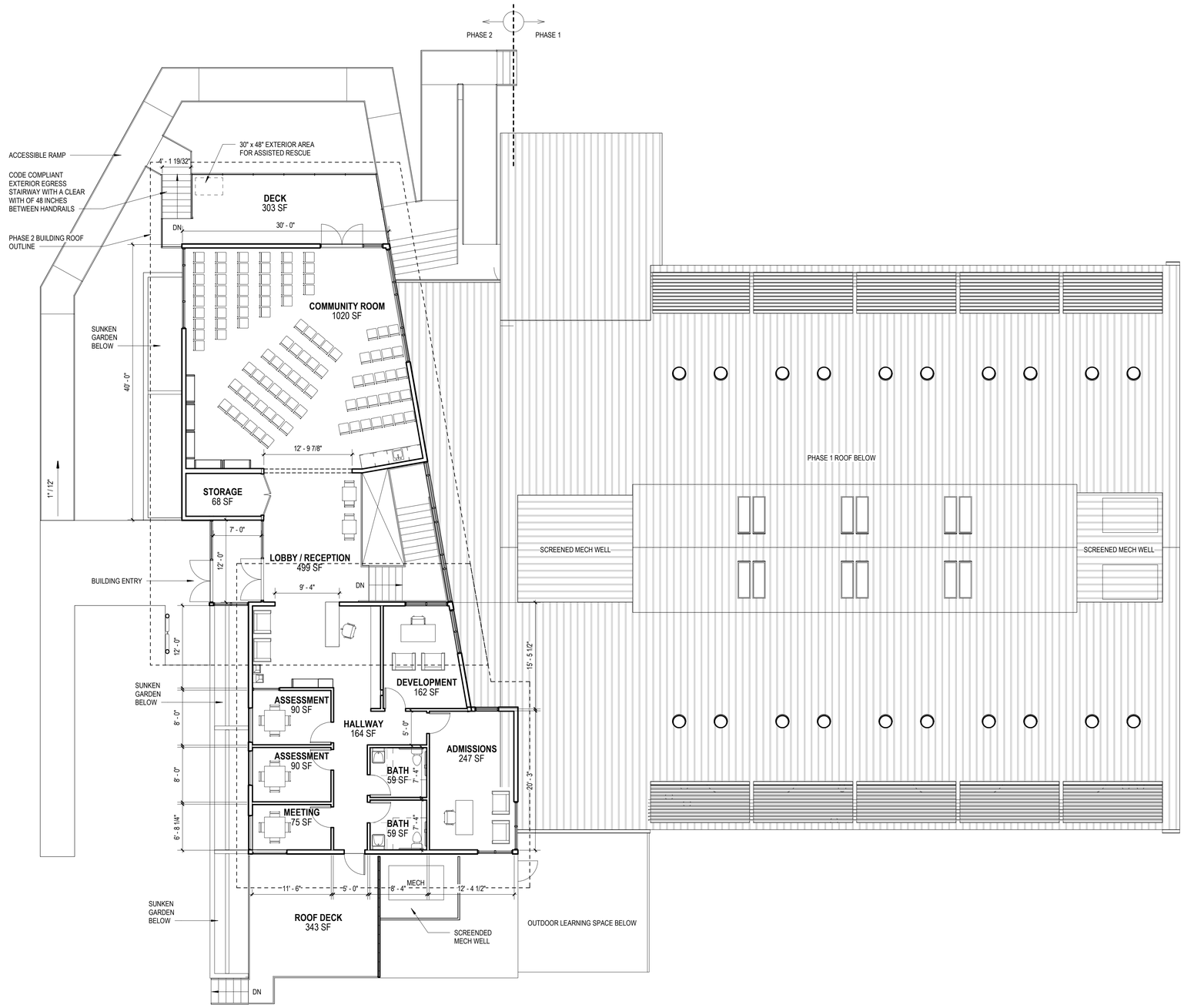
PHASE 2 - LEVEL 1

A121



GROSS AREA LEVEL 2: 3,074 SF +/-
(ROOM NET AREA AS LABELED)

1 LEVEL 2
1/8" = 1'-0"

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HILLSIDE SCHOOL

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Revisions:

Rev#	Date	Description

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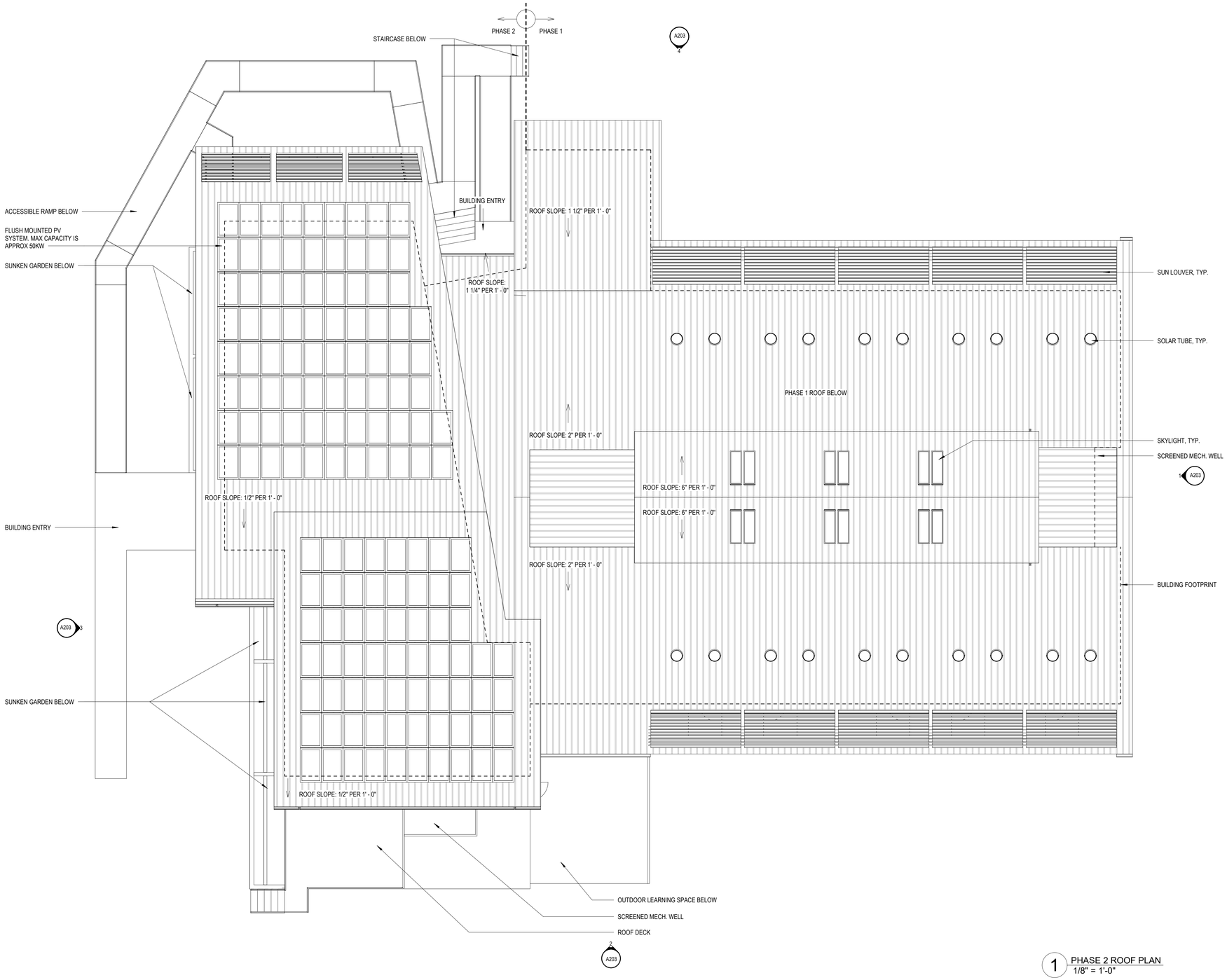
PHASE 2 - LEVEL 2

A122



1 PHASE 2 ROOF PLAN
1/8" = 1'-0"

N

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HILLSIDE SCHOOL

7415 Lookout Road
Longmont, CO 80503

Full Size: 0" 1" 2"

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Archive:

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Revisions:

Rev#	Date	Description

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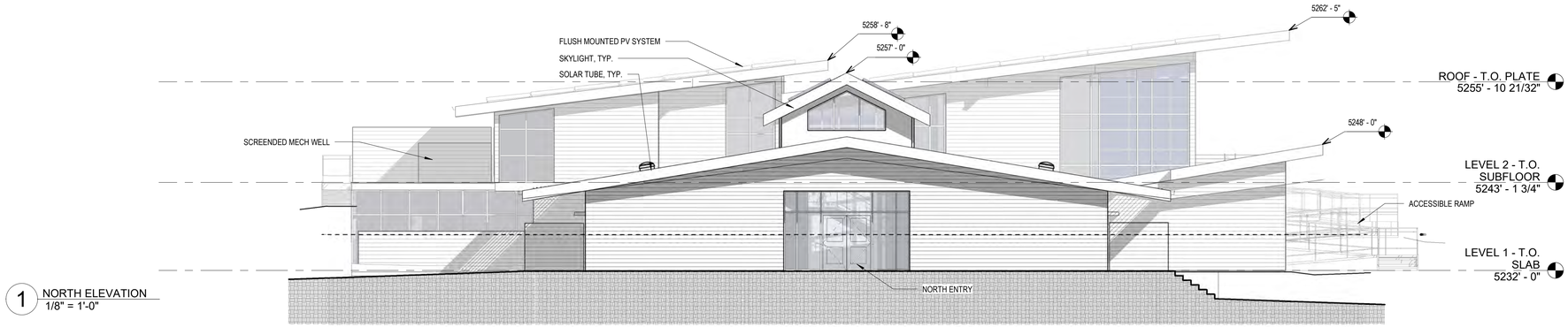
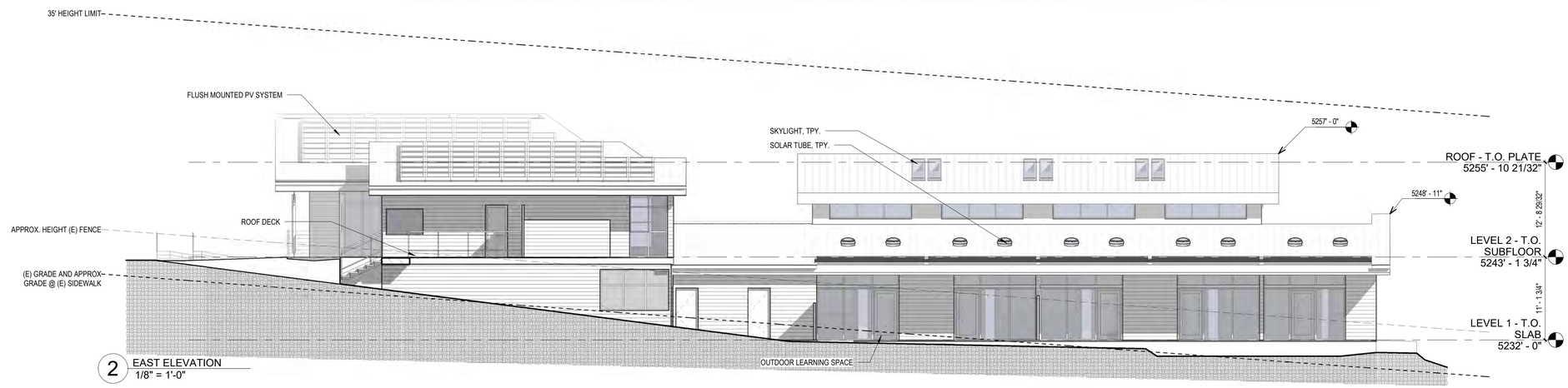
PHASE 1 & 2 ROOF PLAN

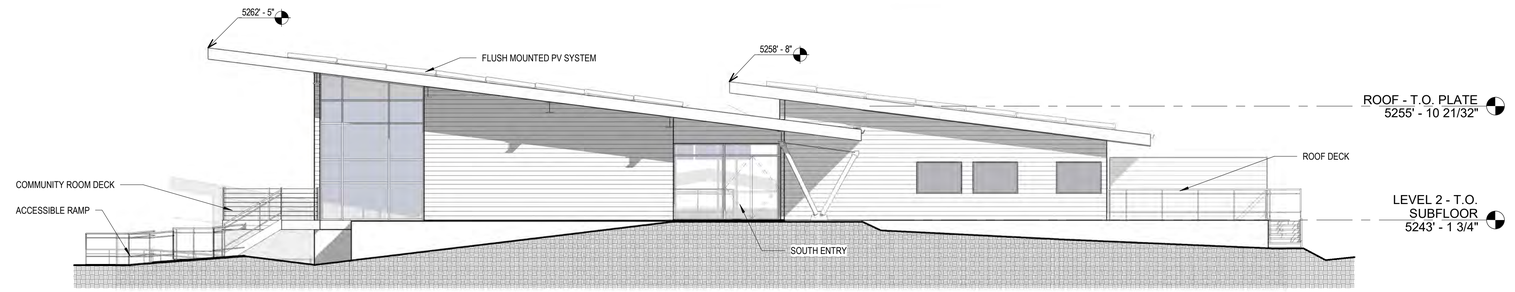
A132



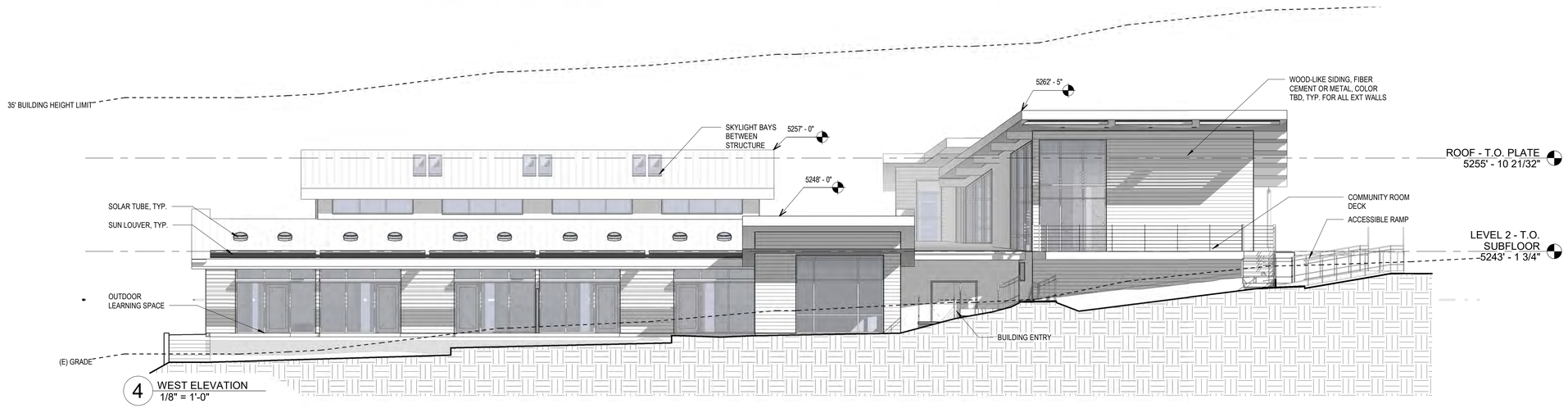
1 NORTH ELEVATION
1/8" = 1'-0"



2 EAST ELEVATION
1/8" = 1'-0"



3 SOUTH ELEVATION
1/8" = 1'-0"



4 WEST ELEVATION
1/8" = 1'-0"

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Plot Date: 12/13/2021 4:17:47 PM
Revisions:

Rev#	Date	Description

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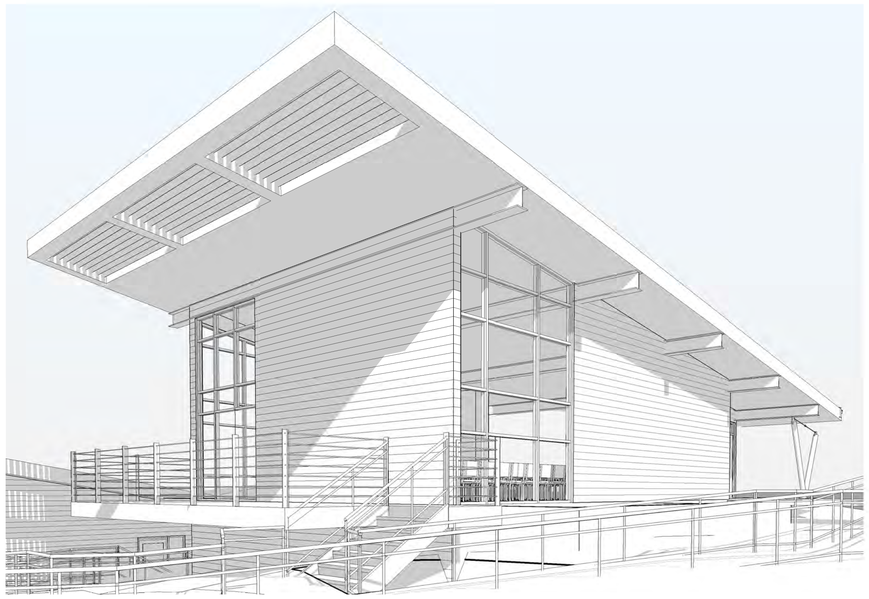
PHASE 2 EXTERIOR ELEVATIONS

A203

4 3D VIEW, PRIMARY ENTRY FROM SOUTHEAST CORNER

3 3D VIEW, SOUTH-SOUTHEAST FROM NORTHEAST CORNER



2 3D VIEW, EXTERIOR OF COMMUNITY ROOM FROM SOUTHWEST

1 3D VIEW, SOUTHEAST FROM NORTHWEST CORNER

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Modification to Special Use, Resubmittal

PHASE 2 3D VIEWS

A221.2

Civil Engineering Solutions

PRELIMINARY DRAINAGE REPORT

For

HILLSIDE SCHOOL

7415 Lookout Road
Longmont, Colorado

September 2020

Prepared For:
Caddis Collaborative
1510 Zamia Ave #103
Boulder, CO 80304

Contact: Jesus Bendezu

Prepared By:

The Sanitas Group, LLC
801 Main Street, Suite 225
Louisville, CO 80027

Contact: Curtis C. Stevens, P.E., CFM
Mark L. Murphy, P.E., CFM

Civil Engineering Solutions

PRELIMINARY DRAINAGE REPORT

For

HILLSIDE SCHOOL

7415 Lookout Road
Longmont, Colorado

TABLE OF CONTENTS

TECHNICAL APPENDICES

EXHIBIT PLANS

I hereby certify that this plan and report for the preliminary drainage design of Hillside School was prepared by me, or under my direct supervision, in accordance with the provisions of the Boulder County Storm Drainage Criteria Manual.

For and On Behalf Of:
The Sanitas Group, LLC

_____

Registered Professional Engineer

State of Colorado No. 40337

1.0 INTRODUCTION

This **Preliminary Drainage Report** [Report] is prepared on behalf of Caddis Collaborative for the proposed **Hillside School** redevelopment project. The purpose of this report is to address the Boulder County [County] requirements for a "Preliminary Drainage Report and Plan" as outlined in Section 200 "Submittals", "*Storm Drainage Criteria Manual*" [1]. This Report documents the existing drainage conditions present at the site and provides an analysis of the drainage conditions and water quality measures proposed for the **Hillside School** redevelopment project.

2.0 EXISTING SITE CONDITIONS

The proposed project site is located at 7415 Lookout Road and is in the Southwest quarter of Section 1, Township 1 North, Range 70 West of the 6th P.M., County of Boulder, State of Colorado.

The 43,800-sf (1.006 acre) property is located within Outlot A, Replat of a portion of Gunbarrel Estates Subdivision and measures 300-ft by 146-ft.

The property is located on the north side of Lookout Road with a single access drive off of Lookout Road. Single-family residential properties are located to the north and east of the site. Gunbarrel Circle is adjacent to the northeast portion of the site. The Niwot United Methodist Church property is west of the site.

As shown on the "*Existing Conditions Drainage Plan"* included in the back pocket of this report, the existing site is currently developed with a two-story school building and associated asphalt drive and parking lot, concrete sidewalks, concrete trash enclosure and landscaping. There is an existing concrete sidewalk on the north side of Lookout Road. Existing vegetation consists of grasses and trees.

The project site is within the Dry Creek drainage basin. Dry Creek is located approximately 3,300-ft northwest of the site. The grades in the existing asphalt drive and parking lot average 12% and 6%, respectively, draining to the north. The area north of the existing building generally slopes to the northwest at grades ranging from 6% to 20%. Two grated inlets are located on the south side of the building. The east grated inlet collects both surface runoff and roof drainage via a 6" PVC pipe. The

inlets drain to the northwest out of the west grated inlet, daylighting on the west side of the existing building.

USDA Natural Resources Conservation Service classified the soils on the property as Heldt clay (HeC) soils, having a Group C hydrologic soil [2]. Soilogic prepared a geotechnical subsurface exploration report for the property in May 2020 [6]. Three soil borings were taken in the area of the proposed building, to depths between approximately 15 and 40 feet below ground surface. The following excerpts from the Soilogic report describes the subsurface soils and groundwater conditions observed by Soilogic:

> "In general, the subsurface materials encountered in the completed site borings consisted of a thin mantle of vegetation and topsoil overlying brown/olive/rust lean clay with varying amounts of sand. The lean clay varied from stiff to hard in terms of consistency, exhibited low to very high swell potential at current moisture and density conditions and extended to the bottom of each boring at depths ranging from about 15 to 40 feet below ground surface."
>
> "Groundwater was not encountered in the completed site borings to the depths explored when checked immediately after the completion of drilling. When checked three to five (3-5) days after drilling, all borings were observed to be dry to the approximate depths explored at that time."

As delineated on FEMA Flood Insurance Rate Map 08013CO410J, effective date 18 December 2012 [3], the project site is not impacted by a regulatory 100-year or 500-year floodplain. The site is located within FEMA Flood Zone X (area of minimal flood hazard).

3.0 PROPOSED DEVELOPEMENT

The proposed redevelopment of the **Hillside School** site will include the construction of a two-story building on the east side of the site. The existing building will be renovated with the footprint remaining the same as existing. The existing asphalt parking lot will be resurfaced. New concrete sidewalks will be constructed including a connection to the existing sidewalk on the adjacent property west of the site.

The proposed development layout and grading is shown on the "*Proposed Conditions Drainage Plan*" included in the back pocket of this report.

4.0 DESIGN CRITERIA

This Report was prepared using the criteria outlined in the Boulder County "*Storm Drainage Criteria Manual*", [Criteria] [1], the Mile High Flood District [MHFD] "*Urban Storm Drainage Criteria Manual, Volumes 1 and 2"* [4], and the Mile High Flood District "*Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices*" [5].

5.0 HYDROLOGY

The rational method was used to calculate runoff rates for the 2-year, 5-year, 10-year and 100-year storm events. The 5-year and 100-year events are presented as the minor and major design storms, respectively. Per Section 501 of the Criteria, NOAA Atlas 2 point rainfall values shall be used as long as the UDFCD (now known as the MHFD) continues to prefer Atlas 2 to Atlas 14. In 2016 MHFD adopted the new Atlas 14 values, therefore, NOAA Atlas 14 point rainfall values were used in this drainage report.

No known Master Drainage Plans have been prepared for the project site per discussions with Boulder County staff.

Existing Conditions

The existing drainage basins are delineated on the "*Existing Conditions Drainage Plan*" provided in the back pocket of this report. Drainage basin delineation, storm flow directions and off-site drainage conditions were determined visually during a site visit in July 2020. The site does not appear to receive any offsite drainage. The existing drive ramp to the site contains offsite flows in Lookout Road.

The existing site has been delineated into three drainage basins labeled Basin Ax, B1x and B2x where the "x" denotes existing conditions.

Basin Ax

Drainage Basin Ax is 0.82 acres consisting of the asphalt drive and parking lot, the existing building, concrete sidewalks, concrete trash enclosure and landscape areas. Runoff from Basin Ax drains northwesterly onto the adjacent property to the west of the subject property, designated Design Point (DP) 1. The existing building has a peaked roof sloping north/south. Two downspouts are

located on each side of the building. The easterly downspout on the south side of the building is piped to the grated inlet in front of the main entrance. The remaining three downspouts discharge at the surface. The grated inlets discharge at the west side of the building, where runoff flows northwest onto the adjacent property.

Basin B1x

Drainage Basin B1x is 0.18 acres consisting of the eastern portion of the asphalt parking lot and landscape areas. Runoff from Basin B1x drains northeasterly into the Gunbarrel Circle right-of-way, designated DP 2.

Basin B2x

Drainage Basin B2x is 0.01 acres of landscape area in the northeast corner of the site. Runoff from Basin B2x drains northeasterly into Gunbarrel Circle.

Existing conditions storm water runoff is presented in Table 5.4. Basin description, imperviousness, weighted runoff coefficients, time of concentration and runoff values are provided for the existing drainage basin on a worksheet labeled "*Rational Method Calculations*" provided in Appendix B. For ease of reference, the existing conditions storm water flows are presented on the *"Existing Conditions Drainage Plan*" provided in the back pocket of this report.

Table 5.4: Storm Runoff by Basin – Existing Conditions

Basin I.D.	Design Point	5-year Minor Design Storm Runoff [cfs]	100-year Major Design Storm Runoff [cfs]
Ax	1	0.82	3.83
B1x		0.16	0.82
B2x		0.00	0.06
	2	0.16	0.88

Proposed Conditions

The proposed on-site drainage basins are delineated on the "*Proposed Conditions Drainage Plan*" provided in the back pocket of this report.

With the development proposal, the site is divided into three drainage basins, labeled Basins A1, A2 and B1. Two additional sub-basins, labeled Sub-basins A1a and A1b, were delineated for storm sewer hydraulic calculations.

Basin A1

Drainage Basin A1 is 0.55 acres and consists of the proposed building, most of the existing building, the asphalt drive and parking lot, concrete sidewalks and landscape areas including the proposed rain garden. Runoff from Basin A1 will be directed to a proposed rain garden located on the west side of the proposed building that will provide water quality and stormwater detention for Basin A1. Proposed storm sewer will be constructed to collect runoff along the south sides of the existing and proposed buildings and convey the runoff to the rain garden. Stormwater detention and permanent water quality treatment are discussed in Sections 7.0 and 8.0, respectively. The discharge from the rain garden will drain to the adjacent property to the west (DP 1).

Basin A2

Drainage Basin A2 is 0.30 acres consisting of a portion of the existing building, concrete sidewalk, concrete trash enclosure and landscape areas. Runoff from Basin A2, including roof drainage, will follow historic drainage patterns and flow northwesterly across the landscape area in the northwest portion of the site, onto the adjacent property to the west of the site (DP 1).

Basin B1

Drainage Basin B1 is 0.16 acres consisting of the covered patios/decks on the east side of the proposed building, concrete sidewalk and landscape area. Runoff from Basin B1 will drain to Gunbarrel Circle (DP 2).

Proposed conditions storm water runoff for each basin is presented in Table 5.5. Basin description, imperviousness, weighted runoff coefficients, time of concentration and runoff values are provided for the proposed drainage basin on a worksheet labeled "*Rational Method Calculations*" provided in Appendix B. For ease of reference, the proposed conditions storm water flows are presented on the *"Proposed Conditions Drainage Plan*" provided in the back pocket of this report. A comparison of Existing and Proposed Conditions runoff rates for the two primary design points and overall site is presented in Table 5.6.

Table 5.5: Storm Runoff by Basin – Proposed Conditions

Basin I.D.	Design Point	5-year Minor Design Storm Runoff [cfs]	100-year Major Design Storm Runoff [cfs]
A1		1.38	4.15
A2		0.13	1.16
	1	0.35	2.86
B1	2	0.08	0.65

Table 5.6: Storm Runoff Comparison

Design Point	5-year Minor Design Storm Runoff [cfs]		Δ [cfs]	100-year Major Design Storm Runoff [cfs]		Δ [cfs]
	Existing Conditions	Proposed Conditions		Existing Conditions	Proposed Conditions	
1	0.82	0.35	-0.47	3.83	2.86	-0.97
2	0.16	0.08	-0.08	0.88	0.65	-0.23
Overall Site	0.98	0.43	-0.55	4.71	3.51	-1.20

The proposed redevelopment project will result in decreases in runoff rates compared to existing conditions due to the proposed rain garden and controlled release rates through the outlet structure.

6.0 HYDRAULICS

The proposed storm sewer is sized to convey the major storm runoff to the rain garden. Hydraulic calculations are provided in Appendix C.

7.0 STORM WATER DETENTION

At the direction of County staff, stormwater detention is required on the site to limit proposed conditions runoff rates to the existing conditions runoff rates. Detaining to pre-development conditions is not required for the project. Stormwater detention will be provided to control runoff rates from Basin A1 so that when combined with the free release from Basins A2 and B1, runoff at the two primary design points and total site runoff will be at or below existing runoff rates. A rain garden will be utilized to provide both water quality treatment and stormwater detention for Basin

A1. A 6-inch PVC outlet pipe will convey the discharge from the rain garden outlet structure to a level spreader flow dispersion feature to be located in the northwest portion of the site where the runoff will sheet flow to the adjacent property at DP 1. MHFD-Detention_v4.03 was used to size the rain garden and outlet structure. The peak outflow rates from the MHFD-Detention_v4.03 spreadsheet were added to the peak runoff rates of Basin A2 to calculate the runoff rates at DP 1. The peak runoff rates at the two primary design points and overall site are provided in Table 5.6.

8.0 STORMWATER QUALITY AND EROSION CONTROL

The proposed project will implement permanent stormwater quality treatment Best Management Practices (BMPs) by utilizing a rain garden (combination water quality and stormwater detention) to treat the runoff from Basin A1 and pervious landscape areas to treat Basins A2 and B1. The rain garden will contain an 18-inch growing media layer above 6-inches of filter material with an underdrain within the filter material layer. The rain garden outlet structure is designed in accordance with MHFD recommendations to release the water quality capture volume (WQCV) over a 12 hour drain time. The outlet structure will also control the release of the minor and major design storms. A 6-inch PVC outlet pipe will convey the discharge from the rain garden outlet structure to a level spreader flow dispersion feature to be located in the northwest portion of the site where the runoff will drain northwesterly onto the adjacent property west of the site (DP 1).

The USDA Natural Resources Conservation Service soil classification on the project site is Heldt clay, having a Group C hydrologic soil rating [2]. Group C soils typically have a slow infiltration rate when saturated, therefore the rain garden will be designed for partial infiltration with a 4-inch slotted PVC underdrain.

Drainage Basins A2 and B1 contain impervious areas that will drain across pervious (landscape) surfaces. The MHFD UD-BMP_v3.07 spreadsheet was used to calculate the runoff reduction for these unconnected impervious areas. The calculated WQCV reduction for both Basins A2 and B1 is 100%, therefore additional water quality treatment for Basins A2 and B1 is not needed. Water quality calculations are provided in Appendix E.

Construction Best Management Practices [BMPs] will be installed prior to and during construction, to restrict the amount of sediment transported offsite by either wind or water. Construction BMPs

include vehicle tracking control at the construction entrance, silt fencing, concrete washouts, and dust control. Detailed construction erosion control/stormwater management plans will be provided with the construction/permit documents.

9.0 WETLAND IMPACTS

There are no known wetlands located on the project site.

10.0 CONCLUSIONS

This Report meets the County's requirements for Preliminary Drainage Report information as outlined in the Criteria. The Report documents the existing drainage conditions present at the site and provides an analysis of the drainage conditions and water quality measures proposed for the **Hillside School** redevelopment project. The proposed redevelopment will not adversely affect downstream drainage facilities or properties. Runoff rates for the minor and major storms will be less than existing runoff rates at both design points.

11.0 REFERENCES

[1] "*Storm Drainage Criteria Manual*", Boulder County, Latest Edition.

[2] Soils Map, "*Web Soil Survey 3.0*", USDA Natural Resources Conservation Service, July 2020.

[3] "Flood Insurance Rate Map", Federal Emergency Management Agency, Map Number 08013CO410J, effective date 18 December 2012.

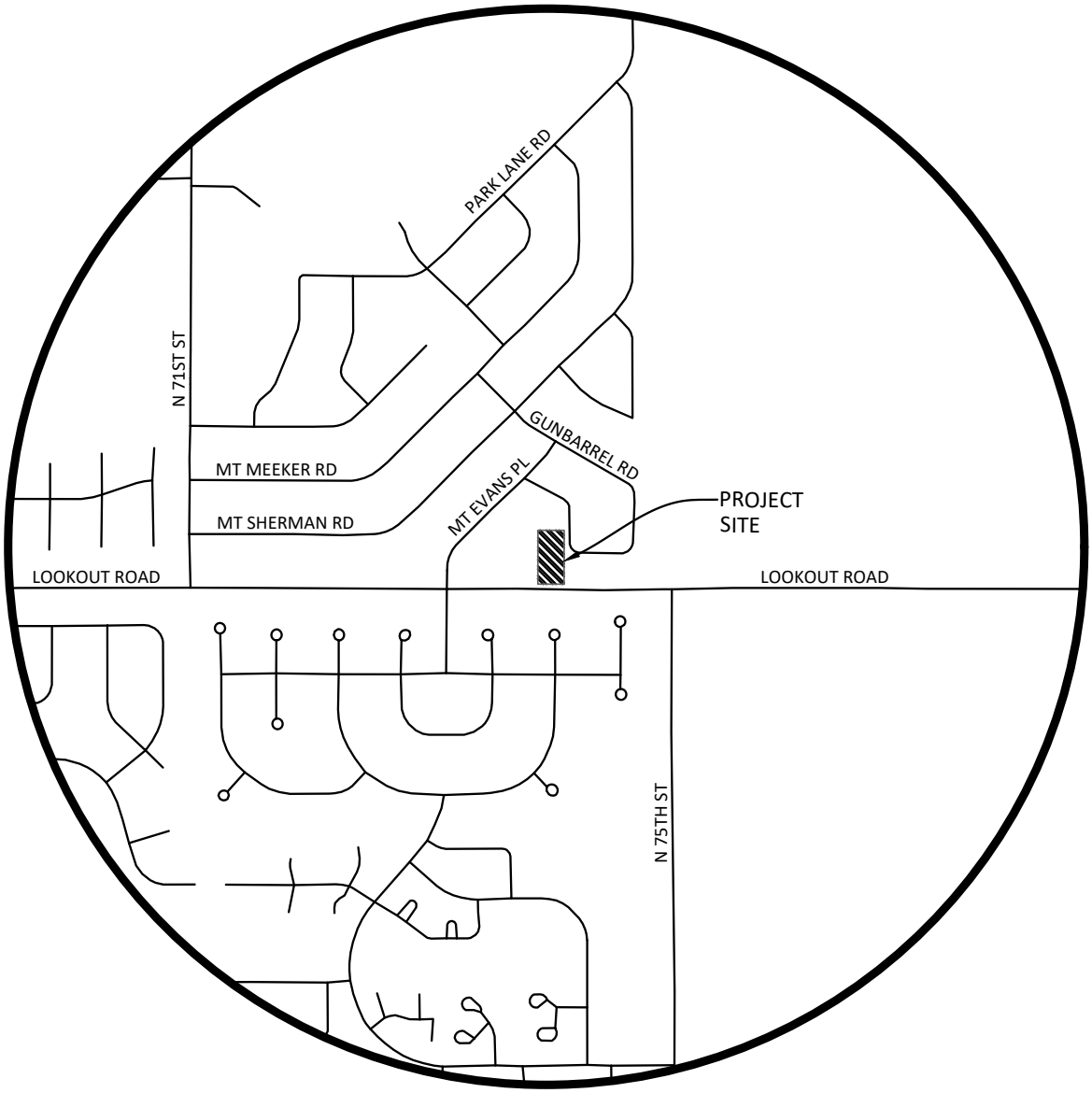
[4] "*Urban Storm Drainage Criteria Manual, Volumes 1 and 2*", Mile High Flood District, August 2018.

[5] "*Urban Storm Drainage Criteria Manual, Volume 3 – Best Management Practices*" Urban Mile High Flood District, October 2019.

[6] "*Geotechnical Subsurface Exploration Report Proposed School Building – Hillside School*" Soilogic, 19 May 2020.

APPENDIX A

Maps, Tables, and Figures



N

LOCATION MAP

1" = 1000'

Hydrologic Soil Group—Boulder County Area, Colorado

Map Scale: 1:551 if printed on A portrait (8.5" x 11") sheet.

N

Meters: 0 5 10 20 30

Feet: 0 25 50 100 150

Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 13N WGS84

MAP LEGEND

Area of Interest (AOI)

Area of Interest (AOI)

Soils

Soil Rating Polygons

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Lines

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Soil Rating Points

- A
- A/D
- B
- B/D
- C
- C/D
- D
- Not rated or not available

Water Features

- Streams and Canals

Transportation

- Rails
- Interstate Highways
- US Routes
- Major Roads
- Local Roads

Background

- Aerial Photography

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:20,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
Web Soil Survey URL:
Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Boulder County Area, Colorado
Survey Area Data: Version 17, Jun 5, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Oct 1, 2018—Oct 31, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Hydrologic Soil Group

Map unit symbol	Map unit name	Rating	Acres in AOI	Percent of AOI
HeC	Heldt clay, 3 to 5 percent slopes	C	1.1	100.0%
Totals for Area of Interest			**1.1**	**100.0%**

Description

Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The soils in the United States are assigned to four groups (A, B, C, and D) and three dual classes (A/D, B/D, and C/D). The groups are defined as follows:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

If a soil is assigned to a dual hydrologic group (A/D, B/D, or C/D), the first letter is for drained areas and the second is for undrained areas. Only the soils that in their natural condition are in group D are assigned to dual classes.

Rating Options

Aggregation Method: Dominant Condition

Component Percent Cutoff: None Specified

Tie-break Rule: Higher

coefficients. Runoff coefficients are also presented and organized by imperviousness, soil type, and return period in Table 600-6 at the end of this section.

Table 600-2. Recommended Percentage Imperviousness Values (UDFCD, 2016)

Land Use or Surface Characteristics	Percentage Imperviousness
Business	
Downtown areas	95
Suburban areas	75
Residential	
Single-family	
2.5 acres or larger	12
0.75 – 2.5 acres	20
0.25 – 0.75 acres	30
0.25 acres or less	45
Apartments	75
Industrial	
Light areas	80
Heavy areas	90
Parks, cemeteries	10
Playgrounds	25
Schools	55
Railroad yard areas	50
Undeveloped Areas	
Historic flow analysis	2
Greenbelts, agricultural	2
Off-site flow analysis (when land use is not defined)	45
Streets	
Paved	100
Gravel (packed)	40
Drive and walks	90
Roofs	90
Lawns, sandy soil	2
Lawns, clayey soil	2

Table 600-6. Rational Method Runoff Coefficient, C (Page 1 of 2) (UDFCD, 2016)

Percentage Imperviousness	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
Type A NRCS Hydrologic Soil Group						
2	0.02	0.02	0.02	0.02	0.02	0.17
5	0.04	0.05	0.05	0.05	0.05	0.19
10	0.09	0.09	0.09	0.09	0.10	0.23
15	0.13	0.14	0.14	0.14	0.14	0.28
20	0.18	0.19	0.19	0.19	0.19	0.32
25	0.22	0.23	0.24	0.24	0.24	0.36
30	0.27	0.28	0.28	0.28	0.29	0.40
35	0.31	0.33	0.33	0.33	0.33	0.44
40	0.36	0.37	0.38	0.38	0.38	0.48
45	0.40	0.42	0.42	0.42	0.43	0.52
50	0.45	0.47	0.47	0.47	0.48	0.56
55	0.49	0.51	0.52	0.52	0.52	0.60
60	0.53	0.56	0.56	0.57	0.57	0.64
65	0.58	0.6	0.61	0.61	0.62	0.68
70	0.62	0.65	0.66	0.66	0.67	0.72
75	0.67	0.70	0.71	0.71	0.71	0.76
80	0.71	0.74	0.75	0.76	0.76	0.80
85	0.76	0.79	0.80	0.80	0.81	0.84
90	0.80	0.84	0.85	0.85	0.86	0.88
95	0.85	0.88	0.89	0.90	0.90	0.92
100	0.89	0.93	0.94	0.94	0.95	0.96
Type B NRCS Hydrologic Soil Group						
2	0.02	0.02	0.14	0.24	0.38	0.46
5	0.04	0.05	0.17	0.27	0.39	0.48
10	0.09	0.09	0.21	0.30	0.42	0.50
15	0.13	0.14	0.25	0.34	0.45	0.53
20	0.18	0.19	0.29	0.37	0.48	0.55
25	0.22	0.23	0.33	0.41	0.51	0.58
30	0.27	0.28	0.37	0.44	0.54	0.60
35	0.31	0.33	0.41	0.48	0.57	0.63
40	0.36	0.37	0.45	0.51	0.60	0.65
45	0.40	0.42	0.49	0.55	0.63	0.67
50	0.45	0.47	0.53	0.58	0.66	0.70

Table 600-6. Rational Method Runoff Coefficient, C (Page 2 of 2) (UDFCD, 2016)

Percentage Imperviousness	2-Year	5-Year	10-Year	25-Year	50-Year	100-Year
55	0.49	0.51	0.57	0.62	0.69	0.72
60	0.53	0.56	0.61	0.65	0.72	0.75
65	0.58	0.60	0.65	0.69	0.75	0.77
70	0.62	0.65	0.69	0.72	0.78	0.80
75	0.67	0.70	0.73	0.76	0.81	0.82
80	0.71	0.74	0.77	0.79	0.84	0.85
85	0.76	0.79	0.81	0.83	0.87	0.87
90	0.80	0.84	0.85	0.86	0.89	0.90
95	0.85	0.88	0.89	0.90	0.92	0.92
100	0.89	0.93	0.94	0.94	0.95	0.94
Type C/D NRCS Hydrologic Soil Groups						
2	0.02	0.07	0.22	0.32	0.43	0.52
5	0.04	0.10	0.24	0.34	0.45	0.53
10	0.09	0.14	0.27	0.37	0.47	0.55
15	0.13	0.18	0.31	0.41	0.50	0.58
20	0.18	0.23	0.35	0.44	0.53	0.60
25	0.22	0.27	0.39	0.47	0.55	0.62
30	0.27	0.31	0.42	0.50	0.58	0.64
35	0.31	0.36	0.46	0.53	0.61	0.67
40	0.36	0.40	0.50	0.57	0.63	0.69
45	0.40	0.44	0.53	0.60	0.66	0.71
50	0.45	0.49	0.57	0.63	0.69	0.73
55	0.49	0.53	0.61	0.66	0.72	0.76
60	0.53	0.57	0.64	0.69	0.74	0.78
65	0.58	0.62	0.68	0.73	0.77	0.80
70	0.62	0.66	0.72	0.76	0.80	0.82
75	0.67	0.70	0.76	0.79	0.82	0.85
80	0.71	0.75	0.79	0.82	0.85	0.87
85	0.76	0.79	0.83	0.85	0.88	0.89
90	0.80	0.83	0.87	0.89	0.90	0.91
95	0.85	0.88	0.90	0.92	0.93	0.94
100	0.89	0.92	0.94	0.95	0.96	0.96

APPENDIX B
Hydrology Calculations

Rational Method Calculations

Basin Ax

Existing Conditions

Project: Hillside School
SG Project I.D.: B1335

Prepared By: MLM
Reviewed By: CCS
Date: 09/18/20

Basin Description:

NRCS Soil Type: HeC, Heldt clay

NRCS Hydrologic Soil Rating: C

Basin Area= 0.82 [acres] = 35,509 [sf]

Surface Characteristics[1]	Sub-Area [sf]	Imp [%]	Runoff Coefficients[1]			
			C_2	C_5	C_{10}	C_{100}
Asphalt	7691	100	0.89	0.92	0.94	0.96
Concrete Drives & Walks	1874	90	0.80	0.83	0.87	0.91
Roofs	2566	90	0.80	0.83	0.87	0.91
Gravel (packed)	0	40	0.36	0.40	0.50	0.69
Lawns, clayey	23378	2	0.02	0.07	0.22	0.52

[1] *Boulder County "Storm Drainage Criteria Manual", Table 600-2 and 600-6*

Weighted Percent Imperviousness : I [%] = 34.23 A_i = 12,154.56 [sf]

Weighted Runoff Coefficients:

C_2 = 0.31 C_5 = 0.35 C_{10} = 0.46 C_{100} = 0.66

Time of Concentration:

Sheet Flow:

L_i [ft] = 220
S_i [%] = 7.80
t_i [min] = 10.21

Concentrated Flow:

L_{t1} [FT] =	0	L_{t2} [FT] =	0
S_{t1} [%] =	0.00	S_{t2} [%] =	0.00
K_1[3] =	15.00	K_2[3] =	15.00
V_{t1} [fps][4] =	0.00	V_{t2} [fps][4] =	0.00
t_{t1} [min] =	0.00	t_{t2} [min] =	0.00

[3] BCSDCM, *Table 600-1*
[4] *BCSDCM, Eqn 600.4*

t_t [min] = 0.00

Time of Concentration:

$t_c=t_i+t_t$ [min] = 10.21
t_c(minimum)= 5 min
Check for Urbanized Basins:
t_c[5] [min] = #DIV/0!

t_c [min] = 10.2

[5] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.5*

Rainfall Intensity[6]

I_2 [in/hr]= 2.12 I_5 [in/hr]= 2.87 I_{10} [in/hr]= 3.62 I_{100} [in/hr]= 7.08

[6] *Boulder County "Storm Drainage Criteria Manual", Eqn 500.1, NOAA Atlas 14*

Runoff - Rational Method Equation[7]

Q_2 [cfs]= 0.53 **Q_5 [cfs]= 0.82** **Q_{10} [cfs]= 1.35** **Q_{100} [cfs]= 3.83**

[7] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.1*

Rational Method Calculations

Basin B1x

Existing Conditions

Project: Hillside School
SG Project I.D.: B1335

Prepared By: MLM
Reviewed By: CCS
Date: 09/18/20

Basin Description:

NRCS Soil Type: HeC, Heldt clay

NRCS Hydrologic Soil Rating: C

Basin Area= 0.18 [acres] = 7,660 [sf]

Surface Characteristics[1]	Sub-Area [sf]	Imp [%]	Runoff Coefficients[1]			
			C_2	C_5	C_{10}	C_{100}
Asphalt	2153	100	0.89	0.92	0.94	0.96
Concrete Drives & Walks	0	90	0.80	0.83	0.87	0.91
Roofs	0	90	0.80	0.83	0.87	0.91
Gravel (packed)	0	40	0.36	0.40	0.50	0.69
Lawns, clayey	5507	2	0.02	0.07	0.22	0.52

[1] *Boulder County "Storm Drainage Criteria Manual", Table 600-2 and 600-6*

Weighted Percent Imperviousness : I [%] = 29.54 A_I = 2,263.15 [sf]

Weighted Runoff Coefficients:

C_2 = 0.26 C_5 = 0.31 C_{10} = 0.42 C_{100} = 0.64

Time of Concentration:

Sheet Flow:

L_i [ft] = 173
S_i [%] = 7.60
t_i [min] = 9.62

Concentrated Flow:

L_{t1} [FT] =	0	L_{t2} [FT] =	0
S_{t1} [%] =	0.00	S_{t2} [%] =	0.00
K_1[3] =	15.00	K_2[3] =	15.00
V_{t1} [fps][4] =	0.00	V_{t2} [fps][4] =	0.00
t_{t1} [min] =	0.00	t_{t2} [min] =	0.00

[3] BCSDCM, *Table 600-1*
[4] *BCSDCM, Eqn 600.4*

t_t [min] = 0.00

Time of Concentration:

$t_c=t_i+t_t$ [min] = 9.62
t_c(minimum)= 5 min
Check for Urbanized Basins:
t_c[5] [min] = #DIV/0!

t_c [min] = 9.6

[5] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.5*

Rainfall Intensity[6]

I_2 [in/hr]= 2.17 I_5 [in/hr]= 2.94 I_{10} [in/hr]= 3.71 I_{100} [in/hr]= 7.25

[6] *Boulder County "Storm Drainage Criteria Manual", Eqn 500.1, NOAA Atlas 14*

Runoff - Rational Method Equation[7]

Q_2 [cfs]= 0.10 **Q_5 [cfs]= 0.16** **Q_{10} [cfs]= 0.28** **Q_{100} [cfs]= 0.82**

[7] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.1*

Rational Method Calculations

Basin B2x

Existing Conditions

Project: Hillside School
SG Project I.D.: B1335

Prepared By: MLM
Reviewed By: CCS
Date: 09/18/20

Basin Description:

NRCS Soil Type: HeC, Heldt clay

NRCS Hydrologic Soil Rating: C

Basin Area= 0.01 [acres] = 631 [sf]

Surface Characteristics[1]	Sub-Area [sf]	Imp [%]	Runoff Coefficients[1]			
			C_2	C_5	C_{10}	C_{100}
Asphalt	0	100	0.89	0.92	0.94	0.96
Concrete Drives & Walks	0	90	0.80	0.83	0.87	0.91
Roofs	0	90	0.80	0.83	0.87	0.91
Gravel (packed)	0	40	0.36	0.40	0.50	0.69
Lawns, clayey	631	2	0.02	0.07	0.22	0.52

[1] *Boulder County "Storm Drainage Criteria Manual", Table 600-2 and 600-6*

Weighted Percent Imperviousness : I [%] = 2.00 A_i = 12.61 [sf]

Weighted Runoff Coefficients:

C_2 = 0.02 C_5 = 0.07 C_{10} = 0.22 C_{100} = 0.52

Time of Concentration:

Sheet Flow:

L_i [ft] = 40
S_i [%] = 7.00
t_i [min] = 6.19

Concentrated Flow:

L_{t1} [FT] =	0	L_{t2} [FT] =	0
S_{t1} [%] =	0.00	S_{t2} [%] =	0.00
K_1[3] =	15.00	K_2[3] =	15.00
V_{t1} [fps][4] =	0.00	V_{t2} [fps][4] =	0.00
t_{t1} [min] =	0.00	t_{t2} [min] =	0.00

[3] BCSDCM, *Table 600-1*
[4] *BCSDCM, Eqn 600.4*

t_t [min] = 0.00

Time of Concentration:

$t_c=t_i+t_t$ [min] = 6.19
t_c(minimum)= 5 min
Check for Urbanized Basins:
t_c[5] [min] = #DIV/0!

t_c [min] = 6.2

[5] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.5*

Rainfall Intensity[6]

I_2 [in/hr]= 2.52 I_5 [in/hr]= 3.42 I_{10} [in/hr]= 4.31 I_{100} [in/hr]= 8.43

[6] *Boulder County "Storm Drainage Criteria Manual", Eqn 500.1, NOAA Atlas 14*

Runoff - Rational Method Equation[7]

Q_2 [cfs]= 0.00 **Q_5 [cfs]= 0.00** **Q_{10} [cfs]= 0.01** **Q_{100} [cfs]= 0.06**

[7] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.1*

Rational Method Calculations

Basin A1

Proposed Conditions

Project: Hillside School
SG Project I.D.: B1335

Prepared By: MLM
Reviewed By: CCS
Date: 09/18/20

Basin Description: This basin consists of the proposed building, most of the existing building, ashphalt parking lot, concrete sidewalks and landscape areas including the proposed rain garden.

NRCS Soil Type: HeC, Heldt clay

NRCS Hydrologic Soil Rating: C

Basin Area= 0.55 [acres] = 23,999 [sf]

Surface Characteristics[1]	Sub-Area [sf]	Imp [%]	Runoff Coefficients[1]			
			C_2	C_5	C_{10}	C_{100}
Asphalt	9217	100	0.89	0.92	0.94	0.96
Concrete Drives & Walks	2105	90	0.80	0.83	0.87	0.91
Roofs	7204	90	0.80	0.83	0.87	0.91
Gravel (packed)	0	40	0.36	0.40	0.50	0.69
Lawns, clayey	5473	2	0.02	0.07	0.22	0.52

[1] *Boulder County "Storm Drainage Criteria Manual", Table 600-2 and 600-6*

Weighted Percent Imperviousness : I [%] = 73.77 A_i = 17,704.57 [sf]

Weighted Runoff Coefficients:

C_2 = 0.66 C_5 = 0.69 C_{10} = 0.75 C_{100} = 0.84

Time of Concentration:

Sheet Flow:

L_i [ft] = 135
S_i [%] = 7.40
t_i [min] = 4.43

Concentrated Flow:

L_{t1} [FT] =	115	L_{t2} [FT] =	0
S_{t1} [%] =	3.00	S_{t2} [%] =	0.00
		K_2[3] =	15.00
V_{t1} [fps][4] =	7.00	V_{t2} [fps][4] =	0.00
t_{t1} [min] =	0.27	t_{t2} [min] =	0.00

[3] BCSDCM, *Table 600-1*
[4] *BCSDCM, Eqn 600.4*

t_t [min] = 0.27

Time of Concentration:

$t_c = t_i + t_t$ [min] = 4.70
t_c(minimum)= 5 min
Check for Urbanized Basins:
t_c[5] [min] = 7.74

t_c [min] = 5.0

[5] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.5*

Rainfall Intensity[6]

I_2 [in/hr]= 2.68 I_5 [in/hr]= 3.63 I_{10} [in/hr]= 4.58 I_{100} [in/hr]= 8.95

[6] *Boulder County "Storm Drainage Criteria Manual", Eqn 500.1, NOAA Atlas 14*

Runoff - Rational Method Equation[7]

Q_2 [cfs]= 0.97 **Q_5 [cfs]= 1.38** **Q_{10} [cfs]= 1.89** **Q_{100} [cfs]= 4.15**

[7] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.1*

Rational Method Calculations

Basin A1a

Proposed Conditions

Project: Hillside School
SG Project I.D.: B1335

Prepared By: MLM
Reviewed By: CCS
Date: 09/18/20

Basin Description: Sub-basin of Basin A1 that drains to the proposed area inlets on the south side of the existing building.

NRCS Soil Type: HeC, Heldt clay

NRCS Hydrologic Soil Rating: C

Basin Area= 0.19 [acres] = 8,100 [sf]

Surface Characteristics[1]	Sub-Area [sf]	Imp [%]	Runoff Coefficients[1]			
			C_2	C_5	C_{10}	C_{100}
Asphalt	4777	100	0.89	0.92	0.94	0.96
Concrete Drives & Walks	328	90	0.80	0.83	0.87	0.91
Roofs	0	90	0.80	0.83	0.87	0.91
Gravel (packed)	0	40	0.36	0.40	0.50	0.69
Lawns, clayey	2995	2	0.02	0.07	0.22	0.52

[1] *Boulder County "Storm Drainage Criteria Manual", Table 600-2 and 600-6*

Weighted Percent Imperviousness : I [%] = 63.36 A_i = 5,132.10 [sf]

Weighted Runoff Coefficients:

C_2 = 0.56 C_5 = 0.60 C_{10} = 0.67 C_{100} = 0.80

Time of Concentration:

Sheet Flow:

L_i [ft] = 135
S_i [%] = 7.40
t_i [min] = 5.40

Concentrated Flow:

L_{t1} [FT] =	0	L_{t2} [FT] = 0
S_{t1} [%] =	2.00	S_{t2} [%] = 0.00
K_1[3] =	15.00	K_2[3] = 15.00
V_{t1} [fps][4] =	2.12	V_{t2} [fps][4] = 0.00
t_{t1} [min] =	0.00	t_{t2} [min] = 0.00

[3] BCSDCM, *Table 600-1*
[4] *BCSDCM, Eqn 600.4*

t_t [min] = 0.00

Time of Concentration:

$t_c=t_i+t_t$ [min] = 5.40
t_c(minimum)= 5 min
Check for Urbanized Basins:
t_c[5] [min] = 9.08

t_c [min] = 5.4

[5] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.5*

Rainfall Intensity[6]

I_2 [in/hr]= 2.63 I_5 [in/hr]= 3.56 I_{10} [in/hr]= 4.49 I_{100} [in/hr]= 8.77

[6] *Boulder County "Storm Drainage Criteria Manual", Eqn 500.1, NOAA Atlas 14*

Runoff - Rational Method Equation[7]

Q_2 [cfs]= 0.28 **Q_5 [cfs]= 0.40** **Q_{10} [cfs]= 0.56** **Q_{100} [cfs]= 1.30**

[7] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.1*

Rational Method Calculations
Basin A1b
Proposed Conditions

Project: Hillside School
SG Project I.D.: B1335

Prepared By: MLM
Reviewed By: CCS
Date: 09/18/20

Basin Description: Sub-basin of Basin A1 that drains to the proposed Type 13 inlet at the north end of the parking lot.

NRCS Soil Type: HeC, Heldt clay

NRCS Hydrologic Soil Rating: C

Basin Area= 0.14 [acres] = 6,104 [sf]

Surface Characteristics[1]	Sub-Area [sf]	Imp [%]	Runoff Coefficients[1]			
			C_2	C_5	C_{10}	C_{100}
Asphalt	4440	100	0.89	0.92	0.94	0.96
Concrete Drives & Walks	572	90	0.80	0.83	0.87	0.91
Roofs	0	90	0.80	0.83	0.87	0.91
Gravel (packed)	0	40	0.36	0.40	0.50	0.69
Lawns, clayey	1092	2	0.02	0.07	0.22	0.52

[1] *Boulder County "Storm Drainage Criteria Manual", Table 600-2 and 600-6*

Weighted Percent Imperviousness : I [%] = 81.54 A_i = 4,976.63 [sf]

Weighted Runoff Coefficients:

C_2 = 0.73 C_5 = 0.76 C_{10} = 0.80 C_{100} = 0.88

Time of Concentration:

Sheet Flow:

L_i [ft] = 118
S_i [%] = 8.40
t_i [min] = 3.31

Concentrated Flow:

L_{t1} [FT] =	0	L_{t2} [FT] =	0
S_{t1} [%] =	2.00	S_{t2} [%] =	0.00
K_1[3] =	15.00	K_2[3] =	15.00
V_{t1} [fps][4] =	2.12	V_{t2} [fps][4] =	0.00
t_{t1} [min] =	0.00	t_{t2} [min] =	0.00

[3] BCSDCM, *Table 600-1*
[4] *BCSDCM, Eqn 600.4*

t_t [min] = 0.00

Time of Concentration:

$t_c=t_i+t_t$ [min] = 3.31
t_c(minimum)= 5 min
Check for Urbanized Basins:
t_c[5] [min] = 6.21

t_c [min] = 5.0

[5] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.5*

Rainfall Intensity[6]

I_2 [in/hr]= 2.68 I_5 [in/hr]= 3.63 I_{10} [in/hr]= 4.58 I_{100} [in/hr]= 8.95

[6] *Boulder County "Storm Drainage Criteria Manual", Eqn 500.1, NOAA Atlas 14*

Runoff - Rational Method Equation[7]

Q_2 [cfs]= 0.27 **Q_5 [cfs]= 0.39** **Q_{10} [cfs]= 0.52** **Q_{100} [cfs]= 1.10**

[7] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.1*

Rational Method Calculations

Basin A2

Proposed Conditions

Project: Hillside School
SG Project I.D.: B1335

Prepared By: MLM
Reviewed By: CCS
Date: 09/18/20

Basin Description: This basin covers the area along the west and northwest portions of the site consisting of part of the existing building, concrete walks and landscape area.

NRCS Soil Type: HeC, Heldt clay

NRCS Hydrologic Soil Rating: C

Basin Area= 0.30 [acres] = 12,893 [sf]

Surface Characteristics[1]	Sub-Area [sf]	Imp [%]	Runoff Coefficients[1]			
			C_2	C_5	C_{10}	C_{100}
Asphalt	0	100	0.89	0.92	0.94	0.96
Concrete Drives & Walks	782	90	0.80	0.83	0.87	0.91
Roofs	651	90	0.80	0.83	0.87	0.91
Gravel (packed)	0	40	0.36	0.40	0.50	0.69
Lawns, clayey	11460	2	0.02	0.07	0.22	0.52

[1] *Boulder County "Storm Drainage Criteria Manual", Table 600-2 and 600-6*

Weighted Percent Imperviousness : I [%] = 11.78 A_i = 1,519.25 [sf]

Weighted Runoff Coefficients:

C_2 = 0.11 C_5 = 0.15 C_{10} = 0.29 C_{100} = 0.56

Time of Concentration:

Sheet Flow:

L_i [ft] = 160
S_i [%] = 8.40
t_i [min] = 10.70

Concentrated Flow:

L_{t1} [FT] =	0	L_{t2} [FT] = 0
S_{t1} [%] =	2.00	S_{t2} [%] = 0.00
K_1[3] =	15.00	K_2[3] = 15.00
V_{t1} [fps][4] =	2.12	V_{t2} [fps][4] = 0.00
t_{t1} [min] =	0.00	t_{t2} [min] = 0.00

[3] BCSDCM, *Table 600-1*
[4] *BCSDCM, Eqn 600.4*

t_t [min] = 0.00

Time of Concentration:

t_c=t_i+t_t [min] = 10.70
t_c(minimum)= 5 min
Check for Urbanized Basins:
t_c[5] [min] = 17.50

t_c [min] = 10.7

[5] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.5*

Rainfall Intensity[6]

I_2 [in/hr]= 2.08 I_5 [in/hr]= 2.82 I_{10} [in/hr]= 3.56 I_{100} [in/hr]= 6.95

[6] *Boulder County "Storm Drainage Criteria Manual", Eqn 500.1, NOAA Atlas 14*

Runoff - Rational Method Equation[7]

Q_2 [cfs]= 0.07 **Q_5 [cfs]= 0.13** **Q_{10} [cfs]= 0.31** **Q_{100} [cfs]= 1.16**

[7] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.1*

Rational Method Calculations

Basin B1

Proposed Conditions

Project: Hillside School
SG Project I.D.: B1335

Prepared By: MLM
Reviewed By: CCS
Date: 09/18/20

Basin Description: This basin covers the area along the east side of the site consisting of part of the proposed building, concrete walks and landscape area.

NRCS Soil Type: HeC, Heldt clay

NRCS Hydrologic Soil Rating: C

Basin Area= 0.16 [acres] = 6,908 [sf]

Surface Characteristics[1]	Sub-Area [sf]	Imp [%]	Runoff Coefficients[1]			
			C_2	C_5	C_{10}	C_{100}
Asphalt	0	100	0.89	0.92	0.94	0.96
Concrete Drives & Walks	299	90	0.80	0.83	0.87	0.91
Roofs	668	90	0.80	0.83	0.87	0.91
Gravel (packed)	0	40	0.36	0.40	0.50	0.69
Lawns, clayey	5941	2	0.02	0.07	0.22	0.52

[1] *Boulder County "Storm Drainage Criteria Manual", Table 600-2 and 600-6*

Weighted Percent Imperviousness : I [%] = 14.32 A_I = 989.11 [sf]

Weighted Runoff Coefficients:

C_2 = 0.13 C_5 = 0.18 C_{10} = 0.31 C_{100} = 0.57

Time of Concentration:

Sheet Flow:

L_i [ft] = 143
S_i [%] = 8.20
t_i [min] = 9.96

Concentrated Flow:

L_{t1} [FT] =	0	L_{t2} [FT] =	0
S_{t1} [%] =	2.00	S_{t2} [%] =	0.00
K_1[3] =	15.00	K_2[3] =	15.00
V_{t1} [fps][4] =	2.12	V_{t2} [fps][4] =	0.00
t_{t1} [min] =	0.00	t_{t2} [min] =	0.00

[3] BCSDCM, *Table 600-1*
[4] *BCSDCM, Eqn 600.4*

t_t [min] = 0.00

Time of Concentration:

$t_c=t_i+t_t$ [min] = 9.96
t_c(minimum)= 5 min
Check for Urbanized Basins:
t_c[5] [min] = 16.94

t_c [min] = 10.0

[5] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.5*

Rainfall Intensity[6]

I_2 [in/hr]= 2.14 I_5 [in/hr]= 2.90 I_{10} [in/hr]= 3.66 I_{100} [in/hr]= 7.15

[6] *Boulder County "Storm Drainage Criteria Manual", Eqn 500.1, NOAA Atlas 14*

Runoff - Rational Method Equation[7]

Q_2 [cfs]= 0.04 **Q_5 [cfs]= 0.08** **Q_{10} [cfs]= 0.18** **Q_{100} [cfs]= 0.65**

[7] *Boulder County "Storm Drainage Criteria Manual", Eqn 600.1*

APPENDIX C
Hydraulic Calculations

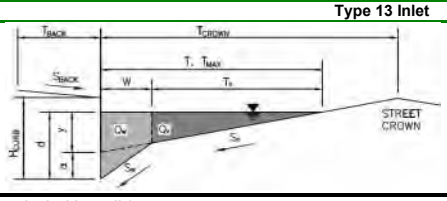
Version 4.06 Released August 2018

ALLOWABLE CAPACITY FOR ONE-HALF OF STREET (Minor & Major Storm)

(Based on Regulated Criteria for Maximum Allowable Flow Depth and Spread)

Project: Hillside School

Inlet ID: Type 13 Inlet



Gutter Geometry (Enter data in the blue cells)

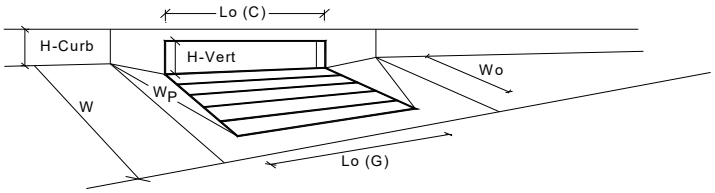
Maximum Allowable Width for Spread Behind Curb	T_{BACK} =		ft
Side Slope Behind Curb (leave blank for no conveyance credit behind curb)	S_{BACK} =		ft/ft
Manning's Roughness Behind Curb (typically between 0.012 and 0.020)	n_{BACK} =		
Height of Curb at Gutter Flow Line	H_{CURB} =	6.00	inches
Distance from Curb Face to Street Crown	T_{CROWN} =	30.0	ft
Gutter Width	W =	1.73	ft
Street Transverse Slope	S_X =	0.060	ft/ft
Gutter Cross Slope (typically 2 inches over 24 inches or 0.083 ft/ft)	S_W =	0.083	ft/ft
Street Longitudinal Slope - Enter 0 for sump condition	S_O =	0.000	ft/ft
Manning's Roughness for Street Section (typically between 0.012 and 0.020)	n_{STREET} =	0.015	

		Minor Storm	Major Storm	
Max. Allowable Spread for Minor & Major Storm	T_{MAX} =	30.0	30.0	ft
Max. Allowable Depth at Gutter Flowline for Minor & Major Storm	d_{MAX} =	6.0	6.0	inches
Check boxes are not applicable in SUMP conditions		☐	☐	

		Minor Storm	Major Storm	
MINOR STORM Allowable Capacity is based on Depth Criterion				
MAJOR STORM Allowable Capacity is based on Depth Criterion	**Q_{allow} =**	**SUMP**	**SUMP**	**cfs**

INLET IN A SUMP OR SAG LOCATION

Version 4.06 Released August 2018



Design Information (Input)	CDOT/Denver 13 Valley Grate		MINOR	MAJOR	
Type of Inlet		Type =	CDOT/Denver 13 Valley Grate		
Local Depression (additional to continuous gutter depression 'a' from above)		a_{local} =	2.00	2.00	inches
Number of Unit Inlets (Grate or Curb Opening)		No =	1	1	
Water Depth at Flowline (outside of local depression)		Ponding Depth =	6.0	6.0	inches
Grate Information			MINOR	MAJOR	☐ Override Depths
Length of a Unit Grate		L_o (G) =	3.00	3.00	feet
Width of a Unit Grate		W_o =	1.73	1.73	feet
Area Opening Ratio for a Grate (typical values 0.15-0.90)		A_{ratio} =	0.43	0.43	
Clogging Factor for a Single Grate (typical value 0.50 - 0.70)		C_f (G) =	0.50	0.50	
Grate Weir Coefficient (typical value 2.15 - 3.60)		C_w (G) =	3.30	3.30	
Grate Orifice Coefficient (typical value 0.60 - 0.80)		C_o (G) =	0.60	0.60	
Curb Opening Information			MINOR	MAJOR	
Length of a Unit Curb Opening		L_o (C) =	N/A	N/A	feet
Height of Vertical Curb Opening in Inches		H_{vert} =	N/A	N/A	inches
Height of Curb Orifice Throat in Inches		H_{throat} =	N/A	N/A	inches
Angle of Throat (see USDCM Figure ST-5)		Theta =	N/A	N/A	degrees
Side Width for Depression Pan (typically the gutter width of 2 feet)		W_p =	N/A	N/A	feet
Clogging Factor for a Single Curb Opening (typical value 0.10)		C_f (C) =	N/A	N/A	
Curb Opening Weir Coefficient (typical value 2.3-3.7)		C_w (C) =	N/A	N/A	
Curb Opening Orifice Coefficient (typical value 0.60 - 0.70)		C_o (C) =	N/A	N/A	
Low Head Performance Reduction (Calculated)			MINOR	MAJOR	
Depth for Grate Midwidth		d_{Grate} =	0.512	0.512	ft
Depth for Curb Opening Weir Equation		d_{Curb} =	N/A	N/A	ft
Combination Inlet Performance Reduction Factor for Long Inlets		$RF_{Combination}$ =	N/A	N/A	
Curb Opening Performance Reduction Factor for Long Inlets		RF_{Curb} =	N/A	N/A	
Grated Inlet Performance Reduction Factor for Long Inlets		RF_{Grate} =	0.94	0.94	
			MINOR	MAJOR	
Total Inlet Interception Capacity (assumes clogged condition)		**Q_a =**	**2.56**	**2.56**	**cfs**
Inlet Capacity IS GOOD for Minor and Major Storms(>Q PEAK)		$Q_{PEAK\ REQUIRED}$ =	0.39	1.10	cfs

Hydraulic Analysis Report

Project Data

Project Title: B1335 - Hillside School

Designer:

Project Date: Wednesday, September 2, 2020

Project Units: U.S. Customary Units

Notes:

Channel Analysis: 10" PVC @ 2% - 100-Yr Flow

Notes: DP 1B 100-Yr Flow = 2.40 cfs

Input Parameters

Channel Type: Circular

Pipe Diameter: 0.8330 ft

Longitudinal Slope: 0.0200 ft/ft

Manning's n: 0.0130

Flow: 2.4000 cfs

Result Parameters

Depth: 0.5510 ft

Area of Flow: 0.3826 ft^2

Wetted Perimeter: 1.5824 ft

Hydraulic Radius: 0.2418 ft

Average Velocity: 6.2736 ft/s

Top Width: 0.7884 ft

Froude Number: 1.5871

Critical Depth: 0.6898 ft

Critical Velocity: 4.9734 ft/s

Critical Slope: 0.0118 ft/ft

Critical Top Width: 0.63 ft

Calculated Max Shear Stress: 0.6877 lb/ft^2

Calculated Avg Shear Stress: 0.3017 lb/ft^2

APPENDIX D

Inspection and Maintenance Guide

Permanent Stormwater Quality BMP Inspection and Maintenance Guide

Prepared For:

Hillside School
7415 Lookout Road
Longmont, CO 80503

Contact: Jill Michaud

Prepared By:

The Sanitas Group
801 Main Street, Suite 225
Louisville, CO 80027

Contact: Curtis C. Stevens, P.E., CFM

Table of Contents

OWNER RESPONSIBILITIES

The owner of permanent stormwater quality features, also referred to as best management practices (BMPs), shall protect, inspect, maintain, repair, and reconstruct the BMPs and associated drainage infrastructure on the property to ensure full, functional operation in accordance with the specifications of this *Inspection and Maintenance Guide*. In instances where inspection and maintenance duties have been assigned to a delegated representative via an agreement or contract, the owner maintains responsibility in ensuring the specifications of this guide have been carried out. The specifications of this *Guide* are pursuant to the following Boulder County requirements:

- **Boulder County Maintenance Agreement**

ONSITE FACILITIES

This Guide applies to the following BMPs on the property:

- **Rain Garden (bioretention):** The rain garden is located on the west side of the new building and north of the existing building. The rain garden is designed for partial infiltration with a 4" slotted PVC underdrain. The outlet structure contains an orifice plate at the 4" PVC underdrain outlet along with controls for the minor and major storm releases, discharging through a 6" PVC to the level spreader in the northwest corner of the site.

INSPECTION REQUIREMENTS

A documented visual inspection of each BMP on the property is required per the documented inspection frequency listed in Table 1. Inspections shall be documented using the forms provided in Attachment B. The documented inspection shall be performed between May and August, when vegetation is not dormant and snow does not cover the BMP. Completed inspection forms shall be kept by the owner or their delegated representative for a minimum of five years and provided to Boulder County upon request.

Boulder County personnel will conduct routine oversight inspections of each BMP on the property to ensure the facilities are functioning as designed. The County will correspond with the owner or delegated representative when corrective actions are required. Failure to implement corrective actions may result in enforcement actions including civil penalties and/or criminal prosecution.

Table 1. Required BMP inspection frequency

Name	BMP Type	Frequency
Rain Garden	Bioretention (Rain Garden)	Annually

MAINTENANCE ACTIVITIES

Maintenance is essential for BMPs to be effective. Maintenance activities include both routinely scheduled activities and periodic larger efforts to repair or restore system components. An effective routine maintenance program can prevent more costly repairs later on. As part of routine maintenance efforts, BMPs should be visually inspected to identify build-up or blockages of trash, debris, or sediment; check for damage; and determine current

maintenance needs. BMPs should also be visually inspected after storms and snow melt to assess whether stormwater in the BMP is draining as expected.

The recommended maintenance schedule and description based on BMP type is provided in Attachment A. These recommendations are based on guidance from the Urban Drainage and Flood Control District (UDFCD) and the experience of the preparing engineer.

Inspection and maintenance personnel are recommended to reference the Colorado Stormwater Center Inspection and Maintenance Field Guide for visual depictions of maintenance actions.

REFERENCES

Colorado Stormwater Center. *Permanent Stormwater Quality Best Management Practice Inspection and Maintenance Field Guide*. n.d. Colorado State University. < http://stormwatercenter.colostate.edu/wp-content/uploads/2018/04/BMP_I-M_Manual_med.pdf>

Urban Drainage and Flood Control District (UDFCD). 2010. *Urban Storm Drainage Criteria Manual (USDCM) Volume 3 Stormwater Quality*. Chapter 6 BMP Maintenance. < https://udfcd.org/wp-content/uploads/2014/07/Chapter-6-BMP-Maintenance.pdf>

ATTACHMENT A. MAINTENANCE SCHEDULE AND DESCRIPTION

Bioretention (Rain Garden)

Recommended Maintenance Schedule and Description

Maintenance Schedule

Category	Element	Recommended Frequency
Routine	Visual Inspection	Twice annually following precipitation
	Debris and Litter Removal	As needed, checked monthly
	Mowing and Plant Care	Every two weeks, seasonally dependent
	Irrigation Scheduling and Maintenance	As needed, checked monthly
	Replacement of Wood Mulch	As needed, checked annually
Rehabilitative	Sediment Removal and Growing Media Replacement	As needed
	Erosion and Structural Repairs	As needed

Visual Inspection

Inspect the infiltrating surface at least twice annually following precipitation events to determine if the bioretention area is providing acceptable infiltration. Bioretention facilities are designed with a maximum depth for the WQCV of one foot and soils that will typically drain the WQCV over approximately 12 hours. If standing water persists for more than 24 hours after runoff has ceased, clogging should be further investigated and remedied. Additionally, check for erosion and repair as necessary.

Debris and Litter Removal

Remove debris and litter from the infiltrating surface to minimize clogging of the media. Remove debris and litter from the overflow structure.

Mowing and Plant Care

- **All vegetation:** Maintain healthy, weed-free vegetation. Weeds should be removed before they flower. The frequency of weeding will depend on the planting scheme and cover. When the growing media is covered with mulch or densely vegetated, less frequent weeding will be required.
- **Grasses:** When started from seed, allow time for germination and establishment of grass prior to mowing. If mowing is required during this period for weed control, it should be accomplished with hand-held string trimmers to minimize disturbance to the seedbed. After established, mow as desired or as needed for weed control. Following this period, mowing of native/drought tolerant grasses may stop or be reduced to maintain a length of no less than 6 inches. Mowing of manicured grasses may vary from as frequently as weekly during the summer, to no mowing during the winter.

Irrigation Scheduling and Maintenance

Adjust irrigation throughout the growing season to provide the proper irrigation application rate to maintain healthy vegetation. Less irrigation is typically needed in early summer and fall, while more irrigation is needed during the peak summer months. Native grasses and other drought tolerant plantings should not typically require routine irrigation after establishment, except during prolonged dry periods.

Check for broken sprinkler heads and repair them, as needed. Completely drain the irrigation system before the first winter freeze each year. Upon reactivation of the irrigation system in the spring, inspect all components and replace damaged parts, as needed.

Replacement of Wood Mulch

Replace wood mulch only when needed to maintain a mulch depth of up to approximately 3 inches. Excess mulch will reduce the volume available for storage.

Sediment Removal and Growing Media Replacement

If ponded water is observed in a bioretention cell more than 24 hours after the end of a runoff event, check underdrain outfall locations and clean-outs for blockages. Maintenance activities to restore infiltration capacity of bioretention facilities will vary with the degree and nature of the clogging. If clogging is primarily related to sediment accumulation on the filter surface, infiltration may be improved by removing excess accumulated sediment and scarifying the surface of the filter with a rake. If the clogging is due to migration of sediments deeper into the pore spaces of the media, removal and replacement of all or a portion of the media may be required. The frequency of media replacement will depend on site-specific pollutant loading characteristics. Based on experience to date in the metro Denver area, the required frequency of media replacement is not known. To date UDFCD is not aware of any rain gardens constructed to the recommendations of these criteria that have required full replacement of the growing media. Although surface clogging of the media is expected over time, established root systems promote infiltration. This means that mature vegetation that covers the filter surface should increase the life span of the growing media, serving to promote infiltration even as the media surface clogs.

Erosion and Structural Repairs

Repair basin inlets, outlets, and all other structural components required for the basin to operate as intended. Repair and vegetate eroded areas as needed following inspection.

ATTACHMENT B. INSPECTION FORM

Bioretention (Rain Garden) Inspection Form

This inspection form shall be completed annually, kept for a minimum of five years, and made available to Boulder County upon request.

1. Facility Information

Property Name:			
Address:			
Owner Name:		**Owner Phone:**	
Inspector Name:		**Inspector Phone:**	
Inspector Company:		**Date:**	

2. Inspection Findings

For each inspection item, provide one of the following scores:
0: No deficiency identified, 1: Monitor (potential future problem), 2: Routine maintenance needed, 3. Immediate repair needed, N/A: Not applicable

		Inspection Item	Score	Comment/Description
1		***Inflow Point***		
	A	Sediment/trash/debris removal		
	B	Runoff doesn't enter inlet due to elevation or obstruction		
	C	Erosion/structural damage		
2		***Forebay/Energy Dissipation***		
	A	Sediment/trash/debris removal		
	B	Drain pipe/weir clogged		
3		***Filter Media***		
	A	Evidence of clogged media		
	B	Uneven grading/mounding of landscape material		
4		***Underdrain***		
	A	Evidence of clogged underdrain		
	B	Cleanout caps missing/access obstructed		
	C	Underdrain orifice plate obstructed or missing		
5		***Outlet Structure***		
	A	Outlet overflow elevation/depth insufficient		
	B	Flow control/drain pipe clogged		
6		***Embankments/Containment Walls***		
	A	Sparse vegetation/erosion present		
	B	Structural damage		
	C	Encroachment into facility/easement by other activities		
7		***Vegetation***		
	A	Dead/unhealthy vegetation		
	B	Overgrowth of weeds		
	C	Irrigation system broken/inadequate		
8		***Other***		
	A	Nuisance observed (odor, insects, etc)		
	B	Complaints on facility condition received		
	C	Other:		
	D	Other:		

3. Maintenance Actions

Maintenance actions completed or scheduled as part of inspection.

	Maintenance Action	Date
1		
2		
3		

Refer to the Colorado Stormwater Center (http://stormwatercenter.colostate.edu) Inspection and Maintenance Field Guide, Sand Filters/Bioretention section (p. 29 - 46) for further description on inspection items.

ATTACHMENT C. BMP DETAIL DRAWINGS

(TO BE INCLUDED WITH FINAL DRAINAGE REPORT)

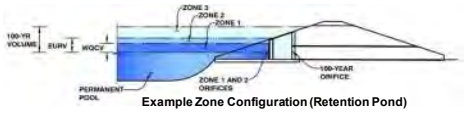
APPENDIX E
Water Quality Calculations

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.03 (May 2020)

Project: Hillside School

Basin ID: A1



Example Zone Configuration (Retention Pond)

Watershed Information

Selected BMP Type =	RG	
Watershed Area =	0.55	acres
Watershed Length =	250	ft
Watershed Length to Centroid =	120	ft
Watershed Slope =	0.060	ft/ft
Watershed Imperviousness =	73.8%	percent
Percentage Hydrologic Soil Group A =	0.0%	percent
Percentage Hydrologic Soil Group B =	0.0%	percent
Percentage Hydrologic Soil Groups C/D =	100.0%	percent
Target WQCV Drain Time =	12.0	hours
Location for 1-hr Rainfall Depths =	User Input	

After providing required inputs above including 1-hour rainfall depths, click 'Run CUHP' to generate runoff hydrographs using the embedded Colorado Urban Hydrograph Procedure.

			Optional User Overrides
Water Quality Capture Volume (WQCV) =	0.011	acre-feet	acre-feet
Excess Urban Runoff Volume (EURV) =	0.040	acre-feet	acre-feet
2-yr Runoff Volume (P1 = 0.79 in.) =	0.023	acre-feet	0.79 inches
5-yr Runoff Volume (P1 = 1.07 in.) =	0.033	acre-feet	1.07 inches
10-yr Runoff Volume (P1 = 1.35 in.) =	0.045	acre-feet	1.35 inches
25-yr Runoff Volume (P1 = 1.79 in.) =	0.065	acre-feet	1.79 inches
50-yr Runoff Volume (P1 = 2.19 in.) =	0.083	acre-feet	2.19 inches
100-yr Runoff Volume (P1 = 2.64 in.) =	0.104	acre-feet	2.64 inches
500-yr Runoff Volume (P1 = 3.88 in.) =	0.160	acre-feet	3.88 inches
Approximate 2-yr Detention Volume =	0.024	acre-feet	
Approximate 5-yr Detention Volume =	0.035	acre-feet	
Approximate 10-yr Detention Volume =	0.044	acre-feet	
Approximate 25-yr Detention Volume =	0.054	acre-feet	
Approximate 50-yr Detention Volume =	0.060	acre-feet	
Approximate 100-yr Detention Volume =	0.069	acre-feet	

Define Zones and Basin Geometry

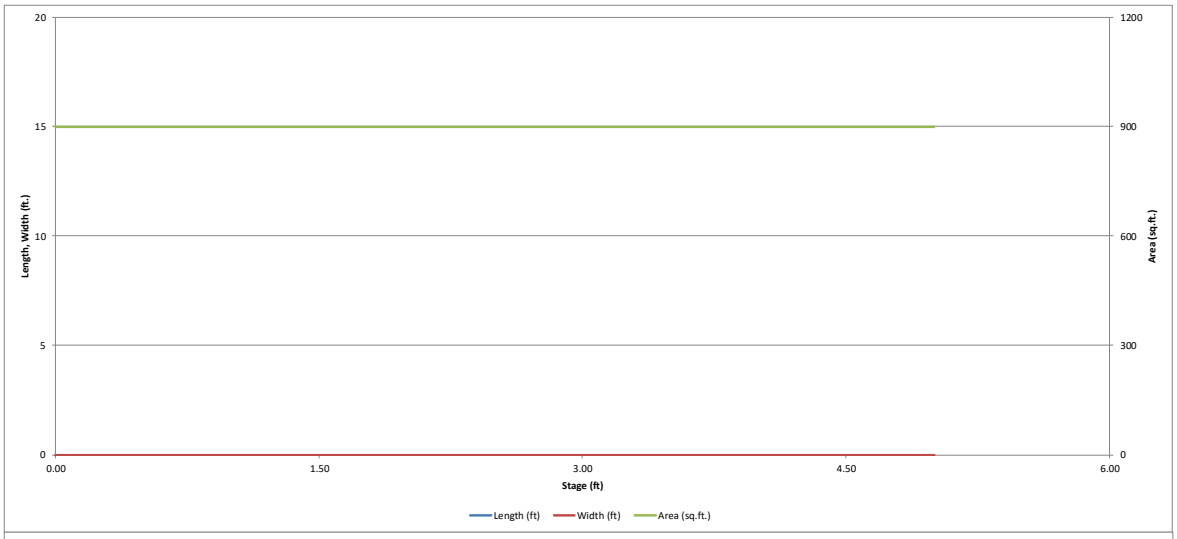
Zone 1 Volume (WQCV) =	0.011	acre-feet
Zone 2 Volume (5-year - Zone 1) =	0.024	acre-feet
Zone 3 Volume (100-year - Zones 1 & 2) =	0.034	acre-feet
Total Detention Basin Volume =	0.069	acre-feet
Initial Surcharge Volume (ISV) =	N/A	ft^3
Initial Surcharge Depth (ISD) =	N/A	ft
Total Available Detention Depth (H_{total}) =	user	ft
Depth of Trickle Channel (H_{TC}) =	N/A	ft
Slope of Trickle Channel (S_{TC}) =	N/A	ft/ft
Slopes of Main Basin Sides (S_{main}) =	user	H:V
Basin Length-to-Width Ratio (R_{LW}) =	user	
Initial Surcharge Area (A_{ISV}) =	user	ft^2
Surcharge Volume Length (L_{ISV}) =	user	ft
Surcharge Volume Width (W_{ISV}) =	user	ft
Depth of Basin Floor (H_{FLOOR}) =	user	ft
Length of Basin Floor (L_{FLOOR}) =	user	ft
Width of Basin Floor (W_{FLOOR}) =	user	ft
Area of Basin Floor (A_{FLOOR}) =	user	ft^2
Volume of Basin Floor (V_{FLOOR}) =	user	ft^3
Depth of Main Basin (H_{MAIN}) =	user	ft
Length of Main Basin (L_{MAIN}) =	user	ft
Width of Main Basin (W_{MAIN}) =	user	ft
Area of Main Basin (A_{MAIN}) =	user	ft^2
Volume of Main Basin (V_{MAIN}) =	user	ft^3
Calculated Total Basin Volume (V_{total}) =	**user**	acre-feet

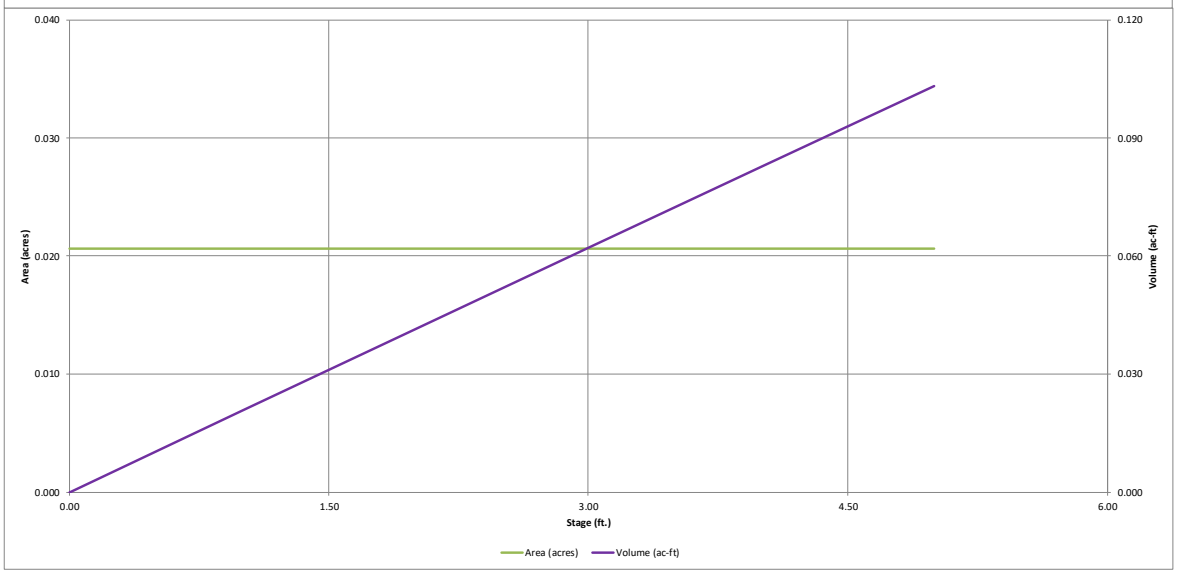
Depth Increment = 1.00 ft

Stage - Storage Description	Stage (ft)	Optional Override Stage (ft)	Length (ft)	Width (ft)	Area (ft^2)	Optional Override Area (ft^2)	Area (acre)	Volume (ft^3)	Volume (ac-ft)
Media Surface	--	0.00	--	--	--	900	0.021		
	--	1.00	--	--	--	900	0.021	900	0.021
	--	2.00	--	--	--	900	0.021	1,800	0.041
	--	3.00	--	--	--	900	0.021	2,700	0.062
	--	4.00	--	--	--	900	0.021	3,600	0.083
	--	5.00	--	--	--	900	0.021	4,500	0.103

DETENTION BASIN STAGE-STORAGE TABLE BUILDER

MHFD-Detention, Version 4.03 (May 2020)



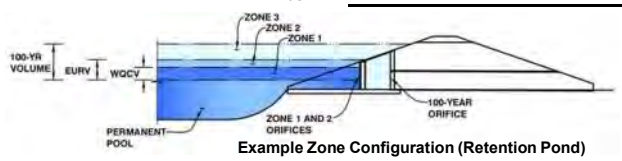


DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.03 (May 2020)

Project: Hillside School

Basin ID: A1



Example Zone Configuration (Retention Pond)

	Estimated Stage (ft)	Estimated Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	0.53	0.011	Filtration Media
Zone 2 (5-year)	1.71	0.024	Weir&Pipe (Circular)
Zone 3 (100-year)	3.36	0.034	Weir (No Pipe)
Total (all zones)		0.069	

User Input: Orifice at Underdrain Outlet (typically used to drain WQCV in a Filtration BMP)

Underdrain Orifice Invert Depth =	2.00	ft (distance below the filtration media surface)	Underdrain Orifice Area =	0.0	ft^2
Underdrain Orifice Diameter =	0.53	inches	Underdrain Orifice Centroid =	0.02	feet

Calculated Parameters for Underdrain

User Input: Orifice Plate with one or more orifices or Elliptical Slot Weir (typically used to drain WQCV and/or EURV in a sedimentation BMP)

Invert of Lowest Orifice =	N/A	ft (relative to basin bottom at Stage = 0 ft)	WQ Orifice Area per Row =	N/A	ft^2
Depth at top of Zone using Orifice Plate =	N/A	ft (relative to basin bottom at Stage = 0 ft)	Elliptical Half-Width =	N/A	feet
Orifice Plate: Orifice Vertical Spacing =	N/A	inches	Elliptical Slot Centroid =	N/A	feet
Orifice Plate: Orifice Area per Row =	N/A	inches	Elliptical Slot Area =	N/A	ft^2

Calculated Parameters for Plate

User Input: Stage and Total Area of Each Orifice Row (numbered from lowest to highest)

	Row 1 (optional)	Row 2 (optional)	Row 3 (optional)	Row 4 (optional)	Row 5 (optional)	Row 6 (optional)	Row 7 (optional)	Row 8 (optional)
Stage of Orifice Centroid (ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Orifice Area (sq. inches)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

	Row 9 (optional)	Row 10 (optional)	Row 11 (optional)	Row 12 (optional)	Row 13 (optional)	Row 14 (optional)	Row 15 (optional)	Row 16 (optional)
Stage of Orifice Centroid (ft)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Orifice Area (sq. inches)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

User Input: Vertical Orifice (Circular or Rectangular)

	Not Selected	Not Selected			Not Selected	Not Selected
Invert of Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Area =	N/A	N/A
Depth at top of Zone using Vertical Orifice =	N/A	N/A	ft (relative to basin bottom at Stage = 0 ft)	Vertical Orifice Centroid =	N/A	N/A
Vertical Orifice Diameter =	N/A	N/A	inches			

Calculated Parameters for Vertical Orif

User Input: Overflow Weir (Dropbox with Flat or Sloped Grate and Outlet Pipe OR Rectangular/Trapezoidal Weir (and No Outlet Pipe)

	Zone 2 Weir	Zone 3 Weir			Zone 2 Weir	Zone 3 Weir
Overflow Weir Front Edge Height, Ho =	1.00	2.00	ft (relative to basin bottom at Stage = 0 ft)	Height of Grate Upper Edge, H_t =	1.00	N/A
Weir Front Edge Length OR Weir Bottom Length	2.00	2.00	feet	Overflow Weir Slope Length =	2.00	N/A
Weir Grate Slope OR Weir Side Slopes	0.00	4.00	H:V	Grate Open Area / 100-yr Orifice Area =	14.26	N/A
Horiz. Length of Weir Sides =	2.00	N/A	feet	Overflow Grate Open Area w/o Debris =	2.80	N/A
Overflow Grate Open Area % =	70%	N/A	%, grate open area/total area	Overflow Grate Open Area w/ Debris =	2.80	N/A
Debris Clogging % =	0%	N/A	%			

Calculated Parameters for Overflow W

User Input: Outlet Pipe w/ Flow Restriction Plate (Circular Orifice, Restrictor Plate, or Rectangular Orifice)

	Zone 2 Circular	Not Selected			Zone 2 Circular	Not Selected
Depth to Invert of Outlet Pipe =	2.10	N/A	ft (distance below basin bottom at Stage = 0 ft)	Outlet Orifice Area =	0.20	N/A
Circular Orifice Diameter =	6.00	N/A	inches	Outlet Orifice Centroid =	0.25	N/A
				Half-Central Angle of Restrictor Plate on Pipe =	N/A	N/A

Calculated Parameters for Outlet Pipe w/ Flow Restriction Pla

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage=	2.10	ft (relative to basin bottom at Stage = 0 ft)	Spillway Design Flow Depth=	0.18	feet
Spillway Crest Length =	10.00	feet	Stage at Top of Freeboard =	2.38	feet
Spillway End Slopes =	4.00	H:V	Basin Area at Top of Freeboard =	0.02	acres
Freeboard above Max Water Surface =	0.10	feet	Basin Volume at Top of Freeboard =	0.05	acre-ft

Calculated Parameters for Spillway

Routed Hydrograph Results *The user can override the default CUHP hydrographs and runoff volumes by entering new values in the Inflow Hydrographs table (Columns W through AI*

Design Storm Return Period =	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
One-Hour Rainfall Depth (in) =	N/A	N/A	0.79	1.07	1.35	1.79	2.19	2.64
CUHP Runoff Volume (acre-ft) =	0.011	0.040	0.023	0.033	0.045	0.065	0.083	0.104
Inflow Hydrograph Volume (acre-ft) =	N/A	N/A	0.023	0.033	0.045	0.065	0.083	0.104
CUHP Predevelopment Peak Q (cfs) =	N/A	N/A	0.01	0.05	0.18	0.48	0.70	0.96
OPTIONAL Override Predevelopment Peak Q (cfs) =	N/A	N/A						
Predevelopment Unit Peak Flow, q (cfs/acre) =	N/A	N/A	0.01	0.09	0.33	0.88	1.27	1.75
Peak Inflow Q (cfs) =	N/A	N/A	0.46	0.66	0.88	1.33	1.70	2.10
Peak Outflow Q (cfs) =	0.01	1.77	0.02	0.22	0.58	1.54	1.64	1.70
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	4.4	3.2	3.2	2.3	1.8
Structure Controlling Flow =	Filtration Media	Outlet Plate 1	Overflow Weir 1	Overflow Weir 1	Overflow Weir 1	Outlet Plate 1	Outlet Plate 1	Outlet Plate 1
Max Velocity through Grate 1 (fps) =	N/A	0.65	0.00	0.1	0.2	0.6	0.6	0.6
Max Velocity through Grate 2 (fps) =	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Time to Drain 97% of Inflow Volume (hours) =	12	18	23	23	23	22	21	21
Time to Drain 99% of Inflow Volume (hours) =	**12**	19	24	24	24	23	23	23
Maximum Ponding Depth (ft) =	0.54	1.94	1.00	1.03	1.06	1.13	1.15	1.37
Area at Maximum Ponding Depth (acres) =	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Maximum Volume Stored (acre-ft) =	0.011	0.040	0.021	0.021	0.022	0.023	0.024	0.028

ice

ft^2
feet

eir

feet
feet

ft^2
ft^2

ate

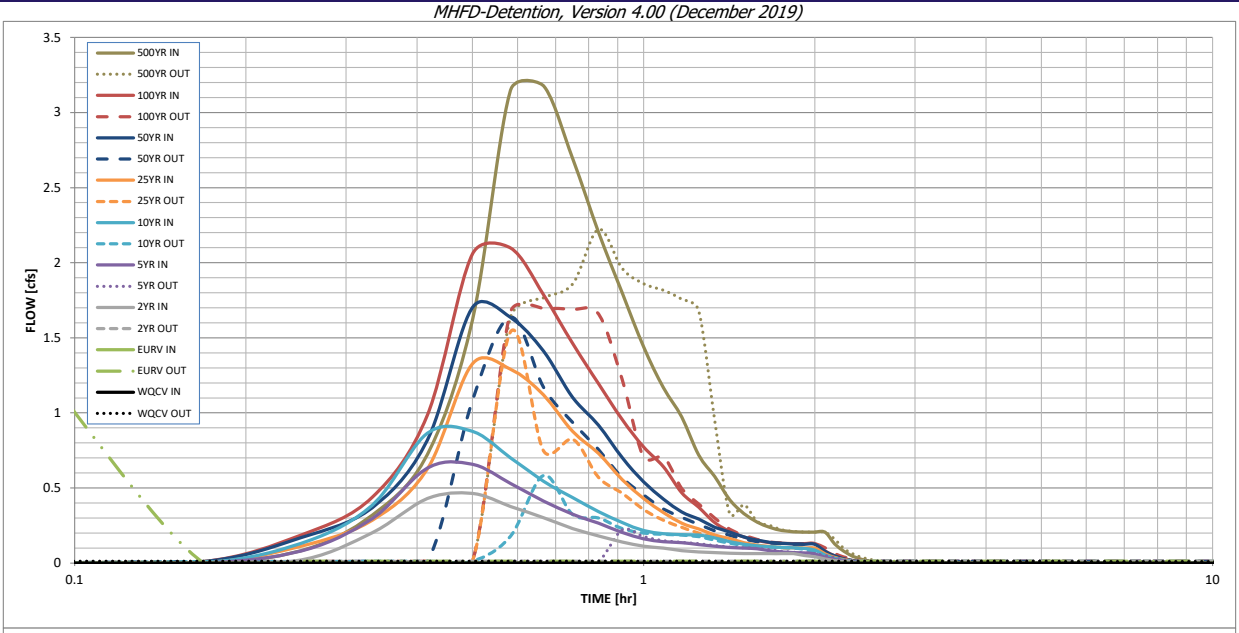
ft^2
feet
radians

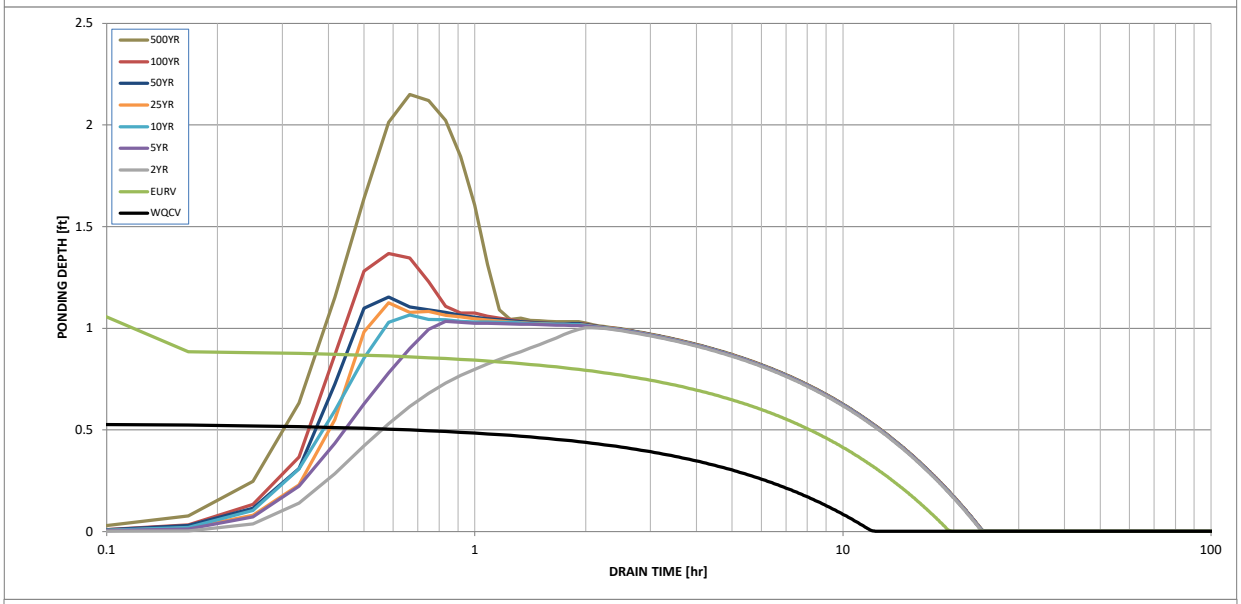
5).

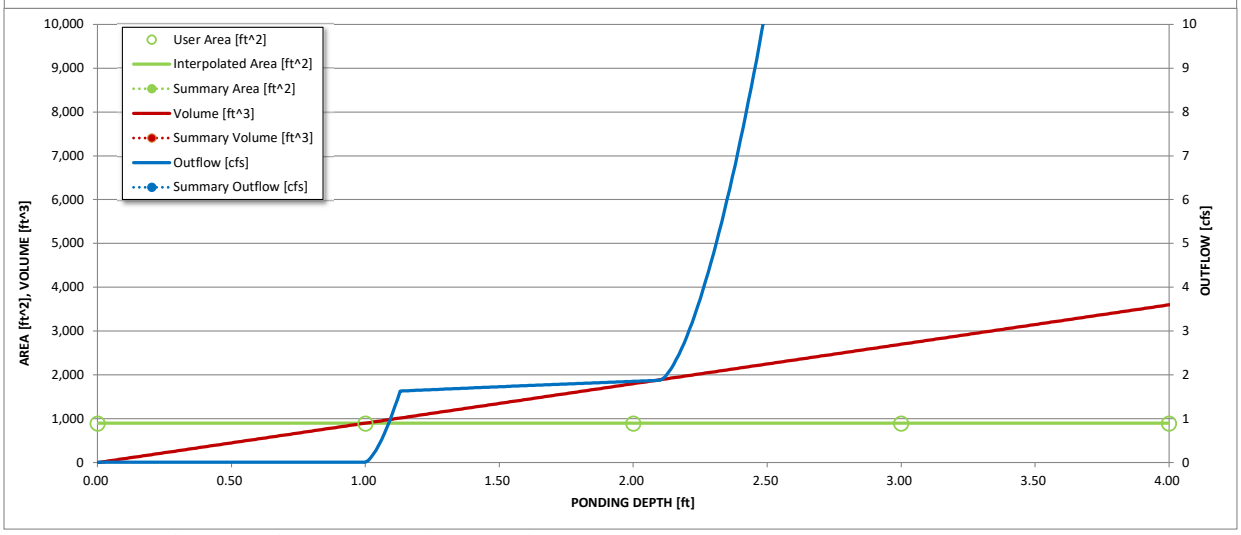
500 Year
3.88
0.160
0.160
1.64
2.99
3.18
2.22
1.4
Spillway
0.7
N/A
19
22
2.15
0.02
0.044

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.00 (December 2019)







S-A-V-D Chart Axis Override	X-axis	Left Y-Axis	Right Y-Axis
minimum bound			
maximum bound			

DETENTION BASIN OUTLET STRUCTURE DESIGN

Outflow Hydrograph Workbook Filename:

Inflow Hydrographs

The user can override the calculated inflow hydrographs from this workbook with inflow hydrographs developed in a separate program.

	SOURCE	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP
Time Interval	TIME	WQCV [cfs]	EURV [cfs]	2 Year [cfs]	5 Year [cfs]	10 Year [cfs]	25 Year [cfs]	50 Year [cfs]	100 Year [cfs]	500 Year [cfs]
5.00 min	0:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	0:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.08
	0:15:00	0.00	0.00	0.02	0.08	0.13	0.11	0.17	0.19	0.32
	0:20:00	0.00	0.00	0.20	0.30	0.39	0.29	0.37	0.44	0.72
	0:25:00	0.00	0.00	0.43	0.63	0.86	0.63	0.82	0.98	1.62
	0:30:00	0.00	0.00	0.46	0.66	0.88	1.33	1.70	2.06	3.15
	0:35:00	0.00	0.00	0.38	0.53	0.70	1.29	1.64	2.10	3.18
	0:40:00	0.00	0.00	0.30	0.41	0.55	1.12	1.41	1.79	2.70
	0:45:00	0.00	0.00	0.23	0.33	0.44	0.88	1.10	1.46	2.20
	0:50:00	0.00	0.00	0.18	0.27	0.34	0.73	0.92	1.19	1.80
	0:55:00	0.00	0.00	0.14	0.20	0.27	0.56	0.70	0.96	1.44
	1:00:00	0.00	0.00	0.11	0.16	0.22	0.43	0.54	0.77	1.17
	1:05:00	0.00	0.00	0.10	0.14	0.20	0.34	0.43	0.64	0.97
	1:10:00	0.00	0.00	0.08	0.14	0.19	0.27	0.34	0.47	0.72
	1:15:00	0.00	0.00	0.07	0.12	0.19	0.23	0.29	0.37	0.58
	1:20:00	0.00	0.00	0.07	0.11	0.17	0.19	0.24	0.27	0.42
	1:25:00	0.00	0.00	0.07	0.10	0.14	0.16	0.21	0.21	0.33
	1:30:00	0.00	0.00	0.06	0.10	0.13	0.14	0.17	0.17	0.27
	1:35:00	0.00	0.00	0.06	0.10	0.12	0.12	0.15	0.15	0.24
	1:40:00	0.00	0.00	0.06	0.08	0.11	0.11	0.14	0.14	0.22
	1:45:00	0.00	0.00	0.06	0.07	0.10	0.10	0.13	0.13	0.21
	1:50:00	0.00	0.00	0.06	0.07	0.10	0.10	0.13	0.13	0.21
	1:55:00	0.00	0.00	0.05	0.07	0.10	0.10	0.13	0.13	0.21
	2:00:00	0.00	0.00	0.04	0.06	0.09	0.10	0.12	0.13	0.21
	2:05:00	0.00	0.00	0.03	0.04	0.05	0.06	0.08	0.08	0.13
	2:10:00	0.00	0.00	0.02	0.02	0.03	0.04	0.05	0.05	0.08
	2:15:00	0.00	0.00	0.01	0.01	0.02	0.02	0.03	0.03	0.05
	2:20:00	0.00	0.00	0.00	0.01	0.01	0.01	0.02	0.02	0.03
	2:25:00	0.00	0.00	0.00	0.00	0.00	0.01	0.01	0.01	0.01
	2:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	2:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	3:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	4:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:05:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:10:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:15:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:20:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:25:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:30:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:35:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:40:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:45:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:50:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	5:55:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	6:00:00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Design Procedure Form: Runoff Reduction

UD-BMP (Version 3.07, March 2018) **Sheet 1 of 1**

Designer:	**MLM**
Company:	**The Sanitas Group**
Date:	**September 18, 2020**
Project:	**Hillside School**
Location:	**Basin A2**

SITE INFORMATION (User Input in Blue Cells)

WQCV Rainfall Depth = 0.60 inches

Depth of Average Runoff Producing Storm, d_6 = 0.43 inches (for Watersheds Outside of the Denver Region, Figure 3-1 in USDCM Vol. 3)

Area Type	UIA:RPA											
Area ID	A2											
Downstream Design Point ID	DP 1											
Downstream BMP Type	None											
DCIA (ft^2)	--											
UIA (ft^2)	1,433											
RPA (ft^2)	10,150											
SPA (ft^2)	--											
HSG A (%)	0%											
HSG B (%)	0%											
HSG C/D (%)	100%											
Average Slope of RPA (ft/ft)	0.080											
UIA:RPA Interface Width (ft)	50.00											

CALCULATED RUNOFF RESULTS

Area ID	A2											
UIA:RPA Area (ft^2)	11,583											
L / W Ratio	4.63											
UIA / Area	0.1237											
Runoff (in)	0.00											
Runoff (ft^3)	0											
Runoff Reduction (ft^3)	60											

CALCULATED WQCV RESULTS

Area ID	A2											
WQCV (ft^3)	60											
WQCV Reduction (ft^3)	60											
WQCV Reduction (%)	100%											
Untreated WQCV (ft^3)	0											

CALCULATED DESIGN POINT RESULTS (sums results from all columns with the same Downstream Design Point ID)

Downstream Design Point ID	DP 1											
DCIA (ft^2)	0											
UIA (ft^2)	1,433											
RPA (ft^2)	10,150											
SPA (ft^2)	0											
Total Area (ft^2)	11,583											
Total Impervious Area (ft^2)	1,433											
WQCV (ft^3)	60											
WQCV Reduction (ft^3)	60											
WQCV Reduction (%)	100%											
Untreated WQCV (ft^3)	0											

CALCULATED SITE RESULTS (sums results from all columns in worksheet)

Total Area (ft^2)	11,583
Total Impervious Area (ft^2)	1,433
WQCV (ft^3)	60
WQCV Reduction (ft^3)	60
WQCV Reduction (%)	100%
Untreated WQCV (ft^3)	0

Design Procedure Form: Runoff Reduction

UD-BMP (Version 3.07, March 2018) **Sheet 1 of 1**

Designer:	**MLM**
Company:	**The Sanitas Group**
Date:	**September 18, 2020**
Project:	**Hillside School**
Location:	**Basin B1**

SITE INFORMATION (User Input in Blue Cells)

WQCV Rainfall Depth = 0.60 inches

Depth of Average Runoff Producing Storm, d_6 = 0.43 inches (for Watersheds Outside of the Denver Region, Figure 3-1 in USDCM Vol. 3)

Area Type	UIA:RPA											
Area ID	B1											
Downstream Design Point ID	DP 2											
Downstream BMP Type	None											
DCIA (ft^2)	--											
UIA (ft^2)	967											
RPA (ft^2)	1,750											
SPA (ft^2)	--											
HSG A (%)	0%											
HSG B (%)	0%											
HSG C/D (%)	100%											
Average Slope of RPA (ft/ft)	0.020											
UIA:RPA Interface Width (ft)	150.00											

CALCULATED RUNOFF RESULTS

Area ID	B1											
UIA:RPA Area (ft^2)	2,717											
L / W Ratio	0.12											
UIA / Area	0.3559											
Runoff (in)	0.00											
Runoff (ft^3)	0											
Runoff Reduction (ft^3)	40											

CALCULATED WQCV RESULTS

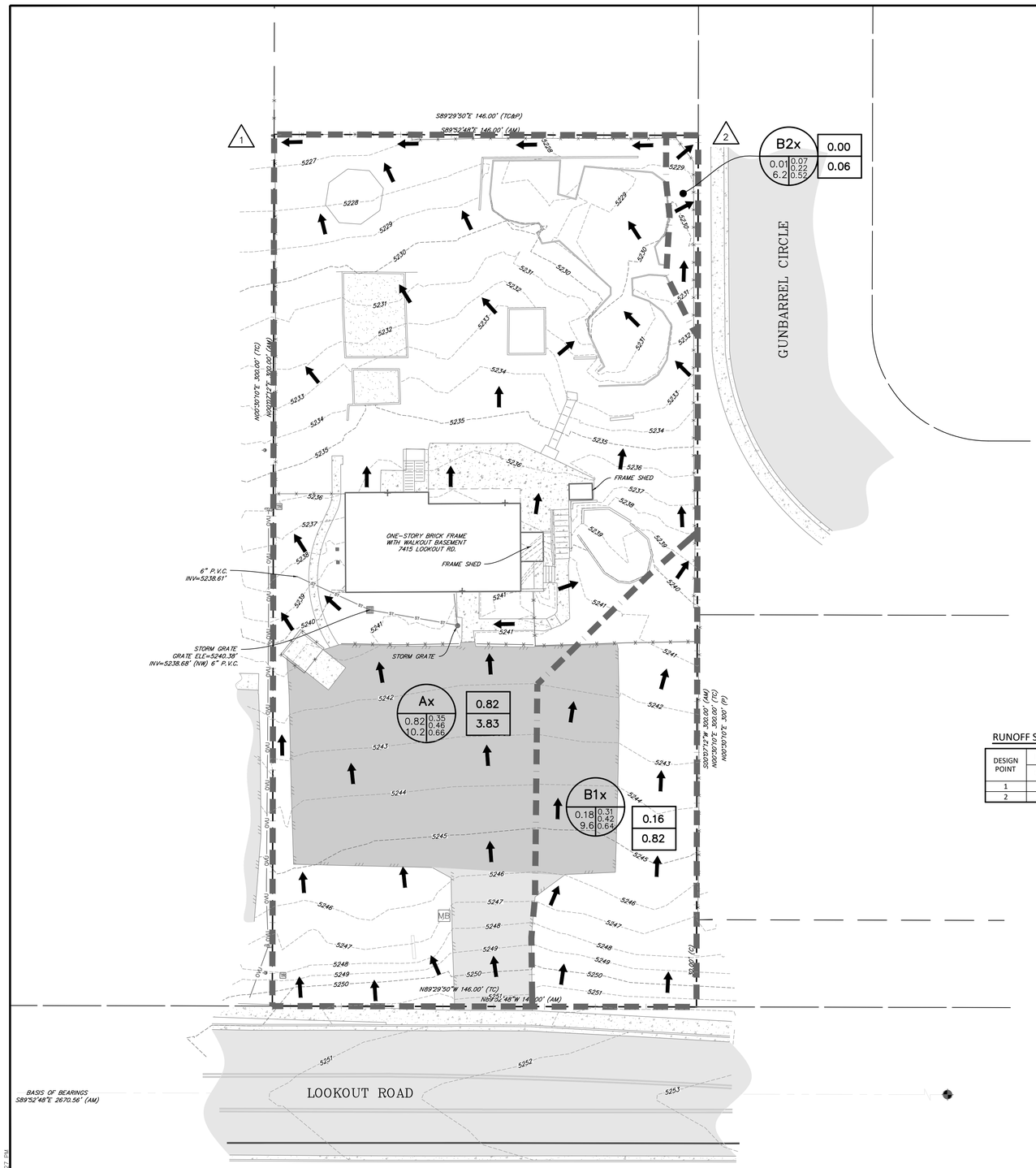
Area ID	B1											
WQCV (ft^3)	40											
WQCV Reduction (ft^3)	40											
WQCV Reduction (%)	100%											
Untreated WQCV (ft^3)	0											

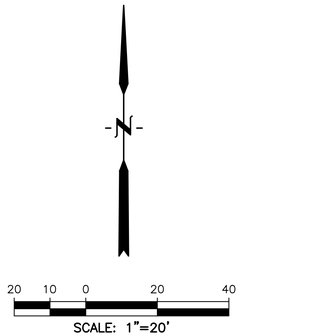
CALCULATED DESIGN POINT RESULTS (sums results from all columns with the same Downstream Design Point ID)

Downstream Design Point ID	DP 2											
DCIA (ft^2)	0											
UIA (ft^2)	967											
RPA (ft^2)	1,750											
SPA (ft^2)	0											
Total Area (ft^2)	2,717											
Total Impervious Area (ft^2)	967											
WQCV (ft^3)	40											
WQCV Reduction (ft^3)	40											
WQCV Reduction (%)	100%											
Untreated WQCV (ft^3)	0											

CALCULATED SITE RESULTS (sums results from all columns in worksheet)

Total Area (ft^2)	2,717
Total Impervious Area (ft^2)	967
WQCV (ft^3)	40
WQCV Reduction (ft^3)	40
WQCV Reduction (%)	100%
Untreated WQCV (ft^3)	0





LEGEND

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EX. FENCE
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. SPOT ELEVATION
- EX. STORM SEWER
- EX. UTILITY MANHOLE
- EX. OVERHEAD UTILITIES
- EX. UTILITY POLE
- EX. ASPHALT PAVEMENT
- EX. CONCRETE
- EXISTING STORM STRUCTURE DESIGNATOR
- DRAINAGE BASIN BOUNDARY
- DRAINAGE BASIN ID
- DRAINAGE BASIN DESIGNATOR
- BASIN AREA [AC]
- TIME OF CONCENTRATION [MIN]
- RUNOFF COEFFICIENTS
- MINOR STORM RUNOFF
- DRAINAGE BASIN STORM RUNOFF [CFS]
- MAJOR STORM RUNOFF
- STORM WATER FLOW DIRECTION
- DESIGN POINT

RUNOFF SUMMARY TABLE

DESIGN POINT	EXISTING CONDITIONS	
	Q5 [CFS]	Q100 [CFS]
1	0.82	3.83
2	0.16	0.88

EXISTING CONDITIONS SURVEY NOTES

1. THE EXISTING CONDITIONS BASED ON THE ALTA/ACSM LAND TITLE SURVEY PREPARED BY FLATIRONS, INC., DATED 05/02/2011, JOB NO. 11-58,134.
2. THE LOCATION OF THE UTILITIES SHOWN HEREON ARE BASED ON THE FIELD SURVEY BY FLATIRONS, INC. THE LOCATIONS OF THE UNDERGROUND UTILITIES SHOWN HEREON ARE BASED ON SAID SURVEY AND INFORMATION PROVIDED BY OTHERS (WHICH MAY INCLUDE GIS DATA, THE UTILITY OWNER OR UTILITY LOCATING SERVICES). THE SANITAS GROUP, LLC IS NOT RESPONSIBLE FOR UTILITY INFORMATION PROVIDED BY OTHERS. THE SANITAS GROUP, LLC RECOMMENDS THAT THE LOCATION OF THE UTILITIES BE FIELD VERIFIED PRIOR TO ANY DIGGING ON, OR ADJACENT TO THE SUBJECT PROPERTY.
3. EXISTING TREE LOCATIONS ARE BASED ON THE FIELD SURVEY BY FLATIRONS, INC.
4. BASIS OF BEARINGS: GPS DERIVED BEARINGS BASED ON A BEARING OF SOUTH 89°52'48" EAST ALONG THE SOUTH LINE OF THE SOUTHWEST QUARTER OF SECTION 1, T 1 N, R 70 W OF THE 6TH P.M.
5. THE SUBJECT PROPERTY CONTAINS A GROSS AREA OF 43,800 SQUARE FEET (1.01 ACRES), MORE OR LESS.
6. BENCHMARK: ELEVATIONS BASED ON NGS POINT C 119 MP49.50, BEING A STANDARD COLORADO DEPARTMENT OF HIGHWAYS CONTROL DISK SET ON A SHALLOW DEPTH ROD FLUSH WITH THE GROUND LOCATED AT THE SOUTHEAST CORNER OF STATE HIGHWAY 52 AND STATE HIGHWAY 119.
   ELEVATION = 5154.19 FEET, NAVD88 DATUM.

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CONCEPTUAL DOCUMENTS FOR:

HILLSIDE SCHOOL
7415 LOOKOUT ROAD
UNICORPORATED BOULDER COUNTY, STATE OF COLORADO

ISSUE	DATE
CONCEPT REVIEW	09/21/2020

DESIGNED BY:	CCS
DRAWN BY:	TSG
CHECKED BY:	

DRAWING SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: NONE

EXISTING CONDITIONS DRAINAGE

PROJECT NO. B1335

DR1

SHEET: 1 OF 2

1335DR-X

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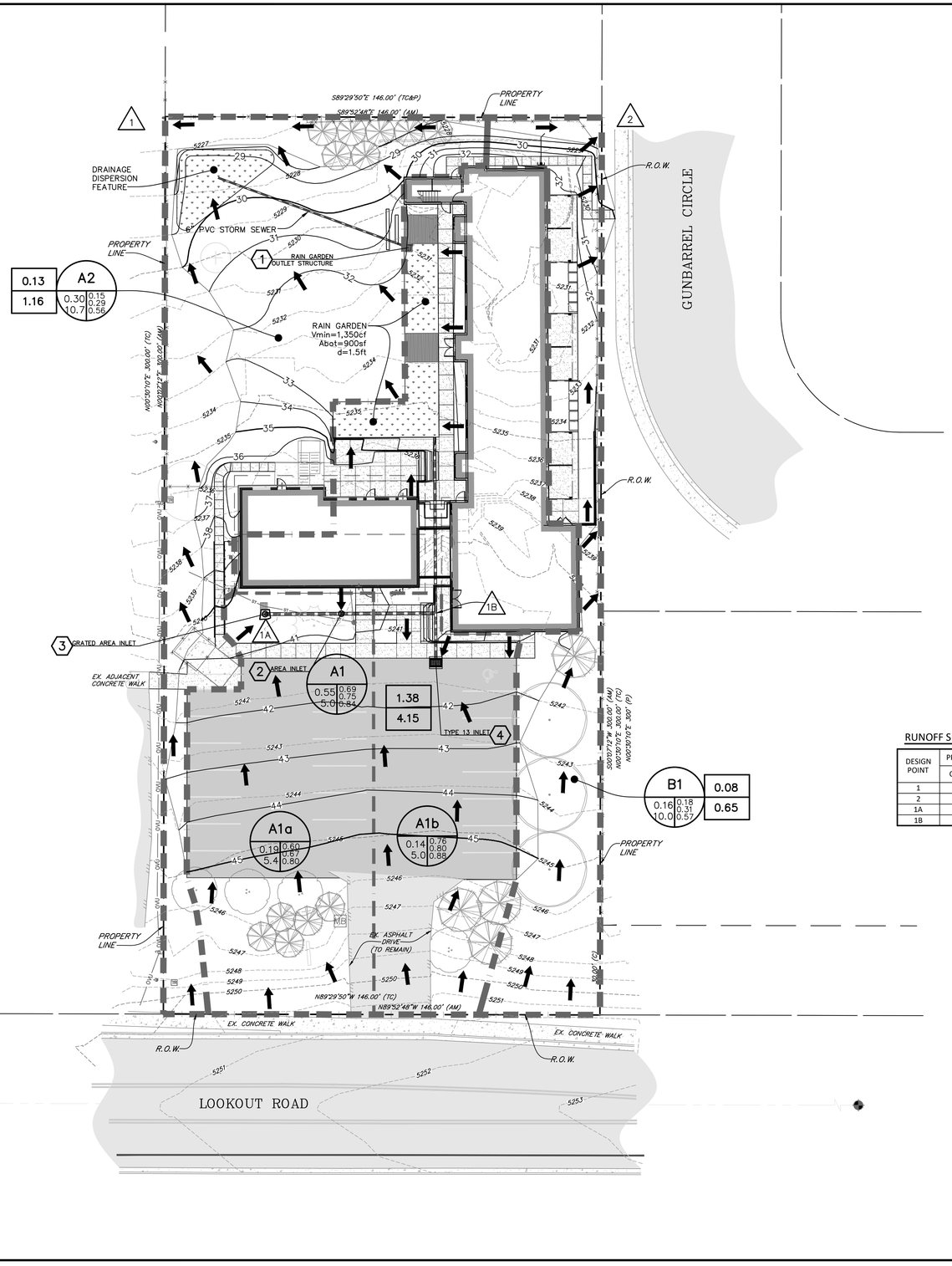

RUNOFF SUMMARY TABLE

DESIGN POINT	PROPOSED CONDITIONS	
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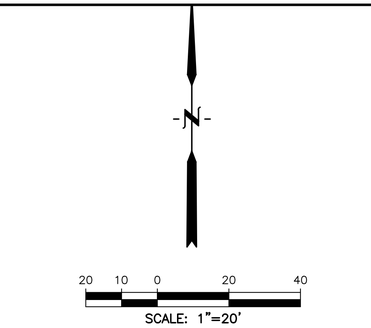
2	0.08	0.65
1A	0.40	1.30
1B	0.79	2.40



LEGEND

- PROPERTY BOUNDARY
- ADJACENT PROPERTY BOUNDARY
- EX. FENCE
- EX. MAJOR CONTOUR
- EX. MINOR CONTOUR
- EX. SPOT ELEVATION
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   ELEVATION = 5154.19 FEET, NAVD88 DATUM.

Know what's **below.** **Call** before you dig.

1335DR-P

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ISSUE	DATE
CONCEPT REVIEW	09/21/2020

DESIGNED BY:	CCS
DRAWN BY:	TSG
CHECKED BY:	

DRAWING SCALE:
HORIZONTAL: 1" = 20'
VERTICAL: NONE

PROPOSED CONDITIONS DRAINAGE

PROJECT NO. B1335

DR2

SHEET: 2 OF 2

9/21/2020 10:57:36 PM

HILLSIDE SCHOOL

Transportation System Impact Study

Date: September 16, 2020

Submitted To:
caddis architecture , etc.
1510 Zamia Ave, #103
Boulder, CO 80304

Submitted By:
Fox Tuttle Transportation Group, LLC
1624 Market Street, Suite 202
Denver, CO 80202

FOX TUTTLE

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APPENDIX

HILLSIDE SCHOOL

TRANSPORTATION SYSTEM TRAFFIC IMPACT STUDY

1.0 INTRODUCTION

The Fox Tuttle Transportation Group has prepared this traffic impact study for the proposed expansion of the Hillside School in Boulder County, Colorado. The school is located on the north side of Lookout Road, just west of 75th Street in the Gunbarrel area at the northeast corner of the City of Boulder. A project vicinity map is included in **Figure 1**, which illustrates a 1-mile study area radius around the school site. The project proposes to construct a new or expanded school building and increase the number of students that will attend the school. The school shares its western property line with the adjacent Methodist Church and plans to share parking and access between the school and the church parking lots.

The purpose of this study is to assist in identifying potential multimodal traffic impacts within the study area as a result of this project. The study has been completed consistent with the Transportation System Impact Study (TSIS) requirements of Article 4 in Boulder County's Multimodal Design Standards. The traffic study addresses existing, site-build out (Year 2022), and long-term, 20-year (Year 2042) peak hour intersection and roadway conditions in the study area with and without the project-generated traffic. The information contained in this study is anticipated to be used by the Boulder County staff in identifying any intersection or roadway deficiencies and potential improvements for the build-out year and long-term future scenarios. This study focused on the weekday AM (7:30 – 8:30) and PM (3:00 – 4:00) peak hours when school access is occurring, which represents the periods of highest trip generation for the school site. It also includes an evaluation of roadway laneage needs, intersection traffic controls and multimodal facilities in the area.

2.0 PROJECT DESCRIPTION

The Hillside School operates with morning and afternoon sessions each school day, with different students and teachers attending each session. Currently there are 32 students and 8 teachers at the school during each session and the students and teachers transition in the middle of the day. When the school expansion is completed the school will have 68 students and 13 teachers in each of the morning and afternoon sessions.

The school site has a driveway onto Lookout Road which is located approximately 675 feet west of 75th Street and 575 feet east of Clubhouse Drive. The school has a 19-space parking lot in front of the building. The school also has a shared parking agreement in place with the Methodist Church which is immediately west of the school site. The church parking lot includes over 75 parking spaces accessed by its own driveway located approximately 270 feet west of the school driveway. The church activities typically do not overlap with the school activities on weekdays.

Figure 2 includes a site plan illustrating the expanded school building.

The school's proposed access plan is as follows:

- Teachers will park in the church parking lot.
- Parents accessing the site to drop-off or pick-up students are required to park in a marked parking space while students are accessing their vehicle.
- Given the relative size of the two parking lots, approximately 36% of the parents will be pre-directed to drop-off or pick-up their students in the school parking lot and the remaining 64% will be pre-directed to use the church parking lot for drop-off and pick-up activities.
- A paved sidewalk connection will be installed between the church and school parking lots.

The Hillside School draws students from communities across Boulder County and the western edge of Weld County. The travel patterns for parent vehicles accessing the project study area is illustrated on **Figure 3**. The school does not have any school bus service for students, but staff has an aggressive program of encouraging parents to form carpools for school access. Staff estimates that 1/3 of the students arrive in a vehicle with no other students, 1/3 of the students arrive with two students in the car, and 1/3 of the students arrive with three students in the car. This represents an estimated 38.5% Non-SSOV (single student occupant vehicle) reduction for student access to/from the site.

3.0 STUDY CONSIDERATIONS

3.1 Data Collection

Intersection turning movement volumes were collected in September 2020 at two existing intersections along Lookout Road during the weekday AM and PM peak hours. Historic daily traffic volumes in the study area were also compiled from Boulder County and City of Boulder traffic count maps. Unfortunately, the COVID-19 pandemic has altered typical travel patterns and it was necessary to adjust traffic counts to represent non-COVID conditions during school access

periods. **Figure 4** includes an estimate of non-COVID daily and peak hour traffic volumes in the study area. These estimates were prepared as follows:

- Current AM and PM peak hour counts were collected at the Lookout Road/71st Street and Lookout Road/75th Street intersections (see **Appendix**).

- The counts at the Lookout Road/71st Street intersection were compared to Boulder's 2018 counts (in **Appendix**) at this same intersection. An adjustment factor was developed between these two counts. It was determined that the current 2020 counts are approximately 58% of the pre-COVID 2018 counts. Therefore, it appears that the 2020 counts at Lookout Road/75th Street (where no historic counts exist) need to be inflated by a factor of 1.7 (1/0.58) to estimate existing conditions without COVID-19.

- Year 2018 counts at Lookout Road/71st Street were rounded up to represent non-COVID existing conditions.

- Year 2020 counts a Lookout Road/75th Street were adjusted using the factor developed above.

- Time of day traffic information from the City of Boulder's permanent count station on Lookout Road east of 75th Street (in **Appendix**) was used to estimate an adjustment factor between the typical evening peak hour (5:00 PM) and the late afternoon peak hour (3:00 PM) when the school traffic is busiest. It was determined that the traffic at 3:00 PM is approximately 77% of the traffic at 5:00 PM. This adjustment was applied to the PM peak hour traffic counts in the study area intersections.

- The morning school access traffic was assumed to occur during the normal AM peak hour so no adjustment was made to the AM peak traffic.

Existing traffic counts were not taken at the school access driveway or the church driveway given the impacts of COVID-19 on school attendance and access patterns.

Signal-related information for the Lookout Road/71st street intersection were obtained from the City of Boulder's traffic signal database and was utilized within the analysis.

3.2 Evaluation Methodology

The traffic operations analysis addressed the signalized and unsignalized intersection operations using the procedures and methodologies set forth by the *Highway Capacity Manual (HCM)*[1]. Study intersections were evaluated using Synchro software.

3.3 Level of Service Definitions

A level of service analysis was conducted to determine the existing and future performance of the study area intersections and to determine the most appropriate traffic control device and need for auxiliary lanes for the study intersections.

To measure and describe the operational status of the study intersections, transportation engineers and planners commonly use a grading system referred to as "Level of Service" (LOS) that is defined by the *HCM.* LOS characterizes the operational conditions of an intersections traffic flow, ranging from LOS A (indicating very good, free flow operations) and LOS F (indicating congested and sometimes oversaturated conditions). These grades represent the perspective of drivers and are an indication of the comfort and convenience associated with traveling through the intersections. The intersection LOS is represented as a delay in seconds per vehicle for the intersection as a whole and for each turning movement. A more detailed discussion of LOS methodology is contained in the **Appendix** for reference.

Typically, LOS A through C is considered to be good for the overall intersection operations and the desired standard for overall intersection performance is LOS D or better. Individual movements may be allowed to fall to LOS E/F depending on the circumstances, such as a low-volume side-street approach to a major arterial or a protected-only left-turn on a major arterial.

4.0 EXISTING CONDITIONS

4.1 Roadways

The primary public roadways that serve the project site are discussed in the following text and illustrated on **Figure 1**.

---

1 Highway Capacity Manual, Highway Research Board Special Report 209, Transportation Research Board, National Research Council, 2010 and 6th Edition (2016).

Lookout Road is an east-west arterial that provides local and regional access beyond the Hillside School site. In this area Lookout Road has a single through lane in each direction and a two-way center left turn lane that serves the church and school driveways. The posted speed limit in the area is 35 miles per hour. There are on-street bike lanes along both sides of Lookout Road and an 8-foot wide multiuse path along the south side. There is also a concrete sidewalk along the north side adjacent to the school property (4 to 5 feet wide in this area, typically detached from the roadway). Lookout Road is straight and relatively flat in this area, and there is excellent sight distance from both the school and church driveways. It is estimated that Lookout Road currently (non-COVID) carries approximately 11,000 to 12,000 vehicles per day in the vicinity of the school.

75th Street is a north-south arterial roadway that extends south of Lookout Road to Baseline Road. It is approximately 36 feet wide, including a single through lane in each direction and bikeable shoulders that are approximately 6 feet wide. It currently carries approximately 9,000 vehicles per day south of Lookout Road. The posted speed limit is 40 mph in this area. There is a detached 8-foot wide multiuse path along the west side of 75th Street extending south from Lookout Road.

71st Street is a one-mile long roadway that connects between Lookout Road and SH 52. It has a paved width of approximately 26 feet and includes a single travel lane in each direction. The posted speed limit is 35 miles per hour. There are no sidewalks along 71st Street and the shoulders are narrow.

4.2 Intersections

The study area includes two intersections that are listed below with the current traffic control and were analyzed for existing and future year traffic operations:

- **Lookout Road at 71st Street** is a signalized "T" intersection with 71st Street extending north of Lookout Road. The southbound approach on 71st Street has a left turn lane and a short right turn lane (50 feet plus 75-foot taper). The eastbound approach has a through lane and a left turn lane (170 feet plus 80-foot taper). The westbound approach has a single through-right lane.

- **Lookout Road at 75th** Street is an all-way stop controlled "T" intersection with 75th Street extending south of Lookout Road. The westbound approach has a through lane and a left turn lane (320 feet plus a 60-foot taper). The northbound approach has left turn lane and a right turn lane (140 feet plus a 170-foot taper). The eastbound approach has a through lane and a right turn lane (200 feet plus a 90-foot taper).

The existing lane configuration at each of the study locations is illustrated on **Figure 4**.

4.3 Pedestrian and Bicycle Facilities

As noted above, there are bike lanes along Lookout Road, bikeable shoulders along 75th Street, a multiuse path along the south side of Lookout Road and the west side of 75th Street, and a sidewalk along the north side of Lookout Road that all provide bicycle and pedestrian access to the Hillside School. There is also an unpaved trail extending north of Lookout Road in the approximate 75th Street alignment that connects to the Dry Creek Trail system toward Niwot. In this context, the Hillside School is well connected by pedestrian and bicycle facilities for any teachers or students that desire to access the site without an automobile.

4.4 Transit

The current RTD Route 205 provides 30-minute service between the Gunbarrel area and Downtown Boulder. There are stops along Lookout Road in the vicinity of the Hillside School (within 400 to 500 feet). While this service is not high frequency, it does provide the potential to access the school from the Boulder community.

4.5 Existing Intersection Capacity Analysis

The existing volumes, lane configuration, and traffic control are illustrated on **Figure 4**. The results of the LOS calculations for the intersections are summarized in **Table 1**. The results of the vehicle queuing analysis are summarized in **Table 2**. The intersection level of service worksheets and queue reports are attached in the **Appendix**.

All project intersections are shown to be operating at LOS C or better overall in the AM and PM peak hours with all movements in the LOS A – D range. All vehicle queues are calculated to operate within the existing turn lanes.

Recommendations: No mitigation measures are recommended.

5.0 FUTURE CONDITIONS

5.1 Annual Growth Factor and Future Volume Methodology

In order to forecast the future peak hour traffic volumes, background traffic growth assumptions were estimated based on City of Boulder's historic yearly traffic count data on Lookout Road just east of 75th Street. This historic count data (over 25 years) is included in the Appendix and indicates that daily traffic in the Lookout Road corridor has been increasing at a rate of approximately 1.1% per year. This count data provides a reasonable approach to estimating future traffic given the influence of regional commuting through this area while the local surroundings are already largely built out. Using this growth rate, it is estimated that the traffic in the area will increase by 27% by the year 2042. The projected year 2042 background traffic is summarized on **Figure 5.**

5.2 Year 2042 Background Intersection Capacity Analysis

The study area intersections were evaluated to determine baseline operations for the 2042 background scenario and to identify any capacity constraints associated with background traffic.

The level of service criteria discussed previously was applied to the study area intersections to determine the impacts with the 20-year background volumes. The results of the LOS calculations for the intersections are summarized in **Table 1**. The intersection level of service worksheets and queue reports are attached in the **Appendix**. The Year 2042 background analysis assumed the existing lane configuration and signal phasing would remain the same at the study intersections. The resulting intersection operations are summarized below:

- ***Lookout Road and 71st Street Intersection***: This signalized intersection will degrade to operate at LOS E overall in the AM peak hour due to the anticipated growth in regional commuting traffic. The eastbound left turning traffic will degrade to LOS F given the existing signal timing and phasing, but the eastbound left turn queue should remain within the limits of the eastbound left turn lane. The westbound approach and the southbound right turn will degrade to LOS E, and the southbound right turn queue will extend beyond the limits of the existing turn lane into the single southbound lane on 71st Street.

  Recommendations: Consider signal timing adjustments to minimize the delay at this intersection. Extending the cycle length to 100 seconds (currently at 60 seconds), adding eastbound protected-permitted left turn phasing, and a southbound right turn overlap phase will reduce the overall LOS slightly and reduce the delay for the eastbound left turn, but the delay will increase for the southbound right turn (see Table 1, Year 2042 Background "with Improvements").

- ***Lookout Road and 75th Street Intersection***: The overall LOS worsens from C to D in both the AM and PM peak hours, with the eastbound through movement worsening to LOS F in the afternoon peak hour. It should be noted that the peak hour volumes at this intersection exceed the Peak Hour traffic signal warrant threshold (per the Manual on Uniform Traffic Control Devices (MUTCD)) in the PM peak hour currently and in both the AM and PM peak hours in the year 2042 background traffic condition. This is indication that there is the need to complete a full traffic signal warrant study at this intersection, independent of any new traffic added by the Hillside School. Installing a traffic signal at this intersection would likely take collaboration between the City of Boulder and Boulder County given the intersection's location at the border between the two jurisdictions.

  Recommendations: City of Boulder and/or Boulder County should complete a detailed traffic signal warrant evaluation at this intersection to determine if/when a traffic signal is warranted, and if so, how it could be funded.

6.0 TRIP DISTRIBUTION AND ASSIGNMENT

6.1 Trip Generation

A trip generation estimate was performed to determine the traffic characteristics of the proposed expansion to the Hillside School. The trip generation estimate is based on information provided by school staff and is detailed on **Table 3.** This evaluation considered the existing school traffic and the future traffic when the student population is expanded from 32 students to 68 students in both the morning and afternoon sessions. The projected trip making also includes the carpooling described above. It is estimated at buildout of the school that it will generate 54 inbound / 42 outbound automobile trips in the AM peak hour at the beginning of the school day, and 42 inbound / 54 outbound trips in the afternoon peak hour at the end of the school day. There will also be similar arrival and departure trips midday between the morning and afternoon school sessions. In total it is estimated that the school will generate 384 automobile trips per day.

6.2 Trip Distribution and Assignment

The estimated trip volumes were distributed onto the school and church access driveways and onto the study area street network based on the school access pattern illustrated in **Figure 3**, and on the school access plan described above. The resulting school trip distribution is illustrated on **Figure 6**.

Using these distribution assumptions, the projected site traffic was assigned to the study area roadway network for the weekday AM and afternoon peak hours. The site-generated volumes are shown on **Figure 7.**

7.0 FUTURE CONDITIONS WITH EXPANDED HILLSIDE SCHOOL

7.1 Year 2022 Background + Project Intersection Capacity Analysis

This section discusses impacts associated with the addition of the Hillside School trips in the build out scenario with the school in expanded operation.

The projected site-generated volumes from the Hillside school (**Figure 7**) were added to the estimated post COVID-19 existing traffic (**Figure 4**) to approximate the anticipated traffic in the Year 2022 (**Figure 8**). The operational characteristics of the study area intersections (including the school and church driveways) were evaluated and the LOS and queuing results are detailed on **Tables 1 and 2**. The intersection level of service worksheets and queue reports are attached in the **Appendix**.

As shown on the Level of Service summary table, **the project trips have little impact on the operations of the study intersections**.

Lookout Road and 75th Street Intersection: At Lookout Road and 75th Street there is a 3 to 4 second increase in the westbound through and northbound left "inbound" commuting traffic but the overall intersection operation remains at LOS C in both the AM and PM peak hours.

Lookout Road and 71st Street Intersection: At the Lookout Road and 71st Street intersection the overall intersection LOS remains at LOS C in the AM and LOS B in the PM periods. The eastbound left turn LOS degrades from D to E in the AM peak hour with the addition of the school traffic (but the eastbound left turning queue remains within the turn lane length).

Site Access Intersections: The church and school driveway intersections on Lookout Road are projected to both operate at LOS A overall with the southbound exiting movements operating at LOS C. No significant vehicle queuing is anticipated at these driveways for the inbound or outbound movements.

> ***Recommendations***: No mitigation is recommended at these intersections, but school staff will want to monitor the on-site access plan to ensure that drop-off and pick-up activities are operating as safely and efficiently as possible.

7.2 Year 2042 Background + Project Intersection Capacity Analysis

This section discusses impacts associated with the addition of the expanded Hillside School trips in the long-term, 20-year scenario with full build out of the project.

The site-generated volumes were added to the projected 2042 background volumes and the result is illustrated on **Figure 9**. The results of the LOS and queuing calculations for the intersections are summarized in **Table 1 and 2**. The intersection level of service worksheets and queue reports are attached in the **Appendix**.

As shown on the Level of Service summary table, **the project trips have only marginal impact on the operations of the study intersections** as compared to the 2042 background condition.

Lookout Road and 75th Street Intersection: There will be a 3 second increase in overall delay, with 8 to 12 second increases to the peak commuting directions in the AM and PM peak periods where the westbound direction in the morning and the eastbound direction in the afternoon experience delays in the LOS F range.

> ***Recommendations***: As noted in the 2042 background condition, the City of Boulder and/or Boulder County should complete a detailed traffic signal warrant evaluation at the Lookout Road and 75th Street intersection to determine if/when a traffic signal is warranted, and if so, how it could be funded.

Lookout Road and 71st Street Intersection: The signalized intersection will continue to operate at LOS E in the AM peak hour and LOS B in the PM with small increases in delay relative to the background year 2042 condition.

> ***Recommendations***: As noted in the 2042 background condition, the City of Boulder will want to monitor traffic conditions at the Lookout Road and 71st Street intersection and to adjust signal timing and phasing to mitigate the projected delay to the extent possible.

Site Access Intersections: The church and school driveway intersections on Lookout Road are projected to both operate at LOS A overall with the southbound exiting movements operating at LOS C/D. No significant vehicle queuing is anticipated at these driveways for the inbound or outbound movements.

Recommendations: No mitigation is recommended at these intersections, but school staff will want to monitor the on-site access plan to ensure that drop-off and pick-up activities are operating as safely and efficiently as possible.

7.3 Proposed Pedestrian and Bicycle Facilities, and Non-SSOV Access

The extensive set of existing bicycle and pedestrian facilities described above will continue to provide access to the school site, and no new off-site facilities are being proposed. It will be important for the school staff to continue aggressively encouraging and supporting carpooling by the students for access to the school site.

8.0 CONCLUSIONS

The project proposes to expand the Hillside School to allow increased enrollment from the current level of 32 students in the morning and afternoon sessions to 68 students in each session. It is projected that the expansion will be completed in year 2022 and the school will generate 384 trips per day with 96 occurring during the peak access hours. The site has a shared parking and access agreement with the adjacent church, and site access will be distributed between the two existing full movement driveways on the north side of Lookout Road.

The school site is served by a wide range of pedestrian, bicycle and transit facilities, and no improvements to these modal facilities are recommended.

Vehicular traffic volumes associated with the expanded Hillside School have been analyzed for the existing, short-term (Year 2022), and long-term (Year 2042) planning horizons. **It was determined that the existing roadways and intersections can easily accommodate the projected traffic volumes in the near term. In the long term 20-year horizon the projected background increase in commuting traffic along Lookout Road will result in increased delay at the 71st and 75th Street intersections.**

Recommended mitigation measures include:

- Potential traffic signal timing and phasing adjustments at the Lookout and 75th Street intersection.

- Evaluate the warrant and potential funding for a traffic signal at the Lookout and 75th Street intersection.

Given the uncertainty as to whether the traffic volume after the COVID-19 pandemic will return to pre-pandemic levels, the projections and findings of this study should be conservatively high relative to future impacts.

FT# 20048

Hillside School Traffic Impact Study
Boulder, CO

9/10/2020

FOX TUTTLE

Table 1 - Peak Hour Intersection Level of Service Summary

Intersection and Cricital Lane Groups	Year 2020 Existing				Year 2022 + Project Trips				Year 2042 Background				Year 2042 Background with Improvements				Year 2042 Bkgrd + Project Trips			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
STOP SIGN CONTROL																				
Lookout Road & 75th Street	**18**	**C**	**19**	**C**	**20**	**C**	**20**	**C**	**31**	**D**	**34**	**D**					**34**	**D**	**37**	**E**
Eastbound Through	*13*	*B*	*26*	*D*	*14*	*B*	*31*	*D*	*17*	*C*	*64*	*F*					*18*	*C*	*76*	*F*
Eastbound Right	*14*	*B*	*14*	*B*	*15*	*B*	*15*	*B*	*19*	*C*	*20*	*C*					*20*	*C*	*22*	*C*
Westbound Left	*19*	*C*	*16*	*C*	*20*	*C*	*16*	*C*	*30*	*D*	*21*	*C*					*31*	*D*	*21*	*C*
Westbound Through	*22*	*C*	*13*	*B*	*26*	*D*	*14*	*B*	*43*	*E*	*16*	*C*					*52*	*F*	*17*	*C*
Northbound Left	*23*	*C*	*17*	*C*	*26*	*D*	*18*	*C*	*42*	*E*	*23*	*C*					*47*	*E*	*24*	*C*
Northbound Right	*12*	*B*	*18*	*C*	*12*	*B*	*19*	*C*	*15*	*B*	*31*	*D*					*15*	*B*	*31*	*D*
Lookout Road & Church Driveway					**1**	**A**	**1**	**A**									**1**	**A**	**1**	**A**
Eastbound Left					*9*	*A*	*8*	*A*									*10*	*A*	*8*	*A*
Eastbound Through					*0*	*A*	*0*	*A*									*0*	*A*	*0*	*A*
Westbound Through+Right					*0*	*A*	*0*	*A*									*0*	*A*	*0*	*A*
Southbound Left+Right					*18*	*C*	*18*	*C*									*22*	*C*	*28*	*D*
Lookout Road & School Driveway					**0**	**A**	**0**	**A**									**0**	**A**	**1**	**A**
Eastbound Left					*9*	*A*	*8*	*A*									*10*	*A*	*8*	*A*
Eastbound Through					*0*	*A*	*0*	*A*									*0*	*A*	*0*	*A*
Westbound Through+Right					*0*	*A*	*0*	*A*									*0*	*A*	*0*	*A*
Southbound Left+Right					*17*	*C*	*16*	*C*									*21*	*C*	*25*	*C*
SIGNAL CONTROL																				
Lookout Road & 71st Street	**28**	**C**	**11**	**B**	**32**	**C**	**11**	**B**	**59**	**E**	**12**	**B**	**57**	**E**			**59**	**E**	**13**	**B**
Eastbound Left	*52*	*D*	*13*	*B*	*74*	*E*	*14*	*B*	*>120*	*F*	*16*	*B*	*29*	*C*			*33*	*C*	*17*	*B*
Eastbound Through	*6*	*A*	*9*	*A*	*7*	*A*	*9*	*A*	*7*	*A*	*10*	*B*	*4*	*A*			*4*	*A*	*11*	*B*
Westbound Through+Right	*26*	*C*	*7*	*A*	*31*	*C*	*7*	*A*	*64*	*E*	*7*	*A*	*35*	*C*			*39*	*D*	*7*	*A*
Southbound Left	*17*	*B*	*18*	*B*	*17*	*B*	*18*	*B*	*17*	*B*	*18*	*B*	*37*	*D*			*37*	*D*	*18*	*B*
Southbound Right	*47*	*D*	*19*	*B*	*47*	*D*	*19*	*B*	*70*	*E*	*20*	*B*	*>120*	*F*			*>120*	*F*	*20*	*B*

Note: Delay represented in average seconds per vehicle.

FOX TUTTLE

Table 2 - Peak Hour Queuing Summary

Intersection and Cricital Lane Groups	Year 2020 Existing				Year 2022 + Project Trips				Year 2042 Background				Year 2042 Background with Improvements				Year 2042 Bkgrd + Project Trips			
	Avg.	95tn	Avg.	95tn	Avg.	95tn	Avg.	95tn	Avg.	95tn	Avg.	95tn	Avg.	95tn	Avg.	95tn	Avg.	95tn	Avg.	95tn
STOP SIGN CONTROL																				
Lookout Road & 75th Street																				
Eastbound Through	-	35 '	-	153 '	-	43 '	-	180 '	-	55 '	-	318 '					-	63 '	-	358 '
Eastbound Right	-	50 '	-	60 '	-	58 '	-	68 '	-	88 '	-	108 '					-	93 '	-	115 '
Westbound Left	-	83 '	-	50 '	-	88 '	-	50 '	-	150 '	-	80 '					-	153 '	-	78 '
Westbound Through	-	118 '	-	33 '	-	145 '	-	38 '	-	233 '	-	48 '					-	268 '	-	53 '
Northbound Left	-	110 '	-	60 '	-	125 '	-	65 '	-	205 '	-	95 '					-	223 '	-	100 '
Northbound Right	-	33 '	-	95 '	-	33 '	-	98 '	-	48 '	-	178 '					-	50 '	-	175 '
Lookout Road & Church Driveway																				
Eastbound Left					-	3 '	-	0 '									-	3 '	-	0 '
Eastbound Through					-	0 '	-	0 '									-	0 '	-	0 '
Westbound Through+Right					-	0 '	-	0 '									-	0 '	-	0 '
Southbound Left+Right					-	8 '	-	13 '									-	13 '	-	20 '
Lookout Road & School Driveway																				
Eastbound Left					-	0 '	-	0 '									-	0 '	-	0 '
Eastbound Through					-	0 '	-	0 '									-	0 '	-	0 '
Westbound Through+Right					-	0 '	-	0 '									-	0 '	-	0 '
Southbound Left+Right					-	5 '	-	5 '									-	8 '	-	10 '
SIGNAL CONTROL																				
Lookout Road & 71st Street																				
Eastbound Left	56 '	174 '	64 '	86 '	56 '	175 '	65 '	89 '	82 '	227 '	79 '	123 '	27 '	87 '			27 '	87 '	81 '	131 '
Eastbound Through	58 '	75 '	133 '	157 '	64 '	82 '	140 '	165 '	66 '	92 '	162 '	212 '	52 '	78 '			56 '	84 '	169 '	220 '
Westbound Through+Right	271 '	536 '	41 '	73 '	295 '	568 '	48 '	84 '	485 '	707 '	51 '	92 '	699 '	1053 '			822 '	1087 '	57 '	102 '
Southbound Left	15 '	30 '	42 '	72 '	19 '	36 '	46 '	77 '	15 '	38 '	46 '	91 '	31 '	67 '			36 '	75 '	48 '	94 '
Southbound Right	55 '	108 '	0 '	37 '	59 '	112 '	0 '	37 '	94 '	234 '	0 '	42 '	153 '	265 '			158 '	269 '	0 '	42 '

Table 3

Hillside School Trip Generation*

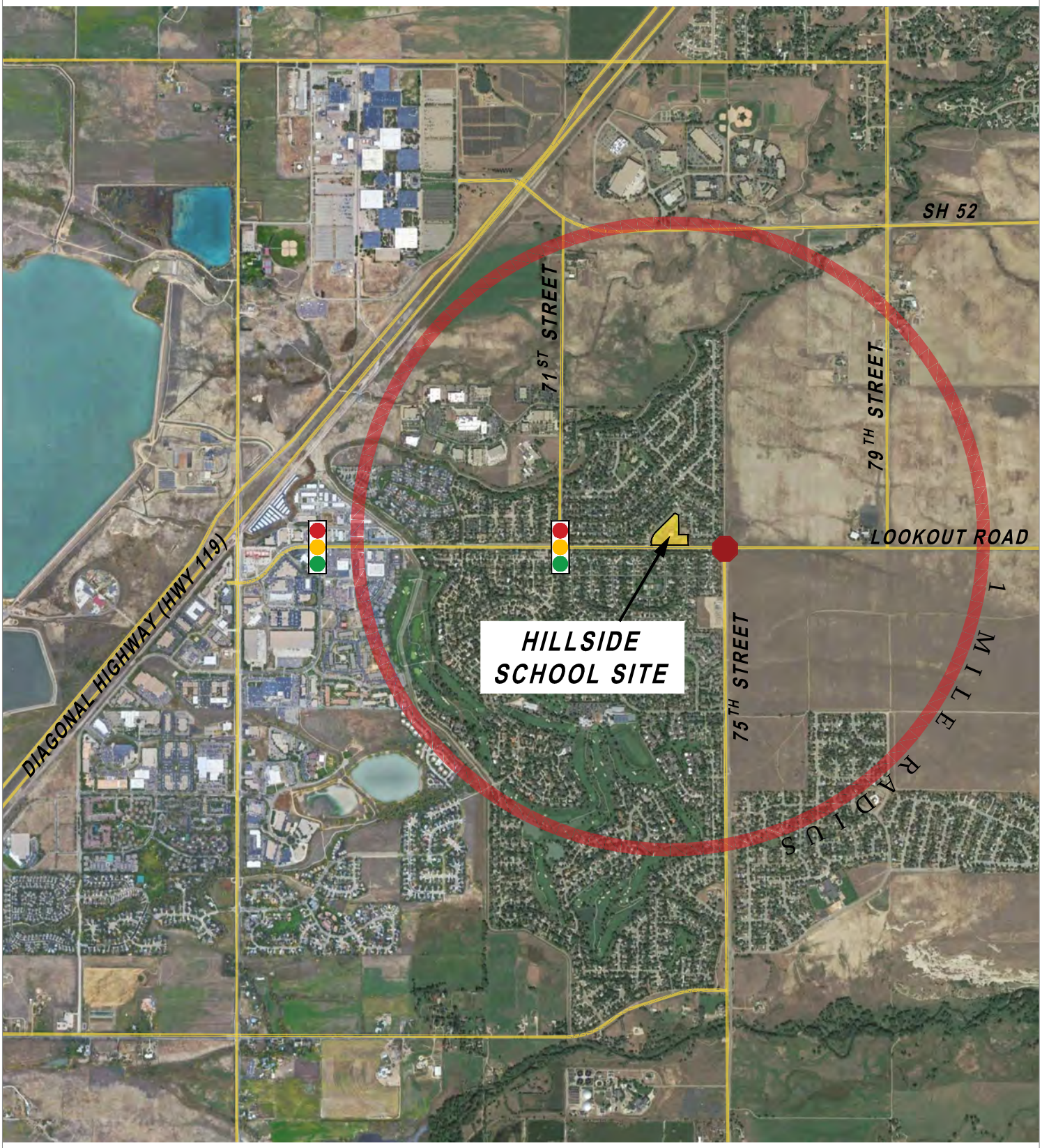
Existing School Operations: Includes a total of 64 students divided into morning and afternoon sessions = 32 full day student equivalent						
	AM Session		PM Session		Daily	Car Pool/Non-SOV % Reduction***
	Inbound	Outbound	Inbound	Outbound	In + Out combined	
Peak Arrival/Departure Time	8:00 AM	11:00 PM	12:00 PM	3:00 PM		
Teachers	8	8	8	8		10%
Students	32	32	32	32		39%
Teacher Vehicles	7	7	7	7		
Parent Vehicles**	20	20	20	20		
Automobile Trips Inbound:	27	20	27	20	94	
Automobile Trips Outbound:	20	27	20	27	94	
Total Peak Hour Automobile Trips:	47	47	47	47		
Total Daily Trips - Both Sessions Combined:					188	

Proposed School Operations: Includes a total of 136 students divided into morning and afternoon sessions = 68 full day student equivalent						
	AM Session		PM Session		Daily	Car Pool/Non-SOV % reduction***
	Inbound	Outbound	Inbound	Outbound	In + Out combined	
Peak Arrival/Departure Time	8:00 AM	11:00 PM	12:00 PM	3:00 PM		
Teachers	13	13	13	13		10%
Students	68	68	68	68		39%
Teacher Vehicles	12	12	12	12		
Parent Vehicles**	42	42	42	42		
Automobile Trips Inbound:	54	42	54	42	192	
Automobile Trips Outbound:	42	54	42	54	192	
Total Peak Hour Automobile Trips:	96	96	96	96		
Total Daily Trips - Both Sessions Combined:					384	

* Based on information provided by school staff

** Conservatively assume that all parent vehicles enter and exit the site during peaks

*** Car pooling/Non SOV estimate based on conversation with school staff, estimated as follows:
At least one teacher bikes or walks to school (say 10%)
34% of students arrive alone, 33% of students arrive with 2 students in car, 33% of students arrive with 3 students in car
(100%-(34%+16.5%+11%))=38.5% Non-SOV Reduction for carpooling



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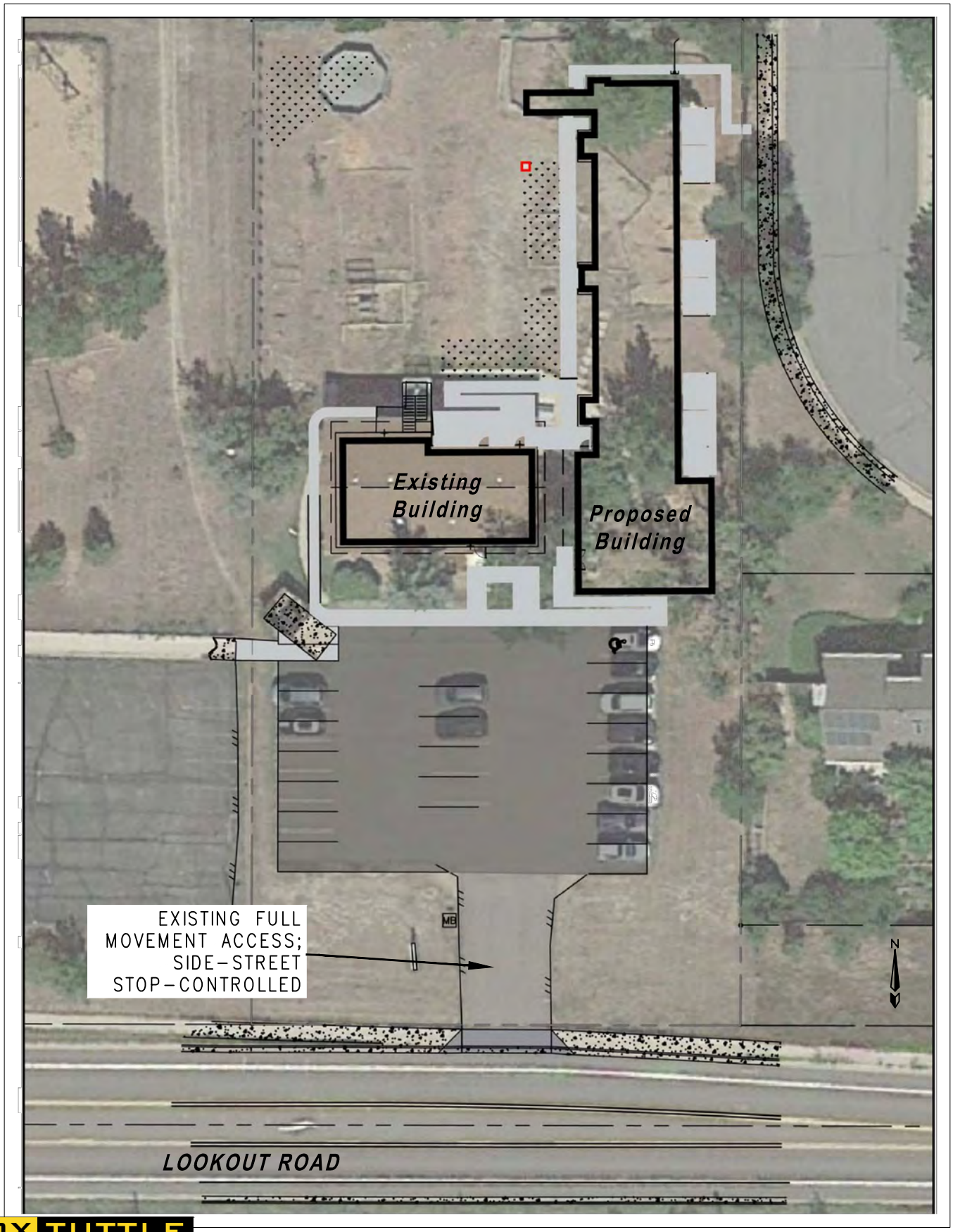
HILLSIDE SCHOOL TRAFFIC IMPACT STUDY

VICINITY MAP

FT Project #	20048	Original Scale	NTS	Date	9/14/2020	Drawn by	CRS	Figure #	1



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HILLSIDE SCHOOL TRAFFIC IMPACT STUDY

PROPOSED SITE AND EXISTING ACCESS

FT Project #	20048	Original Scale	NTS	Date	9/14/2020	Drawn by	CRS	Figure #	2

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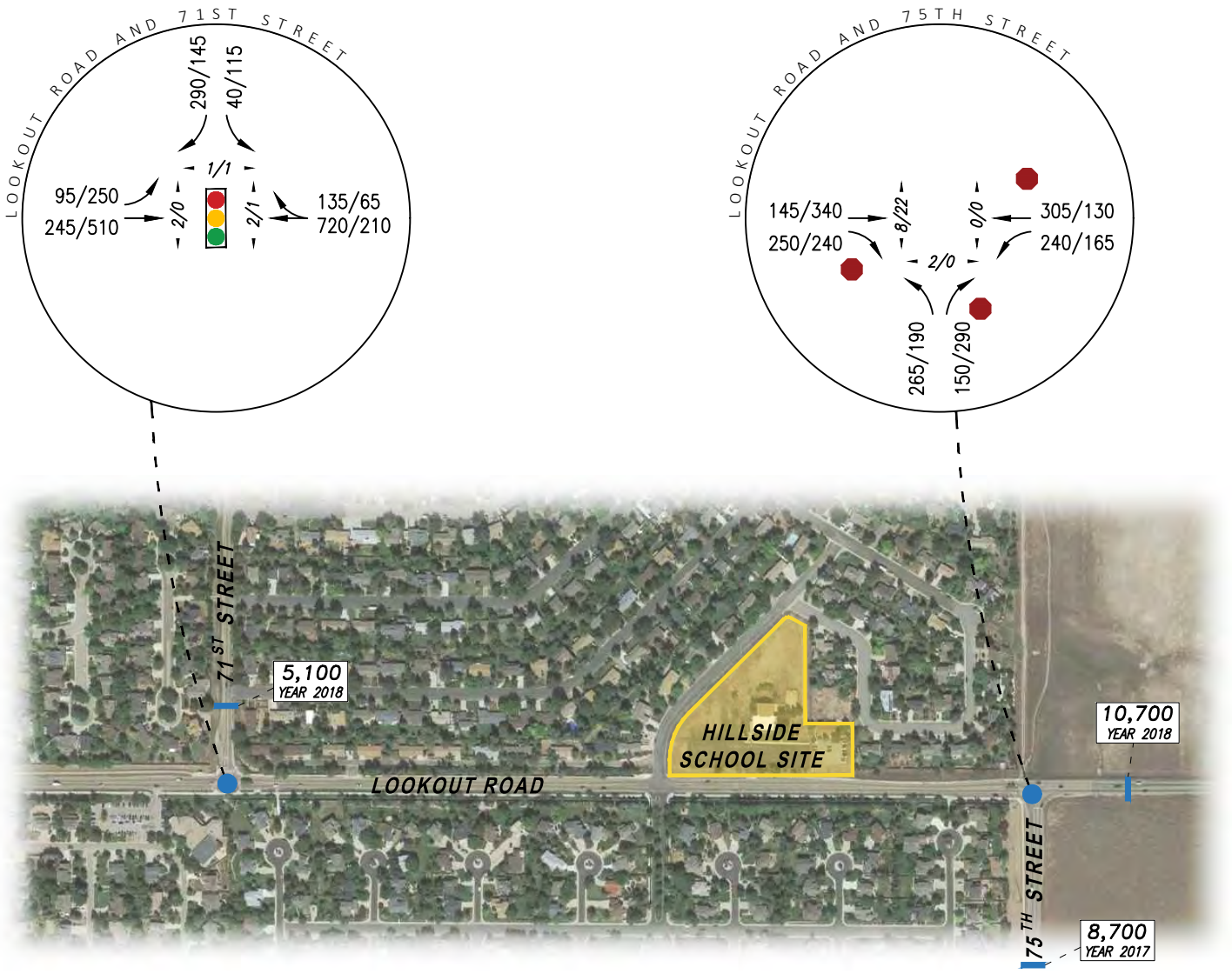
HILLSIDE SCHOOL TRAFFIC IMPACT STUDY

SCHOOL ACCESS TRAVEL PATTERNS

FT Project #	20048	Original Scale	NTS	Date	9/14/2020	Drawn by	CRS	Figure #	3



PEAK HOUR:
7:30–8:30 AM
3:00–4:00 PM

N

KEY

XXX/XXX	AM / PM PEAK HOUR TRAFFIC VOLUME
XX,XXX	DAILY TRAFFIC VOLUME & COUNT YEAR
← XX/XX →	AM/PM PEAK HOUR PEDESTRIAN VOLUME

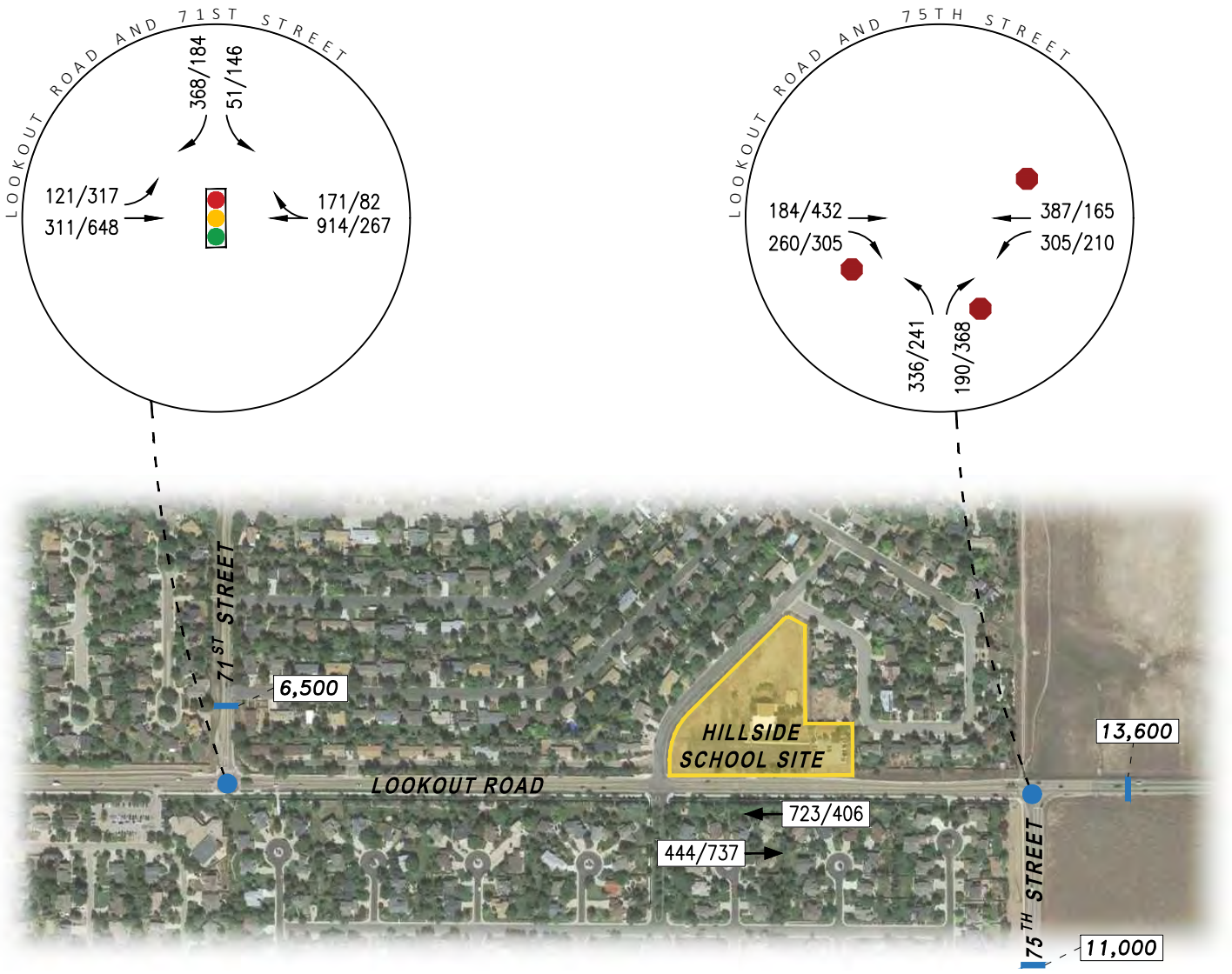
** ADJUSTED TO REPRESENT PRE–COVID TRAFFIC CONDITIONS*

FOX TUTTLE TRANSPORTATION GROUP

HILLSIDE SCHOOL TRAFFIC IMPACT STUDY

APPROXIMATE* EXISTING TRAFFIC DURING SCHOOL ACCESS TIMES

FT Project #	20048	Original Scale	NTS	Date	9/14/2020	Drawn by	CRS	Figure #	4



KEY

XXX/XXX	AM / PM PEAK HOUR TRAFFIC VOLUME
XX,XXX	DAILY TRAFFIC VOLUME

NOTE: 1.1% ANNUAL GROWTH RATE FOR 22 YEARS = 1.27 FACTOR

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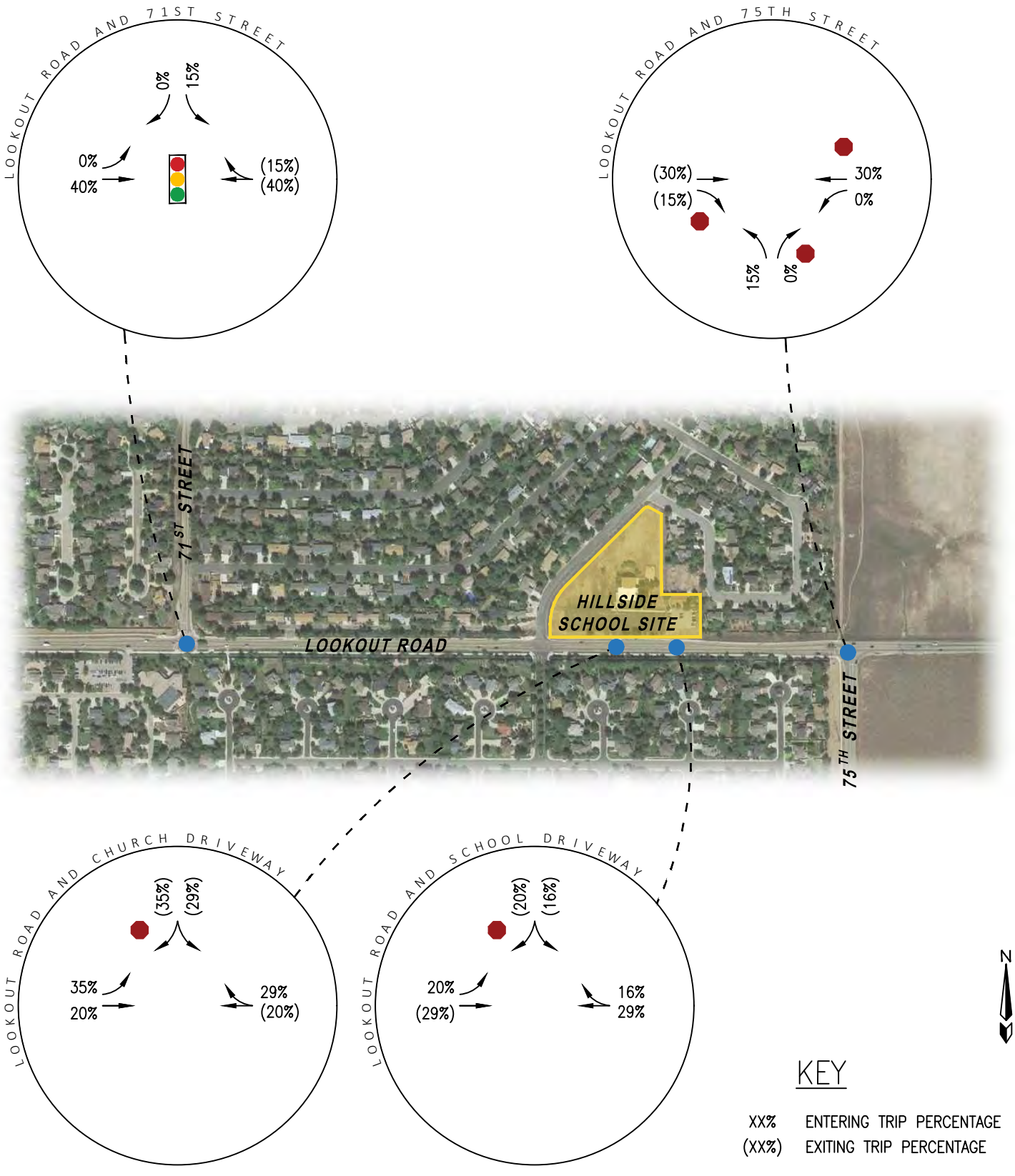
HILLSIDE SCHOOL TRAFFIC IMPACT STUDY

20-YEAR HORIZON (YEAR 2042) BACKGROUND TRAFFIC VOLUMES

FT Project #	20048	Original Scale	NTS	Date	9/14/2020	Drawn by	CRS	Figure #	5



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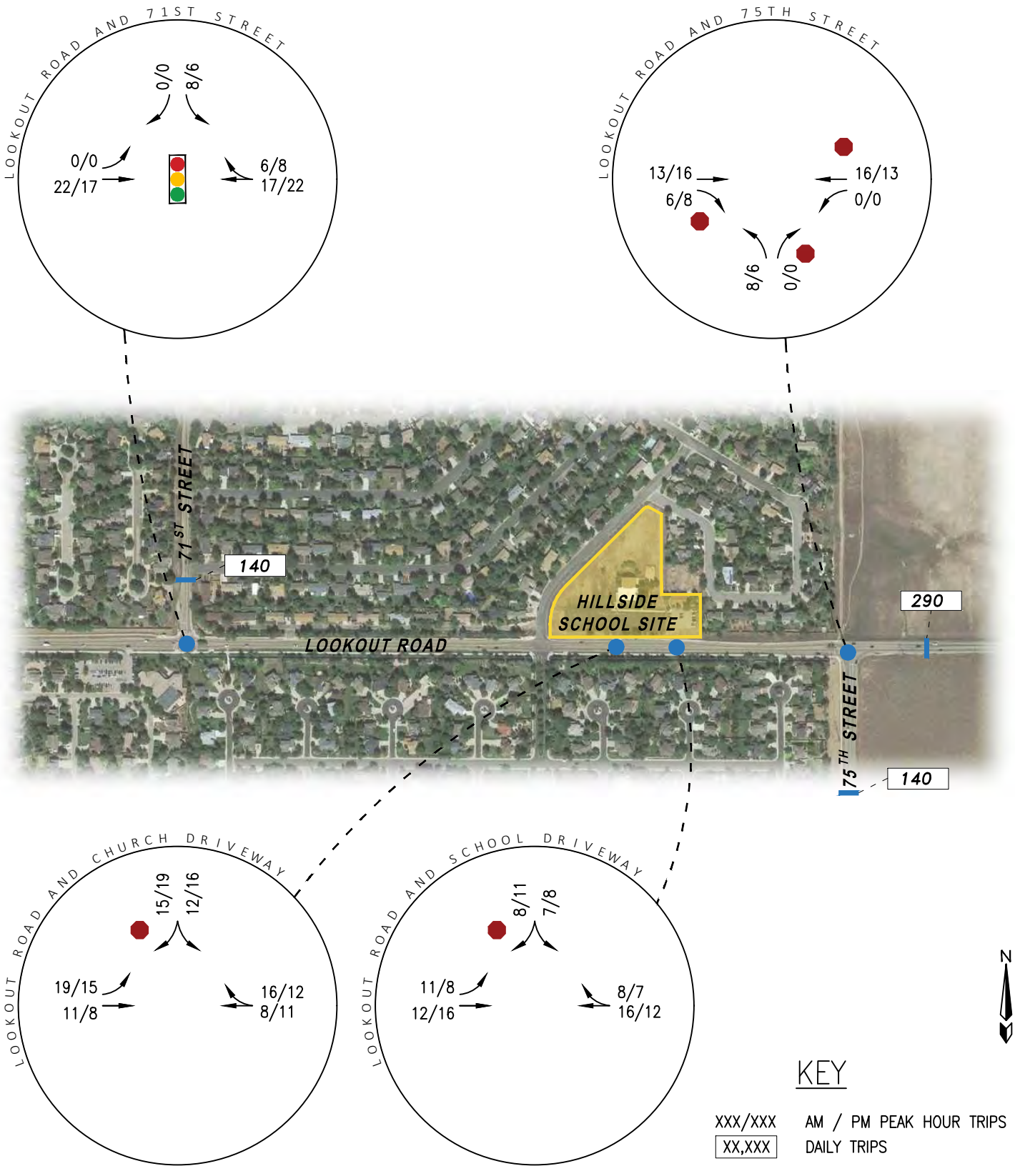
HILLSIDE SCHOOL TRAFFIC IMPACT STUDY

TRIP DISTRIBUTION

FT Project #	20048	Original Scale	NTS	Date	9/14/2020	Drawn by	CRS	Figure #	6



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HILLSIDE SCHOOL TRAFFIC IMPACT STUDY

SCHOOL ACCESS TRAFFIC AT BUILDOUT

FT Project #	20048	Original Scale	NTS	Date	9/14/2020	Drawn by	CRS	Figure #	7

KEY

XXX/XXX AM / PM PEAK HOUR TRAFFIC VOLUME

XX,XXX DAILY TRAFFIC VOLUME

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HILLSIDE SCHOOL TRAFFIC IMPACT STUDY

YEAR 2022 NEAR-TERM PLUS SCHOOL TRAFFIC VOLUMES

FT Project #	20048	Original Scale	NTS	Date	9/14/2020	Drawn by	CRS	Figure #	8

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HILLSIDE SCHOOL TRAFFIC IMPACT STUDY

20-YEAR HORIZON (YEAR 2042) TOTAL TRAFFIC VOLUMES

FT Project #	20048	Original Scale	NTS	Date	9/14/2020	Drawn by	CRS	Figure #	9

Appendix:

Level of Service Definitions

Traffic Count Data Sheets

Intersection Capacity Worksheets

Level of Service Definitions

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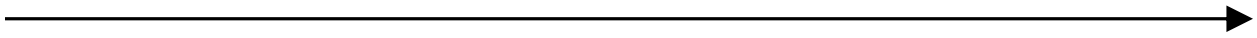
LEVEL OF SERVICE DEFINITIONS

In rating roadway and intersection operating conditions with existing or future traffic volumes, "Levels of Service" (LOS) A through F are used, with LOS A indicating very good operation and LOS F indicating poor operation. Levels of service at signalized and unsignalized intersections are closely associated with vehicle delays experienced in seconds per vehicle. More complete level of service definitions and delay data for signal and stop sign controlled intersections are contained in the following table for reference.

Level of Service Rating	Delay in seconds per vehicle *(a)*		Definition
	Signalized	Unsignalized	
A	0.0 to 10.0	0.0 to 10.0	Low vehicular traffic volumes; primarily free flow operations. Density is low and vehicles can freely maneuver within the traffic stream. Drivers are able to maintain their desired speeds with little or no delay.
B	10.1 to 20.0	10.1 to 15.0	Stable vehicular traffic volume flow with potential for some restriction of operating speeds due to traffic conditions. Vehicle maneuvering is only slightly restricted. The stopped delays are not bothersome and drivers are not subject to appreciable tension.
C	20.1 to 35.0	15.1 to 25.0	Stable traffic operations, however the ability for vehicles to maneuver is more restricted by the increase in traffic volumes. Relatively satisfactory operating speeds prevail, but adverse signal coordination or longer vehicle queues cause delays along the corridor.
D	35.1 to 55.0	25.1 to 35.0	Approaching unstable vehicular traffic flow where small increases in volume could cause substantial delays. Most drivers are restricted in ability to maneuver and selection of travel speeds due to congestion. Driver comfort and convenience are low, but tolerable.
E	55.1 to 80.0	35.1 to 50.0	Traffic operations characterized by significant approach delays and average travel speeds of one-half to one-third the free flow speed. Vehicular flow is unstable and there is potential for stoppages of brief duration. High signal density, extensive vehicle queuing, or corridor signal progression/timing are the typical causes of vehicle delays at signalized corridors.
F	> 80.0	> 50.0	Forced vehicular traffic flow and operations with high approach delays at critical intersections. Vehicle speeds are reduced substantially, and stoppages may occur for short or long periods of time because of downstream congestion.

(a) Delay ranges based on Highway Capacity Manual (6th Edition, 2016) criteria.

Traffic Count Data Sheets



Station No. 2407 - Lookout Road East of 75th Street Linear Regression Analysis

Year	Field	Regression
1993	7,123	7,848
1994	7,636	7,954
1995	7,696	8,060
1996	7,264	8,166
1997	8,199	8,272
1998	8,400	8,378
1999	8,541	8,484
2000	9,647	8,590
2001	10,040	8,696
2002	9,555	8,802
2003	8,639	8,908
2004	9,206	9,014
2005	8,936	9,120
2006	9,535	9,226
2007	9,828	9,333
2008	7,838	9,439
2009	11,092	9,545
2010	9,268	9,651
2011	9,915	9,757
2012	9,365	9,863
2013	11,097	9,969
2014	9,921	10,075
2015	9,655	10,181
2016	9,504	10,287
2017	9,742	10,393
2018	11,349	10,499
2019	10,125	10,605
2035		12,302

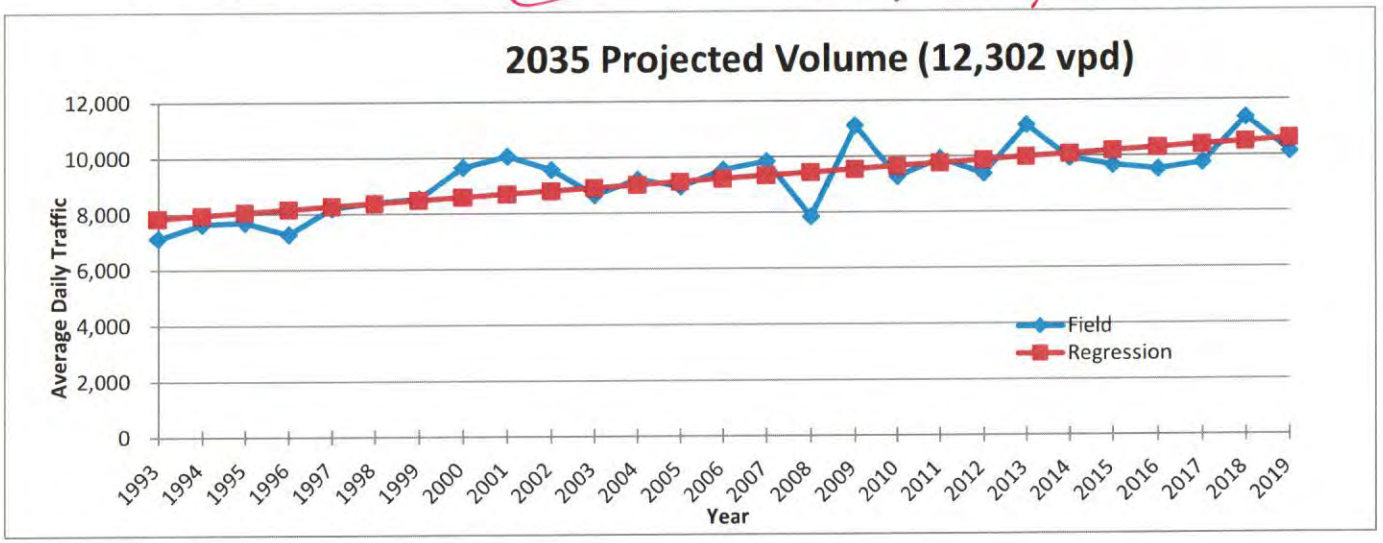
Regression Statistics	
Multiple R	0.74811954
R Square	0.55968284
Adjusted R Square	0.54207016
Standard Error	761.339239
Observations	27

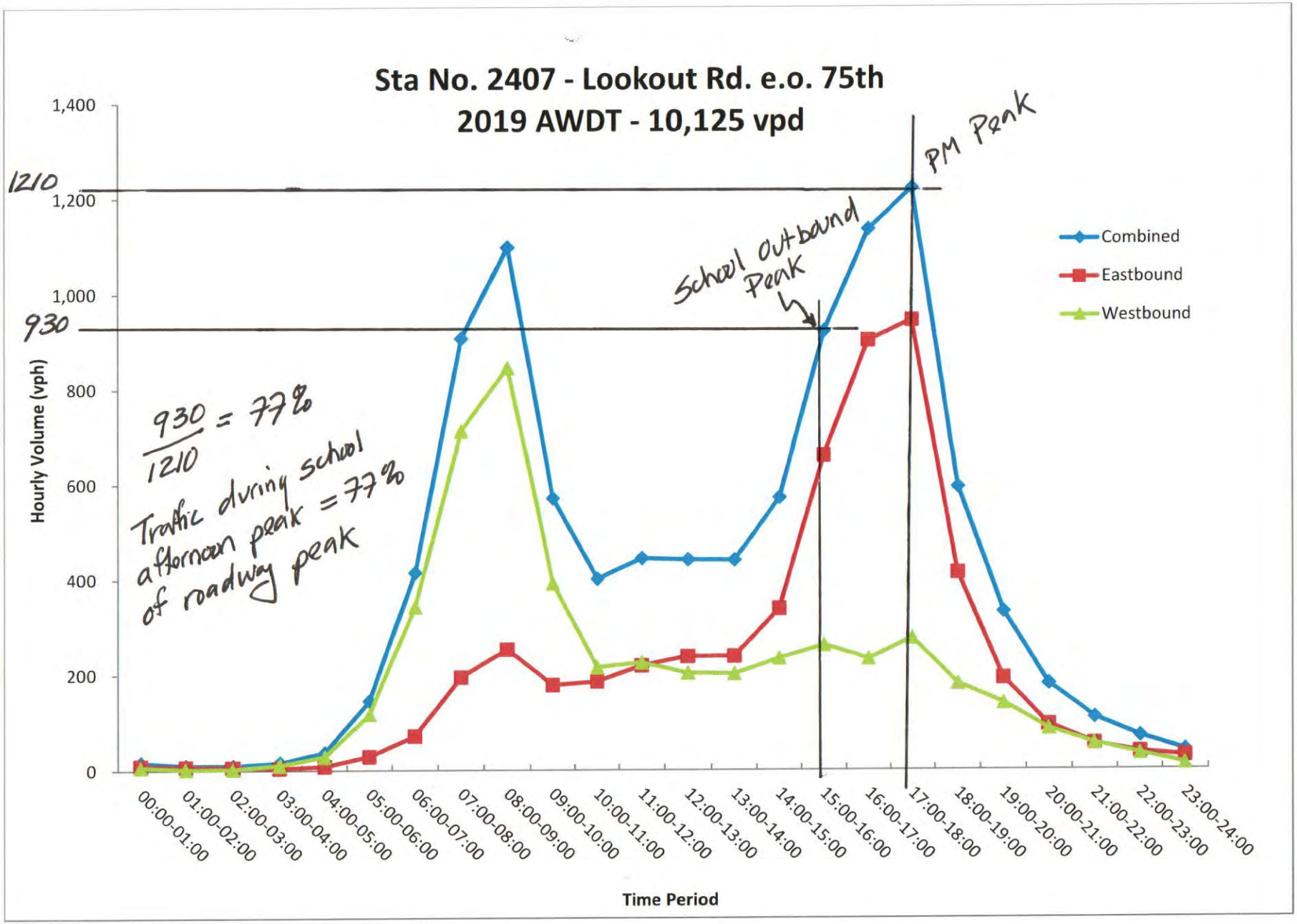
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	1.8E+07	18419287.28	31.7772561	7.2415E-06
Residual	25	1.4E+07	579637.4368		
Total	26	3.3E+07			

	Coefficients	*'andard Er*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*.ower 95.0%*	*Jpper 95.0%*
Intercept	-203494.528	37736	-5.39258833	1.3543E-05	-281213.2035	-125775.852	-281213	-125776
X Variable 1	106.042379	18.8114	5.637131904	7.2415E-06	67.2995623	144.785196	67.2996	144.785

Linear Regression Growth Rate: 1.1% ≃ 1.24 20-year factor




Sta No. 2407 - Lookout Rd. e.o. 75th
2019 AWDT - 10,125 vpd
1,400
1210
1,200
1,000
930
800
600
400
200
0
Hourly Volume (vph)
PM Peak
School Outbound Peak
Combined
Eastbound
Westbound
930/1210 = 77%
Traffic during school afternoon peak = 77% of roadway peak
00:00-01:00
01:00-02:00
02:00-03:00
03:00-04:00
04:00-05:00
05:00-06:00
06:00-07:00
07:00-08:00
08:00-09:00
09:00-10:00
10:00-11:00
11:00-12:00
12:00-13:00
13:00-14:00
14:00-15:00
15:00-16:00
16:00-17:00
17:00-18:00
18:00-19:00
19:00-20:00
20:00-21:00
21:00-22:00
22:00-23:00
23:00-24:00
Time Period

Ridgeview Data Collection

Boulder, CO
Hillside School
AM Peak
Lookout Road and 71st Street

File Name : Lookout and 71st AM
Site Code : FTIPO 77
Start Date : 9/2/2020
Page No : 1

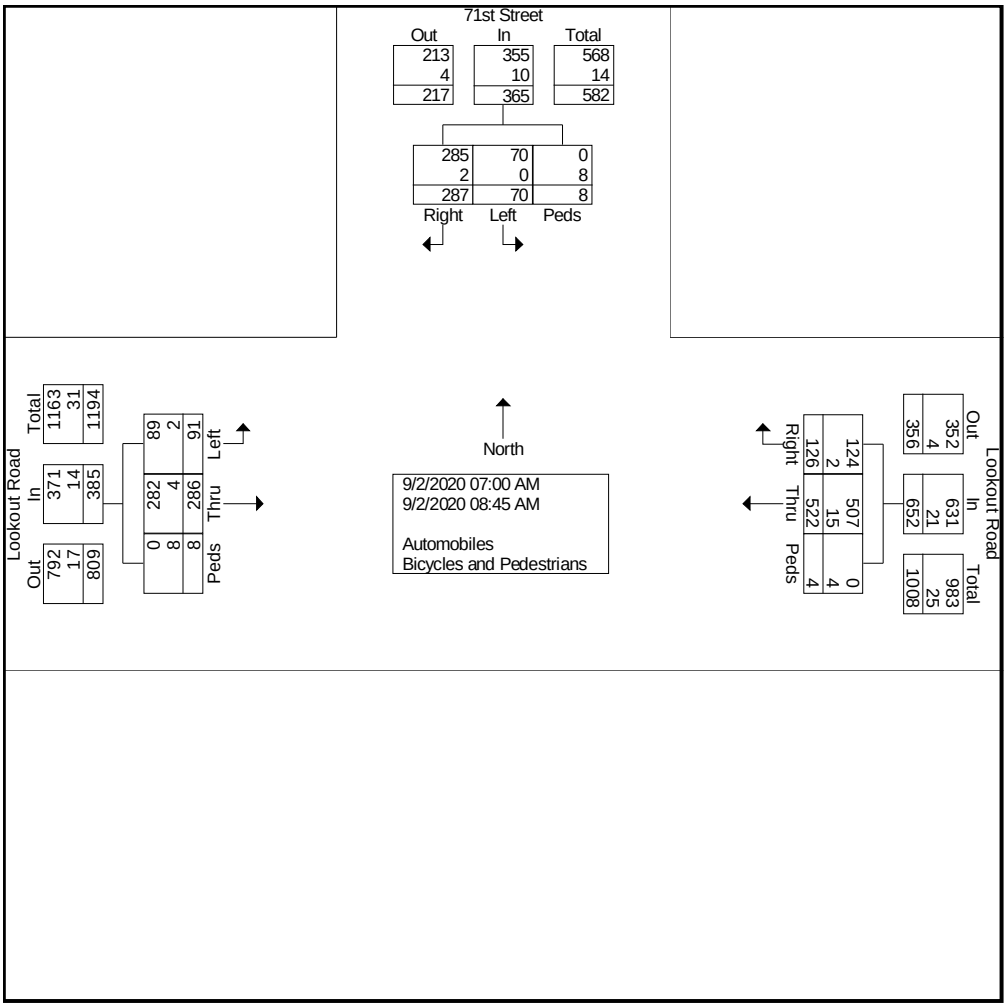
Groups Printed- Automobiles - Bicycles and Pedestrians

	Lookout Road Eastbound				Lookout Road Westbound				71st Street Southbound				
Start Time	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
07:00 AM	5	21	1	27	38	15	1	54	8	24	1	33	114
07:15 AM	13	15	0	28	63	15	1	79	6	32	1	39	146
07:30 AM	6	21	1	28	57	12	1	70	8	42	2	52	150
07:45 AM	13	41	1	55	87	16	1	104	12	36	1	49	208
Total	37	98	3	138	245	58	4	307	34	134	5	173	618
08:00 AM	16	42	0	58	77	19	0	96	11	45	1	57	211
08:15 AM	14	50	2	66	75	20	0	95	7	48	1	56	217
08:30 AM	14	44	0	58	66	15	0	81	8	29	1	38	177
08:45 AM	10	52	3	65	59	14	0	73	10	31	0	41	179
Total	54	188	5	247	277	68	0	345	36	153	3	192	784
Grand Total	91	286	8	385	522	126	4	652	70	287	8	365	1402
Apprch %	23.6	74.3	2.1		80.1	19.3	0.6		19.2	78.6	2.2		
Total %	6.5	20.4	0.6	27.5	37.2	9	0.3	46.5	5	20.5	0.6	26	
Automobiles	89	282	0	371	507	124	0	631	70	285	0	355	1357
% Automobiles	97.8	98.6	0	96.4	97.1	98.4	0	96.8	100	99.3	0	97.3	96.8
Bicycles and Pedestrians	2	4	8	14	15	2	4	21	0	2	8	10	45
% Bicycles and Pedestrians	2.2	1.4	100	3.6	2.9	1.6	100	3.2	0	0.7	100	2.7	3.2

Ridgeview Data Collection

Boulder, CO
Hillside School
AM Peak
Lookout Road and 71st Street

File Name : Lookout and 71st AM
Site Code : FTIPO 77
Start Date : 9/2/2020
Page No : 2

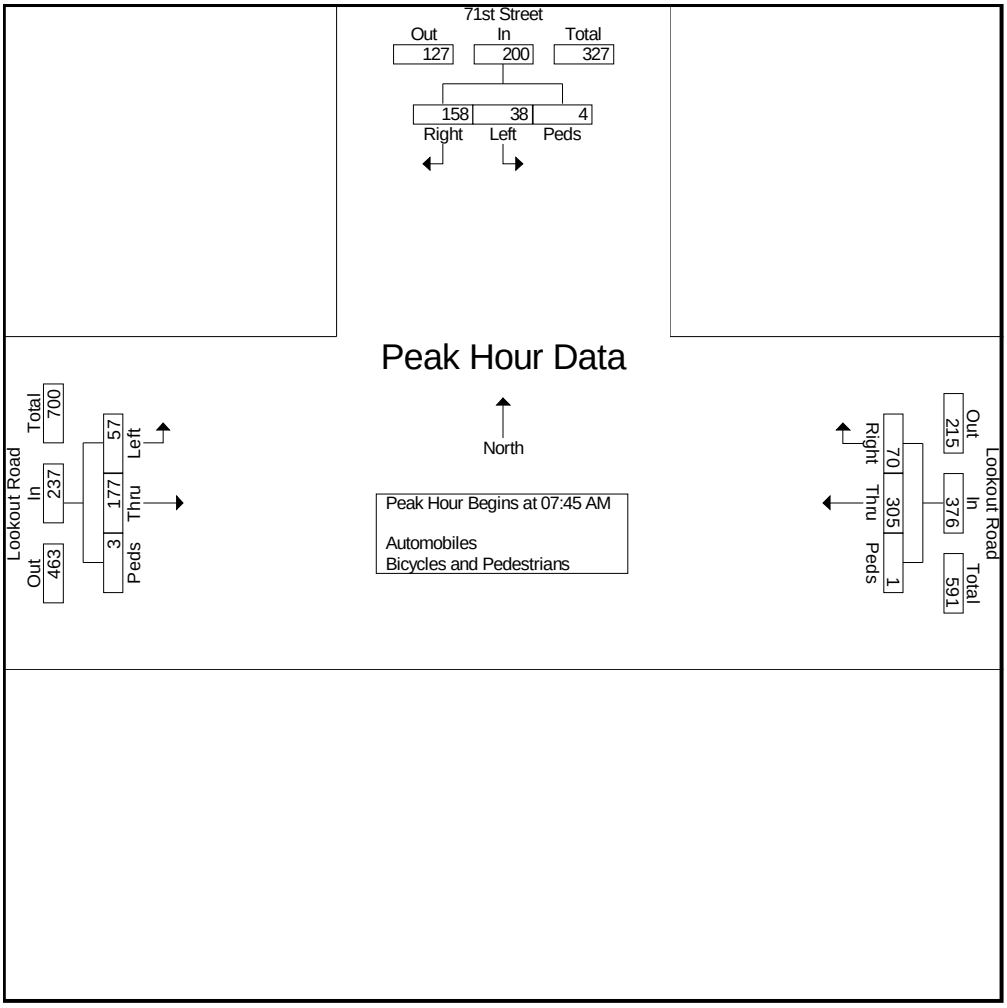


Ridgeview Data Collection

Boulder, CO
Hillside School
AM Peak
Lookout Road and 71st Street

File Name : Lookout and 71st AM
Site Code : FTIPO 77
Start Date : 9/2/2020
Page No : 3

	Lookout Road Eastbound				Lookout Road Westbound				71st Street Southbound				
Start Time	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	13	41	1	55	**87**	16	**1**	**104**	**12**	36	**1**	49	208
08:00 AM	**16**	42	0	58	77	19	0	96	11	45	1	**57**	211
08:15 AM	14	**50**	**2**	**66**	75	**20**	0	95	7	**48**	1	56	**217**
08:30 AM	14	44	0	58	66	15	0	81	8	29	1	38	177
Total Volume	57	177	3	237	305	70	1	376	38	158	4	200	813
% App. Total	24.1	74.7	1.3		81.1	18.6	0.3		19	79	2		
PHF	.891	.885	.375	.898	.876	.875	.250	.904	.792	.823	1.00	.877	.937



Ridgeview Data Collection

Boulder, CO
Hillside School
PM Peak
Lookout Road and 71st Street

File Name : Lookout and 71st PM
Site Code : FTIPO 77
Start Date : 9/2/2020
Page No : 1

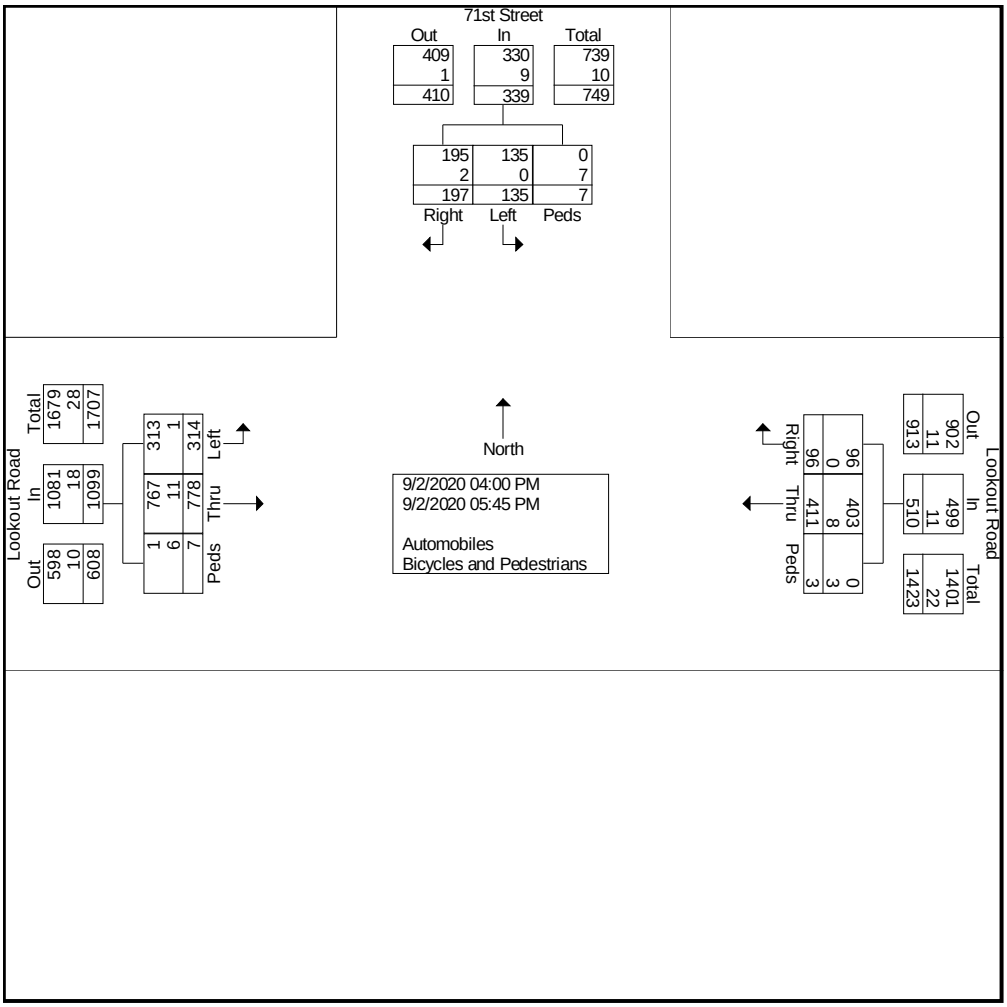
Groups Printed- Automobiles - Bicycles and Pedestrians

	Lookout Road Eastbound				Lookout Road Westbound				71st Street Southbound				
Start Time	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
04:00 PM	47	118	0	165	48	13	2	63	22	25	0	47	275
04:15 PM	50	79	0	129	64	12	0	76	16	27	0	43	248
04:30 PM	37	101	1	139	44	11	0	55	20	28	1	49	243
04:45 PM	40	100	0	140	63	10	0	73	11	23	0	34	247
Total	174	398	1	573	219	46	2	267	69	103	1	173	1013
05:00 PM	40	100	2	142	48	16	1	65	23	27	1	51	258
05:15 PM	38	110	1	149	48	16	0	64	18	23	0	41	254
05:30 PM	36	91	3	130	51	13	0	64	10	23	2	35	229
05:45 PM	26	79	0	105	45	5	0	50	15	21	3	39	194
Total	140	380	6	526	192	50	1	243	66	94	6	166	935
Grand Total	314	778	7	1099	411	96	3	510	135	197	7	339	1948
Apprch %	28.6	70.8	0.6		80.6	18.8	0.6		39.8	58.1	2.1		
Total %	16.1	39.9	0.4	56.4	21.1	4.9	0.2	26.2	6.9	10.1	0.4	17.4	
Automobiles	313	767	1	1081	403	96	0	499	135	195	0	330	1910
% Automobiles	99.7	98.6	14.3	98.4	98.1	100	0	97.8	100	99	0	97.3	98
Bicycles and Pedestrians	1	11	6	18	8	0	3	11	0	2	7	9	38
% Bicycles and Pedestrians	0.3	1.4	85.7	1.6	1.9	0	100	2.2	0	1	100	2.7	2

Ridgeview Data Collection

Boulder, CO
Hillside School
PM Peak
Lookout Road and 71st Street

File Name : Lookout and 71st PM
Site Code : FTIPO 77
Start Date : 9/2/2020
Page No : 2

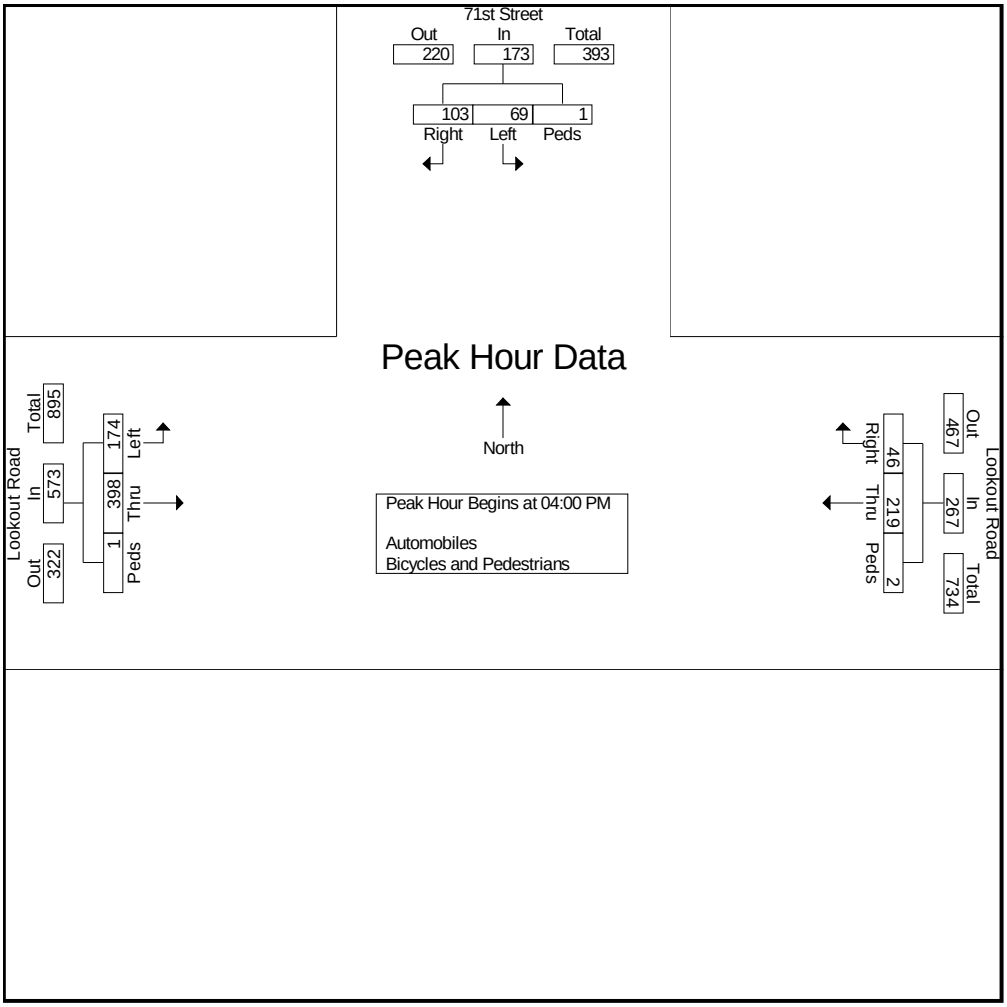


Ridgeview Data Collection

Boulder, CO
Hillside School
PM Peak
Lookout Road and 71st Street

File Name : Lookout and 71st PM
Site Code : FTIPO 77
Start Date : 9/2/2020
Page No : 3

	Lookout Road Eastbound				Lookout Road Westbound				71st Street Southbound				
Start Time	Left	Thru	Peds	App. Total	Thru	Right	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:00 PM													
04:00 PM	47	**118**	0	**165**	48	**13**	**2**	63	**22**	25	0	47	**275**
04:15 PM	**50**	79	0	129	**64**	12	0	**76**	16	27	0	43	248
04:30 PM	37	101	**1**	139	44	11	0	55	20	**28**	**1**	**49**	243
04:45 PM	40	100	0	140	63	10	0	73	11	23	0	34	247
Total Volume	174	398	1	573	219	46	2	267	69	103	1	173	1013
% App. Total	30.4	69.5	0.2		82	17.2	0.7		39.9	59.5	0.6		
PHF	.870	.843	.250	.868	.855	.885	.250	.878	.784	.920	.250	.883	.921



Ridgeview Data Collection

Boulder, CO
Hillside School
AM Peak
Lookout Road and 75th Street

File Name : Lookout and 75th AM
Site Code : FTIPO 77
Start Date : 9/2/2020
Page No : 1

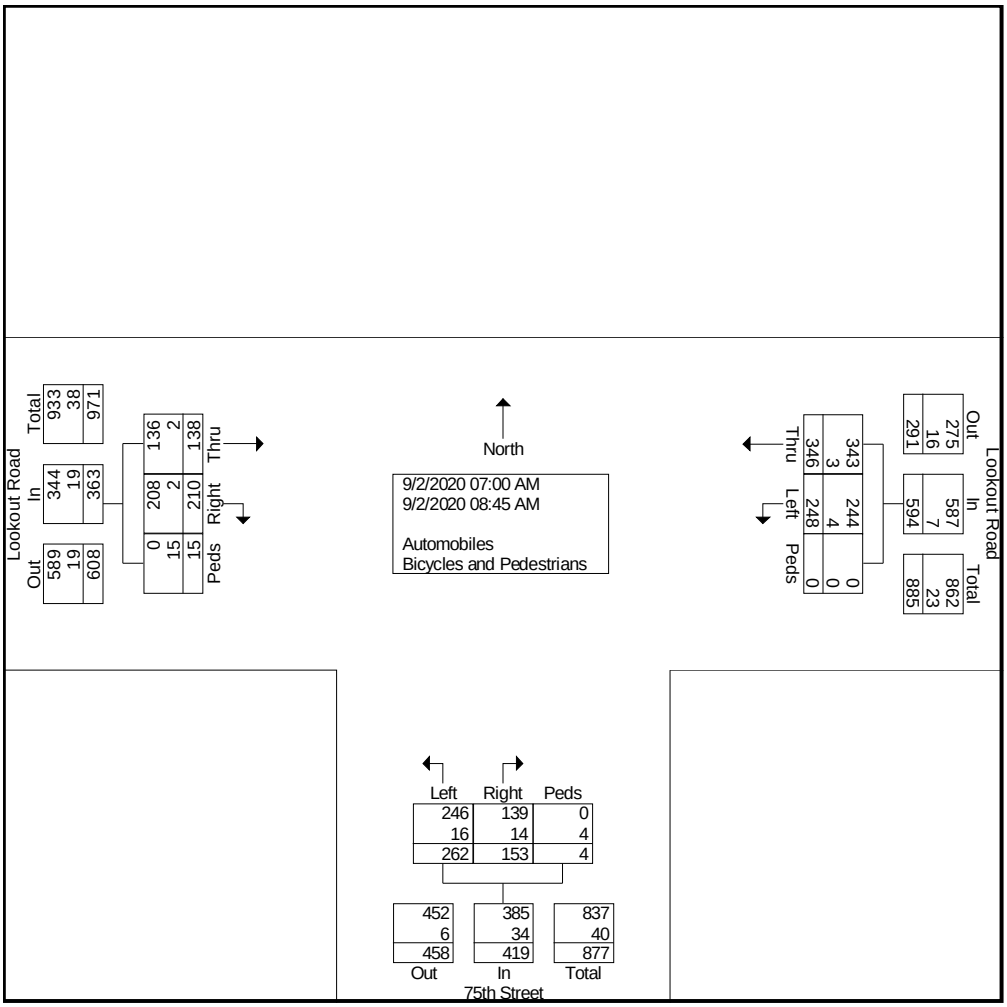
Groups Printed- Automobiles - Bicycles and Pedestrians

	Lookout Road Eastbound				Lookout Road Westbound				75th Street Northbound				
Start Time	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
07:00 AM	11	22	3	36	27	37	0	64	17	9	1	27	127
07:15 AM	12	10	2	24	26	62	0	88	20	10	0	30	142
07:30 AM	8	23	1	32	32	38	0	70	35	24	1	60	162
07:45 AM	20	36	1	57	38	59	0	97	33	19	0	52	206
Total	51	91	7	149	123	196	0	319	105	62	2	169	637
08:00 AM	22	36	4	62	39	49	0	88	47	22	2	71	221
08:15 AM	17	24	1	42	38	42	0	80	40	22	0	62	184
08:30 AM	27	26	2	55	26	32	0	58	35	26	0	61	174
08:45 AM	21	33	1	55	22	27	0	49	35	21	0	56	160
Total	87	119	8	214	125	150	0	275	157	91	2	250	739
Grand Total	138	210	15	363	248	346	0	594	262	153	4	419	1376
Apprch %	38	57.9	4.1		41.8	58.2	0		62.5	36.5	1		
Total %	10	15.3	1.1	26.4	18	25.1	0	43.2	19	11.1	0.3	30.5	
Automobiles	136	208	0	344	244	343	0	587	246	139	0	385	1316
% Automobiles	98.6	99	0	94.8	98.4	99.1	0	98.8	93.9	90.8	0	91.9	95.6
Bicycles and Pedestrians	2	2	15	19	4	3	0	7	16	14	4	34	60
% Bicycles and Pedestrians	1.4	1	100	5.2	1.6	0.9	0	1.2	6.1	9.2	100	8.1	4.4

Ridgeview Data Collection

Boulder, CO
Hillside School
AM Peak
Lookout Road and 75th Street

File Name : Lookout and 75th AM
Site Code : FTIPO 77
Start Date : 9/2/2020
Page No : 2

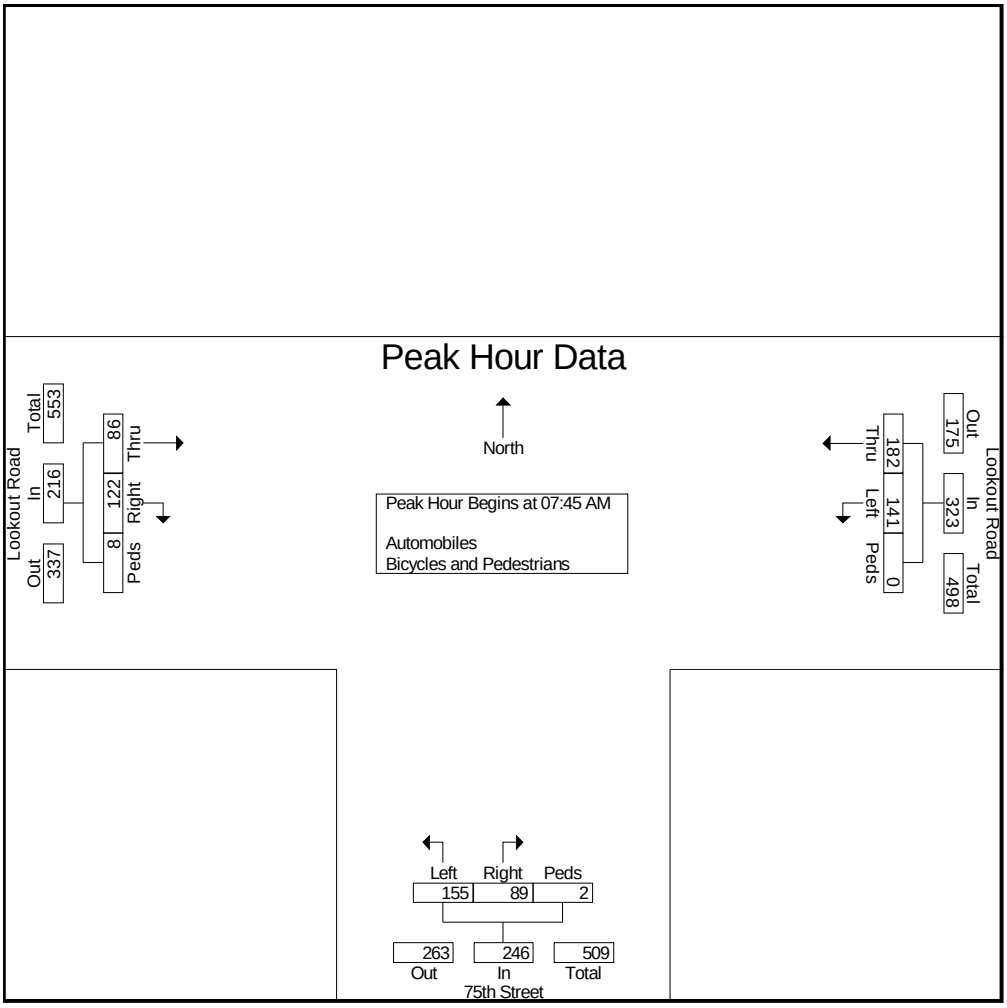


Ridgeview Data Collection

Boulder, CO
Hillside School
AM Peak
Lookout Road and 75th Street

File Name : Lookout and 75th AM
Site Code : FTIPO 77
Start Date : 9/2/2020
Page No : 3

	Lookout Road Eastbound				Lookout Road Westbound				75th Street Northbound				
Start Time	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 07:00 AM to 08:45 AM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 07:45 AM													
07:45 AM	20	**36**	1	57	38	**59**	0	**97**	33	19	0	52	206
08:00 AM	22	36	**4**	**62**	**39**	49	0	88	**47**	22	**2**	**71**	**221**
08:15 AM	17	24	1	42	38	42	0	80	40	22	0	62	184
08:30 AM	**27**	26	2	55	26	32	0	58	35	**26**	0	61	174
Total Volume	86	122	8	216	141	182	0	323	155	89	2	246	785
% App. Total	39.8	56.5	3.7		43.7	56.3	0		63	36.2	0.8		
PHF	.796	.847	.500	.871	.904	.771	.000	.832	.824	.856	.250	.866	.888



Ridgeview Data Collection

Boulder, CO
Hillside School
PM Peak
Lookout Road and 75th Street

File Name : Lookout and 75th PM
Site Code : FTIPO 77
Start Date : 9/2/2020
Page No : 1

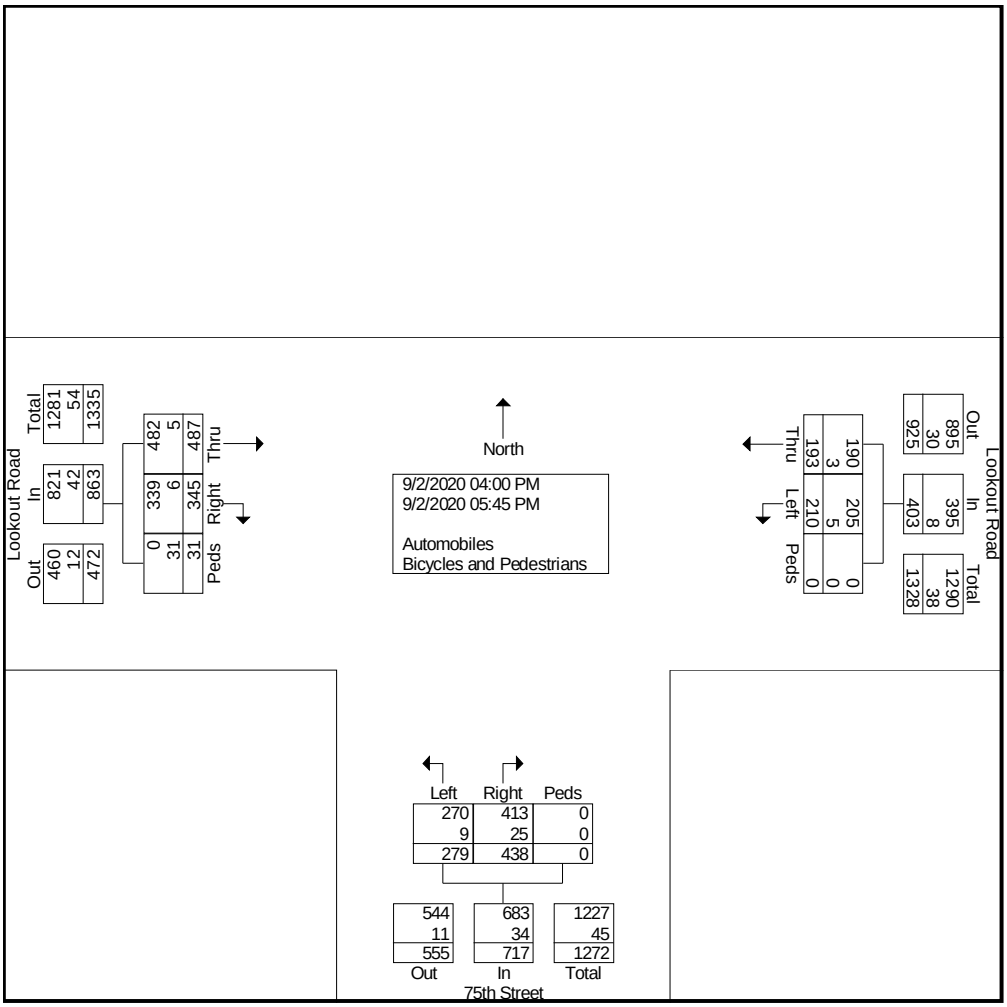
Groups Printed- Automobiles - Bicycles and Pedestrians

	Lookout Road Eastbound				Lookout Road Westbound				75th Street Northbound				
Start Time	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
04:00 PM	81	49	0	130	21	32	0	53	39	62	0	101	284
04:15 PM	55	32	1	88	30	25	0	55	36	49	0	85	228
04:30 PM	83	38	5	126	33	25	0	58	31	72	0	103	287
04:45 PM	50	47	12	109	29	24	0	53	34	43	0	77	239
Total	269	166	18	453	113	106	0	219	140	226	0	366	1038
05:00 PM	67	51	4	122	34	28	0	62	43	53	0	96	280
05:15 PM	59	45	1	105	28	22	0	50	35	52	0	87	242
05:30 PM	49	52	2	103	20	20	0	40	28	55	0	83	226
05:45 PM	43	31	6	80	15	17	0	32	33	52	0	85	197
Total	218	179	13	410	97	87	0	184	139	212	0	351	945
Grand Total	487	345	31	863	210	193	0	403	279	438	0	717	1983
Apprch %	56.4	40	3.6		52.1	47.9	0		38.9	61.1	0		
Total %	24.6	17.4	1.6	43.5	10.6	9.7	0	20.3	14.1	22.1	0	36.2	
Automobiles	482	339	0	821	205	190	0	395	270	413	0	683	1899
% Automobiles	99	98.3	0	95.1	97.6	98.4	0	98	96.8	94.3	0	95.3	95.8
Bicycles and Pedestrians	5	6	31	42	5	3	0	8	9	25	0	34	84
% Bicycles and Pedestrians	1	1.7	100	4.9	2.4	1.6	0	2	3.2	5.7	0	4.7	4.2

Ridgeview Data Collection

Boulder, CO
Hillside School
PM Peak
Lookout Road and 75th Street

File Name : Lookout and 75th PM
Site Code : FTIPO 77
Start Date : 9/2/2020
Page No : 2

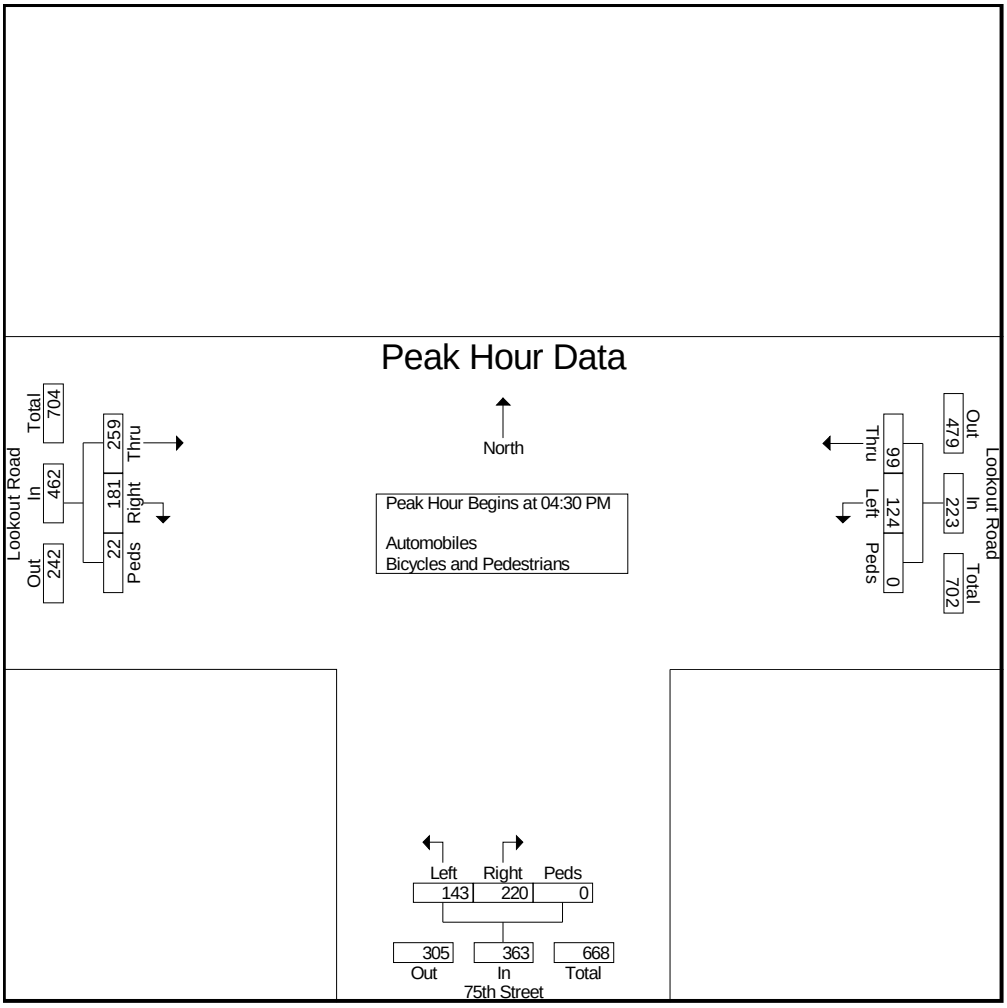


Ridgeview Data Collection

Boulder, CO
Hillside School
PM Peak
Lookout Road and 75th Street

File Name : Lookout and 75th PM
Site Code : FTIPO 77
Start Date : 9/2/2020
Page No : 3

	Lookout Road Eastbound				Lookout Road Westbound				75th Street Northbound				
Start Time	Thru	Right	Peds	App. Total	Left	Thru	Peds	App. Total	Left	Right	Peds	App. Total	Int. Total
Peak Hour Analysis From 04:00 PM to 05:45 PM - Peak 1 of 1													
Peak Hour for Entire Intersection Begins at 04:30 PM													
04:30 PM	**83**	38	5	**126**	33	25	0	58	31	**72**	0	**103**	**287**
04:45 PM	50	47	**12**	109	29	24	0	53	34	43	0	77	239
05:00 PM	67	**51**	4	122	**34**	**28**	0	**62**	**43**	53	0	96	280
05:15 PM	59	45	1	105	28	22	0	50	35	52	0	87	242
Total Volume	259	181	22	462	124	99	0	223	143	220	0	363	1048
% App. Total	56.1	39.2	4.8		55.6	44.4	0		39.4	60.6	0		
PHF	.780	.887	.458	.917	.912	.884	.000	.899	.831	.764	.000	.881	.913



City of Boulder (CO)
1777 Broadway
P.O. Box 791
Boulder, Colorado, United States 80306
303.441.3266 riceb@bouldercolorado.gov

Count Name: Lookout and 71st TMC 5-17-2018
Site Code: 127
Start Date: 05/17/2018
Page No: 1

Turning Movement Data

Start Time	Southbound Approach Southbound Right	Left	U-Turn	Peds	App. Total	Westbound Approach Westbound Right	Thru	U-Turn	Peds	App. Total	Eastbound Approach Eastbound Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:15 AM	43	6	0	0	49	16	124	0	0	140	37	18	0	2	55	244
7:30 AM	59	6	0	0	65	29	156	0	0	185	42	15	0	1	57	307
7:45 AM	89	11	0	0	100	35	186	0	1	221	68	27	0	1	95	416
Hourly Total	191	23	0	0	214	80	466	0	1	546	147	60	0	4	207	967
8:00 AM	64	10	0	1	74	33	201	0	1	234	69	29	0	0	98	406
8:15 AM	72	9	0	0	81	35	169	0	0	204	59	16	0	0	75	360
8:30 AM	68	10	0	0	78	37	131	0	0	168	48	13	0	0	61	307
8:45 AM	58	11	0	0	69	39	157	0	1	196	48	17	0	0	65	330
Hourly Total	262	40	0	1	302	144	658	0	2	802	224	75	0	0	299	1403
9:00 AM	37	13	0	0	50	21	107	0	0	128	38	23	0	1	61	239
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	37	13	0	0	50	21	107	0	0	128	38	23	0	1	61	239
11:30 AM	41	7	0	1	48	11	60	0	0	71	55	19	0	0	74	193
11:45 AM	40	17	0	1	57	12	57	0	1	69	67	42	0	0	109	235
Hourly Total	81	24	0	2	105	23	117	0	1	140	122	61	0	0	183	428
12:00 PM	58	12	0	0	70	13	60	0	0	73	74	29	0	0	103	246
12:15 PM	48	11	0	0	59	9	79	0	0	88	66	37	0	1	103	250
12:30 PM	43	10	0	0	53	11	55	0	0	66	67	51	0	0	118	237
12:45 PM	27	15	0	1	42	13	41	0	0	54	83	45	0	0	128	224
Hourly Total	176	48	0	1	224	46	235	0	0	281	290	162	0	1	452	957
1:00 PM	36	19	0	0	55	17	60	0	1	77	67	34	0	1	101	233
1:15 PM	20	16	0	0	36	12	58	0	0	70	71	32	0	1	103	209
*** BREAK ***	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Hourly Total	56	35	0	0	91	29	118	0	1	147	138	66	0	2	204	442
4:15 PM	48	28	0	1	76	14	73	0	0	87	168	55	0	1	223	386
4:30 PM	30	42	0	0	72	16	58	0	0	74	167	75	0	0	242	388
4:45 PM	43	28	0	0	71	18	72	0	0	90	151	59	0	0	210	371
Hourly Total	121	98	0	1	219	48	203	0	0	251	486	189	0	1	675	1145
5:00 PM	55	46	0	0	101	19	67	0	0	86	169	96	0	0	265	452
5:15 PM	49	22	0	1	71	22	63	0	1	85	170	88	0	0	258	414
5:30 PM	37	21	0	0	58	12	50	0	0	62	155	69	0	0	224	344
5:45 PM	27	16	0	2	43	9	73	0	0	82	115	57	0	0	172	297
Hourly Total	168	105	0	3	273	62	253	0	1	315	609	310	0	0	919	1507
6:00 PM	31	27	0	0	58	12	58	0	0	70	112	42	0	0	154	282
Grand Total	1123	413	0	8	1536	465	2215	0	6	2680	2166	988	0	9	3154	7370
Approach %	73.1	26.9	0.0	-	-	17.4	82.6	0.0	-	-	68.7	31.3	0.0	-	-	-
Total %	15.2	5.6	0.0	-	20.8	6.3	30.1	0.0	-	36.4	29.4	13.4	0.0	-	42.8	-
All Vehicles (no classification)	1116	395	0	-	1511	458	2195	0	-	2653	2146	981	0	-	3127	7291
% All Vehicles (no classification)	99.4	95.6	-	-	98.4	98.5	99.1	-	-	99.0	99.1	99.3	-	-	99.1	98.9
Bicycles on Road	7	18	0	-	25	7	20	0	-	27	20	7	0	-	27	79

% Bicycles on Road	0.6	4.4	-	-	1.6	1.5	0.9	-	-	1.0	0.9	0.7	-	-	0.9	1.1
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	2	-	-	-	-	2	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	33.3	-	-	-	-	22.2	-	-
Pedestrians	-	-	-	8	-	-	-	-	4	-	-	-	-	7	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	66.7	-	-	-	-	77.8	-	-

City of Boulder (CO)
1777 Broadway
P.O. Box 791
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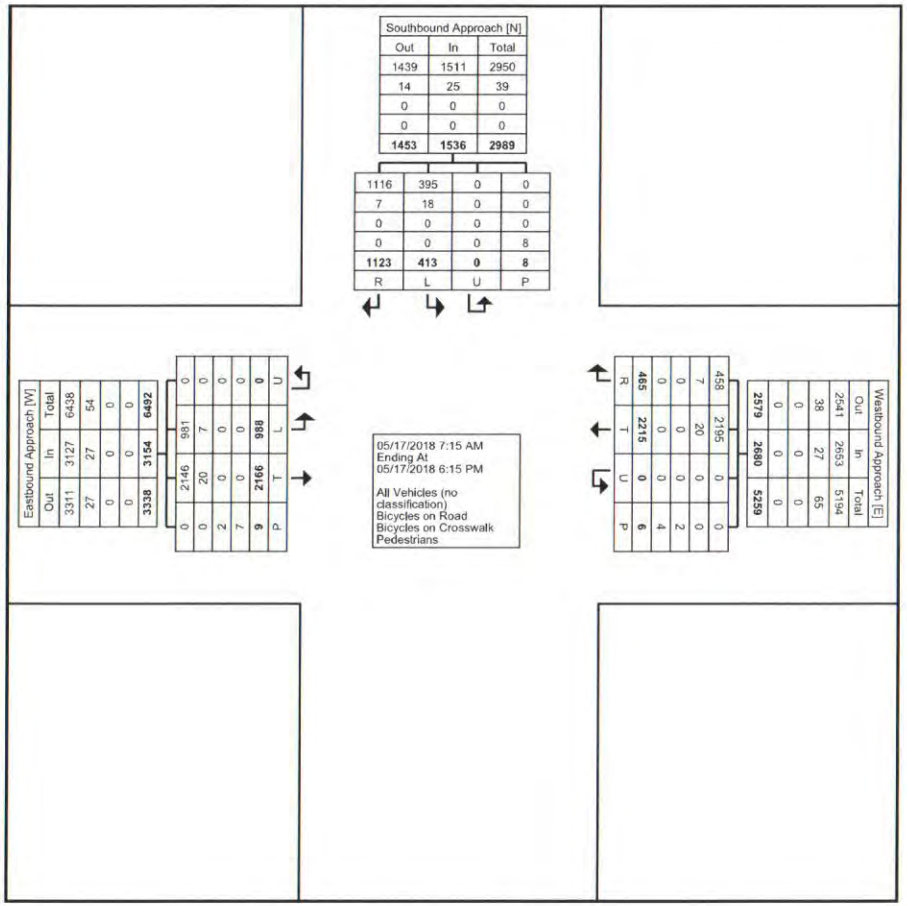
303.441.3266 riceb@bouldercolorado.gov

Count Name: Lookout and 71st TMC 5-17-2018
Site Code: 127
Start Date: 05/17/2018



Turning Movement Data Plot

City of Boulder (CO)
1777 Broadway
P.O. Box 791
Boulder, Colorado, United States 80306
303.441.3266 riceb@bouldercolorado.gov

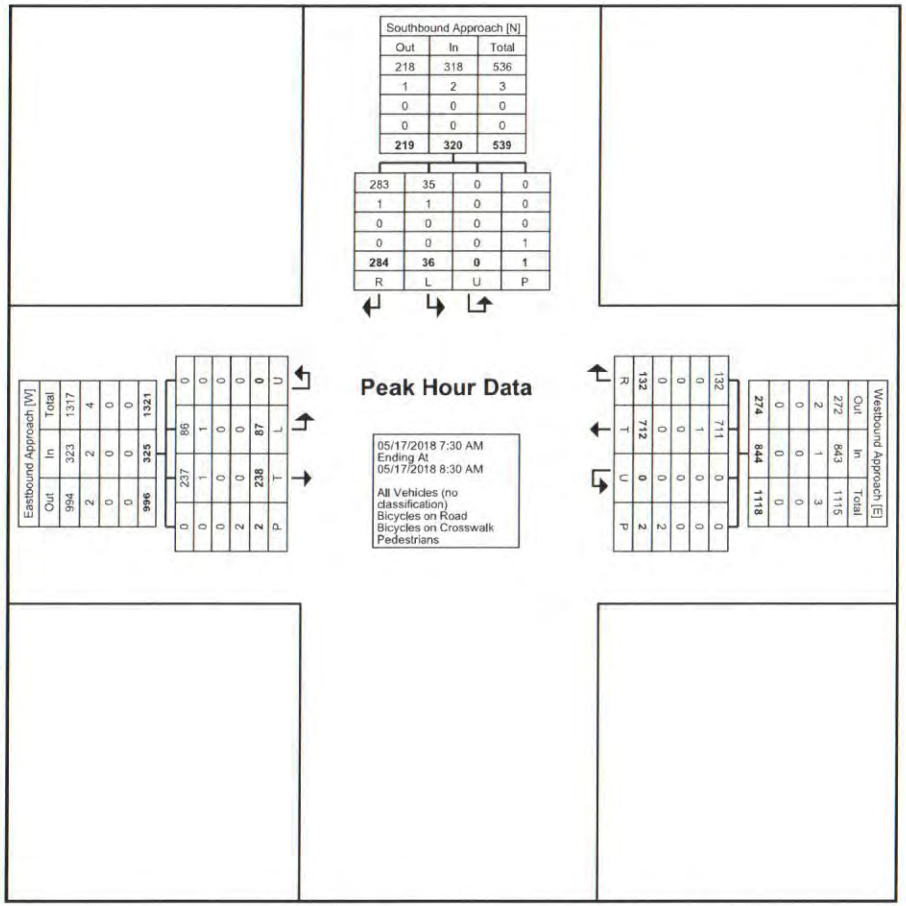
Count Name: Lookout and 71st TMC 5-17-2018
Site Code: 127
Start Date: 05/17/2018
Page No: 4

Turning Movement Peak Hour Data (7:30 AM)

Start Time	Southbound Approach Southbound Right	Left	U-Turn	Peds	App. Total	Westbound Approach Westbound Right	Thru	U-Turn	Peds	App. Total	Eastbound Approach Eastbound Thru	Left	U-Turn	Peds	App. Total	Int. Total
7:30 AM	59	6	0	0	65	29	156	0	0	185	42	15	0	1	57	307
7:45 AM	89	11	0	0	100	35	186	0	1	221	68	27	0	1	95	416
8:00 AM	64	10	0	1	74	33	201	0	1	234	69	29	0	0	98	406
8:15 AM	72	9	0	0	81	35	169	0	0	204	59	16	0	0	75	360
Total	284	36	0	1	320	132	712	0	2	844	238	87	0	2	325	1489
Approach %	88.8	11.3	0.0	-	-	15.6	84.4	0.0	-	-	73.2	26.8	0.0	-	-	-
Total %	19.1	2.4	0.0	-	21.5	8.9	47.8	0.0	-	56.7	16.0	5.8	0.0	-	21.8	-
PHF	0.798	0.818	0.000	-	0.800	0.943	0.886	0.000	-	0.902	0.862	0.750	0.000	-	0.829	0.895
All Vehicles (no classification)	283	35	0	-	318	132	711	0	-	843	237	86	0	-	323	1484
% All Vehicles (no classification)	99.6	97.2	-	-	99.4	100.0	99.9	-	-	99.9	99.6	98.9	-	-	99.4	99.7
Bicycles on Road	1	1	0	-	2	0	1	0	-	1	1	1	0	-	2	5
% Bicycles on Road	0.4	2.8	-	-	0.6	0.0	0.1	-	-	0.1	0.4	1.1	-	-	0.6	0.3
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	1	-	-	-	-	2	-	-	-	-	2	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

City of Boulder (CO)
1777 Broadway
P.O. Box 791
Boulder, Colorado, United States 80306
303.441.3266 riceb@bouldercolorado.gov

Count Name: Lookout and 71st TMC 5-17-2018
Site Code: 127
Start Date: 05/17/2018



Turning Movement Peak Hour Data Plot (7:30 AM)

City of Boulder (CO)
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Count Name: Lookout and 71st TMC 5-17-2018
Site Code: 127
Start Date: 05/17/2018
Page No: 6

Turning Movement Peak Hour Data (11:45 AM)

Start Time	Southbound Approach Southbound					Westbound Approach Westbound					Eastbound Approach Eastbound					
	Right	Left	U-Turn	Peds	App. Total	Right	Thru	U-Turn	Peds	App. Total	Thru	Left	U-Turn	Peds	App. Total	Int. Total
11:45 AM	40	17	0	1	57	12	57	0	1	69	67	42	0	0	109	235
12:00 PM	58	12	0	0	70	13	60	0	0	73	74	29	0	0	103	246
12:15 PM	48	11	0	0	59	9	79	0	0	88	66	37	0	1	103	250
12:30 PM	43	10	0	0	53	11	55	0	0	66	67	51	0	0	118	237
Total	189	50	0	1	239	45	251	0	1	296	274	159	0	1	433	968
Approach %	79.1	20.9	0.0	-	-	15.2	84.8	0.0	-	-	63.3	36.7	0.0	-	-	-
Total %	19.5	5.2	0.0	-	24.7	4.6	25.9	0.0	-	30.6	28.3	16.4	0.0	-	44.7	-
PHF	0.815	0.735	0.000	-	0.854	0.865	0.794	0.000	-	0.841	0.926	0.779	0.000	-	0.917	0.968
All Vehicles (no classification)	188	48	0	-	236	41	247	0	-	288	268	158	0	-	426	950
% All Vehicles (no classification)	99.5	96.0	-	-	98.7	91.1	98.4	-	-	97.3	97.8	99.4	-	-	98.4	98.1
Bicycles on Road	1	2	0	-	3	4	4	0	-	8	6	1	0	-	7	18
% Bicycles on Road	0.5	4.0	-	-	1.3	8.9	1.6	-	-	2.7	2.2	0.6	-	-	1.6	1.9
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	0	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	0.0	-	-	-	-	0.0	-	-
Pedestrians	-	-	-	1	-	-	-	-	1	-	-	-	-	1	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	100.0	-	-	-	-	100.0	-	-

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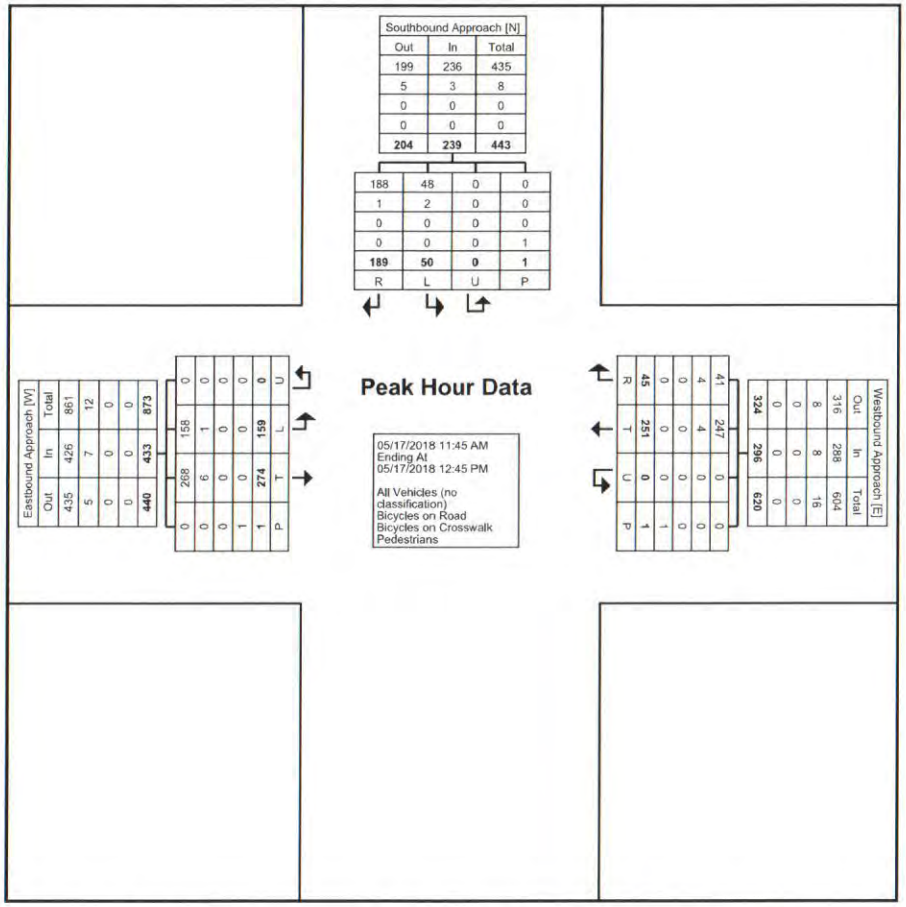
Site Code: 127
Start Date: 05/17/2018



Turning Movement Peak Hour Data Plot (11:45 AM)

City of Boulder (CO)
1777 Broadway
P.O. Box 791
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303.441.3266 riceb@bouldercolorado.gov

Count Name: Lookout and 71st TMC 5-17-2018
Site Code: 127
Start Date: 05/17/2018

Turning Movement Peak Hour Data (4:30 PM)

Start Time	Southbound Approach Southbound Right	Left	U-Turn	Peds	App. Total	Westbound Approach Westbound Right	Thru	U-Turn	Peds	App. Total	Eastbound Approach Eastbound Thru	Left	U-Turn	Peds	App. Total	Int. Total
4:30 PM	30	42	0	0	72	16	58	0	0	74	167	75	0	0	242	388
4:45 PM	43	28	0	0	71	18	72	0	0	90	151	59	0	0	210	371
5:00 PM	55	46	0	0	101	19	67	0	0	86	169	96	0	0	265	452
5:15 PM	49	22	0	1	71	22	63	0	1	85	170	88	0	0	258	414
Total	177	138	0	1	315	75	260	0	1	335	657	318	0	0	975	1625
Approach %	56.2	43.8	0.0	-	-	22.4	77.6	0.0	-	-	67.4	32.6	0.0	-	-	-
Total %	10.9	8.5	0.0	-	19.4	4.6	16.0	0.0	-	20.6	40.4	19.6	0.0	-	60.0	-
PHF	0.805	0.750	0.000	-	0.780	0.852	0.903	0.000	-	0.931	0.966	0.828	0.000	-	0.920	0.899
All Vehicles (no classification)	176	134	0	-	310	74	259	0	-	333	654	316	0	-	970	1613
% All Vehicles (no classification)	99.4	97.1	-	-	98.4	98.7	99.6	-	-	99.4	99.5	99.4	-	-	99.5	99.3
Bicycles on Road	1	4	0	-	5	1	1	0	-	2	3	2	0	-	5	12
% Bicycles on Road	0.6	2.9	-	-	1.6	1.3	0.4	-	-	0.6	0.5	0.6	-	-	0.5	0.7
Bicycles on Crosswalk	-	-	-	0	-	-	-	-	1	-	-	-	-	0	-	-
% Bicycles on Crosswalk	-	-	-	0.0	-	-	-	-	100.0	-	-	-	-	-	-	-
Pedestrians	-	-	-	1	-	-	-	-	0	-	-	-	-	0	-	-
% Pedestrians	-	-	-	100.0	-	-	-	-	0.0	-	-	-	-	-	-	-

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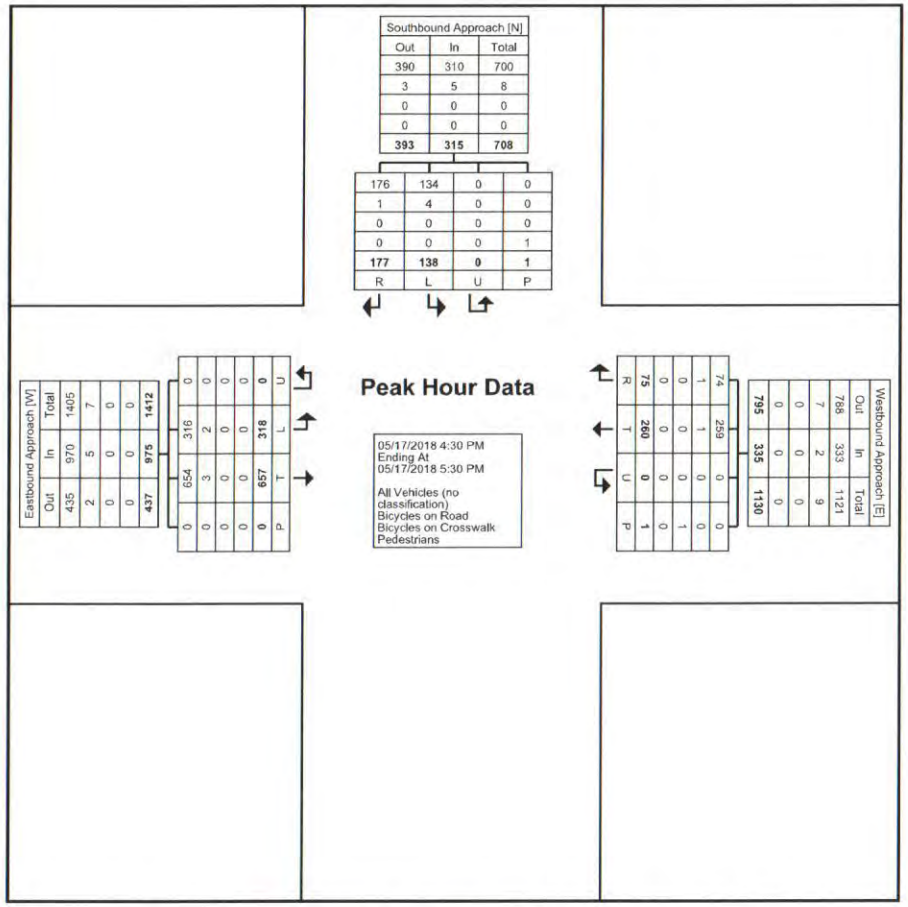

Turning Movement Peak Hour Data Plot (4:30 PM)

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Count Name: Lookout and 71st TMC 5-17-2018
Site Code: 127
Start Date: 05/17/2018
Page No: 10

Intersection Capacity Worksheets: Existing

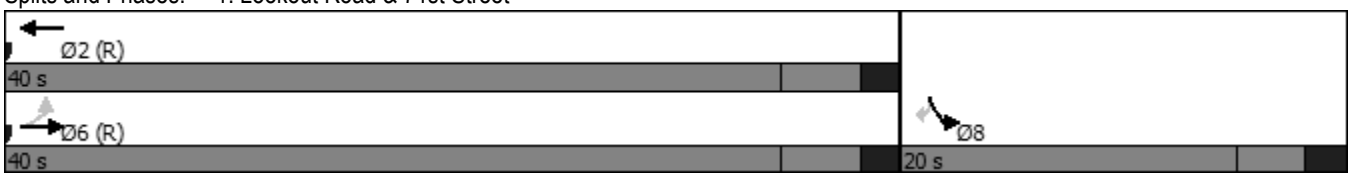
Timings
09/10/2020

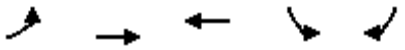
1: Lookout Road & 71st Street
2020 Existing - AM Peak Hour

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	95	245	720	40	290
Future Volume (vph)	95	245	720	40	290
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	8	
Permitted Phases	6				8
Detector Phase	6	6	2	8	8
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	15.0	15.0
Minimum Split (s)	19.4	19.4	19.4	20.0	20.0
Total Split (s)	40.0	40.0	40.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	33.3%	33.3%
Yellow Time (s)	3.6	3.6	3.6	3.0	3.0
All-Red Time (s)	1.8	1.8	1.8	2.0	2.0
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	36.0	36.0	36.0	16.0	15.0
Actuated g/C Ratio	0.60	0.60	0.60	0.27	0.25
v/c Ratio	1.02	0.26	0.91	0.12	0.68

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 45 (75%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
Natural Cycle: 70
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 26.6
Intersection Capacity Utilization 80.3%
Analysis Period (min) 15

Splits and Phases: 1: Lookout Road & 71st Street





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	127	295	1008	56	363
v/c Ratio	1.02	0.26	0.91	0.12	0.68
Control Delay	109.3	6.7	25.6	17.5	17.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	109.3	6.7	25.6	17.5	17.8
Queue Length 50th (ft)	~56	58	271	15	55
Queue Length 95th (ft)	#174	75	#536	30	108
Internal Link Dist (ft)		3838	1664	529	
Turn Bay Length (ft)	160				55
Base Capacity (vph)	124	1117	1103	472	532
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.02	0.26	0.91	0.12	0.68

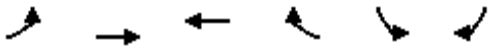
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
09/10/2020

1: Lookout Road & 71st Street
2020 Existing - AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	245	720	135	40	290
Future Volume (veh/h)	95	245	720	135	40	290
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	295	818	190	56	362
Peak Hour Factor	0.75	0.83	0.88	0.71	0.71	0.80
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	174	1122	881	205	475	396
Arrive On Green	0.60	0.60	0.60	0.58	0.27	0.25
Sat Flow, veh/h	559	1870	1468	341	1781	1585
Grp Volume(v), veh/h	127	295	0	1008	56	362
Grp Sat Flow(s),veh/h/ln	559	1870	0	1809	1781	1585
Q Serve(g_s), s	5.7	4.5	0.0	30.3	1.4	13.3
Cycle Q Clear(g_c), s	36.0	4.5	0.0	30.3	1.4	13.3
Prop In Lane	1.00			0.19	1.00	1.00
Lane Grp Cap(c), veh/h	174	1122	0	1085	475	396
V/C Ratio(X)	0.73	0.26	0.00	0.93	0.12	0.91
Avail Cap(c_a), veh/h	174	1122	0	1085	475	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.8	5.7	0.0	11.0	16.7	21.9
Incr Delay (d2), s/veh	23.5	0.6	0.0	14.8	0.0	24.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	1.4	0.0	12.7	0.5	7.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	52.3	6.3	0.0	25.8	16.7	46.6
LnGrp LOS	D	A	A	C	B	D
Approach Vol, veh/h		422	1008		418	
Approach Delay, s/veh		20.1	25.8		42.6	
Approach LOS		C	C		D	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	40.0				40.0	20.0
Change Period (Y+Rc), s	* 5.4				* 5.4	5.0
Max Green Setting (Gmax), s	* 35				* 35	15.0
Max Q Clear Time (g_c+I1), s	32.3				38.0	3.4
Green Ext Time (p_c), s	1.3				0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	28.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	18.2
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	145	205	240	305	265	150
Future Vol, veh/h	145	205	240	305	265	150
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	165	233	273	347	301	170
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	13.6	20.3	19.3
HCM LOS	B	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	265	150	145	205	240	305
LT Vol	265	0	0	0	240	0
Through Vol	0	0	145	0	0	305
RT Vol	0	150	0	205	0	0
Lane Flow Rate	301	170	165	233	273	347
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.642	0.306	0.327	0.415	0.552	0.652
Departure Headway (Hd)	7.676	6.455	7.138	6.42	7.281	6.77
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	470	554	499	557	494	530
Service Time	5.458	4.236	4.937	4.219	5.07	4.558
HCM Lane V/C Ratio	0.64	0.307	0.331	0.418	0.553	0.655
HCM Control Delay	23.3	12.1	13.4	13.8	18.8	21.5
HCM Lane LOS	C	B	B	B	C	C
HCM 95th-tile Q	4.4	1.3	1.4	2	3.3	4.7

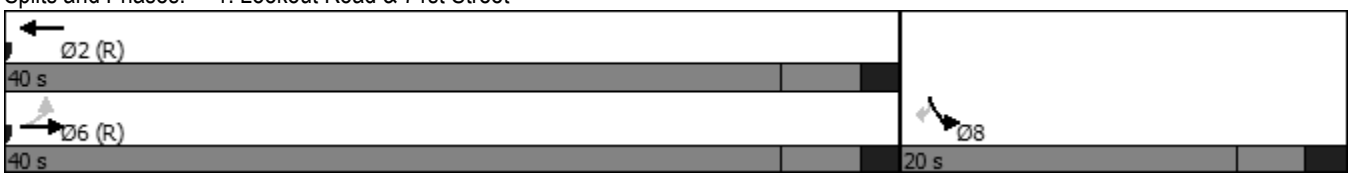
Timings
09/10/2020

1: Lookout Road & 71st Street
2020 Existing - PM Peak Hour

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	250	510	210	115	145
Future Volume (vph)	250	510	210	115	145
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	8	
Permitted Phases	6				8
Detector Phase	6	6	2	8	8
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	15.0	15.0
Minimum Split (s)	19.4	19.4	19.4	20.0	20.0
Total Split (s)	40.0	40.0	40.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	33.3%	33.3%
Yellow Time (s)	3.6	3.6	3.6	3.0	3.0
All-Red Time (s)	1.8	1.8	1.8	2.0	2.0
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	36.0	36.0	36.0	16.0	15.0
Actuated g/C Ratio	0.60	0.60	0.60	0.27	0.25
v/c Ratio	0.50	0.54	0.30	0.31	0.32

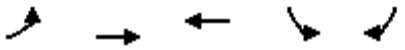
Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 25 (42%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
Natural Cycle: 50
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.54
Intersection Signal Delay: 9.4
Intersection Capacity Utilization 51.4%
Analysis Period (min) 15

Splits and Phases: 1: Lookout Road & 71st Street



Queues
09/10/2020

1: Lookout Road & 71st Street
2020 Existing - PM Peak Hour

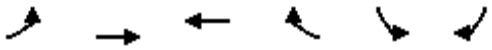


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	301	607	332	147	165
v/c Ratio	0.50	0.54	0.30	0.31	0.32
Control Delay	10.4	9.5	5.6	19.8	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	10.4	9.5	5.6	19.8	5.6
Queue Length 50th (ft)	64	133	41	42	0
Queue Length 95th (ft)	86	157	73	72	37
Internal Link Dist (ft)		3838	1664	529	
Turn Bay Length (ft)	160				55
Base Capacity (vph)	601	1117	1098	472	519
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.50	0.54	0.30	0.31	0.32

Intersection Summary

HCM 6th Signalized Intersection Summary
09/10/2020

1: Lookout Road & 71st Street
2020 Existing - PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	250	510	210	65	115	145
Future Volume (veh/h)	250	510	210	65	115	145
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	301	607	239	93	147	165
Peak Hour Factor	0.83	0.84	0.88	0.70	0.78	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	651	1122	769	299	475	396
Arrive On Green	0.60	0.60	0.60	0.58	0.27	0.25
Sat Flow, veh/h	1048	1870	1282	499	1781	1585
Grp Volume(v), veh/h	301	607	0	332	147	165
Grp Sat Flow(s),veh/h/ln	1048	1870	0	1781	1781	1585
Q Serve(g_s), s	11.9	11.5	0.0	5.6	4.0	5.2
Cycle Q Clear(g_c), s	17.5	11.5	0.0	5.6	4.0	5.2
Prop In Lane	1.00			0.28	1.00	1.00
Lane Grp Cap(c), veh/h	651	1122	0	1068	475	396
V/C Ratio(X)	0.46	0.54	0.00	0.31	0.31	0.42
Avail Cap(c_a), veh/h	651	1122	0	1068	475	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	10.2	7.1	0.0	6.0	17.6	18.8
Incr Delay (d2), s/veh	2.3	1.9	0.0	0.8	0.1	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	3.8	0.0	1.7	1.5	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	12.6	9.0	0.0	6.8	17.7	19.1
LnGrp LOS	B	A	A	A	B	B
Approach Vol, veh/h		908	332		312	
Approach Delay, s/veh		10.2	6.8		18.4	
Approach LOS		B	A		B	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	40.0				40.0	20.0
Change Period (Y+Rc), s	* 5.4				* 5.4	5.0
Max Green Setting (Gmax), s	* 35				* 35	15.0
Max Q Clear Time (g_c+I1), s	7.6				19.5	6.0
Green Ext Time (p_c), s	1.3				4.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	11.1
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	18.6
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	340	240	165	130	190	290
Future Vol, veh/h	340	240	165	130	190	290
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	386	273	188	148	216	330
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	21.4	14.7	17.6
HCM LOS	C	B	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	190	290	340	240	165	130
LT Vol	190	0	0	0	165	0
Through Vol	0	0	340	0	0	130
RT Vol	0	290	0	240	0	0
Lane Flow Rate	216	330	386	273	188	148
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.458	0.588	0.734	0.464	0.409	0.301
Departure Headway (Hd)	7.643	6.422	6.836	6.12	7.855	7.341
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	469	557	525	584	461	492
Service Time	5.435	4.213	4.63	3.914	5.555	5.041
HCM Lane V/C Ratio	0.461	0.592	0.735	0.467	0.408	0.301
HCM Control Delay	16.8	18.1	26.4	14.2	15.9	13.2
HCM Lane LOS	C	C	D	B	C	B
HCM 95th-tile Q	2.4	3.8	6.1	2.4	2	1.3

Intersection Capacity Worksheets: 2042 Background

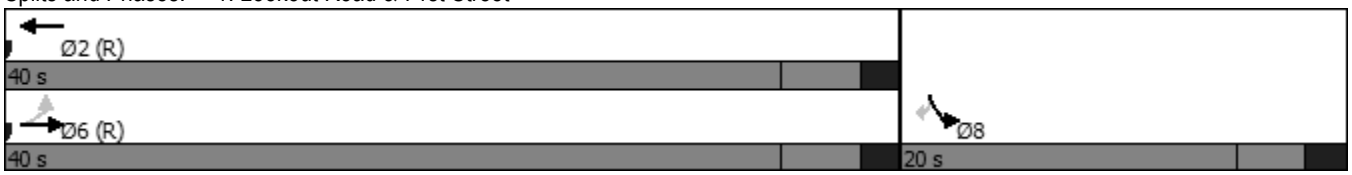
Timings
09/10/2020

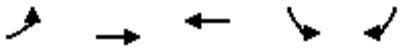
1: Lookout Road & 71st Street
2042 Background - AM Peak Hour

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	121	311	914	51	368
Future Volume (vph)	121	311	914	51	368
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	8	
Permitted Phases	6				8
Detector Phase	6	6	2	8	8
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	15.0	15.0
Minimum Split (s)	19.4	19.4	19.4	20.0	20.0
Total Split (s)	40.0	40.0	40.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	33.3%	33.3%
Yellow Time (s)	3.6	3.6	3.6	3.0	3.0
All-Red Time (s)	1.8	1.8	1.8	2.0	2.0
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	36.0	36.0	36.0	16.0	15.0
Actuated g/C Ratio	0.60	0.60	0.60	0.27	0.25
v/c Ratio	1.06	0.30	1.07	0.12	0.82

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 45 (75%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
Natural Cycle: 90
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.07
Intersection Signal Delay: 50.2
Intersection Capacity Utilization 92.7%
Analysis Period (min) 15

Splits and Phases: 1: Lookout Road & 71st Street





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	132	338	1179	55	400
v/c Ratio	1.06	0.30	1.07	0.12	0.82
Control Delay	120.9	7.1	62.6	17.5	31.4
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	120.9	7.1	62.6	17.5	31.4
Queue Length 50th (ft)	~82	66	~485	15	94
Queue Length 95th (ft)	#227	92	#707	38	#234
Internal Link Dist (ft)		3838	1664	529	
Turn Bay Length (ft)	160				55
Base Capacity (vph)	124	1117	1105	472	487
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.06	0.30	1.07	0.12	0.82

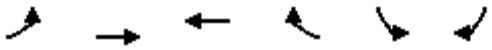
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
09/10/2020

1: Lookout Road & 71st Street
2042 Background - AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	121	311	914	171	51	368
Future Volume (veh/h)	121	311	914	171	51	368
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	338	993	186	55	400
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	120	1122	919	172	475	396
Arrive On Green	0.60	0.60	0.60	0.58	0.27	0.25
Sat Flow, veh/h	476	1870	1532	287	1781	1585
Grp Volume(v), veh/h	132	338	0	1179	55	400
Grp Sat Flow(s),veh/h/ln	476	1870	0	1819	1781	1585
Q Serve(g_s), s	0.0	5.3	0.0	36.0	1.4	15.0
Cycle Q Clear(g_c), s	36.0	5.3	0.0	36.0	1.4	15.0
Prop In Lane	1.00			0.16	1.00	1.00
Lane Grp Cap(c), veh/h	120	1122	0	1091	475	396
V/C Ratio(X)	1.10	0.30	0.00	1.08	0.12	1.01
Avail Cap(c_a), veh/h	120	1122	0	1091	475	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	30.0	5.9	0.0	12.1	16.6	22.5
Incr Delay (d2), s/veh	111.1	0.7	0.0	51.7	0.0	47.6
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.3	1.7	0.0	25.5	0.5	10.3
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	141.1	6.5	0.0	63.8	16.7	70.1
LnGrp LOS	F	A	A	F	B	F
Approach Vol, veh/h		470	1179		455	
Approach Delay, s/veh		44.3	63.8		63.6	
Approach LOS		D	E		E	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	40.0				40.0	20.0
Change Period (Y+Rc), s	* 5.4				* 5.4	5.0
Max Green Setting (Gmax), s	* 35				* 35	15.0
Max Q Clear Time (g_c+I1), s	38.0				38.0	3.4
Green Ext Time (p_c), s	0.0				0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	59.4
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	30.7
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	184	260	305	387	336	190
Future Vol, veh/h	184	260	305	387	336	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	200	283	332	421	365	207
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	18.2	37.5	32.2
HCM LOS	C	E	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	336	190	184	260	305	387
LT Vol	336	0	0	0	305	0
Through Vol	0	0	184	0	0	387
RT Vol	0	190	0	260	0	0
Lane Flow Rate	365	207	200	283	332	421
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.843	0.406	0.442	0.567	0.737	0.875
Departure Headway (Hd)	8.313	7.085	7.948	7.224	8.003	7.489
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	438	508	454	500	454	484
Service Time	6.051	4.822	5.691	4.967	5.742	5.227
HCM Lane V/C Ratio	0.833	0.407	0.441	0.566	0.731	0.87
HCM Control Delay	42.2	14.6	16.9	19.1	30.1	43.4
HCM Lane LOS	E	B	C	C	D	E
HCM 95th-tile Q	8.2	1.9	2.2	3.5	6	9.3

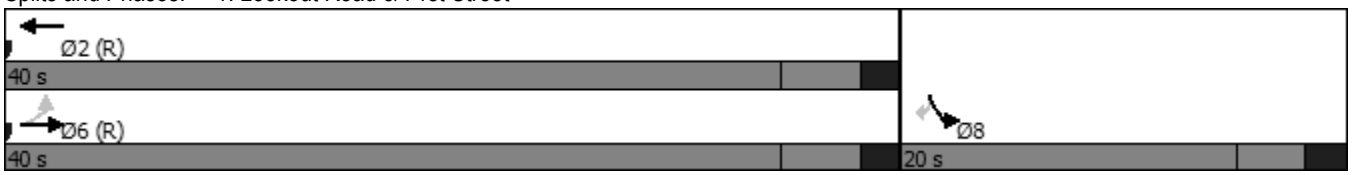
Timings
09/10/2020

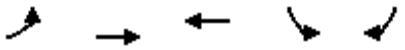
1: Lookout Road & 71st Street
2042 Background - PM Peak Hour

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	317	648	267	146	184
Future Volume (vph)	317	648	267	146	184
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	8	
Permitted Phases	6				8
Detector Phase	6	6	2	8	8
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	15.0	15.0
Minimum Split (s)	19.4	19.4	19.4	20.0	20.0
Total Split (s)	40.0	40.0	40.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	33.3%	33.3%
Yellow Time (s)	3.6	3.6	3.6	3.0	3.0
All-Red Time (s)	1.8	1.8	1.8	2.0	2.0
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	36.0	36.0	36.0	16.0	15.0
Actuated g/C Ratio	0.60	0.60	0.60	0.27	0.25
v/c Ratio	0.62	0.63	0.34	0.34	0.37

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 25 (42%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.63
Intersection Signal Delay: 10.7
Intersection Capacity Utilization 59.1%
Analysis Period (min) 15

Splits and Phases: 1: Lookout Road & 71st Street



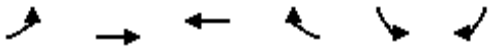


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	345	704	379	159	200
v/c Ratio	0.62	0.63	0.34	0.34	0.37
Control Delay	13.4	11.0	6.3	20.2	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	13.4	11.0	6.3	20.2	5.5
Queue Length 50th (ft)	79	162	51	46	0
Queue Length 95th (ft)	123	212	92	91	42
Internal Link Dist (ft)		3838	1664	529	
Turn Bay Length (ft)	160				55
Base Capacity (vph)	559	1117	1100	472	545
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.62	0.63	0.34	0.34	0.37

Intersection Summary

HCM 6th Signalized Intersection Summary
09/10/2020

1: Lookout Road & 71st Street
2042 Background - PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	317	648	267	82	146	184
Future Volume (veh/h)	317	648	267	82	146	184
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	345	704	290	89	159	200
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	614	1122	824	253	475	396
Arrive On Green	0.60	0.60	0.60	0.58	0.27	0.25
Sat Flow, veh/h	1004	1870	1373	421	1781	1585
Grp Volume(v), veh/h	345	704	0	379	159	200
Grp Sat Flow(s),veh/h/ln	1004	1870	0	1795	1781	1585
Q Serve(g_s), s	16.0	14.5	0.0	6.5	4.3	6.5
Cycle Q Clear(g_c), s	22.5	14.5	0.0	6.5	4.3	6.5
Prop In Lane	1.00			0.23	1.00	1.00
Lane Grp Cap(c), veh/h	614	1122	0	1077	475	396
V/C Ratio(X)	0.56	0.63	0.00	0.35	0.33	0.50
Avail Cap(c_a), veh/h	614	1122	0	1077	475	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.8	7.7	0.0	6.2	17.7	19.3
Incr Delay (d2), s/veh	3.7	2.6	0.0	0.9	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	4.8	0.0	2.0	1.6	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	15.5	10.3	0.0	7.1	17.9	19.7
LnGrp LOS	B	B	A	A	B	B
Approach Vol, veh/h		1049	379		359	
Approach Delay, s/veh		12.0	7.1		18.9	
Approach LOS		B	A		B	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	40.0				40.0	20.0
Change Period (Y+Rc), s	* 5.4				* 5.4	5.0
Max Green Setting (Gmax), s	* 35				* 35	15.0
Max Q Clear Time (g_c+I1), s	8.5				24.5	6.3
Green Ext Time (p_c), s	1.6				4.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	12.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

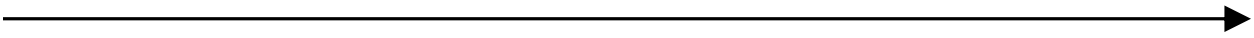
Intersection	
Intersection Delay, s/veh	33.6
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	432	305	210	165	241	368
Future Vol, veh/h	432	305	210	165	241	368
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	470	332	228	179	262	400
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	46.1	19	27.6
HCM LOS	E	C	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	241	368	432	305	210	165
LT Vol	241	0	0	0	210	0
Through Vol	0	0	432	0	0	165
RT Vol	0	368	0	305	0	0
Lane Flow Rate	262	400	470	332	228	179
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.602	0.783	0.982	0.627	0.545	0.402
Departure Headway (Hd)	8.277	7.048	7.53	6.809	8.59	8.073
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	437	516	484	530	420	447
Service Time	6.013	4.784	5.267	4.547	6.336	5.819
HCM Lane V/C Ratio	0.6	0.775	0.971	0.626	0.543	0.4
HCM Control Delay	22.8	30.8	64.2	20.4	21.2	16.2
HCM Lane LOS	C	D	F	C	C	C
HCM 95th-tile Q	3.8	7.1	12.7	4.3	3.2	1.9

Intersection Capacity Worksheets: 2042 Background With Improvements



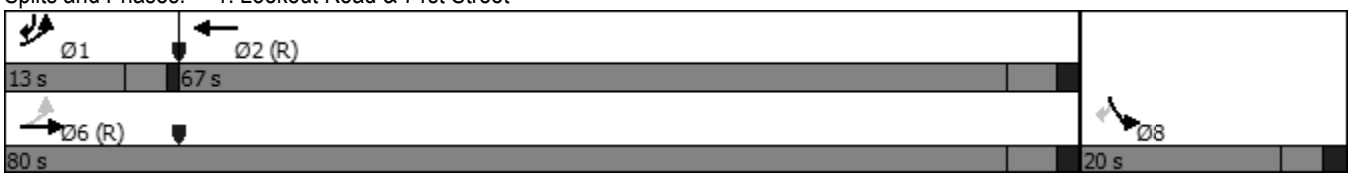
Timings
09/10/2020

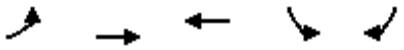
1: Lookout Road & 71st Street
2042 Background - with Signal Timing Imprv. - AM Peak Hour

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	121	311	914	51	368
Future Volume (vph)	121	311	914	51	368
Turn Type	pm+pt	NA	NA	Prot	pm+ov
Protected Phases	1	6	2	8	1
Permitted Phases	6				8
Detector Phase	1	6	2	8	1
Switch Phase					
Minimum Initial (s)	5.0	14.0	14.0	15.0	5.0
Minimum Split (s)	10.0	19.4	19.4	20.0	10.0
Total Split (s)	13.0	80.0	67.0	20.0	13.0
Total Split (%)	13.0%	80.0%	67.0%	20.0%	13.0%
Yellow Time (s)	3.0	3.6	3.6	3.0	3.0
All-Red Time (s)	1.0	1.8	1.8	2.0	1.0
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.0	0.0
Total Lost Time (s)	2.6	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag		Lead
Lead-Lag Optimize?	Yes		Yes		Yes
Recall Mode	Min	C-Max	C-Max	Min	Min
Act Effct Green (s)	77.4	76.0	64.2	16.0	27.8
Actuated g/C Ratio	0.77	0.76	0.64	0.16	0.28
v/c Ratio	0.55	0.24	1.00	0.19	0.74

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.00
Intersection Signal Delay: 34.6
Intersection Capacity Utilization 87.9%
Analysis Period (min) 15

Splits and Phases: 1: Lookout Road & 71st Street





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	132	338	1179	55	400
v/c Ratio	0.55	0.24	1.00	0.19	0.74
Control Delay	23.1	4.0	45.8	38.5	30.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	4.0	45.8	38.5	30.6
Queue Length 50th (ft)	27	52	~699	31	153
Queue Length 95th (ft)	87	78	#1053	67	265
Internal Link Dist (ft)		3838	1664	529	
Turn Bay Length (ft)	160				55
Base Capacity (vph)	259	1415	1178	283	556
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.51	0.24	1.00	0.19	0.72

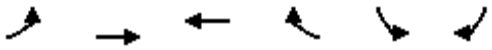
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
09/10/2020

1: Lookout Road & 71st Street
2042 Background - with Signal Timing Imprv. - AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	121	311	914	171	51	368
Future Volume (veh/h)	121	311	914	171	51	368
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	338	993	186	55	400
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	215	1421	1026	192	285	317
Arrive On Green	0.06	0.76	0.67	0.66	0.16	0.15
Sat Flow, veh/h	1781	1870	1532	287	1781	1585
Grp Volume(v), veh/h	132	338	0	1179	55	400
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1819	1781	1585
Q Serve(g_s), s	2.0	5.3	0.0	60.9	2.7	15.0
Cycle Q Clear(g_c), s	2.0	5.3	0.0	60.9	2.7	15.0
Prop In Lane	1.00			0.16	1.00	1.00
Lane Grp Cap(c), veh/h	215	1421	0	1219	285	317
V/C Ratio(X)	0.61	0.24	0.00	0.97	0.19	1.26
Avail Cap(c_a), veh/h	286	1421	0	1219	285	317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.4	3.5	0.0	15.6	36.4	40.0
Incr Delay (d2), s/veh	2.8	0.4	0.0	19.1	0.1	140.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.6	0.0	26.9	1.2	20.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	29.2	3.9	0.0	34.7	36.5	180.7
LnGrp LOS	C	A	A	C	D	F
Approach Vol, veh/h		470	1179		455	
Approach Delay, s/veh		11.0	34.7		163.3	
Approach LOS		B	C		F	

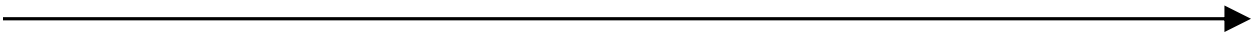
Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.0	71.0			80.0	20.0
Change Period (Y+Rc), s	4.0	* 5.4			* 5.4	5.0
Max Green Setting (Gmax), s	9.0	* 62			* 75	15.0
Max Q Clear Time (g_c+I1), s	4.0	62.9			7.3	4.7
Green Ext Time (p_c), s	0.2	0.0			1.4	0.1

Intersection Summary	
HCM 6th Ctrl Delay	57.2
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection Capacity Worksheets: Year 2022 Near-Term + Hillside School



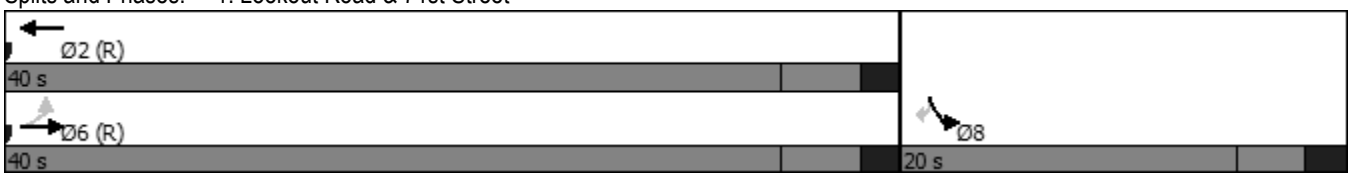
Timings
09/10/2020

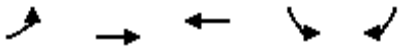
1: Lookout Road & 71st Street
Year 2022 + School - AM Peak Hour

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	95	270	740	50	290
Future Volume (vph)	95	270	740	50	290
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	8	
Permitted Phases	6				8
Detector Phase	6	6	2	8	8
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	15.0	15.0
Minimum Split (s)	19.4	19.4	19.4	20.0	20.0
Total Split (s)	40.0	40.0	40.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	33.3%	33.3%
Yellow Time (s)	3.6	3.6	3.6	3.0	3.0
All-Red Time (s)	1.8	1.8	1.8	2.0	2.0
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	36.0	36.0	36.0	16.0	15.0
Actuated g/C Ratio	0.60	0.60	0.60	0.27	0.25
v/c Ratio	1.02	0.29	0.95	0.15	0.69

Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 45 (75%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
Natural Cycle: 75
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 29.2
Intersection Capacity Utilization 81.9%
Analysis Period (min) 15

Splits and Phases: 1: Lookout Road & 71st Street





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	127	325	1045	70	363
v/c Ratio	1.02	0.29	0.95	0.15	0.69
Control Delay	109.2	7.0	30.7	17.9	18.8
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	109.2	7.0	30.7	17.9	18.8
Queue Length 50th (ft)	~56	64	295	19	59
Queue Length 95th (ft)	#175	82	#568	36	112
Internal Link Dist (ft)		3838	1664	529	
Turn Bay Length (ft)	160				55
Base Capacity (vph)	124	1117	1102	472	525
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	1.02	0.29	0.95	0.15	0.69

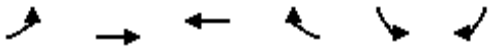
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
09/10/2020

1: Lookout Road & 71st Street
Year 2022 + School - AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	95	270	740	145	50	290
Future Volume (veh/h)	95	270	740	145	50	290
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	127	325	841	204	70	362
Peak Hour Factor	0.75	0.83	0.88	0.71	0.71	0.80
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	147	1122	872	212	475	396
Arrive On Green	0.60	0.60	0.60	0.58	0.27	0.25
Sat Flow, veh/h	540	1870	1454	353	1781	1585
Grp Volume(v), veh/h	127	325	0	1045	70	362
Grp Sat Flow(s),veh/h/ln	540	1870	0	1807	1781	1585
Q Serve(g_s), s	3.0	5.0	0.0	33.0	1.8	13.3
Cycle Q Clear(g_c), s	36.0	5.0	0.0	33.0	1.8	13.3
Prop In Lane	1.00			0.20	1.00	1.00
Lane Grp Cap(c), veh/h	147	1122	0	1084	475	396
V/C Ratio(X)	0.86	0.29	0.00	0.96	0.15	0.91
Avail Cap(c_a), veh/h	147	1122	0	1084	475	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	29.7	5.8	0.0	11.5	16.8	21.9
Incr Delay (d2), s/veh	44.0	0.6	0.0	19.9	0.1	24.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	1.6	0.0	14.9	0.7	7.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	73.7	6.5	0.0	31.4	16.8	46.6
LnGrp LOS	E	A	A	C	B	D
Approach Vol, veh/h		452	1045		432	
Approach Delay, s/veh		25.3	31.4		41.7	
Approach LOS		C	C		D	

Timer - Assigned Phs		2				6	8
Phs Duration (G+Y+Rc), s		40.0				40.0	20.0
Change Period (Y+Rc), s		* 5.4				* 5.4	5.0
Max Green Setting (Gmax), s		* 35				* 35	15.0
Max Q Clear Time (g_c+I1), s		35.0				38.0	3.8
Green Ext Time (p_c), s		0.0				0.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	32.3
HCM 6th LOS	C

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	20
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	160	215	240	325	275	150
Future Vol, veh/h	160	215	240	325	275	150
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	182	244	273	369	313	170
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	14.6	23	20.9
HCM LOS	B	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	275	150	160	215	240	325
LT Vol	275	0	0	0	240	0
Through Vol	0	0	160	0	0	325
RT Vol	0	150	0	215	0	0
Lane Flow Rate	312	170	182	244	273	369
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.677	0.311	0.371	0.45	0.569	0.717
Departure Headway (Hd)	7.913	6.688	7.354	6.635	7.506	6.993
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	459	540	491	545	483	521
Service Time	5.613	4.388	5.07	4.35	5.206	4.693
HCM Lane V/C Ratio	0.68	0.315	0.371	0.448	0.565	0.708
HCM Control Delay	25.6	12.4	14.4	14.7	19.7	25.5
HCM Lane LOS	D	B	B	B	C	D
HCM 95th-tile Q	5	1.3	1.7	2.3	3.5	5.8

Intersection	
Int Delay, s/veh	0.6

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	367	584	16	12	15
Future Vol, veh/h	19	367	584	16	12	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	399	635	17	13	16

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	652	0	-	0	1085	644
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	441	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	935	-	-	-	218	473
Stage 1	-	-	-	-	523	-
Stage 2	-	-	-	-	700	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	935	-	-	-	213	473
Mov Cap-2 Maneuver	-	-	-	-	213	-
Stage 1	-	-	-	-	511	-
Stage 2	-	-	-	-	700	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	18
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	935	-	-	-	307
HCM Lane V/C Ratio	0.022	-	-	-	0.096
HCM Control Delay (s)	8.9	-	-	-	18
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.3

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	368	592	8	7	8
Future Vol, veh/h	11	368	592	8	7	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	400	643	9	8	9

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	652	0	-	0	1072	648
Stage 1	-	-	-	-	648	-
Stage 2	-	-	-	-	424	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	935	-	-	-	223	470
Stage 1	-	-	-	-	521	-
Stage 2	-	-	-	-	716	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	935	-	-	-	220	470
Mov Cap-2 Maneuver	-	-	-	-	220	-
Stage 1	-	-	-	-	514	-
Stage 2	-	-	-	-	716	-

Approach	EB	WB	SB
HCM Control Delay, s	0.3	0	17.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	935	-	-	-	307
HCM Lane V/C Ratio	0.013	-	-	-	0.053
HCM Control Delay (s)	8.9	-	-	-	17.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

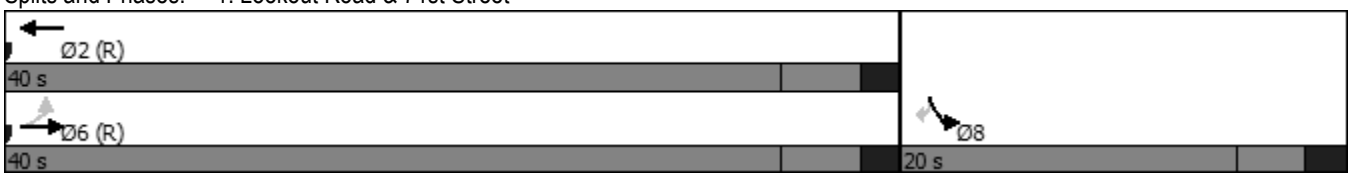
Timings
09/10/2020

1: Lookout Road & 71st Street
Year 2022 + School - PM Peak Hour

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	250	530	235	125	145
Future Volume (vph)	250	530	235	125	145
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	8	
Permitted Phases	6				8
Detector Phase	6	6	2	8	8
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	15.0	15.0
Minimum Split (s)	19.4	19.4	19.4	20.0	20.0
Total Split (s)	40.0	40.0	40.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	33.3%	33.3%
Yellow Time (s)	3.6	3.6	3.6	3.0	3.0
All-Red Time (s)	1.8	1.8	1.8	2.0	2.0
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	36.0	36.0	36.0	16.0	15.0
Actuated g/C Ratio	0.60	0.60	0.60	0.27	0.25
v/c Ratio	0.53	0.56	0.34	0.34	0.32

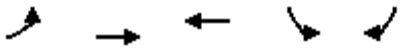
Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 25 (42%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
Natural Cycle: 55
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.56
Intersection Signal Delay: 9.8
Intersection Capacity Utilization 53.3%
Analysis Period (min) 15

Splits and Phases: 1: Lookout Road & 71st Street



Queues
09/10/2020

1: Lookout Road & 71st Street
Year 2022 + School - PM Peak Hour

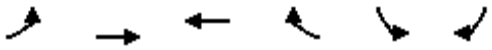


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	301	631	374	160	165
v/c Ratio	0.53	0.56	0.34	0.34	0.32
Control Delay	11.3	9.8	6.0	20.2	5.6
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	11.3	9.8	6.0	20.2	5.6
Queue Length 50th (ft)	65	140	48	46	0
Queue Length 95th (ft)	89	165	84	77	37
Internal Link Dist (ft)		3838	1664	529	
Turn Bay Length (ft)	160				55
Base Capacity (vph)	564	1117	1098	472	519
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.53	0.56	0.34	0.34	0.32

Intersection Summary

HCM 6th Signalized Intersection Summary
09/10/2020

1: Lookout Road & 71st Street
Year 2022 + School - PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	250	530	235	75	125	145
Future Volume (veh/h)	250	530	235	75	125	145
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	301	631	267	107	160	165
Peak Hour Factor	0.83	0.84	0.88	0.70	0.78	0.88
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	616	1122	762	305	475	396
Arrive On Green	0.60	0.60	0.60	0.58	0.27	0.25
Sat Flow, veh/h	1009	1870	1270	509	1781	1585
Grp Volume(v), veh/h	301	631	0	374	160	165
Grp Sat Flow(s),veh/h/ln	1009	1870	0	1779	1781	1585
Q Serve(g_s), s	13.0	12.2	0.0	6.5	4.3	5.2
Cycle Q Clear(g_c), s	19.4	12.2	0.0	6.5	4.3	5.2
Prop In Lane	1.00			0.29	1.00	1.00
Lane Grp Cap(c), veh/h	616	1122	0	1067	475	396
V/C Ratio(X)	0.49	0.56	0.00	0.35	0.34	0.42
Avail Cap(c_a), veh/h	616	1122	0	1067	475	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	11.0	7.2	0.0	6.2	17.7	18.8
Incr Delay (d2), s/veh	2.7	2.0	0.0	0.9	0.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	4.0	0.0	2.0	1.7	1.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	13.8	9.3	0.0	7.1	17.9	19.1
LnGrp LOS	B	A	A	A	B	B
Approach Vol, veh/h		932	374		325	
Approach Delay, s/veh		10.7	7.1		18.5	
Approach LOS		B	A		B	

Timer - Assigned Phs	2	6	8
Phs Duration (G+Y+Rc), s	40.0	40.0	20.0
Change Period (Y+Rc), s	* 5.4	* 5.4	5.0
Max Green Setting (Gmax), s	* 35	* 35	15.0
Max Q Clear Time (g_c+I1), s	8.5	21.4	6.3
Green Ext Time (p_c), s	1.5	4.0	0.1

Intersection Summary	
HCM 6th Ctrl Delay	11.4
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	20.3
Intersection LOS	C

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	360	250	165	145	200	290
Future Vol, veh/h	360	250	165	145	200	290
Peak Hour Factor	0.88	0.88	0.88	0.88	0.88	0.88
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	409	284	188	165	227	330
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	24.4	15.2	18.4
HCM LOS	C	C	C

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	200	290	360	250	165	145
LT Vol	200	0	0	0	165	0
Through Vol	0	0	360	0	0	145
RT Vol	0	290	0	250	0	0
Lane Flow Rate	227	330	409	284	188	165
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.49	0.598	0.787	0.49	0.415	0.342
Departure Headway (Hd)	7.76	6.538	6.926	6.21	7.977	7.462
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	461	547	520	574	454	484
Service Time	5.557	4.334	4.726	4.009	5.677	5.162
HCM Lane V/C Ratio	0.492	0.603	0.787	0.495	0.414	0.341
HCM Control Delay	17.9	18.7	31	14.9	16.2	14
HCM Lane LOS	C	C	D	B	C	B
HCM 95th-tile Q	2.6	3.9	7.2	2.7	2	1.5

Intersection	
Int Delay, s/veh	0.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	586	337	12	16	19
Future Vol, veh/h	15	586	337	12	16	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	17	666	383	14	21	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	397	0	-	0	1090	390
Stage 1	-	-	-	-	390	-
Stage 2	-	-	-	-	700	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1162	-	-	-	207	658
Stage 1	-	-	-	-	684	-
Stage 2	-	-	-	-	530	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	1162	-	-	-	204	658
Mov Cap-2 Maneuver	-	-	-	-	204	-
Stage 1	-	-	-	-	674	-
Stage 2	-	-	-	-	530	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	17.9
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1162	-	-	-	326
HCM Lane V/C Ratio	0.015	-	-	-	0.143
HCM Control Delay (s)	8.1	-	-	-	17.9
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.4

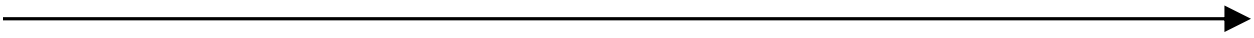
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	594	338	7	8	11
Future Vol, veh/h	8	594	338	7	8	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	88	88	88	88	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	675	384	8	11	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	392	0	-	0	1081	388
Stage 1	-	-	-	-	388	-
Stage 2	-	-	-	-	693	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1167	-	-	-	212	660
Stage 1	-	-	-	-	686	-
Stage 2	-	-	-	-	537	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	1167	-	-	-	210	660
Mov Cap-2 Maneuver	-	-	-	-	210	-
Stage 1	-	-	-	-	681	-
Stage 2	-	-	-	-	537	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	16.2
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1167	-	-	-	347
HCM Lane V/C Ratio	0.008	-	-	-	0.073
HCM Control Delay (s)	8.1	-	-	-	16.2
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.2

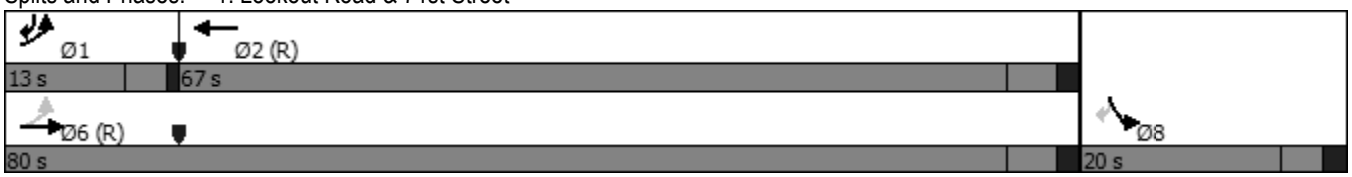
Intersection Capacity Worksheets: Year 2042 Long-Term + Hillside School

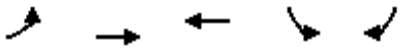


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	121	333	931	59	368
Future Volume (vph)	121	333	931	59	368
Turn Type	pm+pt	NA	NA	Prot	pm+ov
Protected Phases	1	6	2	8	1
Permitted Phases	6				8
Detector Phase	1	6	2	8	1
Switch Phase					
Minimum Initial (s)	5.0	14.0	14.0	15.0	5.0
Minimum Split (s)	10.0	19.4	19.4	20.0	10.0
Total Split (s)	13.0	80.0	67.0	20.0	13.0
Total Split (%)	13.0%	80.0%	67.0%	20.0%	13.0%
Yellow Time (s)	3.0	3.6	3.6	3.0	3.0
All-Red Time (s)	1.0	1.8	1.8	2.0	1.0
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.0	0.0
Total Lost Time (s)	2.6	4.0	4.0	4.0	4.0
Lead/Lag	Lead		Lag		Lead
Lead-Lag Optimize?	Yes		Yes		Yes
Recall Mode	Min	C-Max	C-Max	Min	Min
Act Effct Green (s)	77.4	76.0	64.2	16.0	27.8
Actuated g/C Ratio	0.77	0.76	0.64	0.16	0.28
v/c Ratio	0.55	0.26	1.02	0.23	0.75

Intersection Summary
Cycle Length: 100
Actuated Cycle Length: 100
Offset: 0 (0%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
Natural Cycle: 100
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 1.02
Intersection Signal Delay: 38.0
Intersection Capacity Utilization 89.2%
Analysis Period (min) 15

Splits and Phases: 1: Lookout Road & 71st Street





Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	132	362	1204	64	400
v/c Ratio	0.55	0.26	1.02	0.23	0.75
Control Delay	23.1	4.1	51.9	39.1	31.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	23.1	4.1	51.9	39.1	31.5
Queue Length 50th (ft)	27	56	~822	36	158
Queue Length 95th (ft)	87	84	#1087	75	269
Internal Link Dist (ft)		3838	1664	529	
Turn Bay Length (ft)	160				55
Base Capacity (vph)	259	1415	1176	283	552
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.51	0.26	1.02	0.23	0.72

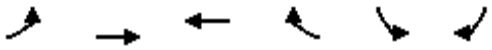
Intersection Summary

~ Volume exceeds capacity, queue is theoretically infinite.
Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer.
Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary
09/10/2020

1: Lookout Road & 71st Street
2042 Bkgrd + School - AM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	121	333	931	177	59	368
Future Volume (veh/h)	121	333	931	177	59	368
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	132	362	1012	192	64	400
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	197	1421	1024	194	285	317
Arrive On Green	0.06	0.76	0.67	0.66	0.16	0.15
Sat Flow, veh/h	1781	1870	1528	290	1781	1585
Grp Volume(v), veh/h	132	362	0	1204	64	400
Grp Sat Flow(s),veh/h/ln	1781	1870	0	1818	1781	1585
Q Serve(g_s), s	2.5	5.8	0.0	64.7	3.1	15.0
Cycle Q Clear(g_c), s	2.5	5.8	0.0	64.7	3.1	15.0
Prop In Lane	1.00			0.16	1.00	1.00
Lane Grp Cap(c), veh/h	197	1421	0	1218	285	317
V/C Ratio(X)	0.67	0.25	0.00	0.99	0.22	1.26
Avail Cap(c_a), veh/h	268	1421	0	1218	285	317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	28.7	3.6	0.0	16.2	36.6	40.0
Incr Delay (d2), s/veh	3.9	0.4	0.0	23.2	0.1	140.7
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.8	0.0	29.5	1.4	20.1
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	32.6	4.0	0.0	39.4	36.7	180.7
LnGrp LOS	C	A	A	D	D	F
Approach Vol, veh/h		494	1204		464	
Approach Delay, s/veh		11.6	39.4		160.9	
Approach LOS		B	D		F	

Timer - Assigned Phs	1	2			6	8
Phs Duration (G+Y+Rc), s	9.0	71.0			80.0	20.0
Change Period (Y+Rc), s	4.0	* 5.4			* 5.4	5.0
Max Green Setting (Gmax), s	9.0	* 62			* 75	15.0
Max Q Clear Time (g_c+I1), s	4.5	66.7			7.8	5.1
Green Ext Time (p_c), s	0.2	0.0			1.5	0.1

Intersection Summary	
HCM 6th Ctrl Delay	59.1
HCM 6th LOS	E

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	34.1
Intersection LOS	D

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	197	266	305	403	344	190
Future Vol, veh/h	197	266	305	403	344	190
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	214	289	332	438	374	207
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	19.1	42.9	35.5
HCM LOS	C	E	E

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	344	190	197	266	305	403
LT Vol	344	0	0	0	305	0
Through Vol	0	0	197	0	0	403
RT Vol	0	190	0	266	0	0
Lane Flow Rate	374	207	214	289	332	438
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.873	0.412	0.478	0.587	0.746	0.923
Departure Headway (Hd)	8.405	7.175	8.037	7.313	8.097	7.582
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	430	502	448	494	448	477
Service Time	6.146	4.916	5.786	5.062	5.842	5.326
HCM Lane V/C Ratio	0.87	0.412	0.478	0.585	0.741	0.918
HCM Control Delay	46.9	14.9	18	20	31.1	51.9
HCM Lane LOS	E	B	C	C	D	F
HCM 95th-tile Q	8.9	2	2.5	3.7	6.1	10.7

Intersection	
Int Delay, s/veh	0.7

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	19	444	731	16	12	15
Future Vol, veh/h	19	444	731	16	12	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	21	483	795	17	16	20

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	812	0	-	0	1329	804
Stage 1	-	-	-	-	804	-
Stage 2	-	-	-	-	525	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	814	-	-	-	171	383
Stage 1	-	-	-	-	440	-
Stage 2	-	-	-	-	593	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	814	-	-	-	167	383
Mov Cap-2 Maneuver	-	-	-	-	167	-
Stage 1	-	-	-	-	429	-
Stage 2	-	-	-	-	593	-

Approach	EB	WB	SB
HCM Control Delay, s	0.4	0	22.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	814	-	-	-	243
HCM Lane V/C Ratio	0.025	-	-	-	0.148
HCM Control Delay (s)	9.5	-	-	-	22.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0.1	-	-	-	0.5

Intersection	
Int Delay, s/veh	0.4

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	11	456	739	8	7	8
Future Vol, veh/h	11	456	739	8	7	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	496	803	9	9	11

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	812	0	-	0	1328	808
Stage 1	-	-	-	-	808	-
Stage 2	-	-	-	-	520	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	814	-	-	-	171	381
Stage 1	-	-	-	-	438	-
Stage 2	-	-	-	-	597	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	814	-	-	-	168	381
Mov Cap-2 Maneuver	-	-	-	-	168	-
Stage 1	-	-	-	-	431	-
Stage 2	-	-	-	-	597	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	21.4
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	814	-	-	-	239
HCM Lane V/C Ratio	0.015	-	-	-	0.084
HCM Control Delay (s)	9.5	-	-	-	21.4
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.3

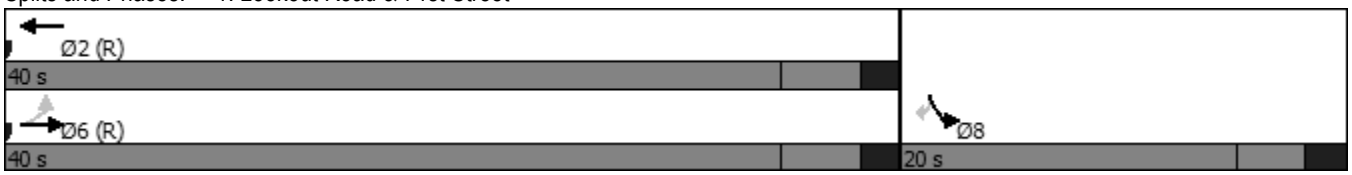
Timings
09/10/2020

1: Lookout Road & 71st Street
2042 Bkgrd + School - PM Peak Hour

Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Configurations					
Traffic Volume (vph)	317	665	289	152	184
Future Volume (vph)	317	665	289	152	184
Turn Type	Perm	NA	NA	Prot	Perm
Protected Phases		6	2	8	
Permitted Phases	6				8
Detector Phase	6	6	2	8	8
Switch Phase					
Minimum Initial (s)	14.0	14.0	14.0	15.0	15.0
Minimum Split (s)	19.4	19.4	19.4	20.0	20.0
Total Split (s)	40.0	40.0	40.0	20.0	20.0
Total Split (%)	66.7%	66.7%	66.7%	33.3%	33.3%
Yellow Time (s)	3.6	3.6	3.6	3.0	3.0
All-Red Time (s)	1.8	1.8	1.8	2.0	2.0
Lost Time Adjust (s)	-1.4	-1.4	-1.4	-1.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	5.0
Lead/Lag					
Lead-Lag Optimize?					
Recall Mode	C-Max	C-Max	C-Max	Min	Min
Act Effct Green (s)	36.0	36.0	36.0	16.0	15.0
Actuated g/C Ratio	0.60	0.60	0.60	0.27	0.25
v/c Ratio	0.65	0.65	0.37	0.35	0.37

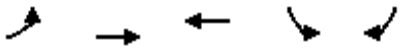
Intersection Summary
Cycle Length: 60
Actuated Cycle Length: 60
Offset: 25 (42%), Referenced to phase 2:WBT and 6:EBTL, Start of Green
Natural Cycle: 60
Control Type: Actuated-Coordinated
Maximum v/c Ratio: 0.65
Intersection Signal Delay: 11.1
Intersection Capacity Utilization 60.7%
Analysis Period (min) 15

Splits and Phases: 1: Lookout Road & 71st Street



Queues
09/10/2020

1: Lookout Road & 71st Street
2042 Bkgrd + School - PM Peak Hour

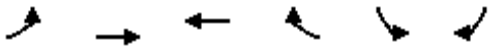


Lane Group	EBL	EBT	WBT	SBL	SBR
Lane Group Flow (vph)	345	723	412	165	200
v/c Ratio	0.65	0.65	0.37	0.35	0.37
Control Delay	14.8	11.3	6.6	20.4	5.5
Queue Delay	0.0	0.0	0.0	0.0	0.0
Total Delay	14.8	11.3	6.6	20.4	5.5
Queue Length 50th (ft)	81	169	57	48	0
Queue Length 95th (ft)	131	220	102	94	42
Internal Link Dist (ft)		3838	1664	529	
Turn Bay Length (ft)	160				55
Base Capacity (vph)	532	1117	1100	472	545
Starvation Cap Reductn	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0
Reduced v/c Ratio	0.65	0.65	0.37	0.35	0.37

Intersection Summary

HCM 6th Signalized Intersection Summary
09/10/2020

1: Lookout Road & 71st Street
2042 Bkgrd + School - PM Peak Hour



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Volume (veh/h)	317	665	289	90	152	184
Future Volume (veh/h)	317	665	289	90	152	184
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00			1.00	1.00	1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No	No		No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	345	723	314	98	165	200
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	587	1122	820	256	475	396
Arrive On Green	0.60	0.60	0.60	0.58	0.27	0.25
Sat Flow, veh/h	974	1870	1367	427	1781	1585
Grp Volume(v), veh/h	345	723	0	412	165	200
Grp Sat Flow(s),veh/h/ln	974	1870	0	1794	1781	1585
Q Serve(g_s), s	17.1	15.1	0.0	7.2	4.5	6.5
Cycle Q Clear(g_c), s	24.4	15.1	0.0	7.2	4.5	6.5
Prop In Lane	1.00			0.24	1.00	1.00
Lane Grp Cap(c), veh/h	587	1122	0	1076	475	396
V/C Ratio(X)	0.59	0.64	0.00	0.38	0.35	0.50
Avail Cap(c_a), veh/h	587	1122	0	1076	475	396
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.99	0.99	0.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	12.6	7.8	0.0	6.3	17.8	19.3
Incr Delay (d2), s/veh	4.2	2.8	0.0	1.0	0.2	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	5.1	0.0	2.2	1.7	2.2
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	16.8	10.7	0.0	7.4	17.9	19.7
LnGrp LOS	B	B	A	A	B	B
Approach Vol, veh/h		1068	412		365	
Approach Delay, s/veh		12.6	7.4		18.9	
Approach LOS		B	A		B	

Timer - Assigned Phs	2				6	8
Phs Duration (G+Y+Rc), s	40.0				40.0	20.0
Change Period (Y+Rc), s	* 5.4				* 5.4	5.0
Max Green Setting (Gmax), s	* 35				* 35	15.0
Max Q Clear Time (g_c+I1), s	9.2				26.4	6.5
Green Ext Time (p_c), s	1.7				3.6	0.1

Intersection Summary	
HCM 6th Ctrl Delay	12.7
HCM 6th LOS	B

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Intersection Delay, s/veh	37
Intersection LOS	E

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	448	313	210	178	247	368
Future Vol, veh/h	448	313	210	178	247	368
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	487	340	228	193	268	400
Number of Lanes	1	1	1	1	1	1

Approach	EB	WB	NB
Opposing Approach	WB	EB	
Opposing Lanes	2	2	0
Conflicting Approach Left		NB	EB
Conflicting Lanes Left	0	2	2
Conflicting Approach Right	NB		WB
Conflicting Lanes Right	2	0	2
HCM Control Delay	53.5	19.2	27.9
HCM LOS	F	C	D

Lane	NBLn1	NBLn2	EBLn1	EBLn2	WBLn1	WBLn2
Vol Left, %	100%	0%	0%	0%	100%	0%
Vol Thru, %	0%	0%	100%	0%	0%	100%
Vol Right, %	0%	100%	0%	100%	0%	0%
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop
Traffic Vol by Lane	247	368	448	313	210	178
LT Vol	247	0	0	0	210	0
Through Vol	0	0	448	0	0	178
RT Vol	0	368	0	313	0	0
Lane Flow Rate	268	400	487	340	228	193
Geometry Grp	7	7	7	7	7	7
Degree of Util (X)	0.615	0.78	1.027	0.65	0.541	0.43
Departure Headway (Hd)	8.387	7.157	7.596	6.876	8.702	8.185
Convergence, Y/N	Yes	Yes	Yes	Yes	Yes	Yes
Cap	432	508	482	527	418	443
Service Time	6.087	4.857	5.296	4.576	6.402	5.885
HCM Lane V/C Ratio	0.62	0.787	1.01	0.645	0.545	0.436
HCM Control Delay	23.6	30.8	75.9	21.5	21.2	16.9
HCM Lane LOS	C	D	F	C	C	C
HCM 95th-tile Q	4	7	14.3	4.6	3.1	2.1

Intersection	
Int Delay, s/veh	1.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	15	737	417	12	16	19
Future Vol, veh/h	15	737	417	12	16	19
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	80	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	16	801	453	13	21	25

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	466	0	-	0	1293	460
Stage 1	-	-	-	-	460	-
Stage 2	-	-	-	-	833	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1095	-	-	-	117	601
Stage 1	-	-	-	-	636	-
Stage 2	-	-	-	-	442	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	1095	-	-	-	115	601
Mov Cap-2 Maneuver	-	-	-	-	115	-
Stage 1	-	-	-	-	626	-
Stage 2	-	-	-	-	442	-

Approach	EB	WB	SB
HCM Control Delay, s	0.2	0	27.7
HCM LOS			D

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1095	-	-	-	205
HCM Lane V/C Ratio	0.015	-	-	-	0.228
HCM Control Delay (s)	8.3	-	-	-	27.7
HCM Lane LOS	A	-	-	-	D
HCM 95th %tile Q(veh)	0	-	-	-	0.8

Intersection	
Int Delay, s/veh	0.5

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	753	418	7	8	11
Future Vol, veh/h	8	753	418	7	8	11
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	150	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	75	75
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	9	818	454	8	11	15

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	462	0	-	0	1294	458
Stage 1	-	-	-	-	458	-
Stage 2	-	-	-	-	836	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1099	-	-	-	*112	603
Stage 1	-	-	-	-	*637	-
Stage 2	-	-	-	-	*434	-
Platoon blocked, %		-	-	-	1	
Mov Cap-1 Maneuver	1099	-	-	-	*111	603
Mov Cap-2 Maneuver	-	-	-	-	*111	-
Stage 1	-	-	-	-	*632	-
Stage 2	-	-	-	-	*434	-

Approach	EB	WB	SB
HCM Control Delay, s	0.1	0	24.5
HCM LOS			C

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1099	-	-	-	210
HCM Lane V/C Ratio	0.008	-	-	-	0.121
HCM Control Delay (s)	8.3	-	-	-	24.5
HCM Lane LOS	A	-	-	-	C
HCM 95th %tile Q(veh)	0	-	-	-	0.4

Notes			
~: Volume exceeds capacity	$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

Boulder County

Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303-441-3930
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March 1, 2022

TO: Sam Walker, Planner II; Community Planning & Permitting, Development Review Team - Zoning

FROM: Jennifer Severson, Principal Planner; Community Planning & Permitting, Development Review Team – Access & Engineering

SUBJECT: Docket # SU-20-0005: Hillside School Modification - ADDENDUM

7415 Lookout Road

The Development Review Team – Access & Engineering staff has reviewed the revised application materials dated December 28, 2021 for the above referenced docket and has the following comments:

1. As stated in the application materials, the new development will result in a total of 14,191 square feet of floor area and, of the proposed total number of classrooms on the school campus, 12 will be used for elementary and middle school and 1 will be used for high school programs. Per LUC Article 4-504.E.3 and E.4, a total of 48 spaces is required- 36 for the elementary/ middle school use, 10 for the high school use, and 2 to comply with loading requirements. The application materials indicate 19 parking spaces will remain on the subject property and the additional spaces required will be located in the existing parking lot for the Niwot United Methodist Church at 7405 Lookout Road.

2. The application materials state that 2 ADA-accessible parking spots will be included in the parking spaces on the subject property. In accordance with the Boulder County Multimodal Transportation Standards ("the Standards") Section 5.6.4 – Accessible Parking, at least one of those must be van-accessible. A revised parking plan is required to be submitted with the building permit application that includes dimensions and labels necessary to demonstrate compliance with the plans submitted for permitting must show the dimensions for the ADA parking space to demonstrate it is van-accessible.

3. Per Section 5.6.5.3 in the Standards, a minimum of 4 bicycle parking spaces is required (ten percent of the total number of required vehicular parking spaces). The applicant should consult with Alexandra Phillips (aphillips@bouldercounty.org), the county's Bicycle Planner, on the appropriate location and rack style for this site.

4. The increase in the number of classrooms on site results in an increase in the number of parking spaces required for the school use. Per LUC Article 4-516.W.5.c, Electric Vehicle Service Equipment (EVSE) must be provided for new or expanded parking lots that total 15 or more automotive parking spaces.

5. A revised parking plan must be submitted at time of building permit application that includes the following information:

    a. The plan must clearly identify the required 48 designated parking spaces for the school. The parking spaces that will be located on the Niwot United Methodist Church property must be labeled.

b. Dimensions and labels must be included as necessary to demonstrate compliance with Section 5.6 Parking Facilities in the Standards.

c. Bicycle parking must be clearly identified.

d. The plan must also show where students will be dropped off/ picked up and a traffic circulation pattern for vehicles used during drop off/ pick up. If the drop off/ pick up location(s) will be located off site, the plan must identify how students will get from those locations to the main entrance of the school.

e. The locations and type of EV Parking to demonstrate compliance with LUC Article 4-516.W.5.c

6. A revised Drainage Study dated September 2021 demonstrates that all site runoff will be mitigated on site through detention facilities and pervious landscaping treatments. Staff concurs with the study's findings that the proposed redevelopment of the site will not adversely affect downstream drainage facilities or properties, as post-development runoff rates will be less than the current runoff rates for the existing development on the site. The Drainage Study must be signed and stamped by a Colorado registered Professional Engineer and resubmitted at time of building permit application.

7. The revised Drainage Study includes hydraulic analysis for 8-inch and 10-inch PVC pipes in Appendix C; however, sheet plan sheet C1.O Drainage Plan in the application materials identifies 8-inch and 6-inch pipes and the sheet notes mention the use of 4-inch perforated pipes. A grading and drainage plan, that provides consistent hydraulic details must be submitted and approved as a part of the building permit application. The plan must be signed and stamped by a Colorado registered Professional Engineer, Landscape Architect, or Architect.

COMMENTS 1-4, 7 AND 8 FROM THE ATTACHED REFERRAL LETTER DATED NOVEMBER 16, 2020 STILL APPLY.

This concludes our comments at this time.

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November 16, 2020

TO: Jean (Raini) Ott, Planner II; Community Planning & Permitting, Development Review Team - Zoning

FROM: Jennifer Severson, Principal Planner; Community Planning & Permitting, Development Review Team - Engineering

SUBJECT: Docket # SU-20-0005: Hillside School Modification

7415 Lookout Road

The Development Review Team – Engineering staff has reviewed the application materials for the above referenced docket and has the following comments:

1. The subject property is accessed via Lookout Road, a City of Boulder owned and maintained right-of-way (ROW) with the Functional Classification of Minor Arterial. Legal access is demonstrated via adjacency to this public ROW.

2. Because Lookout Road is a City of Boulder ROW, at time of building permit application, the applicant must submit a letter or other written confirmation from the city that expressly confirms the city has no concerns with the following elements of the proposal:

    a. anticipated traffic impacts as identified in the Transportation System Impact Study dated 9/16/2020; and

    b. the proposed student drop off/ pick up plan that utilizes two access points to Lookout Road (one from the Hillside School parcel and one from the Niwot United Methodist Church parcel).

3. A copy of a City of Boulder access permit (or other documentation of access permission) for each point of access to Lookout Road must be included with the building permit application.

4. A signed parking agreement with the Niwot United Methodist Church must be submitted with the building permit application.

5. In accordance with the Boulder County Multimodal Transportation Standards ("the Standards") Section 5.6.4 – Accessible Parking, at least one ADA van-accessible parking space is required. It is unclear if the ADA parking space shown on the Architectural Site Plan on sheet A101 is van-accessible. The plans submitted for permitting must show the dimensions for the ADA parking space to demonstrate it is van-accessible.

6. The drainage plan for proposed conditions (sheet DR2) must be revised to clearly demonstrate how all drainage will be mitigated on site. In particular, mitigation details for drainage along the rear (northern) property line and near the northeast corner of the lot (immediately adjacent to Gunbarrel Circle) must be included. The revised drainage plan must be submitted to the Development Review Team- Engineering staff for review prior to submittal of the building permit application.

7. Appropriate erosion control measures must be installed downslope and parallel to contours for all disturbed areas and must be shown on plans submitted for permitting.

8. Plans submitted for permitting must identify designated staging and worker parking areas.

This concludes our comments at this time.

Parks & Open Space
5201 St. Vrain Road • Longmont, CO 80503
303-678-6200 • POSinfo@bouldercounty.org
www.BoulderCountyOpenSpace.org

TO: Sam Walker, Community Planning & Permitting Department
FROM: Ron West, Natural Resource Planner
DATE: February 6, 2022
SUBJECT: Docket SU-20-0005, Hillside School, 7415 Lookout Road, re-referral

Staff still has no natural resource concerns with the proposal, as in the original POS referral dated November 23, 2020.

MOUNTAIN VIEW FIRE RESCUE
3561 N. Stagecoach Road · Longmont, CO 80504
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2045 13th Street
Boulder, CO 80302

December 28, 2021

Re SU-20-0005 7415 Lookout Road re-notice

Mountain View Fire has reviewed the revised re-submittal for Hillside school. The proposed building will require a fire suppression system as per the 2018 IFC and NFPA 13. In addition please demonstrate on the site plan fire apparauts access within 150 feet of all portions of the ground level exterior of the buiding to meet minimum provisions of the fire code.

Regards,
Michelle Kelly
Deputy Fire Marshal

Walker, Samuel

From: Charlie Pajares <cpajares@mhfd.org>
Sent: Wednesday, December 29, 2021 9:31 AM
To: Walker, Samuel
Subject: [EXTERNAL] MHFD MEP review for SU-20-0005: Hillside School Modification project at 7415 Lookout Road

Hello Samuel – Thank you for including us in the referenced submittal referral. We've completed our review and we have no comments on the referenced project as it is not eligible for maintenance. The site is not adjacent to a major drainageway or mapped floodplain within the District's boundary and does not include any proposed MHFD master plan improvements. We do not need to review future submittals.
Thank you again and happy holidays!

Charlie Pajares, P.E., CFM
Project Engineer
MILE HIGH FLOOD DISTRICT
2480 W. 26th Ave. Suite 156-B | Denver, CO 80211
Office: 303-455-6277 | **Direct:** 303-253-7972 | www.mhfd.org

Protecting People, Property, and our Environment

MILE HIGH FLOOD DISTRICT

From: Goldstein, Andrew <agoldstein@bouldercounty.org>
Sent: Tuesday, December 28, 2021 11:04 AM
To: Karen Behne <kbehne@niwotsanitation.com>; jstruble@northernwater.org; Bflockhart@northernwater.org; office@svlhwcd.org; Donna.L.George@xcelenergy.com; BDRCO@xcelenergy.com; christopher.janoski@centurylink.com; kleislerp@bouldercolorado.gov; Vanessa McCracken <bldrvalleyandlongmontcds@gmail.com>; submittals <submittals@udfcd.org>; colleen.rosa@state.co.us; LPenfold@mvfpd.org; dsaba@mvfpd.org; prevention@mvfpd.org; Webb, Jeff <jwebb@mvfpd.org>; #CEreferral <CEreferral@bouldercounty.org>; Hippely, Hannah <hhippely@bouldercounty.org>; #AssessorReferral <AssessorReferral@bouldercounty.org>; cendicott@bouldercounty.org; Marcucilli, Molly <mmarcucilli@bouldercounty.org>; mmarcucilli@bouldercounty.org; adelosrios@bouldercounty.org; sscully@bouldercounty.org; Flax, Ron <rflax@bouldercounty.org>; Frederick, Summer <sfrederick@bouldercounty.org>; HealthWaterQuality-EnvironmentalBP LU <HealthWQ-EnvironBPLU@bouldercounty.org>; Huebner, Michelle <mhuebner@bouldercounty.org>; Sanchez, Kimberly <ksanchez@bouldercounty.org>; Severson, Jennifer <jseverson@bouldercounty.org>; Transportation Development Review <TransDevReview@bouldercounty.org>; Wassell, Kristen <kwassell@bouldercounty.org>; West, Ron <rowest@bouldercounty.org>; Karen Behne <kbehne@niwotsanitation.com>; jstruble@northernwater.org; bflockhart@northernwater.org; office@svlhwcd.org; BDRCO@xcelenergy.com; Donna.L.George@xcelenergy.com; christopher.janoski@centurylink.com; RanglosC@bouldercolorado.gov; Vanessa McCracken <bldrvalleyandlongmontcds@gmail.com>; submittals <submittals@udfcd.org>; colleen.rosa@state.co.us; prevention@mvfpd.org; Milner, Anna <amilner@bouldercounty.org>; Moline, Jeffrey <jmoline@bouldercounty.org>; SPR/SPRW Referrals and SPRW DLs <IMCEAMAPIPDL-Unknown@namprd09.prod.outlook.com>; Strenge, Ernst

<estrenge@bouldercounty.org>
Cc: Walker, Samuel <swalker@bouldercounty.org>
Subject: Re-referral packet for SU-20-0005: Hillside School Modification project at 7415 Lookout Road

Please find the electronic re-referral packet for **SU-20-0005: Hillside School Modification** project at **7415 Lookout Road** at the following link:
http://services.boco.solutions/CPP_FileNetClient/ContentDisplay?DocId={B8C95218-55AE-496A-91AC-F6569C9D55EA}

Please return responses and direct any questions to *Sam Walker* by *February 1, 2022.* (Boulder County internal departments and agencies: Please attach the referral comments in Accela.)

All the best,
Andrew

Andrew Goldstein | Administrative Technician
Boulder County Community Planning & Permitting
Working hours: 8 am-noon Monday-Friday

Physical address: 2045 13th St., Boulder CO 80302
Mailing address: PO Box 471, Boulder, CO 80306
(303) 441-3930 (Main Office)
(720) 564-2622 (Direct)
agoldstein@bouldercounty.org
Department service hours are 8 a.m.-4:30 p.m. Monday, Wednesday, Thursday, Friday, and 10 a.m.-4:30 p.m. Tuesday
https://www.boco.org/cpp

Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

January 31, 2022

City of Boulder Planning & Development Services
1739 Broadway, Third Floor - P.O. Box 791
Boulder, CO 80306-0791

Attn: Sam Walker

Re: Hillside School Modification – Re-referral, Case # SU-20-0005

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has reviewed the special use documentation for **Hillside School Modification**. Please be aware PSCo owns and operates existing natural gas service and electric distribution facilities within the subject property. The property owner/developer/contractor must complete the application process for any new natural gas or electric service, or modification to existing facilities via xcelenergy.com/InstallAndConnect. It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details. Additional easements may need to be acquired by separate document for new facilities.

As a safety precaution, PSCo would like to remind the developer to call the Utility Notification Center by dialing 811 for utility locates prior to construction.

Please also note that PSCo has an underground high voltage electric transmission line along Lookout Road. Should there be any activities in this area, our Siting and Land Rights Department must be contacted prior to any construction via either of the following:

- website (www.xcelenergy.com/rightofway)
- email: coloradorightofway@xcelenergy.com

Donna George
Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com

Boulder County

Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930 • Fax: 303.441.4856
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • **www.bouldercounty.org**

Building Safety & Inspection Services Team

M E M O

TO: Jean (Raini) Ott, AICP, CFM, Planner II
FROM: Michelle Huebner, Plans Examiner Supervisor
DATE: October 12, 2020

RE: Referral Response, SU-20-0005: Hillside School Modification. Modification to an existing Special Review and Site Specific Development Plan (SU-03-09) to construct a new 10,500-squarefoot school building with 12 new classrooms for up to 68 students total on an approximately 1-acre parcel.

Location: 7415 Lookout Road, located on the north side of Lookout Road approximately 650 feet west of its intersection with N. 75th Street, in Section 1, Township 1N, Range 70W.

Thank you for the referral. We have the following comments for the applicants:

1. **Building Permits.** Building permits, plan review and inspection approvals and a Certificate of Occupancy ("C.O.") are required for the new school building.

   For a complete list of when building permits are required, please refer to the county's adopted 2015 editions of the International Codes and code amendments, which can be found via the internet under the link:

   2015 Building Code Adoption & Amendments, at the following URL: https://assets.bouldercounty.org/wp-content/uploads/2017/03/building-code-2015.pdf

   The Commercial Plan Submittal Checklist: https://assets.bouldercounty.org/wp-content/uploads/2017/03/b70-commercial-plan-submittal-checklist.pdf

   The proposed sliding doors may not be used as part of the means of egress.

2. **Minimum Plumbing Fixtures.** The plumbing fixtures count needs to meet or exceed the requirements of IBC Chapter 29, including the need for accessible restrooms and fixtures.

3. **Accessibility**. Chapter 11 of the IBC and referenced standard ICC A117.1-09 provide for accessibility for persons with disabilities. Any building permit submittals are to

include any applicable accessibility requirements, including accessible parking, signage, accessible routes and accessible fixtures and features.

4. **Design Wind and Snow Loads.** The design wind and ground snow loads for the property are 155 mph (Vult) and 40 psf, respectively.

5. **Fire Department.** It appears that the site is served by Berthoud Fire Protection District. A separate referral response from the fire department should also be forthcoming. The fire department may have additional requirements in accordance with their International Fire Code ("IFC") adoption. Also, the Fire Protection District must provide written documentation to Boulder County Building Safety and Inspection Services approving the building permit plans and specifications of projects before the building permit can be issued.

6. **Plan Review.** The items listed above are a general summary of some of the county's building code requirements. A much more detailed plan review will be performed at the time of building permit(s) application, when full details are available for review, to assure that all applicable minimum building codes requirements are to be met.

7. **Meeting**. When you are ready to review construction drawings with the plan review team. Please make an appointment with our Plans Examiner Supervisor Michelle Huebner. mhuebner@bouldercounty.org 720-564-2616.

If the applicants should have questions or need additional information, we'd be happy to work with them toward solutions that meet minimum building code requirements. Please call (720) 564-2640 or contact us via e-mail at building@bouldercounty.org

Boulder County

Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • **www.bouldercounty.org**

MEMO TO: Referral Agencies
FROM: Jean (Raini) Ott, CFM, AICP, Planner II
DATE: October 7, 2020
RE: Docket SU-20-0005

Docket SU-20-0005: Hillside School Modification

Request:	Modification to an existing Special Review and Site Specific Development Plan (SU-03-09) to construct a new 10,500-square-foot school building with 12 new classrooms for up to 68 students total on an approximately 1-acre parcel.
Location:	7415 Lookout Road, located on the north side of Lookout Road approximately 650 feet west of its intersection with N. 75th Street, in Section 1, Township 1N, Range 70W.
Zoning:	Suburban Residential (SR) Zoning District
Applicant/Owner:	Hillside Learning Center
Agent:	Caddis PC

Special Use Review / Site Specific Development Plan is required of uses which may have greater impacts on services, neighborhoods, or environment than those allowed with only Building Permit Review. This process will review compatibility, services, environmental impacts, and proposed site plan.

This process includes public hearings before the Boulder County Planning Commission and the Board of County Commissioners. Adjacent property owners and holders of liens, mortgages, easements or other rights in the subject property are notified of these hearings.

The Community Planning & Permitting staff, Planning Commission, and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter to the Community Planning & Permitting Department at P.O. Box 471, Boulder, Colorado 80306 or via email to planner@bouldercounty.org. All comments will be made part of the public record and given to the applicant. Only a portion of the submitted documents may have been enclosed; you are welcome to call the Community Planning & Permitting Department at 303-441-3930 or email planner@bouldercounty.org to request more information. If you have any questions regarding this application, please contact me at 720-564-2271 or jott@bouldercounty.org.

Please return responses by **November 11, 2020.**
(Please note that due to circumstances surrounding COVID-19, application timelines and deadlines may need to be modified as explained in the CPP Notice of Emergency Actions issued March 23, 2020 (see https://boco.org/covid-19-cpp-notice-20200323).

✓ We have reviewed the proposal and have no conflicts.
_____ Letter is enclosed.

Signed Vanessa McCracken PRINTED
Name Vanessa McCracken
Agency or Address Boulder Valley Conservation District

Please note that all Community Planning & Permitting Department property owner's mailing lists and parcel maps are generated from the records maintained by the County Assessor and Treasurer Office. We are required to use this list to send notices to the "property owner" of land in Boulder County. If you feel that you should not be considered

Boulder County

Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • **www.bouldercounty.org**

MEMO TO:	Referral Agencies
FROM:	Jean (Raini) Ott, CFM, AICP, Planner II
DATE:	October 7, 2020
RE:	Docket SU-20-0005

Docket SU-20-0005: Hillside School Modification

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____ We have reviewed the proposal and have no conflicts.
_X_ Letter is enclosed.

Signed _____ PRINTED
Name _____
Agency or Address MUFR

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MOUNTAIN VIEW FIRE RESCUE
3561 N. Stagecoach Road · Longmont, CO 80504
(303) 772-0710 · FAX (303) 651-7702

October 13, 2020

Ms. Jean Ott
Boulder County Land Use Department
P.O. Box 471
Boulder, CO 80306

Dear Ms. Ott:

I have reviewed the Special Use Review and Site Plan for the new 10,500 square foot building proposed for construction at 7415 Lookout Road in Boulder County (Case Number: SU-20-0005, Case Name: Hillside School).

Although the building code may not require a fire sprinkler system the building may need to be provided with one. The required fire flow for a 10,500 square foot building is 2,750 g.p.m and it must be provided by at least three fire hydrants. It is possible that the required fire flow is not available to the site and so a fire sprinkler system would be needed to reduce the required fire flow. Additionally, it does not appear that fire apparatus access has been provided so that fire apparatus may reach within 150 feet of all portions if the building. When access is not provided, fire sprinklers are required.

Nothing in this review is intended to authorize or approve of any aspect of this project that does not comply with all applicable codes and standards. We appreciate being involved in the planning process. Should you have any questions, please contact me at 303-772-0710 x 1121.

Sincerely,

LuAnn Penfold
Fire Prevention Specialist

lp10.11.20

From: Christopher Smith
To: Ott, Jean (Raini); Steve Buckbee
Subject: RE: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road
Date: Monday, December 21, 2020 1:07:49 PM
Attachments: image001.png

Hi Raini:

The District has the ability to serve that area, they are a current customer in good standing. Pressure and flow are available for the proposed increase in use. From an administrative standpoint, the applicant will be required to submit a Commercial Tap Availability Request and Commercial Supplemental Form so that we can work with them to size the meter and service correctly. I see that there is a letter in the Packet from Left Hand Water and the response in the Hillside School Narrative (Caddis; 9/21/2020) for Services describes the Left Hand Water District process for the change in use and potential re-sizing of water service correctly. The availability of water for this project will in no way be a limiting factor for the proposed special use application

Christopher Smith, P.E. | General Manager
Left Hand Water District
Phone: 303-530-4200
www.lefthandwater.org

From: Ott, Jean (Raini) <jott@bouldercounty.org>
Sent: Sunday, December 20, 2020 10:49 AM
To: Christopher Smith <chrissmith@lefthandwater.org>; Steve Buckbee <sbuckbee@lefthandwater.org>
Subject: RE: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road

Hello,

This proposal is currently on hold while the applicant makes revisions to address comments. However, it would be extremely valuable for us to understand the adequacy of the water supply for the proposed expansion of the use. Please let me know if you have questions and I look forward to receiving any comments you may have on the proposal.

Thanks!
Raini

Jean Lorraine (Raini) Ott, AICP, CFM
Planner II | Development Review Team
720.564.2271 | jott@bouldercounty.org | she/her/hers

Boulder County Community Planning & Permitting

2045 13th Street | Boulder, CO | www.BoulderCounty.org
303.441.3930 | P.O. Box 471 | Boulder, CO 80306

Due to COVID-19, the Boulder County Community Planning & Permitting Department is conducting business and providing services virtually. Our physical office in Boulder is currently closed to the public. Please visit us online at https://www.boco.org/cpp for more information.

From: Milner, Anna <amilner@bouldercounty.org>
Sent: Monday, November 23, 2020 8:15 PM
To: chrissmith@lefthandwater.org; Steve Buckbee <sbuckbee@lefthandwater.org>
Cc: Ott, Jean <jott@bouldercounty.org>
Subject: FW: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road

Hello,

Please see attached referral packet. We are hoping to receive a response before December 7. If you have any questions or comments, please respond to Raini Ott (copied here).

Thank you!
Anna

From: Milner, Anna
Sent: Wednesday, October 7, 2020 2:11 PM
To: kbehne@niwotsanitation.com; jstruble@northernwater.org; Bflockhart@northernwater.org; office@svlhwcd.org; Donna.L.George@xcelenergy.com; BDRCO@xcelenergy.com; christopher.janoski@centurylink.com; kleislerp@bouldercolorado.gov; bldrvalleyandlongmontcds@gmail.com; submittals@udfcd.org; colleen.rosa@state.co.us; LPenfold@mvfpd.org; dsaba@mvfpd.org; prevention@mvfpd.org; Webb, Jeff <jwebb@mvfpd.org>; #CEreferral <CEreferral@bouldercounty.org>; Hippely, Hannah <hhippely@bouldercounty.org>; #AssessorReferral <AssessorReferral@bouldercounty.org>; Endicott, Chad <cendicott@bouldercounty.org>; Marcucilli, Molly (mmarcucilli@bouldercounty.org) <mmarcucilli@bouldercounty.org>; De Los Rios, Alberto <adelosrios@bouldercounty.org>; Scully, Sarah <sscully@bouldercounty.org>; Flax, Ron <rflax@bouldercounty.org>; Frederick, Summer <sfrederick@bouldercounty.org>; HealthWaterQuality-EnvironmentalBP LU <HealthWQ-EnvironBPLU@bouldercounty.org>; Huebner, Michelle <mhuebner@bouldercounty.org>; Sanchez, Kimberly <ksanchez@bouldercounty.org>; Severson, Jennifer <jseverson@bouldercounty.org>; Transportation Development Review <TransDevReview@bouldercounty.org>; Wassell, Kristen <kwassell@bouldercounty.org>; West, Ron <rowest@bouldercounty.org>
Cc: Ott, Jean <jott@bouldercounty.org>
Subject: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road

Please find attached the electronic Referral packet for ***SU-20-0005, Hillside School Modification*** project at ***7415 Lookout Road***.

Please return responses and direct any questions to ***Jean (Raini) Ott*** by ***November 11, 2020.*** (Boulder County internal departments and agencies: Please attach the referral comments in Accela.)

Best Regards,
Anna

Anna Milner | **Admin. Lead Tech.**
Boulder County Community Planning & Permitting (*formerly Land Use and Transportation*) – We've become a new department!
Pronouns: she/her/hers
Physical address: 2045 13th St., Boulder CO 80302
Mailing address: PO Box 471, Boulder, CO 80306
(720) 564-2638 (Direct) | (303) 441-4856 (Fax)
amilner@bouldercounty.org
www.bouldercounty.org

PLEASE NOTE: In an effort to mitigate the spread of COVID-19, the Boulder County Community Planning & Permitting physical office at 2045 13th St. in Boulder is CLOSED to the public until further notice. We will continue to operate remotely, including the online acceptance of building permits and planning applications. Please visit our webpage at www.boco.org/cpp for more detailed information and contact emails for groups in our department. You may also leave a message on our main line at 303-441-3930 and the appropriate team member will return your call. ***Thank you for your adaptability and understanding in this extraordinary time!***

Boulder County

Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • **www.bouldercounty.org**

MEMO TO:	Referral Agencies
FROM:	Jean (Raini) Ott, CFM, AICP, Planner II
DATE:	October 7, 2020
RE:	Docket SU-20-0005

Docket SU-20-0005: Hillside School Modification

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___ We have reviewed the proposal and have no conflicts.
_✓_ Letter is enclosed.

Signed Karen Behne PRINTED Karen Behne
Name
Agency or Address Niwot Sanitation District

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Niwot SANITATION DISTRICT

October 30, 2020

Community Planning & Permitting
P.O. Box 471
Boulder, CO 80306

RE: 7415 Lookout Road

To Whom This May Concern:

In regards to the addition proposed for 7415 Lookout Road, the customer should be made aware that Niwot Sanitation District conducts a commercial water audit each year using the months of November through March. This property currently has six sewer taps which is equivalent to 46,800 gallons of water per month. If their average monthly usage during the audit period is higher than this amount they would be required to purchase additional sewer taps.

Sincerely,

Karen Behne

Karen Behne
General Manager

7395 N. 95th Street • Niwot, CO 80504 • 303-652-2525 • FAX 303-652-2392

Boulder County

Parks & Open Space

5201 St. Vrain Road • Longmont, Colorado 80503
303.678.6200 • Fax: 303.678.6177 • **www.BoulderCountyOpenSpace.org**

TO: Raini Ott, Community Planning & Permitting Department
FROM: Ron West, Natural Resource Planner
DATE: November 23, 2020
SUBJECT: Docket SU-20-0005, Hillside School, 7415 Lookout Rd.

Staff has reviewed the submitted materials, and foresees no significant natural resource impacts from the proposal. There are no known resources of concern.

From: Christopher Smith
To: Ott, Jean (Raini); Steve Buckbee
Subject: RE: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road
Date: Monday, December 21, 2020 1:07:49 PM
Attachments: image001.png

Hi Raini:

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Planner II | Development Review Team
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From: Milner, Anna
Sent: Wednesday, October 7, 2020 2:11 PM
To: kbehne@niwotsanitation.com; jstruble@northernwater.org; Bflockhart@northernwater.org; office@svlhwcd.org; Donna.L.George@xcelenergy.com; BDRCO@xcelenergy.com; christopher.janoski@centurylink.com; kleislerp@bouldercolorado.gov; bldrvalleyandlongmontcds@gmail.com; submittals@udfcd.org; colleen.rosa@state.co.us; LPenfold@mvfpd.org; dsaba@mvfpd.org; prevention@mvfpd.org; Webb, Jeff <jwebb@mvfpd.org>; #CEreferral <CEreferral@bouldercounty.org>; Hippely, Hannah <hhippely@bouldercounty.org>; #AssessorReferral <AssessorReferral@bouldercounty.org>; Endicott, Chad <cendicott@bouldercounty.org>; Marcucilli, Molly (mmarcucilli@bouldercounty.org) <mmarcucilli@bouldercounty.org>; De Los Rios, Alberto <adelosrios@bouldercounty.org>; Scully, Sarah <sscully@bouldercounty.org>; Flax, Ron <rflax@bouldercounty.org>; Frederick, Summer <sfrederick@bouldercounty.org>; HealthWaterQuality-EnvironmentalBP LU <HealthWQ-EnvironBPLU@bouldercounty.org>; Huebner, Michelle <mhuebner@bouldercounty.org>; Sanchez, Kimberly <ksanchez@bouldercounty.org>; Severson, Jennifer <jseverson@bouldercounty.org>; Transportation Development Review <TransDevReview@bouldercounty.org>; Wassell, Kristen <kwassell@bouldercounty.org>; West, Ron <rowest@bouldercounty.org>
Cc: Ott, Jean <jott@bouldercounty.org>
Subject: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road

Please find attached the electronic Referral packet for ***SU-20-0005, Hillside School Modification*** project at ***7415 Lookout Road***.

Please return responses and direct any questions to ***Jean (Raini) Ott*** by ***November 11, 2020.*** (Boulder County internal departments and agencies: Please attach the referral comments in Accela.)

Best Regards,
Anna

Anna Milner | **Admin. Lead Tech.**
Boulder County Community Planning & Permitting (*formerly Land Use and Transportation*) – We've become a new department!
Pronouns: she/her/hers
Physical address: 2045 13th St., Boulder CO 80302
Mailing address: PO Box 471, Boulder, CO 80306
(720) 564-2638 (Direct) | (303) 441-4856 (Fax)
amilner@bouldercounty.org
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PLEASE NOTE: In an effort to mitigate the spread of COVID-19, the Boulder County Community Planning & Permitting physical office at 2045 13th St. in Boulder is CLOSED to the public until further notice. We will continue to operate remotely, including the online acceptance of building permits and planning applications. Please visit our webpage at www.boco.org/cpp for more detailed information and contact emails for groups in our department. You may also leave a message on our main line at 303-441-3930 and the appropriate team member will return your call. ***Thank you for your adaptability and understanding in this extraordinary time!***

From: Severson, Jennifer
To: Thompson, David
Subject: RE: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road
Date: Friday, December 11, 2020 9:51:44 AM
Attachments: image001.png
image002.png
image005.png
image006.png

Got it- thanks again David. Have a great weekend!

Jennifer Severson, AICP - *Principal Planner – Development Review Team - Engineering*
Boulder County Community Planning & Permitting
2045 13th Street | Boulder, CO 80302
PO Box 471 | Boulder, CO 80306
Direct Phone: 720-564-2663
Main Phone: 303-441-3930
jseverson@bouldercounty.org
TransDevReview@bouldercounty.org

From: Thompson, David <ThompsonD@bouldercolorado.gov>
Sent: Friday, December 11, 2020 7:21 AM
To: Severson, Jennifer <jseverson@bouldercounty.org>
Subject: RE: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road

No

From: Severson, Jennifer <jseverson@bouldercounty.org>
Sent: Thursday, December 10, 2020 2:00 PM
To: Thompson, David <ThompsonD@bouldercolorado.gov>
Subject: RE: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road

Thanks so much David for taking time to provide comments.

I have one question, though- since they are using the church parking lot for drop off/ pick up area, do they need to replace the sidewalk along Lookout in front of the church parking lot in addition to the sidewalk that fronts the school property?

Again, thank you!
Jennifer

Jennifer Severson, AICP - *Principal Planner – Development Review Team - Engineering*
Boulder County Community Planning & Permitting
2045 13th Street | Boulder, CO 80302
PO Box 471 | Boulder, CO 80306
Direct Phone: 720-564-2663
Main Phone: 303-441-3930
jseverson@bouldercounty.org
TransDevReview@bouldercounty.org

From: Thompson, David <ThompsonD@bouldercolorado.gov>
Sent: Thursday, December 10, 2020 12:02 PM
To: Severson, Jennifer <jseverson@bouldercounty.org>
Subject: RE: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road

Hi Jennifer,

Thank-you for giving city transportation staff the opportunity to comment on the Hillside School redevelopment project. In reviewing the application from Hillside School to redevelop the property and increase the number of students, the following transportation comments are provided:

Consistent with city design standards for streets the applicant should be required to replace the existing attached sidewalk along Lookout Rd with an eight-foot wide detached sidewalk separated from the back of the street curb by an eight-foot wide landscape area (Chapter 2 – Transportation Design from the City's Design and Construction Standards (DCS)). This represents the minimum standard for a detached sidewalk on an arterial street. The existing driveway that accommodates an attached sidewalk should be replaced with a driveway ramp for a detached sidewalk (Technical Drawing 2.21 from the City's DCS). Staff realizes a public access easement will be necessary for the detached sidewalk and supports the easement being dedicated to Boulder County. The width of the access point should be reduced to 24-feet. Thank-you again.

Sincerely,
David

David Thompson, P.E.
Transportation Engineer

City of Boulder
Planning & Development Services

O: (303) 441-4417
thompsond@bouldercolorado.gov
1739 Broadway, 3rd Floor
Boulder, Colorado 80306
Bouldercolorado.gov

From: Severson, Jennifer <jseverson@bouldercounty.org>
Sent: Thursday, December 3, 2020 12:42 PM
To: Thompson, David <ThompsonD@bouldercolorado.gov>
Subject: RE: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road

Hi David- no worries- I hope you enjoyed your time off for turkey day. Wednesday of next week should be fine- thanks for fitting this into your workload!

Jennifer Severson, AICP - *Principal Planner – Development Review Team - Engineering*
Boulder County Community Planning & Permitting
2045 13th Street | Boulder, CO 80302
PO Box 471 | Boulder, CO 80306
Direct Phone: 720-564-2663
Main Phone: 303-441-3930
jseverson@bouldercounty.org
TransDevReview@bouldercounty.org

From: Thompson, David <ThompsonD@bouldercolorado.gov>
Sent: Thursday, December 3, 2020 1:31 PM
To: Severson, Jennifer <jseverson@bouldercounty.org>
Subject: RE: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road

Hi Jennifer,

I apologize, your email dropped off my radar between my workload and time off for Thanksgiving. I would like to have until Wednesday of next week to get comments back to you. Is this possible?

David

David Thompson, P.E.
Transportation Engineer

City of Boulder
Planning & Development Services

O: (303) 441-4417
thompsond@bouldercolorado.gov
1739 Broadway, 3rd Floor
Boulder, Colorado 80306
Bouldercolorado.gov

From: Severson, Jennifer <jseverson@bouldercounty.org>
Sent: Thursday, December 3, 2020 12:18 PM
To: Thompson, David <ThompsonD@bouldercolorado.gov>
Cc: Ott, Jean <jott@bouldercounty.org>
Subject: RE: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road

External Sender

Good afternoon David,

I just wanted to check in to see if you had a chance to look at this proposal for Hillside School yet. As I mentioned in my previous email, if at all possible we'd like to know if you have concerns before we finalize our staff recommendation to the BOCC for the project. Please let me know if you have any questions.

Best,
Jennifer

Jennifer Severson, AICP - *Principal Planner – Development Review Team - Engineering*
Boulder County Community Planning & Permitting
2045 13th Street | Boulder, CO 80302
PO Box 471 | Boulder, CO 80306
Direct Phone: 720-564-2663
Main Phone: 303-441-3930
jseverson@bouldercounty.org
TransDevReview@bouldercounty.org

From: Severson, Jennifer
Sent: Tuesday, November 24, 2020 2:45 PM
To: thompsond@bouldercolorado.gov
Cc: Ott, Jean <jott@bouldercounty.org>
Subject: RE: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road

Hello David,

Hillside School on Lookout Road is once again in for review to expand their floor area and increase their student #s (and ADT). About 1.5 years back, they were in for a smaller detached classroom building that would have allowed for minimal student # and teacher increases. Because Lookout is a city road at that location, we referred it to you and at the time, you indicated you didn't have concerns about traffic impacts related to that more limited proposal. We approved that proposal for a smaller detached building; however, they ditched those plans and are now in for a much larger building that doubles the current number of students (and quadruples traffic impacts since they have 2 sets of students- half come/go in the morning and half come/ go in the afternoon).

Below is the summary of impacts from their traffic study for this latest proposal (pgs 91-293 in the attached PDF):

Table 3
Hillside School Trip Generation*

FOX TUTTLE

Existing School Operations: Includes a total of 64 students divided into morning and afternoon sessions = 32 full day student equivalent						
	AM Session		PM Session		Daily	Car Pool/Non-SOV % Reduction***
	Inbound	Outbound	Inbound	Outbound	In + Out combined	
Peak Arrival/Departure Time	8:00 AM	11:00 PM	12:00 PM	3:00 PM		
Teachers	8	8	8	8		10%
Students	32	32	32	32		39%
Teacher Vehicles	7	7	7	7		
Parent Vehicles**	20	20	20	20		
Autombile Trips Inbound:	27	20	27	20	94	
Automobile Trips Outbound:	20	27	20	27	94	
Total Peak Hour Automobile Trips:	47	47	47	47		
Total Daily Trips - Both Sessions Combined:					188	

Proposed School Operations: Includes a total of 136 students divided into morning and afternoon sessions = 68 full day student equivalent						
	AM Session		PM Session		Daily	Car Pool/Non-SOV % reduction***
	Inbound	Outbound	Inbound	Outbound	In + Out combined	
Peak Arrival/Departure Time	8:00 AM	11:00 PM	12:00 PM	3:00 PM		
Teachers	13	13	13	13		10%
Students	68	68	68	68		39%
Teacher Vehicles	12	12	12	12		
Parent Vehicles**	42	42	42	42		
Autombile Trips Inbound:	54	42	54	42	192	
Automobile Trips Outbound:	42	54	42	54	192	
Total Peak Hour Automobile Trips:	96	96	96	96		
Total Daily Trips - Both Sessions Combined:					384	

* Based on information provided by school staff
** Conservatively assume that all parent vehicles enter and exit the site during peaks
*** Car pooling/Non SOV estimate based on conversation with school staff, estimated as follows:
At least one teacher bikes or walks to school (say 10%)
34% of students arrive alone, 33% of students arrive with 2 students in car, 33% of students arrive with 3 students in car
(100%-(34%+16.5%+11%))=38.5% Non-SOV Reduction for carpooling

Below are comments I included in my referral letter for this proposal that require the applicant to coordinate with you about traffic impacts/ safety/ concerns:

2. Because Lookout Road is a City of Boulder ROW, at time of building permit application, the applicant must submit a letter or other written confirmation from the city that expressly confirms the city has no concerns with the following elements of the proposal:

    a. anticipated traffic impacts as identified in the Transportation System Impact Study dated 9/16/2020; and

    b. the proposed student drop off/ pick up plan that utilizes two access points to Lookout Road (one from the Hillside School parcel and one from the Niwot United Methodist Church parcel).

3. A copy of a City of Boulder access permit (or other documentation of access permission) for each point of access to Lookout Road must be included with the building permit application.

I believe this proposal was referred to the City's planning department, but we failed to send a request for comments to you and I apologize for the oversight. Rather than wait until they come in for building permit, though, if possible, we'd like to get an idea from you now if the city has significant concerns about the latest proposal. I've copied the zoning planner (Raini Ott) who is handling the Land Use review for this proposal. When you have a few minutes, can you please review the attached and let us know if you have significant concerns about the anticipated traffic impacts as they've presented it?

I realize you must be pretty busy and that the holidays are cutting into work time – I really appreciate any time you have to take a look.

Have a great Turkey Day!
Jennifer

Jennifer Severson, AICP - *Principal Planner – Development Review Team - Engineering*
Boulder County Community Planning & Permitting
2045 13th Street | Boulder, CO 80302
PO Box 471 | Boulder, CO 80306
Direct Phone: 720-564-2663
Main Phone: 303-441-3930
jseverson@bouldercounty.org
TransDevReview@bouldercounty.org

From: Milner, Anna <amilner@bouldercounty.org>
Sent: Wednesday, October 7, 2020 3:11 PM
To: Karen Behne <kbehne@niwotsanitation.com>; jstruble@northernwater.org; Bflockhart@northernwater.org; office@svlhwcd.org; Donna.L.George@xcelenergy.com; BDRCO@xcelenergy.com; christopher.janoski@centurylink.com; kleislerp@bouldercolorado.gov; bldrvalleyandlongmontcds <bldrvalleyandlongmontcds@gmail.com>; submittals@udfcd.org; colleen.rosa@state.co.us; LPenfold@mvfpd.org; dsaba@mvfpd.org; prevention@mvfpd.org; Webb, Jeff <jwebb@mvfpd.org>; #CEreferral <CEreferral@bouldercounty.org>; Hippely, Hannah <hhippely@bouldercounty.org>; #AssessorReferral <AssessorReferral@bouldercounty.org>; Endicott, Chad <cendicott@bouldercounty.org>; Marcucilli, Molly <mmarcucilli@bouldercounty.org>; De Los Rios, Alberto <adelosrios@bouldercounty.org>; Scully, Sarah <sscully@bouldercounty.org>; Flax, Ron <rflax@bouldercounty.org>; Frederick, Summer <sfrederick@bouldercounty.org>; HealthWaterQuality-EnvironmentalBP LU <HealthWQ-EnvironBPLU@bouldercounty.org>; Huebner, Michelle <mhuebner@bouldercounty.org>; Sanchez, Kimberly <ksanchez@bouldercounty.org>; Severson, Jennifer <jseverson@bouldercounty.org>; Transportation Development Review <TransDevReview@bouldercounty.org>; Wassell, Kristen <kwassell@bouldercounty.org>; West, Ron <rowest@bouldercounty.org>
Cc: Ott, Jean <jott@bouldercounty.org>
Subject: Referral packet for SU-20-0005, Hillside School Modification project at 7415 Lookout Road

Please find attached the electronic Referral packet for ***SU-20-0005, Hillside School Modification*** project at ***7415 Lookout Road***.

Please return responses and direct any questions to ***Jean (Raini) Ott*** by ***November 11, 2020.*** (Boulder County internal departments and agencies: Please attach the referral comments in Accela.)

Best Regards,
Anna

Anna Milner | **Admin. Lead Tech.**
Boulder County Community Planning & Permitting (*formerly Land Use and Transportation*) – We've become a new department!
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Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

November 11, 2020

City of Boulder Planning & Development Services
1739 Broadway, Third Floor - P.O. Box 791
Boulder, CO 80306-0791

Attn: Raini Ott

Re: Hillside School Modification, Case # SU-20-0005

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has reviewed the special use documentation for **Hillside School Modification**. Please be aware PSCo owns and operates existing natural gas service and electric distribution facilities within the subject property. The property owner/developer/contractor must complete the application process for any new natural gas or electric service, or modification to existing facilities via xcelenergy.com/InstallAndConnect. It is then the responsibility of the developer to contact the Designer assigned to the project for approval of design details. Additional easements may need to be acquired by separate document for new facilities.

As a safety precaution, PSCo would like to remind the developer to call the Utility Notification Center by dialing 811 for utility locates prior to construction.

Please also note that PSCo has an underground high voltage electric transmission line within the Lookout Road right-of-way. Should there be any offsite activities on this area, our Siting and Land Rights Department must be contacted prior to any construction via either of the following:

website (www.xcelenergy.com/rightofway)
email: coloradorightofway@xcelenergy.com

Donna George
Right of Way and Permits
Public Service Company of Colorado dba Xcel Energy
Office: 303-571-3306 – Email: donna.l.george@xcelenergy.com

November 10, 2020

Ms. Jean (Raini) Ott, CFM AICP, Planner II
PO Box 471, Boulder, CO 80306
Email: planner@bouldercounty.org , jott@bouldercounty.org
Docket #: SU-20-0005

To Whom It May Concern:

We are the homeowners of 5400 Gunbarrel Circle, Longmont, CO 80503, which abuts the eastern border of the Hillside School property.

We have lived here since February 2014 and are concerned that the proposed school expansion (Docket #: SU-20-0005) will have a significant and negative impact on both our property value and our quality of life. The proposed building will permanently harm the character of "Colorado openness" that our home and our street currently enjoy, and that loss will translate to diminished value and enjoyment of our home.

Views of the mountains from our front bay window, our front yard, and our back yard, as well as from the street when out for a walk or on our driveway, drew us to this particular neighborhood and this particular house. The proposed expansion of the Hillside School would eliminate all of those views, replacing them with a large commercial building spanning the entire fence line that will erase what we consider the most valuable characteristic of our property.

Proceeding with the current expansion plan as is for the Hillside School would have severe and irreparable impact on our lives, specifically the scenic views we enjoy while living at our house, not to mention the broader impact to our neighborhood and neighbors as a whole. Without changes to the plan (e.g., location of the building, size/stature of the building, etc.), these intrinsic qualities we so enjoy and value will be eliminated with little-to-no consideration of our wishes and objections.

We understand that the Hillside School is seeking to serve more children with special needs, and we support that mission. However, we believe that there must be other options for expansion that do not permanently change the nature of our neighborhood, impair our home value, and reduce our quality of life. We strenuously object to the current plans and would like to see other options put forward for consideration.

Thank you, and we look forward to a constructive conversation to resolve these concerns.

With Regards,
Rob & Chrissy Renegar

Residents and Owners of:
5400 Gunbarrel Circle
Longmont, CO 80503

Email: rob.renegar@gmail.com
Ph: 203-767-6477

To the Board of Community Planning & Permitting, and the Boulder County Board of Commissioners,

I write this letter in opposition to Docket SU-20-0005 proposed by Hillside Learning Center (HLC), but I write also with suggestions for making any construction plan more palatable to Gunbarrel Circle/Gunbarrel Estates residents directly and profoundly affected by this plan. Through a Solution Focused lens, all parties may get at least some of what they want.

From the Forward to the Boulder County Zoning Resolution, February 4, 1944: "A zoning ordinance imposes such reasonable limitations upon the right of a property owner to use his property as he pleases, as may be determined by considerations of public health, safety, and welfare. **But he may not use his property as he pleases without regard for his neighbors, or the effect of his actions upon the welfare and prosperity of the whole community of which he is a part.** Nor is a zoning ordinance merely a temporary matter. It is an integral part of public planning, which takes the long view. The use of land is a granted right, but the land itself remains long after individuals who have exercised such rights have passed away. Rural zoning contemplates not only benefits in the present, but also seeks to conserve our resources for future generations." (Boulder County Land Use Code, Article 4: Zoning – page 4-2. Updated June 18, 2019).

Here are my concerns about HLC request to squeeze a new 10,500 sq. ft. structure on what is essentially a half-acre of usable land:

1. A proposed new 2-story building of 10,500 sq. ft. directly overlooking our quiet street, would add more than 200% concrete and wood structures to the existing building on site. Squeezing such an enormous new two-story 10,500 sq. Ft. building on a footprint of around a half acre is excessive. If they were to consider the entire 1.006-acre lot for reconstruction and redesign the entire school on the 1-acre property, it might be more aesthetically in step with the neighborhood. But increasing real estate structures from 4,26 sq. ft. to 14,762 sq. ft. on what is, in reality, a half-acre of land (excluding the pre-existing parking lot) is not tenable. (The parking lot takes up a significant portion of that acreage fronting Lookout Road.)

   Instead, I propose they **move the construction to the west side of the property** adjacent to the United Methodist Church with whom they already share a warm and cooperative relationship (see Caddis narrative, pg.1.3.-Parking). This would ameliorate the drastic obliteration of mountain views from Gunbarrel Circle homes. It would lessen (although not eliminate) the negative effect on properties values than building along the east fence line, with porches for children's classes on a second story of the school, directly overlooking our street and causing excessive noise never present prior to this plan. We have elderly retired neighbors and residents who work from home, all of whom value the quiet nature of the neighborhood. Building on the east of the property would affect our welfare and living environment adding distraction and disturbance to our lives by an influx of noise closer to our street and homes.

   Hillside staff have never reached out to neighbors to include any of us in their culture or celebrate their students' victories. Indeed, Kathy and Jill have been very cool in interactions with me as I tried to connect with them. I was enthusiastic for life to return to that building after several year of sitting vacant. Perhaps if they had been more engaging during the planning process, we on Gunbarrel Circle would not be as upset about this drastic and enormously disruptive proposal.

2. When I bought my house in 2007, I specifically bought in an older established neighborhood where quiet and peaceful coexistence with neighbors prevailed over noisy crowded frenetic sounds and density of urban life. Having grown up in the city of Detroit MI, lived in the center of Washington, DC (Northeast, near the Capitol) and Madrid, served in the Peace Corps along a noisy main road in Madagascar (2005-2006, environment sector), I moved here to get out of the rat race and find some peace.

   I realized there was a day school next door and accepted all that brought to my life as an adjacent neighbor. I enjoyed the kids while they played – but that was when there were about 30 people total in the school during the day. I never envisioned having to live through a year of commercial construction in an already long-established neighborhood outside the city of Boulder, and more than double the amount of noise during the day from screaming school kids on recess four times a day. (The teachers and children will tell you that I am a good neighbor to the kids; I routinely throw balls back into their yard and wave to the kids, talking with them through the fence as they see and ask about my little dog, Annie. Since they arrived, I have happily allowed

students to come into my yard to retrieve toys thrown over the fence, waving to them from my workspace). A certain amount of noise was expected when I bought my home 13 years ago but increasing that noise by a factor of two while I work at home is completely distracting and disconcerting and now causes me great anxiety.

Having clinically diagnosed PTSD from experiencing explosions and their aftermath in Madrid, Oklahoma City, Atlanta during the 1996 Olympics and Washington DC on 9/11 when I covered these events for international news (Reuters Television), I expressly chose this place and this neighborhood for its quiet out-of-the way exurban environment to continue a meaningful and more peaceful life (I am a volunteer coordinator for Community Justice Services in Community Services of Boulder County) while healing from the frenetic loud interminable cacophony of city life. I am gutted by the thought of having to live through a year of large trucks coming and going, dust and exhaust from concrete trucks as they wait their turn to pour, the sound of hammering, jackhammering, pneumatic tools and the nearly incessant beeping of large equipment in reverse as this monstrosity of a 10,5000 sq. ft building is created to house only 32 more children per session.

I am coming to grips with the fact that they want to build this huge building in spite of the fact that nearly half of that property is parking lot and existing building to the south, and they want to build this 10,500 sq. ft. building on the north 'back side' of the lot, cramming it into a space that will allow for much less play space and ruin the aesthetic of our street, not to mention the views of the mountains. I simply would like them to take into consideration how devastating a building would be on the east side, when they can more easily build to the west where the church agreement for parking already exists, where there is open space for construction access through a potential agreement with the church, and where they would not be destroying our property values/views to the extent that a building on the east would.

The large field behind the church to the northwest of the HLC property would be ample space for large equipment to drop off materials, and it would have access directly from the Lookout Road parking lot. The sight and sounds emanating from the new building, once constructed, would be buffered by my two mature 40-year-old Colorado spruce trees directly against the corner fence in my southwest corner, northwest corner of the HLC property. **Building a lower profile structure on the west would mean that Gunbarrel Circle would continue to have at least partial views of the mountains. Building on the east would completely obliterate those gorgeous existing mountain views for immediate neighbors and for those up the street to the east, turning our visual environment into nothing special, as if we were living in any random neighborhood in the Midwest.** This plan would destroy for us the very joy that brought us here. I can only guess that reasons HLC wants to build on the east are 1) the director and staff would still hypocritically enjoy mountain views from their own existing admin offices at the expense of our long-existing views, 2) they would allow parents access to the school through a Gunbarrel Circle gate and proposed walkway. This would not only bring more noise, fossil fuel vehicle pollution and traffic to our residential street, it would create animosity between the school and residents. What a mess.

3. **Traffic** along Lookout Road has increased significantly since 2018, with growth of apartment buildings, tech firms, and more commercial buildings, bringing more and more traffic along Lookout Road from the east each day; bumper to bumper already from 75th street to 79th. HLC's Fox Tuttle Transportation Group traffic analysis does not take into account the recent growth of Gunbarrel since 2018, and therefore even their "conservatively high" guess at traffic (Hillside School Transportation System Impact Study, pg.14) will be lower than the reality once the COVID19 pandemic is over and traffic resumes to normal post-2018 levels. Their Ridgeview Data Collection of traffic was performed on Sept. 2, 2020 – during the COVID pandemic and therefore has no basis in reality moving forward. (RDC Traffic Count Data Sheets, Pg. 1). This means that the potential 68 vehicles turning in and trying to drop off children (and 136, all of them, at the midday switch) all at the same time will create enormous backups, with the ensuing idling and honking of impatient drivers, adding more pollution and noise to our lives. The proposed traffic flow plan will be inadequate and the idea that somehow, they'll work it out by having some parents drop off in the church parking lot and others at the front door, is unrealistic. What will happen is that traffic on that two-lane road will become horrendously congested in the morning. 68 vehicles idling in those parking lots waiting for children midday and in the afternoon will add to congestion on a suburban road that already sees more traffic than in 2018, and pollution and noise to boot.

4. **Hydrology** –Group C: "Soils in this group have **moderately high runoff potential** when thoroughly wet. Water transmission through the soil is somewhat restricted. Group C soils typically have between 20 percent and 40

percent clay and less than 50 percent sand and have loam, silt loam, sandy clay loam, clay loam, and silty clay loam textures. Some soils having clay, silty clay, or sandy clay textures may be placed in this group if they are well aggregated, of low bulk density, or contain greater than 35 percent rock fragments." (USDA, NRCS: https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba)

The need for creation of rain gardens and drainage mitigation in the rear (northwest) of the property would be obviated by moving the structure to the western edge of the property. The northwestern adjacent property drainage is a large empty field (Preliminary Drainage Report pg.5) where drainage has historically flowed without consequence. By moving the building to the west side of the property, there would be no need to structure drainage onto Gunbarrel Circle from the northeast side of the property. - (Basin B1 – Preliminary Drainage Report pg. 5.) Building on the west would create less disturbance to natural existing hydrology flows. If it's not broken, don't fix it. I'm clearly not a hydrologist but it seems logical that moving the building to west would cause less of a need for major drainage structures to be built.

5. **Water use**/need for updated line to sewer on Gunbarrel Circle – how will a huge new building, with potentially 276 students in the future, affect residential water pressure and flow?

6. **Land Use code:** 4-200 – D. 2: "For building lots with a slope of **20 degrees or greater**, no portion of a structure, including additions to an existing structure, may exceed 25 feet in height as measured from the natural grade of the lot at the lowest elevation of the structure."

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   The building proposed would exceed the 25 ft. height as measured from the natural grade of the lot at the lowest elevation of the structure". **The current design exceeds that rule by at least 8 feet.**

Ultimately, why in the world do they need 10,500 sq. ft. MORE for an extra 36 students??
Currently they serve 32 fulltime students in a space that permits 110.
"The approved number of students in the current special use permit is 110 students." (Caddis Hillside School – Narrative, pg. 1 no.2)
They currently have more than enough space for the extra students they desire to serve. A new 10,500 sq. ft. building at the same rate of space (38 sq. ft per student), would allow for **276 more students**, which would create serious and permanent negative changes in quality of life for adjacent residents on Gunbarrel Circle. Even with smaller class sizes, this is excessive and overreaching. If the HLC were to sell the property, any future school would be permitted to include approximately 276 more students, for a total of 386, way beyond the envisioned noise, pollution, structural capacity of the parking lot, water system, traffic patterns, intersections and roads accessed by the property.

7. Hillside serves a **white privileged population** who can afford to send their children to 2.5 hours of instruction for $17,400 per school year. They have no mechanism in place for offering scholarships to underprivileged or marginalized families in our community. I would like to see that changed so that 10% of their admissions on full scholarship go to underprivileged children, per the County Commissioners Strategic Priorities of Equity & Justice (https://www.bouldercounty.org/departments/commissioners/strategic-priorities/ Priorities, Goals & Objectives , Goal 1 – page 11) adopted Dec. 11, 2018.

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After very careful review of the plans, and long and thoughtful consideration through an equity lens on behalf of neighbors and the community, I respectfully submit the following requests:

1. You deny the permit until design changes can be made to **move the new building to the west of the property** and **lower the height to 25ft or less per land use code, while keeping new construction within the allowed square footage for that property rather than an unnecessary 10,500 sq. ft.**
2. I request that you expressly **prohibit school traffic on Gunbarrel Circle which is not built or intended to accommodate high volume daily traffic.**
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4. You require **HLC to create and manage accommodations for transportation of those children** whose parents do not have the luxury of leaving work during the day to pick up or take their child back to their normal school. (Equity & Justice, Goal 1).

Respectfully,
Mary Eldred

5376 Gunbarrel Circle
Longmont CO 80503

From: Wufoo
To: #LandUsePlanner
Subject: Ask a Planner - Chris Carter - SU-20-0005 - 7415 Lookout Road
Date: Monday, October 12, 2020 5:37:29 PM

Boulder County Property Address : 7415 Lookout Road
If your comments are regarding a specific Docket, please enter the Docket number: SU-20-0005
Name: Chris Carter
Email Address: tremoverb@me.com
Please enter your question or comment: Hello,
I live in gunbarrel estates, and this project far beyond acceptable for the location. The folks that have invested in this neighborhood did so for a reason, and that is to be away from density and enjoy a quaint little neighborhood. A building of that size and function would be a major shift for the owners in this community. The original building was clearly built as a residential property, and it's current use has been acceptable for quite some time. I think if the current school needs a building of the size they hope to build, they should look around as they are similar available buildings in the area.
Thank you,
Chris
Public record acknowledgement:
I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: Wufoo
To: #LandUsePlanner
Subject: Ask a Planner - Elizabeth Engelking - boco.org/SU-20-0005 -
Date: Wednesday, October 14, 2020 3:33:55 PM

If your comments are regarding a specific Docket, please enter the Docket number: boco.org/SU-20-0005
Name: Elizabeth Engelking
Email Address: betsye@comcast.net
Phone Number: (303) 530-7550
Please enter your question or comment: I am concerned that the traffic on Lookout Road in front of this property already has heavy traffic especially during evening rush hour that backs up from the stop sign on 75th St all the way back to Idylwild (pre-Pandemic but hopefully this too shall pass). Before adding more capacity to this school, the traffic load on Lookout needs to be addressed.
Public record acknowledgement:
I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: Steve De Tar
To: #LandUsePlanner
Subject: Comments for SU-20-0005 Hillside School Modification
Date: Wednesday, November 11, 2020 4:45:42 PM

We live at 5475 Mt. Evans Pl., located across the NUMC field west of the Hillside school. Our comments for SU-20-0005 are:

- Direct impact to our property after the proposed school expansion will be:
    - Increase of noise from larger student population.
    - Increased traffic on Lookout Rd. during high-traffic times.
        - The traffic study did not address impacts at Lookout Rd. and Mt. Evans Pl./Clubhouse Dr. This is a significant deficiency. Both west-bound and east-bound turns onto Lookout Rd. are issues during both morning & afternoon drive times. This intersection is a main entry/exit point for Gunbarrel Estates and Country Club Estates. Filling traffic gaps with cars coming out of the church & school parking lots will make this worse.
        - Will traffic study volumes be reconfirmed when traffic returns to normal to determine if the statistical adjustments used are valid? What happens if the current adjustment assumptions are wrong?
        - The traffic study did not address impacts at 71st and CO-52. This is 15% of the traffic to/from the school and already a bad intersection (even with planned intersection changes).
- Impact to our neighbors' properties (5375, 5383, 5407 Gunbarrel Circle):
    - Substantial increase in noise from higher student population.
    - Substantial decrease in western sunlight/view due to 2 story structure. The application boasts of sinking the structure into the hillside. However, the elevation drawing shows the roof line of the new structure near the same height as the existing structure. Did the applicant look at lowering the new structure 1 story? Many schools have basement class rooms.

Additional questions that we have related to this application are:

- Will any construction traffic enter the property from Gunbarrel Circle or Mt. Evans Pl. (via the Niwot UMC property)? If so, how will this be mitigated? Will streets be repaired afterwards?
- If utility work is required into Gunbarrel Circle how will this be mitigated. To what standard will the street be repaired?
- Did the applicant discuss plans and mitigation with the Gunbarrel Circle property owners prior to the application submission? How was the design changed to mitigate any concerns?
- What requirements will be placed on construction to limit impacts to the neighborhood?

Thanks,

Steve De Tar

Niola De Tar

5475 Mt. Evans Pl.
Longmont, CO 80503

From: Gunbarrel Resident
To: #LandUsePlanner
Subject: docket # SU-20-0005
Date: Wednesday, November 11, 2020 12:34:28 PM

To Whom It May Concern,

I'm writing to absolutely oppose the Hillside School expansion project (Docket # SU-20-0005). It is completely against the character of the neighborhood, an outrageous intrusion into the neighboring lots, and a completely unreasonable burden on those immediately affected by the project. Increased noise, traffic, obstruction of views and a total change in the feel of the neighborhood are certain outcomes, which will negatively impact quality of life and property values. Under no circumstances can school traffic be allowed into the neighborhood and especially up along Gunbarrel Circle road. There is a limit to what people in neighborhoods should reasonably be expected to accept, and this is way over that limit. Please deny this expansion project -- it is unnecessary, bloated, and does not fit into this neighborhood in any way.

Sincerely,

A concerned Gunbarrel resident

From: Anne Carpenter
To: #LandUsePlanner; Ott, Jean
Subject: Docket #: SU-20-0005 Expansion of Hillside School
Date: Wednesday, November 11, 2020 5:02:28 PM

November 10, 2020

Jean (Raini) Ott, CFM AICP, Planner I

PO Box 471

Boulder CO 80306

Email: planner@bouldercounty.org, jott@bouldercounty.org

Docket #: SU-20-0005

To whom it may concern:

We are the residents and homeowners of 5355 Gunbarrel Circle, Longmont CO 80503 which is directly north of the Hillside School property on Gunbarrel Circle. We have lived at this residence since 1988 and are concerned that the proposed expansion of the Hillside School (Docket #: SU-20-0005) will have a significant and negative impact on our property values, neighborhood and quality of life. The proposed building will permanently alter the character of the neighborhood that we have enjoyed for over 32 years.

While our home is not directly adjacent to the Hillside School property as some of our other neighbors, the impact would cause additional traffic and noise in the area both during construction and for years to come. Since all of the apartments were built west of us (near King Soopers and the Gunbarrel Shopping areas—and more being considered near Celestial Seasonings) the traffic has increased dramatically. Sometimes turning left onto Lookout Road is almost impossible at certain times during the day and there are cars for as far as you can see. This would only add to this increased traffic.

It seems that this is a rather large building for such a small plot of land. While the current building seems adequate for our neighborhood with room for outside play, this larger building would not be appropriate for our suburban residential environment. Since Covid-19 has put limits on our everyday life, maybe some creative scheduling or class size changes should be considered if they want to enlarge their school. Perhaps they could find some vacant office space for lease near here that could serve as a “satellite campus” for the time being until Covid-19 gets under control and our lives get more back to normal.

As we are not necessarily against the Hillside School wanting to serve more children with special needs, there must be other ways to do this that will not permanently alter the nature of our fine neighborhood, affect our property values and the quality of the life we have enjoyed here for so many years.

We strongly object to the current plans and request that this proposal be tabled until other options are provided before this project moves forward.

Sincerely,

Peter & Anne Carpenter

From: Jeff&Stacee
To: #LandUsePlanner; Ott, Jean
Subject: Docket #SU-20-0005
Date: Tuesday, November 10, 2020 6:37:56 PM

I'm writing to extend my concern regarding the expansion of Hillside School property in Gunbarrel. Our home is 6 houses away so the impact is not direct, but it seems there could be more consideration to the plans.

Please consider moving the construction to the west side of the lot and lower the height to 25 ft or less. This seems like a fair alteration and would save unnecessary stress and devaluation of property for the neighbors directly affected.

Please don't pave paradise.

Thank you,
Stacee McGovern
President of Gunbarrel Estates Home Owner's Association
Owner at 5420 Gunbarrel Circle

From: Susan Anderson
To: #LandUsePlanner
Subject: Docket #SU-20-0005
Date: Tuesday, October 13, 2020 8:14:10 AM

Concerned about school modification:
Too small parcel of land for size of building adding to existing building and parking lot; increase traffic on Lookout which is very congested at times causing entrance and exiting issues to parking lot and more back up of traffic on Lookout which is a major access road to Boulder for homes built out east; a few houses on Gunbarrel circle would basically have this built in their back yard.

Sue Anderson
7400 Mt Meeker Rd

Sent from my iPhone

From: Kathy Keener
To: #LandUsePlanner
Subject: Docket #SU-20-005Hillside School Modification
Date: Wednesday, November 11, 2020 11:14:08 AM

I am writing today to share my opinions about the expansion of the Hillside School in Gunbarrel.

Please do not allow this expansion to go forward until the services, amenities and transportation issues in the are are addressed. Gunbarrel has seen amazing residential growth in our area in recent years and we have no rec center, no library, one grocery store, and the closest city or county park is across Diagonal Highway at IBM.

I am not opposed to the expansion of the school per se and think it might actually be a nice fit for the neighborhood but the area can not sustain any more growth right now. Bringing 70 more students to the school each day will put another enormous strain on Gunbarrel. I do not think this is fair to keep allowing all of this growth in our area without adding ANY amenities.

Please fix the imbalance and put this project on hold.

Thank you,
Kathy Keener
7470 Augusta Dr
Boulder, CO 80301

From: kelly siu jablonski
To: #LandUsePlanner
Subject: Docket SU-20-0005 Hillside School Modifications
Date: Tuesday, November 10, 2020 4:25:27 PM

Hello,
My name is Kelly Siu and live at 7060 Harvest Rd, Boulder. I am writing this email to fully support the Hillside School Modification Application. This school is near the
Gunbarrel Green neighborhood and I live adjacent to the Joshua School. I fully support the expansion needed to sustain business and modifications needed to enhance the classroom learning objectives. This school is a great amenity for the local community and county for children with learning disabilities. Allowing for shared parking between adjacent schools and churches is a great step in creating great economies of existing useful infrastructure. We love to see new buildings and landscape, not more parking lots if possible.
Sincerely,

Kelly Siu

To the Board of Community Planning & Permitting, and the Boulder County Board of Commissioners,

I write this letter in opposition to Docket SU-20-0005 proposed by Hillside Learning Center (HLC), but I write also with suggestions for making any construction plan more palatable to Gunbarrel Circle/Gunbarrel Estates residents directly and profoundly affected by this plan. Through a Solution Focused lens, all parties may get at least some of what they want.

From the Forward to the Boulder County Zoning Resolution, February 4, 1944: "A zoning ordinance imposes such reasonable limitations upon the right of a property owner to use his property as he pleases, as may be determined by considerations of public health, safety, and welfare. **But he may not use his property as he pleases without regard for his neighbors, or the effect of his actions upon the welfare and prosperity of the whole community of which he is a part.** Nor is a zoning ordinance merely a temporary matter. It is an integral part of public planning, which takes the long view. The use of land is a granted right, but the land itself remains long after individuals who have exercised such rights have passed away. Rural zoning contemplates not only benefits in the present, but also seeks to conserve our resources for future generations." (Boulder County Land Use Code, Article 4: Zoning – page 4-2. Updated June 18, 2019).

Here are my concerns about HLC request to squeeze a new 10,500 sq. ft. structure on what is essentially a half-acre of usable land:

1. A proposed new 2-story building of 10,500 sq. ft. directly overlooking our quiet street, would add more than 200% concrete and wood structures to the existing building on site. Squeezing such an enormous new two-story 10,500 sq. Ft. building on a footprint of around a half acre is excessive. If they were to consider the entire 1.006-acre lot for reconstruction and redesign the entire school on the 1-acre property, it might be more aesthetically in step with the neighborhood. But increasing real estate structures from 4,26 sq. ft. to 14,762 sq. ft. on what is, in reality, a half-acre of land (excluding the pre-existing parking lot) is not tenable. (The parking lot takes up a significant portion of that acreage fronting Lookout Road.)

   Instead, I propose they **move the construction to the west side of the property** adjacent to the United Methodist Church with whom they already share a warm and cooperative relationship (see Caddis narrative, pg.1.3.-Parking). This would ameliorate the drastic obliteration of mountain views from Gunbarrel Circle homes. It would lessen (although not eliminate) the negative effect on properties values than building along the east fence line, with porches for children's classes on a second story of the school, directly overlooking our street and causing excessive noise never present prior to this plan. We have elderly retired neighbors and residents who work from home, all of whom value the quiet nature of the neighborhood. Building on the east of the property would affect our welfare and living environment adding distraction and disturbance to our lives by an influx of noise closer to our street and homes.

   Hillside staff have never reached out to neighbors to include any of us in their culture or celebrate their students' victories. Indeed, Kathy and Jill have been very cool in interactions with me as I tried to connect with them. I was enthusiastic for life to return to that building after several year of sitting vacant. Perhaps if they had been more engaging during the planning process, we on Gunbarrel Circle would not be as upset about this drastic and enormously disruptive proposal.

2. When I bought my house in 2007, I specifically bought in an older established neighborhood where quiet and peaceful coexistence with neighbors prevailed over noisy crowded frenetic sounds and density of urban life. Having grown up in the city of Detroit MI, lived in the center of Washington, DC (Northeast, near the Capitol) and Madrid, served in the Peace Corps along a noisy main road in Madagascar (2005-2006, environment sector), I moved here to get out of the rat race and find some peace.

   I realized there was a day school next door and accepted all that brought to my life as an adjacent neighbor. I enjoyed the kids while they played – but that was when there were about 30 people total in the school during the day. I never envisioned having to live through a year of commercial construction in an already long-established neighborhood outside the city of Boulder, and more than double the amount of noise during the day from screaming school kids on recess four times a day. (The teachers and children will tell you that I am a good neighbor to the kids; I routinely throw balls back into their yard and wave to the kids, talking with them through the fence as they see and ask about my little dog, Annie. Since they arrived, I have happily allowed

students to come into my yard to retrieve toys thrown over the fence, waving to them from my workspace). A certain amount of noise was expected when I bought my home 13 years ago but increasing that noise by a factor of two while I work at home is completely distracting and disconcerting and now causes me great anxiety.

Having clinically diagnosed PTSD from experiencing explosions and their aftermath in Madrid, Oklahoma City, Atlanta during the 1996 Olympics and Washington DC on 9/11 when I covered these events for international news (Reuters Television), I expressly chose this place and this neighborhood for its quiet out-of-the way exurban environment to continue a meaningful and more peaceful life (I am a volunteer coordinator for Community Justice Services in Community Services of Boulder County) while healing from the frenetic loud interminable cacophony of city life. I am gutted by the thought of having to live through a year of large trucks coming and going, dust and exhaust from concrete trucks as they wait their turn to pour, the sound of hammering, jackhammering, pneumatic tools and the nearly incessant beeping of large equipment in reverse as this monstrosity of a 10,5000 sq. ft building is created to house only 32 more children per session.

I am coming to grips with the fact that they want to build this huge building in spite of the fact that nearly half of that property is parking lot and existing building to the south, and they want to build this 10,500 sq. ft. building on the north 'back side' of the lot, cramming it into a space that will allow for much less play space and ruin the aesthetic of our street, not to mention the views of the mountains. I simply would like them to take into consideration how devastating a building would be on the east side, when they can more easily build to the west where the church agreement for parking already exists, where there is open space for construction access through a potential agreement with the church, and where they would not be destroying our property values/views to the extent that a building on the east would.

The large field behind the church to the northwest of the HLC property would be ample space for large equipment to drop off materials, and it would have access directly from the Lookout Road parking lot. The sight and sounds emanating from the new building, once constructed, would be buffered by my two mature 40-year-old Colorado spruce trees directly against the corner fence in my southwest corner, northwest corner of the HLC property. **Building a lower profile structure on the west would mean that Gunbarrel Circle would continue to have at least partial views of the mountains. Building on the east would completely obliterate those gorgeous existing mountain views for immediate neighbors and for those up the street to the east, turning our visual environment into nothing special, as if we were living in any random neighborhood in the Midwest.** This plan would destroy for us the very joy that brought us here. I can only guess that reasons HLC wants to build on the east are 1) the director and staff would still hypocritically enjoy mountain views from their own existing admin offices at the expense of our long-existing views, 2) they would allow parents access to the school through a Gunbarrel Circle gate and proposed walkway. This would not only bring more noise, fossil fuel vehicle pollution and traffic to our residential street, it would create animosity between the school and residents. What a mess.

3. **Traffic** along Lookout Road has increased significantly since 2018, with growth of apartment buildings, tech firms, and more commercial buildings, bringing more and more traffic along Lookout Road from the east each day; bumper to bumper already from 75th street to 79th. HLC's Fox Tuttle Transportation Group traffic analysis does not take into account the recent growth of Gunbarrel since 2018, and therefore even their "conservatively high" guess at traffic (Hillside School Transportation System Impact Study, pg.14) will be lower than the reality once the COVID19 pandemic is over and traffic resumes to normal post-2018 levels. Their Ridgeview Data Collection of traffic was performed on Sept. 2, 2020 – during the COVID pandemic and therefore has no basis in reality moving forward. (RDC Traffic Count Data Sheets, Pg. 1). This means that the potential 68 vehicles turning in and trying to drop off children (and 136, all of them, at the midday switch) all at the same time will create enormous backups, with the ensuing idling and honking of impatient drivers, adding more pollution and noise to our lives. The proposed traffic flow plan will be inadequate and the idea that somehow, they'll work it out by having some parents drop off in the church parking lot and others at the front door, is unrealistic. What will happen is that traffic on that two-lane road will become horrendously congested in the morning. 68 vehicles idling in those parking lots waiting for children midday and in the afternoon will add to congestion on a suburban road that already sees more traffic than in 2018, and pollution and noise to boot.

4. **Hydrology** –Group C: "Soils in this group have **moderately high runoff potential** when thoroughly wet. Water transmission through the soil is somewhat restricted. Group C soils typically have between 20 percent and 40

percent clay and less than 50 percent sand and have loam, silt loam, sandy clay loam, clay loam, and silty clay loam textures. Some soils having clay, silty clay, or sandy clay textures may be placed in this group if they are well aggregated, of low bulk density, or contain greater than 35 percent rock fragments." (USDA, NRCS: https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba)

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4. You require **HLC to create and manage accommodations for transportation of those children** whose parents do not have the luxury of leaving work during the day to pick up or take their child back to their normal school. (Equity & Justice, Goal 1).

Respectfully,
Mary Eldred

5376 Gunbarrel Circle
Longmont CO 80503

From: Derek Moody
To: #LandUsePlanner
Subject: Fwd: SU-20-005 hillside school
Date: Sunday, October 11, 2020 4:18:00 PM

See below- used wrong email the first time.

-Derek
Dereklmoody@gmail.com
3392252542

Begin forwarded message:

> **From:** Derek Moody <dereklmoody@gmail.com>
> **Date:** October 11, 2020 at 2:29:08 PM MDT
> **To:** planner@bouldercouny.org
> **Subject: SU-20-005 hillside school**
>
> Hi,
> My wife and I own and live at 7305 Lookout road, just a few houses down from this school and wanted to say that we are in favor of them expanding. We look forward to having more families in our neighborhood.
> Regards,
>
> -Derek Moody
> Dereklmoody@gmail.com
> 3392252542

From: dtrollin@aol.com
To: #LandUsePlanner
Subject: Hillside Docket SU-20-0005
Date: Friday, November 6, 2020 8:53:31 AM

I do not support the expansion of the Hillside School for the following reasons:

1. The specificity of the build requires too much build for the lot. The lot is not big enough for a 10,000 sq foot addition even though it is within legal limits. This lot area behind the existing school is residential and that building would be right up against existing homes.

2. The number of students that the new build would serve does not justify the size of the build. A 10,000 sq foot building for 36 new students seems excessive .

3. The property has gone through different ownership through the years. Despite current operation since 2005, there is no long term assurance that a building of this size and its specific needs would be utilized by the current owner for any period of time. They could just build and sell and then the community is stuck with an overbuilt development that doesn't fit with the area.

Thank you

Susan Trollinger
5375 Desert Mountain Ct
Boulder CO

From: Debbie Daige
To: #LandUsePlanner; Ott, Jean
Subject: Hillside Learning Center (Docket SU-20-0005)
Date: Tuesday, November 10, 2020 2:03:40 PM

I am writing in opposition to Docket SU-20-0005 as we feel this will take away from our quite area.
Hillside Learning Center plans to build a two-story building of 10,500 sq. ft. This would be directly in the view from our front yard/window. We already have to deal with the noise when the students are outside. We have lived here for @ 20 years and would like to keep our views of the mountains and our property values.

We would like to suggest that they put the additional building on the west side of their lot.
Also hoping they will not have drop offs and pickups from Gunbarrel Circle. We have young children riding bikes and playing outside and do not want additional traffic on our quiet street. This will add additional traffic to Lookout Road which is not good either.

We would like to suggest a lower profile building on the west side of the lot. I think the land use code states a height of 25 ft. or less. We don't want to be looking at a commercial building in our neighborhood. This will be a direct effect on our quality of life.

Please do your best to see if the plans can be changed to make everyone happy.

Thank you for listening!

Debbie and Paul Daige
5407 Gunbarrel Circle
Longmont, CO 80503

From: Edmund Nespoli
To: #LandUsePlanner
Subject: Hillside School
Date: Sunday, October 11, 2020 6:26:45 PM

Please consider rethinking the plan to enlarge Hillside School. It sounds like the building is too large for such a small parcel of land in a residential setting. With increased enrollment comes increased traffic. Also, parking will not be sufficient.

Also, previously there have been at least two different schools in that same building that have failed.

Please reconsider and leave the footprint as it is.

Thanks.

Judy Nespoli
5574 Colt Drive
Longmont, Co. 80503
303-284-1907

Sent from my iPad

From: Meredith Rutherford Chavel
To: Ott, Jean
Subject: Re: referral packet for Docket SU-20-0005
Date: Friday, October 30, 2020 10:29:55 AM

Hi Raini,

Below is my feedback on the proposal. I live at 5375 Gunbarrel Circle, not an adjacent property but an impacted property given our proximity to the school. I want to preface my comments with I believe that Hillside School fills a gap by providing services that are not adequately provided by the public schools, for those that can afford it. It would be great to find a way to allow them to expand, while addressing the concerns of the immediate community.

These were the specific points that I did not see addressed, or addressed adequately:

- Given the location of the addition, the assumption is that construction access would be via Gunbarrel Circle and not Lookout Road. There was no mention of the proposal on repairs to the road post-construction. Gunbarrel Circle is in unincorporated Boulder County and the HOA for Gunbarrel Estates does not maintain the roads. The proposal needs to address re-paving post-construction to repair damages.
- The architectural renderings of the school include balconies or patios, that face directly onto Gunbarrel Circle. As a single-family residential neighborhood, this changes the dynamic and "feel" of the neighborhood. I strongly urge them to reconsider this feature, or shift it to face towards the school's property rather than into the privacy of the neighborhood.
- There was a preliminary proposal to build additional homes on the empty lot to the northwest of the school's property. It would be beneficial to see a statement on the density of the block, and infrastructure (sewer, water) when looking at the two proposals simultaneously.
- There is mention of the current drainage system to leverage drainage onto Gunbarrel Circle, and for that to continue. As the addition will change the drainage patterns, I kindly request more information as to what exactly the impact would be to Gunbarrel Circle. To reiterate, the neighborhood is in unincorporated Boulder County and the HOA does not maintain roads. Drainage cannot be increased, and there is no data to suggest if that has been investigated.

As Boulder County continues to grapple with issues of diversity and racism, it appears that Hillside's student population are primarily students whose families can afford the full tuition program. As part of this expansion, where their revenue will increase, it would behoove the school to make a commitment to diversity and offer more financial aid.

Finally, I would encourage the school to embrace the local community. The proposal was a surprise to the surrounding neighbors, and given our interaction with students and staff as we all work from home (throwing balls back over the fence, listening to recess, etc.), a cooperative and collaborative relationship should be encouraged. There is a perception of an elite, expensive school expanding at the expense of a long-term, established neighborhood. The school could have prevented this by reaching out to neighbors and holding local information sessions, prior to notification by the County of the addition.

I will watch the schedule for the public hearing, as I would very much like to participate.

Thank you,
Meredith

On Thu, Oct 29, 2020 at 12:47 PM Ott, Jean <jott@bouldercounty.org> wrote:

> Meredith,
>
> An email directly to me would be perfectly fine, or you can email planner@bouldercounty.org and I'll also receive it that way. In addition to written comments, you also have the option of speaking at public hearings that are held for the docket during the public comment section. Notification of those hearings will be posted on the docket webpage once they are scheduled (boco.org/su-20-0005).
>
> Thanks!
>
> Raini
>
> **From:** Meredith Rutherford Chavel <mrr1031@gmail.com>
> **Sent:** Thursday, October 29, 2020 10:41 AM
> **To:** Ott, Jean <jott@bouldercounty.org>
> **Subject:** Re: referral packet for Docket SU-20-0005
>
> Hi Raini,
>
> What is the appropriate forum to provide feedback on this proposal?
>
> Thank you,
>
> Meredith
>
> On Tue, Oct 13, 2020 at 10:41 AM Ott, Jean <jott@bouldercounty.org> wrote:
>
> > Good morning Meredith,
> >
> > We will mail you a hard copy this week of the referral packet for this docket. Please feel free to contact me directly with any questions or comments regarding this application.

Thanks!

Raini

Jean Lorraine (Raini) Ott, AICP, CFM

Planner II | Development Review Team

720.564.2271 | jott@bouldercounty.org | she/her/hers

Boulder County Community Planning & Permitting

2045 13th Street | Boulder, CO | www.BoulderCounty.org

303.441.3930 | P.O. Box 471 | Boulder, CO 80306

Formerly Land Use and Transportation – We've become a new department!

PLEASE NOTE: In an effort to mitigate the spread of COVID-19, the Boulder County Community Planning & Permitting physical office at 2045 13th St. in Boulder is CLOSED to the public until further notice. We will continue to operate remotely, including the online acceptance of building permits and planning applications. Please visit our webpage at www.boco.org/cpp for more detailed information and contact emails for groups in our department. You may also leave a message on our main line at 303-441-3930 and the appropriate team member will return your call. ***Thank you for your adaptability and understanding in this extraordinary time!***

From: Meredith Rutherford Chavel <mrr1031@gmail.com>
Sent: Sunday, October 11, 2020 3:42 PM
To: #LandUsePlanner <Planner@bouldercounty.org>
Subject: referral packet for Docket SU-20-0005

Hi - Can I please get a referral packet for Docket SU-20-0005? You can email at this address, or send by mail at : 5375 Gunbarrel Cir, Longmont, CO 80503.

Thanks,

Meredith

> --
>
> Meredith Rutherford Chavel
> M: 508-341-3350
> mrr1031@gmail.com

--

Meredith Rutherford Chavel
M: 508-341-3350
mrr1031@gmail.com

--
Meredith Rutherford Chavel
M: 508-341-3350
mrr1031@gmail.com

November 10, 2020

Ms. Jean (Raini) Ott, CFM AICP, Planner II
PO Box 471, Boulder, CO 80306
Email: planner@bouldercounty.org , jott@bouldercounty.org
Docket #: SU-20-0005

To Whom It May Concern:

We are the homeowners of 5400 Gunbarrel Circle, Longmont, CO 80503, which abuts the eastern border of the Hillside School property.

We have lived here since February 2014 and are concerned that the proposed school expansion (Docket #: SU-20-0005) will have a significant and negative impact on both our property value and our quality of life. The proposed building will permanently harm the character of "Colorado openness" that our home and our street currently enjoy, and that loss will translate to diminished value and enjoyment of our home.

Views of the mountains from our front bay window, our front yard, and our back yard, as well as from the street when out for a walk or on our driveway, drew us to this particular neighborhood and this particular house. The proposed expansion of the Hillside School would eliminate all of those views, replacing them with a large commercial building spanning the entire fence line that will erase what we consider the most valuable characteristic of our property.

Proceeding with the current expansion plan as is for the Hillside School would have severe and irreparable impact on our lives, specifically the scenic views we enjoy while living at our house, not to mention the broader impact to our neighborhood and neighbors as a whole. Without changes to the plan (e.g., location of the building, size/stature of the building, etc.), these intrinsic qualities we so enjoy and value will be eliminated with little-to-no consideration of our wishes and objections.

We understand that the Hillside School is seeking to serve more children with special needs, and we support that mission. However, we believe that there must be other options for expansion that do not permanently change the nature of our neighborhood, impair our home value, and reduce our quality of life. We strenuously object to the current plans and would like to see other options put forward for consideration.

Thank you, and we look forward to a constructive conversation to resolve these concerns.

With Regards,
Rob & Chrissy Renegar

Residents and Owners of:
5400 Gunbarrel Circle
Longmont, CO 80503

Email: rob.renegar@gmail.com
Ph: 203-767-6477

From: Anne Oberg
To: Ott, Jean
Subject: Special Use Review Docket # SU-20-0005
Date: Monday, November 9, 2020 9:05:03 PM

Dear Raini,

Thank you for taking the time to speak with me, and for answering all of my questions.

I am writing to voice my concerns about the special use review notification for the Hillside School, docket # SU-20-0005, located in the Gunbarrel Estates neighborhood.

While I recognize the Hillside School serves an important community service, I question whether this is a viable property for their expansion project. The adjacent properties would be greatly, and in my opinion adversely affected by this expansion due to increased noise, utilities, sanitation, and traffic. The increased traffic would also impact the access to properties in both the Gunbarrel Estates and the Country Club Estates neighborhoods. Lookout Road is already backed up with traffic in both the mornings and the afternoons. The increased noise is also a concern due to the traffic, and due to the outdoor activities at the school. I live on Mount Evans Place across the meadow from the Hillside School, and I can hear the activity now when the kids are outside - which at this time I find joyful, but if this expansion is allowed that noise level will increase as well, and the noise could become a nuisance instead, especially for the adjacent properties. I honestly can't imagine having to live right next door to this project.

These expansion plans are also not within the 125% of the median size restriction of the Gunbarrel Estates neighborhood. I understand that the Hillside School property may not fall under the same restrictions that the rest of the neighborhood does, however, to allow that much of an expansion does seem to infringe upon the compatibility of the surrounding area and also the intent of the area with the adjacent United Methodist Church property having a rural preservation overlay. It seems it would be an over-intensive use for what was intended for this area. I feel this expansion would be unfair to the property owners in Gunbarrel Estates that rely on the land use codes to protect their properties.

Thank you,
Anne Oberg
5495 Mount Evans Pl
Longmont, CO 80503
970-531-1423 (cell)

From: Wufoo
To: #LandUsePlanner
Subject: Ask a Planner - Bruce Warren - SU-20-0005 - 7415 Lookout Road, Longmont, CO 80503
Date: Thursday, November 12, 2020 5:16:13 PM

Boulder County Property Address : 7415 Lookout Road, Longmont, CO 80503
If your comments are regarding a specific Docket, please enter the Docket number: SU-20-0005
Name: Bruce Warren
Email Address: bwarren@niwotlaw.com
Phone Number: (303) 652-2433
Please enter your question or comment: To: Boulder County Community Planning and Permitting Department
From: Niwot United Methodist Church

We have reviewed the Hillside School Modification, Docket SU-20-0005, and have no conflicts.

Hillside School has been an excellent neighbor of the Church, and has worked cooperatively with the Church to maximize use of the existing parking lot of the Church, thereby avoiding the need for construction of an additional paved parking lot on Hillside property and reducing the environmental impact of the proposed development.

Hillside School is a non-profit organization with a mission of serving a student population that is often underserved. The Church supports Hillside School's mission to serve these students of the Boulder County community. The Hillside parcel has been in use for many years as a school, and school uses are specifically permitted in the Suburban Residential (SR) zoning district, as are churches. While expansion proposals are sometimes opposed by nearby neighbors who are understandably most affected by the expansion, it is important to remember that schools in residential neighborhoods have a long history of being an essential aspect of our communities. We are confident that Hillside will mitigate the impact of its expansion in the design of this project, and fully support the application.
Bruce Warren, Administrative Council Co-Chair
Public record acknowledgement:
I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: Edmund Nespoli
To: Boulder County Board of Commissioners
Subject: Hillside School
Date: Sunday, October 11, 2020 6:30:50 PM

Please consider rethinking the plan to enlarge Hillside School. It sounds like the building is too large for such a small parcel of land in a residential setting. With increased enrollment comes increased traffic. Also, parking will not be sufficient.

Also, previously there have been at least two different schools in that same building that have failed.

Please reconsider and leave the footprint as it is.

Thanks.

Judy Nespoli
5574 Colt Drive
Longmont, Co. 80503
303-284-1907
574 Colt Drive
Longmont, Co. 80503
303-284-1907

Sent from my iPad

From: Wufoo
To: #LandUsePlanner
Subject: Ask a Planner - Chris Carter - SU-20-0005 - 7415 Lookout Road
Date: Monday, October 12, 2020 5:37:29 PM

Boulder County Property Address : 7415 Lookout Road
If your comments are regarding a specific Docket, please enter the Docket number: SU-20-0005
Name: Chris Carter
Email Address: tremoverb@me.com
Please enter your question or comment: Hello,
I live in gunbarrel estates, and this project far beyond acceptable for the location. The folks that have invested in this neighborhood did so for a reason, and that is to be away from density and enjoy a quaint little neighborhood. A building of that size and function would be a major shift for the owners in this community. The original building was clearly built as a residential property, and it's current use has been acceptable for quite some time. I think if the current school needs a building of the size they hope to build, they should look around as they are similar available buildings in the area.
Thank you,
Chris
Public record acknowledgement:
I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: Wufoo
To: #LandUsePlanner
Subject: Ask a Planner - Elizabeth Engelking - boco.org/SU-20-0005 -
Date: Wednesday, October 14, 2020 3:33:55 PM

If your comments are regarding a specific Docket, please enter the Docket number: boco.org/SU-20-0005
Name: Elizabeth Engelking
Email Address: betsye@comcast.net
Phone Number: (303) 530-7550
Please enter your question or comment: I am concerned that the traffic on Lookout Road in front of this property already has heavy traffic especially during evening rush hour that backs up from the stop sign on 75th St all the way back to Idylwild (pre-Pandemic but hopefully this too shall pass). Before adding more capacity to this school, the traffic load on Lookout needs to be addressed.
Public record acknowledgement:
I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: Steve De Tar
To: #LandUsePlanner
Subject: Comments for SU-20-0005 Hillside School Modification
Date: Wednesday, November 11, 2020 4:45:42 PM

We live at 5475 Mt. Evans Pl., located across the NUMC field west of the Hillside school. Our comments for SU-20-0005 are:

- Direct impact to our property after the proposed school expansion will be:
    - Increase of noise from larger student population.
    - Increased traffic on Lookout Rd. during high-traffic times.
        - The traffic study did not address impacts at Lookout Rd. and Mt. Evans Pl./Clubhouse Dr. This is a significant deficiency. Both west-bound and east-bound turns onto Lookout Rd. are issues during both morning & afternoon drive times. This intersection is a main entry/exit point for Gunbarrel Estates and Country Club Estates. Filling traffic gaps with cars coming out of the church & school parking lots will make this worse.
        - Will traffic study volumes be reconfirmed when traffic returns to normal to determine if the statistical adjustments used are valid? What happens if the current adjustment assumptions are wrong?
        - The traffic study did not address impacts at 71st and CO-52. This is 15% of the traffic to/from the school and already a bad intersection (even with planned intersection changes).
- Impact to our neighbors' properties (5375, 5383, 5407 Gunbarrel Circle):
    - Substantial increase in noise from higher student population.
    - Substantial decrease in western sunlight/view due to 2 story structure. The application boasts of sinking the structure into the hillside. However, the elevation drawing shows the roof line of the new structure near the same height as the existing structure. Did the applicant look at lowering the new structure 1 story? Many schools have basement class rooms.

Additional questions that we have related to this application are:

- Will any construction traffic enter the property from Gunbarrel Circle or Mt. Evans Pl. (via the Niwot UMC property)? If so, how will this be mitigated? Will streets be repaired afterwards?
- If utility work is required into Gunbarrel Circle how will this be mitigated. To what standard will the street be repaired?
- Did the applicant discuss plans and mitigation with the Gunbarrel Circle property owners prior to the application submission? How was the design changed to mitigate any concerns?
- What requirements will be placed on construction to limit impacts to the neighborhood?

Thanks,

Steve De Tar

Niola De Tar

5475 Mt. Evans Pl.
Longmont, CO 80503

From: Gunbarrel Resident
To: #LandUsePlanner
Subject: docket # SU-20-0005
Date: Wednesday, November 11, 2020 12:34:28 PM

To Whom It May Concern,

I'm writing to absolutely oppose the Hillside School expansion project (Docket # SU-20-0005). It is completely against the character of the neighborhood, an outrageous intrusion into the neighboring lots, and a completely unreasonable burden on those immediately affected by the project. Increased noise, traffic, obstruction of views and a total change in the feel of the neighborhood are certain outcomes, which will negatively impact quality of life and property values. Under no circumstances can school traffic be allowed into the neighborhood and especially up along Gunbarrel Circle road. There is a limit to what people in neighborhoods should reasonably be expected to accept, and this is way over that limit. Please deny this expansion project -- it is unnecessary, bloated, and does not fit into this neighborhood in any way.

Sincerely,

A concerned Gunbarrel resident

From: Anne Carpenter
To: #LandUsePlanner; Ott, Jean
Subject: Docket #: SU-20-0005 Expansion of Hillside School
Date: Wednesday, November 11, 2020 5:02:28 PM

November 10, 2020

Jean (Raini) Ott, CFM AICP, Planner I

PO Box 471

Boulder CO 80306

Email: planner@bouldercounty.org, jott@bouldercounty.org

Docket #: SU-20-0005

To whom it may concern:

We are the residents and homeowners of 5355 Gunbarrel Circle, Longmont CO 80503 which is directly north of the Hillside School property on Gunbarrel Circle. We have lived at this residence since 1988 and are concerned that the proposed expansion of the Hillside School (Docket #: SU-20-0005) will have a significant and negative impact on our property values, neighborhood and quality of life. The proposed building will permanently alter the character of the neighborhood that we have enjoyed for over 32 years.

While our home is not directly adjacent to the Hillside School property as some of our other neighbors, the impact would cause additional traffic and noise in the area both during construction and for years to come. Since all of the apartments were built west of us (near King Soopers and the Gunbarrel Shopping areas—and more being considered near Celestial Seasonings) the traffic has increased dramatically. Sometimes turning left onto Lookout Road is almost impossible at certain times during the day and there are cars for as far as you can see. This would only add to this increased traffic.

It seems that this is a rather large building for such a small plot of land. While the current building seems adequate for our neighborhood with room for outside play, this larger building would not be appropriate for our suburban residential environment. Since Covid-19 has put limits on our everyday life, maybe some creative scheduling or class size changes should be considered if they want to enlarge their school. Perhaps they could find some vacant office space for lease near here that could serve as a “satellite campus” for the time being until Covid-19 gets under control and our lives get more back to normal.

As we are not necessarily against the Hillside School wanting to serve more children with special needs, there must be other ways to do this that will not permanently alter the nature of our fine neighborhood, affect our property values and the quality of the life we have enjoyed here for so many years.

We strongly object to the current plans and request that this proposal be tabled until other options are provided before this project moves forward.

Sincerely,

Peter & Anne Carpenter

From: Jeff&Stacee
To: #LandUsePlanner; Ott, Jean
Subject: Docket #SU-20-0005
Date: Tuesday, November 10, 2020 6:37:56 PM

I'm writing to extend my concern regarding the expansion of Hillside School property in Gunbarrel. Our home is 6 houses away so the impact is not direct, but it seems there could be more consideration to the plans.

Please consider moving the construction to the west side of the lot and lower the height to 25 ft or less. This seems like a fair alteration and would save unnecessary stress and devaluation of property for the neighbors directly affected.

Please don't pave paradise.

Thank you,
Stacee McGovern
President of Gunbarrel Estates Home Owner's Association
Owner at 5420 Gunbarrel Circle

From: Susan Anderson
To: #LandUsePlanner
Subject: Docket #SU-20-0005
Date: Tuesday, October 13, 2020 8:14:10 AM

Concerned about school modification:
Too small parcel of land for size of building adding to existing building and parking lot; increase traffic on Lookout which is very congested at times causing entrance and exiting issues to parking lot and more back up of traffic on Lookout which is a major access road to Boulder for homes built out east; a few houses on Gunbarrel circle would basically have this built in their back yard.

Sue Anderson
7400 Mt Meeker Rd

Sent from my iPhone

From: Kathy Keener
To: #LandUsePlanner
Subject: Docket #SU-20-005Hillside School Modification
Date: Wednesday, November 11, 2020 11:14:08 AM

I am writing today to share my opinions about the expansion of the Hillside School in Gunbarrel.

Please do not allow this expansion to go forward until the services, amenities and transportation issues in the are are addressed. Gunbarrel has seen amazing residential growth in our area in recent years and we have no rec center, no library, one grocery store, and the closest city or county park is across Diagonal Highway at IBM.

I am not opposed to the expansion of the school per se and think it might actually be a nice fit for the neighborhood but the area can not sustain any more growth right now. Bringing 70 more students to the school each day will put another enormous strain on Gunbarrel. I do not think this is fair to keep allowing all of this growth in our area without adding ANY amenities.

Please fix the imbalance and put this project on hold.

Thank you,
Kathy Keener
7470 Augusta Dr
Boulder, CO 80301

From: kelly siu jablonski
To: #LandUsePlanner
Subject: Docket SU-20-0005 Hillside School Modifications
Date: Tuesday, November 10, 2020 4:25:27 PM

Hello,
My name is Kelly Siu and live at 7060 Harvest Rd, Boulder. I am writing this email to fully support the Hillside School Modification Application. This school is near the
Gunbarrel Green neighborhood and I live adjacent to the Joshua School. I fully support the expansion needed to sustain business and modifications needed to enhance the classroom learning objectives. This school is a great amenity for the local community and county for children with learning disabilities. Allowing for shared parking between adjacent schools and churches is a great step in creating great economies of existing useful infrastructure. We love to see new buildings and landscape, not more parking lots if possible.
Sincerely,

Kelly Siu

To the Board of Community Planning & Permitting, and the Boulder County Board of Commissioners,

I write this letter in opposition to Docket SU-20-0005 proposed by Hillside Learning Center (HLC), but I write also with suggestions for making any construction plan more palatable to Gunbarrel Circle/Gunbarrel Estates residents directly and profoundly affected by this plan. Through a Solution Focused lens, all parties may get at least some of what they want.

From the Forward to the Boulder County Zoning Resolution, February 4, 1944: "A zoning ordinance imposes such reasonable limitations upon the right of a property owner to use his property as he pleases, as may be determined by considerations of public health, safety, and welfare. **But he may not use his property as he pleases without regard for his neighbors, or the effect of his actions upon the welfare and prosperity of the whole community of which he is a part.** Nor is a zoning ordinance merely a temporary matter. It is an integral part of public planning, which takes the long view. The use of land is a granted right, but the land itself remains long after individuals who have exercised such rights have passed away. Rural zoning contemplates not only benefits in the present, but also seeks to conserve our resources for future generations." (Boulder County Land Use Code, Article 4: Zoning – page 4-2. Updated June 18, 2019).

Here are my concerns about HLC request to squeeze a new 10,500 sq. ft. structure on what is essentially a half-acre of usable land:

1. A proposed new 2-story building of 10,500 sq. ft. directly overlooking our quiet street, would add more than 200% concrete and wood structures to the existing building on site. Squeezing such an enormous new two-story 10,500 sq. Ft. building on a footprint of around a half acre is excessive. If they were to consider the entire 1.006-acre lot for reconstruction and redesign the entire school on the 1-acre property, it might be more aesthetically in step with the neighborhood. But increasing real estate structures from 4,26 sq. ft. to 14,762 sq. ft. on what is, in reality, a half-acre of land (excluding the pre-existing parking lot) is not tenable. (The parking lot takes up a significant portion of that acreage fronting Lookout Road.)

   Instead, I propose they **move the construction to the west side of the property** adjacent to the United Methodist Church with whom they already share a warm and cooperative relationship (see Caddis narrative, pg.1.3.-Parking). This would ameliorate the drastic obliteration of mountain views from Gunbarrel Circle homes. It would lessen (although not eliminate) the negative effect on properties values than building along the east fence line, with porches for children's classes on a second story of the school, directly overlooking our street and causing excessive noise never present prior to this plan. We have elderly retired neighbors and residents who work from home, all of whom value the quiet nature of the neighborhood. Building on the east of the property would affect our welfare and living environment adding distraction and disturbance to our lives by an influx of noise closer to our street and homes.

   Hillside staff have never reached out to neighbors to include any of us in their culture or celebrate their students' victories. Indeed, Kathy and Jill have been very cool in interactions with me as I tried to connect with them. I was enthusiastic for life to return to that building after several year of sitting vacant. Perhaps if they had been more engaging during the planning process, we on Gunbarrel Circle would not be as upset about this drastic and enormously disruptive proposal.

2. When I bought my house in 2007, I specifically bought in an older established neighborhood where quiet and peaceful coexistence with neighbors prevailed over noisy crowded frenetic sounds and density of urban life. Having grown up in the city of Detroit MI, lived in the center of Washington, DC (Northeast, near the Capitol) and Madrid, served in the Peace Corps along a noisy main road in Madagascar (2005-2006, environment sector), I moved here to get out of the rat race and find some peace.

   I realized there was a day school next door and accepted all that brought to my life as an adjacent neighbor. I enjoyed the kids while they played – but that was when there were about 30 people total in the school during the day. I never envisioned having to live through a year of commercial construction in an already long-established neighborhood outside the city of Boulder, and more than double the amount of noise during the day from screaming school kids on recess four times a day. (The teachers and children will tell you that I am a good neighbor to the kids; I routinely throw balls back into their yard and wave to the kids, talking with them through the fence as they see and ask about my little dog, Annie. Since they arrived, I have happily allowed

students to come into my yard to retrieve toys thrown over the fence, waving to them from my workspace). A certain amount of noise was expected when I bought my home 13 years ago but increasing that noise by a factor of two while I work at home is completely distracting and disconcerting and now causes me great anxiety.

Having clinically diagnosed PTSD from experiencing explosions and their aftermath in Madrid, Oklahoma City, Atlanta during the 1996 Olympics and Washington DC on 9/11 when I covered these events for international news (Reuters Television), I expressly chose this place and this neighborhood for its quiet out-of-the way exurban environment to continue a meaningful and more peaceful life (I am a volunteer coordinator for Community Justice Services in Community Services of Boulder County) while healing from the frenetic loud interminable cacophony of city life. I am gutted by the thought of having to live through a year of large trucks coming and going, dust and exhaust from concrete trucks as they wait their turn to pour, the sound of hammering, jackhammering, pneumatic tools and the nearly incessant beeping of large equipment in reverse as this monstrosity of a 10,5000 sq. ft building is created to house only 32 more children per session.

I am coming to grips with the fact that they want to build this huge building in spite of the fact that nearly half of that property is parking lot and existing building to the south, and they want to build this 10,500 sq. ft. building on the north 'back side' of the lot, cramming it into a space that will allow for much less play space and ruin the aesthetic of our street, not to mention the views of the mountains. I simply would like them to take into consideration how devastating a building would be on the east side, when they can more easily build to the west where the church agreement for parking already exists, where there is open space for construction access through a potential agreement with the church, and where they would not be destroying our property values/views to the extent that a building on the east would.

The large field behind the church to the northwest of the HLC property would be ample space for large equipment to drop off materials, and it would have access directly from the Lookout Road parking lot. The sight and sounds emanating from the new building, once constructed, would be buffered by my two mature 40-year-old Colorado spruce trees directly against the corner fence in my southwest corner, northwest corner of the HLC property. **Building a lower profile structure on the west would mean that Gunbarrel Circle would continue to have at least partial views of the mountains. Building on the east would completely obliterate those gorgeous existing mountain views for immediate neighbors and for those up the street to the east, turning our visual environment into nothing special, as if we were living in any random neighborhood in the Midwest.** This plan would destroy for us the very joy that brought us here. I can only guess that reasons HLC wants to build on the east are 1) the director and staff would still hypocritically enjoy mountain views from their own existing admin offices at the expense of our long-existing views, 2) they would allow parents access to the school through a Gunbarrel Circle gate and proposed walkway. This would not only bring more noise, fossil fuel vehicle pollution and traffic to our residential street, it would create animosity between the school and residents. What a mess.

3. **Traffic** along Lookout Road has increased significantly since 2018, with growth of apartment buildings, tech firms, and more commercial buildings, bringing more and more traffic along Lookout Road from the east each day; bumper to bumper already from 75th street to 79th. HLC's Fox Tuttle Transportation Group traffic analysis does not take into account the recent growth of Gunbarrel since 2018, and therefore even their "conservatively high" guess at traffic (Hillside School Transportation System Impact Study, pg.14) will be lower than the reality once the COVID19 pandemic is over and traffic resumes to normal post-2018 levels. Their Ridgeview Data Collection of traffic was performed on Sept. 2, 2020 – during the COVID pandemic and therefore has no basis in reality moving forward. (RDC Traffic Count Data Sheets, Pg. 1). This means that the potential 68 vehicles turning in and trying to drop off children (and 136, all of them, at the midday switch) all at the same time will create enormous backups, with the ensuing idling and honking of impatient drivers, adding more pollution and noise to our lives. The proposed traffic flow plan will be inadequate and the idea that somehow, they'll work it out by having some parents drop off in the church parking lot and others at the front door, is unrealistic. What will happen is that traffic on that two-lane road will become horrendously congested in the morning. 68 vehicles idling in those parking lots waiting for children midday and in the afternoon will add to congestion on a suburban road that already sees more traffic than in 2018, and pollution and noise to boot.

4. **Hydrology** –Group C: "Soils in this group have **moderately high runoff potential** when thoroughly wet. Water transmission through the soil is somewhat restricted. Group C soils typically have between 20 percent and 40

percent clay and less than 50 percent sand and have loam, silt loam, sandy clay loam, clay loam, and silty clay loam textures. Some soils having clay, silty clay, or sandy clay textures may be placed in this group if they are well aggregated, of low bulk density, or contain greater than 35 percent rock fragments." (USDA, NRCS: https://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba)

The need for creation of rain gardens and drainage mitigation in the rear (northwest) of the property would be obviated by moving the structure to the western edge of the property. The northwestern adjacent property drainage is a large empty field (Preliminary Drainage Report pg.5) where drainage has historically flowed without consequence. By moving the building to the west side of the property, there would be no need to structure drainage onto Gunbarrel Circle from the northeast side of the property. - (Basin B1 – Preliminary Drainage Report pg. 5.) Building on the west would create less disturbance to natural existing hydrology flows. If it's not broken, don't fix it. I'm clearly not a hydrologist but it seems logical that moving the building to west would cause less of a need for major drainage structures to be built.

5. **Water use**/need for updated line to sewer on Gunbarrel Circle – how will a huge new building, with potentially 276 students in the future, affect residential water pressure and flow?

6. **Land Use code:** 4-200 – D. 2: "For building lots with a slope of **20 degrees or greater**, no portion of a structure, including additions to an existing structure, may exceed 25 feet in height as measured from the natural grade of the lot at the lowest elevation of the structure."

   As per the Sanitas Group LLC Preliminary Drainage Report (page1) "The area north of the existing building generally slopes to the northwest at **grades from 6% to 20%."**

   The building proposed would exceed the 25 ft. height as measured from the natural grade of the lot at the lowest elevation of the structure". **The current design exceeds that rule by at least 8 feet.**

Ultimately, why in the world do they need 10,500 sq. ft. MORE for an extra 36 students??
Currently they serve 32 fulltime students in a space that permits 110.
"The approved number of students in the current special use permit is 110 students." (Caddis Hillside School – Narrative, pg. 1 no.2)
They currently have more than enough space for the extra students they desire to serve. A new 10,500 sq. ft. building at the same rate of space (38 sq. ft per student), would allow for **276 more students**, which would create serious and permanent negative changes in quality of life for adjacent residents on Gunbarrel Circle. Even with smaller class sizes, this is excessive and overreaching. If the HLC were to sell the property, any future school would be permitted to include approximately 276 more students, for a total of 386, way beyond the envisioned noise, pollution, structural capacity of the parking lot, water system, traffic patterns, intersections and roads accessed by the property.

7. Hillside serves a **white privileged population** who can afford to send their children to 2.5 hours of instruction for $17,400 per school year. They have no mechanism in place for offering scholarships to underprivileged or marginalized families in our community. I would like to see that changed so that 10% of their admissions on full scholarship go to underprivileged children, per the County Commissioners Strategic Priorities of Equity & Justice (https://www.bouldercounty.org/departments/commissioners/strategic-priorities/ Priorities, Goals & Objectives , Goal 1 – page 11) adopted Dec. 11, 2018.

In a perfect world, conflict wouldn't happen. In our world, it does. From the macro to the micro, it's a fact of humanity's diversity of what we value, need and desire. And, humans are averse to change; some reasons include loss of control, excess uncertainty, uncomfortable differences in routine, and ripple effects. (https://hbr.org/2012/09/ten-reasons-people-resist-chang) But amidst the desire for change by some, and the resistance by others to that change, there are always ways to compromise and focus on solutions that are equitable and fair, while maintaining the need for growth and progress. This school may serve a small elite portion of the dyslexic population in Boulder County, but I'm hoping that if you agree with the following ideas, it will allow them to serve more, while also serving some of those who are less privileged, and at the same time diminish the inevitable negative changes that this progress makes affecting neighbors of the school.

After very careful review of the plans, and long and thoughtful consideration through an equity lens on behalf of neighbors and the community, I respectfully submit the following requests:

1. You deny the permit until design changes can be made to **move the new building to the west of the property** and **lower the height to 25ft or less per land use code, while keeping new construction within the allowed square footage for that property rather than an unnecessary 10,500 sq. ft.**
2. I request that you expressly **prohibit school traffic on Gunbarrel Circle which is not built or intended to accommodate high volume daily traffic.**
3. You **require the school to allow for 10% of their seats go to underserved populations** suffering from dyslexia and other learning challenges, **at full scholarship.** (Equity & Justice, Goal 1).
4. You require **HLC to create and manage accommodations for transportation of those children** whose parents do not have the luxury of leaving work during the day to pick up or take their child back to their normal school. (Equity & Justice, Goal 1).

Respectfully,
Mary Eldred

5376 Gunbarrel Circle
Longmont CO 80503

From: Derek Moody
To: #LandUsePlanner
Subject: Fwd: SU-20-005 hillside school
Date: Sunday, October 11, 2020 4:18:00 PM

See below- used wrong email the first time.

-Derek
Dereklmoody@gmail.com
3392252542

Begin forwarded message:

> **From:** Derek Moody <dereklmoody@gmail.com>
> **Date:** October 11, 2020 at 2:29:08 PM MDT
> **To:** planner@bouldercouny.org
> **Subject: SU-20-005 hillside school**
>
> Hi,
> My wife and I own and live at 7305 Lookout road, just a few houses down from this school and wanted to say that we are in favor of them expanding. We look forward to having more families in our neighborhood.
> Regards,
>
> -Derek Moody
> Dereklmoody@gmail.com
> 3392252542

From: dtrollin@aol.com
To: #LandUsePlanner
Subject: Hillside Docket SU-20-0005
Date: Friday, November 6, 2020 8:53:31 AM

I do not support the expansion of the Hillside School for the following reasons:

1. The specificity of the build requires too much build for the lot. The lot is not big enough for a 10,000 sq foot addition even though it is within legal limits. This lot area behind the existing school is residential and that building would be right up against existing homes.

2. The number of students that the new build would serve does not justify the size of the build. A 10,000 sq foot building for 36 new students seems excessive .

3. The property has gone through different ownership through the years. Despite current operation since 2005, there is no long term assurance that a building of this size and its specific needs would be utilized by the current owner for any period of time. They could just build and sell and then the community is stuck with an overbuilt development that doesn't fit with the area.

Thank you

Susan Trollinger
5375 Desert Mountain Ct
Boulder CO

From: Debbie Daige
To: #LandUsePlanner; Ott, Jean
Subject: Hillside Learning Center (Docket SU-20-0005)
Date: Tuesday, November 10, 2020 2:03:40 PM

I am writing in opposition to Docket SU-20-0005 as we feel this will take away from our quite area.
Hillside Learning Center plans to build a two-story building of 10,500 sq. ft. This would be directly in the view from our front yard/window. We already have to deal with the noise when the students are outside. We have lived here for @ 20 years and would like to keep our views of the mountains and our property values.

We would like to suggest that they put the additional building on the west side of their lot.
Also hoping they will not have drop offs and pickups from Gunbarrel Circle. We have young children riding bikes and playing outside and do not want additional traffic on our quiet street. This will add additional traffic to Lookout Road which is not good either.

We would like to suggest a lower profile building on the west side of the lot. I think the land use code states a height of 25 ft. or less. We don't want to be looking at a commercial building in our neighborhood. This will be a direct effect on our quality of life.

Please do your best to see if the plans can be changed to make everyone happy.

Thank you for listening!

Debbie and Paul Daige
5407 Gunbarrel Circle
Longmont, CO 80503

From: Edmund Nespoli
To: #LandUsePlanner
Subject: Hillside School
Date: Sunday, October 11, 2020 6:26:45 PM

Please consider rethinking the plan to enlarge Hillside School. It sounds like the building is too large for such a small parcel of land in a residential setting. With increased enrollment comes increased traffic. Also, parking will not be sufficient.

Also, previously there have been at least two different schools in that same building that have failed.

Please reconsider and leave the footprint as it is.

Thanks.

Judy Nespoli
5574 Colt Drive
Longmont, Co. 80503
303-284-1907

Sent from my iPad

From: Meredith Rutherford Chavel
To: Ott, Jean
Subject: Re: referral packet for Docket SU-20-0005
Date: Friday, October 30, 2020 10:29:55 AM

Hi Raini,

Below is my feedback on the proposal. I live at 5375 Gunbarrel Circle, not an adjacent property but an impacted property given our proximity to the school. I want to preface my comments with I believe that Hillside School fills a gap by providing services that are not adequately provided by the public schools, for those that can afford it. It would be great to find a way to allow them to expand, while addressing the concerns of the immediate community.

These were the specific points that I did not see addressed, or addressed adequately:

- Given the location of the addition, the assumption is that construction access would be via Gunbarrel Circle and not Lookout Road. There was no mention of the proposal on repairs to the road post-construction. Gunbarrel Circle is in unincorporated Boulder County and the HOA for Gunbarrel Estates does not maintain the roads. The proposal needs to address re-paving post-construction to repair damages.
- The architectural renderings of the school include balconies or patios, that face directly onto Gunbarrel Circle. As a single-family residential neighborhood, this changes the dynamic and "feel" of the neighborhood. I strongly urge them to reconsider this feature, or shift it to face towards the school's property rather than into the privacy of the neighborhood.
- There was a preliminary proposal to build additional homes on the empty lot to the northwest of the school's property. It would be beneficial to see a statement on the density of the block, and infrastructure (sewer, water) when looking at the two proposals simultaneously.
- There is mention of the current drainage system to leverage drainage onto Gunbarrel Circle, and for that to continue. As the addition will change the drainage patterns, I kindly request more information as to what exactly the impact would be to Gunbarrel Circle. To reiterate, the neighborhood is in unincorporated Boulder County and the HOA does not maintain roads. Drainage cannot be increased, and there is no data to suggest if that has been investigated.

As Boulder County continues to grapple with issues of diversity and racism, it appears that Hillside's student population are primarily students whose families can afford the full tuition program. As part of this expansion, where their revenue will increase, it would behoove the school to make a commitment to diversity and offer more financial aid.

Finally, I would encourage the school to embrace the local community. The proposal was a surprise to the surrounding neighbors, and given our interaction with students and staff as we all work from home (throwing balls back over the fence, listening to recess, etc.), a cooperative and collaborative relationship should be encouraged. There is a perception of an elite, expensive school expanding at the expense of a long-term, established neighborhood. The school could have prevented this by reaching out to neighbors and holding local information sessions, prior to notification by the County of the addition.

I will watch the schedule for the public hearing, as I would very much like to participate.

Thank you,
Meredith

On Thu, Oct 29, 2020 at 12:47 PM Ott, Jean <jott@bouldercounty.org> wrote:

> Meredith,
>
> An email directly to me would be perfectly fine, or you can email planner@bouldercounty.org and I'll also receive it that way. In addition to written comments, you also have the option of speaking at public hearings that are held for the docket during the public comment section. Notification of those hearings will be posted on the docket webpage once they are scheduled (boco.org/su-20-0005).
>
> Thanks!
>
> Raini
>
> **From:** Meredith Rutherford Chavel <mrr1031@gmail.com>
> **Sent:** Thursday, October 29, 2020 10:41 AM
> **To:** Ott, Jean <jott@bouldercounty.org>
> **Subject:** Re: referral packet for Docket SU-20-0005
>
> Hi Raini,
>
> What is the appropriate forum to provide feedback on this proposal?
>
> Thank you,
>
> Meredith
>
> On Tue, Oct 13, 2020 at 10:41 AM Ott, Jean <jott@bouldercounty.org> wrote:
>
> > Good morning Meredith,
> >
> > We will mail you a hard copy this week of the referral packet for this docket. Please feel free to contact me directly with any questions or comments regarding this application.

Thanks!

Raini

Jean Lorraine (Raini) Ott, AICP, CFM

Planner II | Development Review Team

720.564.2271 | jott@bouldercounty.org | she/her/hers

Boulder County Community Planning & Permitting

2045 13th Street | Boulder, CO | www.BoulderCounty.org

303.441.3930 | P.O. Box 471 | Boulder, CO 80306

Formerly Land Use and Transportation – We've become a new department!

PLEASE NOTE: In an effort to mitigate the spread of COVID-19, the Boulder County Community Planning & Permitting physical office at 2045 13th St. in Boulder is CLOSED to the public until further notice. We will continue to operate remotely, including the online acceptance of building permits and planning applications. Please visit our webpage at www.boco.org/cpp for more detailed information and contact emails for groups in our department. You may also leave a message on our main line at 303-441-3930 and the appropriate team member will return your call. ***Thank you for your adaptability and understanding in this extraordinary time!***

From: Meredith Rutherford Chavel <mrr1031@gmail.com>
Sent: Sunday, October 11, 2020 3:42 PM
To: #LandUsePlanner <Planner@bouldercounty.org>
Subject: referral packet for Docket SU-20-0005

Hi - Can I please get a referral packet for Docket SU-20-0005? You can email at this address, or send by mail at : 5375 Gunbarrel Cir, Longmont, CO 80503.

Thanks,

Meredith

> --
>
> Meredith Rutherford Chavel
> M: 508-341-3350
> mrr1031@gmail.com

--

Meredith Rutherford Chavel
M: 508-341-3350
mrr1031@gmail.com

--
Meredith Rutherford Chavel
M: 508-341-3350
mrr1031@gmail.com

November 10, 2020

Ms. Jean (Raini) Ott, CFM AICP, Planner II
PO Box 471, Boulder, CO 80306
Email: planner@bouldercounty.org , jott@bouldercounty.org
Docket #: SU-20-0005

To Whom It May Concern:

We are the homeowners of 5400 Gunbarrel Circle, Longmont, CO 80503, which abuts the eastern border of the Hillside School property.

We have lived here since February 2014 and are concerned that the proposed school expansion (Docket #: SU-20-0005) will have a significant and negative impact on both our property value and our quality of life. The proposed building will permanently harm the character of "Colorado openness" that our home and our street currently enjoy, and that loss will translate to diminished value and enjoyment of our home.

Views of the mountains from our front bay window, our front yard, and our back yard, as well as from the street when out for a walk or on our driveway, drew us to this particular neighborhood and this particular house. The proposed expansion of the Hillside School would eliminate all of those views, replacing them with a large commercial building spanning the entire fence line that will erase what we consider the most valuable characteristic of our property.

Proceeding with the current expansion plan as is for the Hillside School would have severe and irreparable impact on our lives, specifically the scenic views we enjoy while living at our house, not to mention the broader impact to our neighborhood and neighbors as a whole. Without changes to the plan (e.g., location of the building, size/stature of the building, etc.), these intrinsic qualities we so enjoy and value will be eliminated with little-to-no consideration of our wishes and objections.

We understand that the Hillside School is seeking to serve more children with special needs, and we support that mission. However, we believe that there must be other options for expansion that do not permanently change the nature of our neighborhood, impair our home value, and reduce our quality of life. We strenuously object to the current plans and would like to see other options put forward for consideration.

Thank you, and we look forward to a constructive conversation to resolve these concerns.

With Regards,
Rob & Chrissy Renegar

Residents and Owners of:
5400 Gunbarrel Circle
Longmont, CO 80503

Email: rob.renegar@gmail.com
Ph: 203-767-6477

From: Anne Oberg
To: Ott, Jean
Subject: Special Use Review Docket # SU-20-0005
Date: Monday, November 9, 2020 9:05:03 PM

Dear Raini,

Thank you for taking the time to speak with me, and for answering all of my questions.

I am writing to voice my concerns about the special use review notification for the Hillside School, docket # SU-20-0005, located in the Gunbarrel Estates neighborhood.

While I recognize the Hillside School serves an important community service, I question whether this is a viable property for their expansion project. The adjacent properties would be greatly, and in my opinion adversely affected by this expansion due to increased noise, utilities, sanitation, and traffic. The increased traffic would also impact the access to properties in both the Gunbarrel Estates and the Country Club Estates neighborhoods. Lookout Road is already backed up with traffic in both the mornings and the afternoons. The increased noise is also a concern due to the traffic, and due to the outdoor activities at the school. I live on Mount Evans Place across the meadow from the Hillside School, and I can hear the activity now when the kids are outside - which at this time I find joyful, but if this expansion is allowed that noise level will increase as well, and the noise could become a nuisance instead, especially for the adjacent properties. I honestly can't imagine having to live right next door to this project.

These expansion plans are also not within the 125% of the median size restriction of the Gunbarrel Estates neighborhood. I understand that the Hillside School property may not fall under the same restrictions that the rest of the neighborhood does, however, to allow that much of an expansion does seem to infringe upon the compatibility of the surrounding area and also the intent of the area with the adjacent United Methodist Church property having a rural preservation overlay. It seems it would be an over-intensive use for what was intended for this area. I feel this expansion would be unfair to the property owners in Gunbarrel Estates that rely on the land use codes to protect their properties.

Thank you,
Anne Oberg
5495 Mount Evans Pl
Longmont, CO 80503
970-531-1423 (cell)

To: Planner@bouldercounty.org

CC: jott@boldercounty.org

From: bbiffle@2020taxresolution.com

Dear Boulder County Planning Board,

I am writing you today to let you know that I fully support the proposed Hillside Learning Center expansion. This is under Docket SU-20-0005.

Hillside, which has been serving the county since 2005, has provided extremely beneficial evidence-based instruction to dyslexic students. In addition to providing that instruction in the curriculum, it also provides free resources to the community and families in need who don't attend the school.

My daughter was diagnosed with dyslexia at the end of her 1st grade year. That summer, we met with Hillside and realized immediately that it was what she needed. She was such a hard worker and was extremely frustrated with her inability to excel in school. After three years at Hillside, she has made a 180 degree turn for the better.

I serve on the Board of Directors at Hillside now, and it is apparent that the needs of dyslexic children in the community far exceed the size of institution of Hillside. It is painfully apparent that children are being turned away because there isn't enough space at the school. If Sydney had been turned away 5 years ago when she needed the help the most, I'm not sure what we would have done.

With this expansion, Hillside will be able to meet the demand for the needs of dyslexic students in the community. By doing so, it will create a positive ripple effect for not just the families of those students, but the community as a whole as well.

I hope that you support this expansion so that more families can benefit as we did.

Respectfully,

Brian Biffle

Parent and Board Member at Hillside School

Dear Bouldur Planning Board

My name is Sydney Biffle and I am in 5th grade. I went to Hillside in the 2end 3rd and 4th grade.

I love Hillside. Thay taught me how to read better and I learned a lot.

I want more kids to be able to go to Hillside so I hope you approve the expansion.

Thank you,

Sydney Biffle

From: Erica Meyer
To: #LandUsePlanner
Subject: jott@bouldercounty.org, admin@hillsidelearning.org
Date: Friday, January 15, 2021 12:03:51 AM

Erica Meyer
2485 Agate Lane, Boulder, CO 80304
ericam@hushmail.com

January 14, 2021
Re: Docket SU-20-0005

Dear Boulder County Planning Board,

I strongly support the proposed Hillside Learning Center expansion. Hillside has served as an indispensable community resource to Boulder County since 2005. Hillside provides an education that children with Dyslexia have no other way to obtain and also provides free knowledge and resources to families in the community. Hillside's academic program is profoundly impactful for the children enrolled. Hillside also provides community outreach and education programs.

My relationship with Hillside began in 2016. Although my son no longer attends Hillside, we continue to provide financial support because we believe the community benefits that Hillside provides are invaluable. My son deserved the chance to learn to read, and he was not getting this opportunity at his public school. I am also a neuropsychologist, which means I am trained to assess children for learning challenges and to make treatment planning recommendations. It is my job to know a good program when I see one, and I knew that Hillside would serve my son well. We were lucky enough to secure a spot at Hillside for two years. After those two years, my son was ready to be back in his public school. He is now a happy young person who is curious about the world. He enjoys school and is a committed and capable student.

Expansion of Hillside is so important because there is an unmet need in this community that has only grown since my son attended Hillside. This need cannot be met in other ways; Hillside has a proven record of success working with children with Dyslexia. Dyslexia is not rare; estimates are that anywhere from one in ten to one in five children has Dyslexia. I would wager that at least one adult who reads this letter struggled with Dyslexia. Perhaps this person knows how lack of education can rob a child of the love of learning and cause great emotional distress, or perhaps this person has seen how evidence-based intervention can change the course of a person's life.

Sincerely,

Erica Meyer (Former Hillside parent)

From:	Nathalie Moyen
To:	#LandUsePlanner
Cc:	Ott, Jean (Raini); admin@hillsidelearning.org
Subject:	support for the Hillside Learning Center Expansion
Date:	Friday, January 22, 2021 11:44:48 AM

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has served as a valuable community resource to Boulder County and its underserved dyslexic population since 2005. Not only does Hillside work to provide evidence-based instruction to its dyslexic students, but also works with the greater local community to provide free knowledge and resources dyslexic families need for different types of interventions and next steps. The school's impact is much greater than its academic program alone.

My relationship with Hillside began in 2012. I will always remember how my husband broke down and cried in Kathy Sherman's office. We were at our wits' ends trying to work with our elementary school so that our third grader, Nicolas, could receive help to learn to read. By third grade, the main message Nicolas received from school was that he was not working hard enough. In fact, he was working so hard that he was exhausted and clinically depressed. The methods used to teach him were never going to be helpful for a dyslexic student who needs a multisensory approach. They were only reinforcing his failure. My otherwise joyous son was a shadow of himself.

Nicolas was able to attend Hillside in 4th grade, and made huge leaps and bounds in reading. His self-esteemed recovered by middle school. Whereas before we felt like pin balls in a pin ball machine reaching for help, Hillside gave us the tools that worked. Hillside gave us space to understand more about Nicolas's dyslexia and the commonly associated co-morbidities. We became aware of his ADHD and we were able to get treatment for that also. The stress in the house decreased as we saw Nicolas healing psychologically. My husband and I were then able to heal psychologically and our family life was much improved.

I believe this expansion is so important because Hillside can alter lives for the better. After Hillside, my son had the confidence to pursue and obtain the rank of Eagle Scout. He is now in high school (with an IEP) taking AP and IB classes and so far having a perfect GPA. This success was unimaginable back in elementary school when Nicolas could not read, when he thought he was stupid and making bad decisions in line with that thinking. Please consider supporting this project expansion so more families can benefit from this life-changing experience.

Sincerely,
Nathalie Moyen
Parent of a Hillside Alumni
2805 Regis Drive, Boulder CO 80305

From: Nicolas Boileau
To: #LandUsePlanner; Ott, Jean (Raini); admin@hillsidelearning.org
Subject: Hillside Learning Center expansion(Docket SU-20-0005)
Date: Sunday, January 24, 2021 9:41:38 PM

Dear Boulder County Planning Board,

I am writing today as a former student of Hillside School. I attended Hillside in 2014-15 for my 4th grade.

Hillside is important to me because it helped me with my dyslexia in a way that my normal school (Bear Creek) just couldn't. Hillside provided more individualized learning, which is the point of special education. The teachers were really nice and took the time to learn about my disability. They tailored their instruction to my needs, which included mostly multisensory methods of learning. Before Hillside I dreaded school; and since Hillside I love school and I'm now able to participate in advanced classes.

I am thankful for Hillside because it's where I finally learned to read. I hope that you can approve the Hillside project so more kids can learn how to love school again too.

Thank you for reading,

Nicolas Boileau

From:	Trisha Thompson
To:	#LandUsePlanner
Cc:	Ott, Jean (Raini); Admin Hillside
Subject:	Hillside Learning Center expansion (Docket SU-20-0005)
Date:	Tuesday, January 26, 2021 3:51:50 PM

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has served as a valuable community resource to Boulder County and its underserved dyslexic population since 2005. I am writing as a current faculty member at Hillside, and hope that my experience and opinion could serve as valuable insight as we work together to offer this life-changing program to more local families.

My relationship with Hillside began in 2016 where I began to substitute teach after years spent home raising my two daughters. The moment I walked through the door, I knew my goal was to become a part of this school community. I had taught general education for many years previously and felt that Hillside offered something very unique that was lacking in the public education system. The rapport I witnessed between teachers and students was something I can honestly say I had never seen before. Students were able to openly share their day-to-day experiences with each other of what it is like to navigate the world with dyslexia and other learning differences. It felt authentic and raw. I knew this was where I wanted to land in my professional journey.

I have witnessed firsthand the impact Hillside's program has on our students. I have taught multiple grade levels at Hillside ranging from 2nd grade through middle school and I have seen how our students are deeply impacted by the education and community Hillside provides. When students first start school at Hillside, I see them often withdrawn, overwhelmed, and frustrated. Many times, I observe students even experiencing early signs of depression from the feeling of constant defeat from their past educational experiences. Once these kids realize they are in a community that embraces and celebrates differences, there is something I get to witness that truly is remarkable. Older students might be overheard discussing their frustrations with different side effects they are experiencing from medications, younger students can relate to one another about the embarrassment of always having to read "baby books" in front of peers, the list goes on. One of the most powerful things that Hillside provides is a safe space for students to share their vulnerabilities. Once they are open to this, they are willing to shift their mindset and take risks in their learning, which leads to huge strides in academic growth and success.

I believe this expansion is so important because now more than ever, students with learning differences are struggling to have their needs met. There was already such a need for reaching more students than we currently have the capacity for, but after COVID-19 hit the need became exponentially greater. I cannot tell you how many families have

personally reached out to me heartbroken about the struggles their children are facing in their current school situations outside of Hillside. Kids that were “on the cusp” for academic support are now barely keeping their heads above water, and there will be many years ahead of them trying to catch up. School districts will be further burdened financially and not able to provide staffing to reach everyone’s needs. Hillside can reach out to so many more students and families with this expansion.

Dyslexia impacts a student both in and out of the classroom, shattering their confidence, impacting their emotional well-being, and creating a ripple effect that is felt throughout the entire family. Hillside is so much more than a private educational institution; it is a place where children’s confidence is restored. Please consider supporting this project expansion so more families can benefit from this life-changing experience.

Sincerely,
Trisha Thompson
Current Hillside Faculty
trisha@hillsidelearning.org
303.229.4631

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Trisha Thompson
Learning Specialist
Hillside School, Boulder, Colorado
www.hillsidelearning.org

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From:	Beth Guadagni
To:	#LandUsePlanner
Cc:	Ott, Jean (Raini); admin@hillsidelearning.org
Subject:	Hillside Learning Center expansion (Docket SU-20-0005)
Date:	Friday, January 29, 2021 9:43:12 AM

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has served as a valuable community resource to Boulder County and its underserved dyslexic population since 2005. I am writing as a current faculty member at Hillside, and hope that my experience and opinion could serve as valuable insight as we work together to offer this life-changing program to more local families.

My relationship with Hillside began shortly after my husband and I moved to Boulder in 2014. We had come from New York City, where I worked with some of the best literacy education programs available in the country. One expects that level of quality to be present in such a metropolitan area; I was astonished to find it in Boulder at Hillside. Alas for me, students' families weren't the only ones happy with Hillside: the teachers, too, felt so supported by the administration and fulfilled by the difference they were making in kids' lives that I had to wait for two years, subbing and volunteering with the school, for a job to open up!

As a teacher, I have witnessed firsthand the impact Hillside's program has on our students. Time and time again I watch anxious, soft-spoken kids slump into our classrooms every fall. They've learned that school is not a place they can excel. They are overwhelmed and dejected. They know that no matter how hard they try, they just can't be successful. Usually within a few days, they are replaced by bright-eyed students who have learned how to be hopeful again. They are engaged in the curriculum that all of our teachers use at the beginning of the year: learning about how their brains work and being taught to embrace a growth mindset. They are boisterous on the playground and there is a new bounce in their step in the hallways. And they are so excited to learn! As the year continues, rules for reading and spelling that never made sense before become clear. They're allowed to experiment with mathematical concepts and suddenly structures that were previously hidden make sense. They're amazed that they can pick up books that match their intellectual capacity and that their writing more and more reflects the quality of their thoughts. And they are meeting, often for the first time, bright, inquisitive, creative peers who are working to overcome the same difficulties they are. They're no longer the only kid in the room who can't keep up: they're part of a thriving community.

Not only do I teach at Hillside, I also perform assessments for families outside our school community at Hillside's assessment center. This experience makes me doubly aware of the need for a program like ours. I work with desperate parents and despondent kids who simply aren't getting the instruction they need in other settings. Frequently, we are the first to recognize dyslexia in these struggling learners, and then the question of what to do next inevitably arises. When there's room at Hillside, families heave a sigh of relief. When, more often, there isn't, families feel helpless.

Simply put, Hillside needs more space. The kind of instruction our model allows us to provide is the only thing that works for our intelligent, creative kids, and we're just not able to fit everyone who should be here. I've taught in large, public schools in other areas, so I understand the burden that Boulder County's educators shoulder. Expecting them to be able to cater to severely dyslexic kids is unreasonable. Our kids typically need frequent,

intensive instruction, ideally every day. While we are able to provide this, public special education departments would buckle under the strain; as a result, kids are left behind. I think one of the best things about Hillside is that most kids are ready to rejoin their peers in a standard classroom after just two years with us. Not only does time at Hillside rebuild families and save kids, it allows overtaxed educators in Boulder County to shift their focus to the other myriad issues demanding their attention.

Dyslexia impacts a student both in and out of the classroom, shattering their confidence, impacting their emotional well-being, and creating a ripple effect that is felt throughout the entire family. Hillside is so much more than a private educational institution; it is a place where children's confidence is restored. Please consider supporting this project expansion so more families can benefit from this life-changing experience.

Sincerely,
Beth Guadagni
Current Hillside Faculty
beth.g@hillsidelearning.org
(559) 972-8260

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Beth Guadagni
Learning Specialist
Hillside School, Boulder, Colorado
www.hillsidelearning.org

From: aliciamahoney@comcast.net
To: #LandUsePlanner
Cc: Ott, Jean (Raini); admin@hillsidelearning.org
Subject: Docket SU-20-0005
Date: Friday, January 29, 2021 10:19:24 AM

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005).

I am a parent alumna of Hillside School. My son attended Hillside for two years, spanning academic years from August 2016 through May 2018 - 4th through 5th grades. My son was struggling at elementary school, and his public school didn't have the ability to teach the curriculum in math, reading and writing in a way that allowed my son to access it.

Enrolling in Hillside was a life saver for us. My son mastered the core curriculum components for 4th and 5th grade, and was prepared to enter 6th grade at grade level. Had it not been Hillside teachers, my son would have fallen through the cracks of public education systems for kids his age.

And here's the kicker - my son's circumstances are not as unusual as you might think. There are children who are dropping behind in school systems across this nation because they cannot access school curricula as it is conventionally taught. Hillside's burgeoning enrollment is a testament to this truth.

Hillside is a valuable community resource to Boulder County, and it's been doing this work since 2005. I urge you to support the Hillside School's proposed expansion plans. In doing so, you support not just a capital improvement but an investment in the academic success of children in Boulder County and beyond.

Thank You!

Alicia Mahoney
Parent of former Hillside School student
aliciamahoney@comcast.net

TO: planner@bouldercounty.org
CC: jott@bouldercounty.org

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has served as a valuable community resource to Boulder County and its underserved dyslexic population since 2005. Not only does Hillside work to provide evidence-based instruction to its dyslexic students, but also works with the greater local community to provide free knowledge and resources dyslexic families need for different types of interventions and next steps. The school's impact is much greater than its academic program alone.

In 2015, my oldest daughter was in first grade when we found out that she has dyslexia. She struggled with reading and spelling and was significantly below grade level. My relationship with Hillside began in 2016 as Hillside offered a structured, sequential phonetically-based literacy instruction. This structured literacy program coupled with small group instruction provided a supportive learning environment that allowed my daughter to thrive. Fast forward five years and my daughter is doing well in middle school – success enabled through Hillside's program and support network.

I believe this expansion is so important because of the opportunity to reach more children. Approximately 20% of the population has symptoms of dyslexia or slow and inaccurate reading. That means roughly 6,000 children in our county struggle with reading and writing. This expansion would allow Hillside to reach more children in our area.

Dyslexia impacts a student both in and out of the classroom, shattering their confidence, impacting their emotional well-being, and creating a ripple effect that is felt throughout the entire family. Hillside is so much more than a private educational institution; it is a place where children's confidence is restored. Please consider supporting this project expansion so more families can benefit from this life-changing experience.

Sincerely,
Kevin DeHahn
Hillside Board Member and Parent
Mobile: 312-420-3265
Email: kevindehahn@gmail.com

From:	Lisa Duhamel
To:	#LandUsePlanner
Cc:	Ott, Jean (Raini); admin@hillsidelearning.org
Subject:	Hillside Learning Center expansion (Docket SU-20-0005)
Date:	Friday, January 29, 2021 11:59:18 AM

TO: planner@bouldercounty.org
CC: jott@bouldercounty.org admin@hillsidelearning.org
Subject: Hillside Learning Center expansion (Docket SU-20-0005)

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has served as a valuable community resource to Boulder County and its underserved dyslexic population since 2005. I am writing as a current faculty member at Hillside, and hope that my experience and opinion could serve as valuable insight as we work together to offer this life-changing program to more local families.

My relationship with Hillside began in 2010 when I was working at another school as an interventionist and realized many of my students were most likely dyslexic. Although I have a Master's Degree in Elementary Education and an additional 15 graduate classes and earned my K-12 Reading endorsement, I had no real background or guidance on dyslexia. I reached out to Kathy Sherman by phone and she was kind enough to speak with me. She invited me to attend an informational talk on dyslexia which I did. I learned more about dyslexia in those two hours than I had in all my graduate classes combined.

By 2014 I had, on my own, become certified in several programs designed for students with dyslexia. I had also learned quite a bit about Hillside and realized I could put my skills to best use in an environment with intensive instructional time. I emailed Kathy, attached my resume, and told her I would love to work at Hillside. She invited me to visit and observe. I met the teachers. I was so impressed by the dedication, skill, and professionalism of everyone. I was hired to teach in 2014 and this is my 7th year. I have been fortunate enough to be part of Hillside's growth and to have the privilege to help so many children over the years.

I have witnessed firsthand the impact Hillside's program has on our students. They often have not received the kind of instruction they need and they feel inadequate and unable to succeed. One of the first things we do is help build confidence. We talk about dyslexia openly and dissolve the stigma that can be associated with it. We the amazing gifts that people with dyslexia often have and we highlight their gifts and strengths. Students feel understood and accepted. They feel like they are finally being taught in ways that make sense to them. Confidence grows, as does their skill set and tool box. The students love being here and parents are full of gratitude.

At present, we do not have the capacity to accept all the students that could benefit from attending Hillside. Our program is so unique, has proven to be exceptionally effective, and we meet a niche not otherwise met in our community. Hillside is so much more than a private educational institution; it is a place where children's confidence is restored. Please consider supporting this project expansion so more families can benefit from this life-changing experience.

Sincerely,
Lisa Duhamel
Current Hillside Faculty
lisa@hillsidelearning.org
(C) 720-989-7128

--
Lisa Duhamel
Learning Specialist
Hillside School, Boulder, Colorado
303-494-1468

Sign up to receive our newsletter
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www.hillsidelearning.org

Walker, Samuel

From: Sarah Reed <sarahbreed01@gmail.com>
Sent: Thursday, October 14, 2021 8:30 AM
To: LU Land Use Planner
Subject: [EXTERNAL] sfrederick@bouldercounty.org, admin@hillsidelearning.org

Categories: docket comments

Dear Boulder County Planning Board,
I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has served as a valuable community resource to Boulder County and its underserved dyslexic population since 2005. Not only does Hillside work to provide evidence-based instruction to its dyslexic students, but also works with the greater local community to provide free knowledge and resources dyslexic families need for different types of interventions and next steps. The school's impact is much greater than its academic program alone.

My son is in his second year at Hillside. He has severe dyslexia and has been in tutoring and special education through BVSD since 1st grade. None of that was sufficient to teach him to read. It's only been at Hillside that we have seen significant gains in his learning. Through the small class size and excellent teachers, our son is learning and improving. I truly believe that Hillside will be the most impactful element in his K-12 education.

I believe this expansion is important because currently, BVSD and the surrounding school districts cannot meet the needs of their dyslexic students. Hillside is needed to bridge the gap for those students and the current capacity isn't sufficient to reach all the students that need help.

Dyslexia impacts a student both in and out of the classroom, shattering their confidence, impacting their emotional well-being, and creating a ripple effect that is felt throughout the entire family. Hillside is so much more than a private educational institution; it is a place where children's confidence is restored. Please consider supporting this project expansion so more families can benefit from this life-changing experience.

Sincerely,
Sarah Reed
Parent
303-956-4348

Walker, Samuel

From: DeeDee Correll <ddcorrell@yahoo.com>
Sent: Thursday, October 14, 2021 8:59 AM
To: LU Land Use Planner
Cc: Frederick, Summer; Admin Hillside
Subject: [EXTERNAL] Hillside School proposal

Categories: docket comments

Dear Boulder County Planning Commission:

The worst day of the past year wasn't the day I realized how poorly my daughter was doing.

It wasn't the day when I understood how little her school had done to help her, nor when it became clear that wasn't going to change. It wasn't on any of the days when I listened to her labor painfully to decode two-syllable words or hesitate on words like "the."

No - the worst day came when the director of Hillside School told me that my daughter stood no chance of getting into their program that year. They were completely full, with a waiting list of children whose parents were as desperate as I was.

I knew then my child was in deep trouble. Her public school had not met her needs. She was already ten years old. What chance did she stand? How could she possibly keep pace with her peers when she couldn't even decipher the material? She read at the level of a child much younger - in fact, children much younger had mocked her at school. She was starting to call herself stupid, which was unbearable to me.

And we literally had nowhere to go.

Then, miraculously, months later, that changed. A spot opened up, and Hillside offered it to us.

Nearly a year later, my daughter is making progress. She's reading with more ease than I ever would have imagined, and her confidence has grown. The other day, she said, "I'm starting to like reading," and I thought my heart would burst.

Every day I pull into that parking lot, I feel a sense of sheer gratitude to Hillside for saving us. But I also feel a little guilt that she is occupying a slot that another child can't have.

Hillside provides a vital service that is not available anywhere else in this community. Please help them. Because they're always full, and they always have a waiting list.

Sincerely,

Deborah Correll
4004 Periwinkle Ln
Longmont, CO 80503
719-351-3210

Walker, Samuel

From: DeeDee Correll <ddcorrell@yahoo.com>
Sent: Thursday, October 14, 2021 9:01 AM
To: LU Land Use Planner
Cc: Frederick, Summer; Admin Hillside
Subject: [EXTERNAL] Hillside School

Categories: docket comments

Dear Boulder County Planning Commission:

My name is Molly. I'm 11 years old, and I have dyslexia.

Before I came to Hillside, I felt confused all the time at school. I didn't feel like I knew anything, and I didn't feel like I could do anything. It didn't feel very good.

Hillside makes me feel more comfortable. They give the proper instruction. They helped me realize I can figure out how to do this. My reading has gotten better. And it's nice to know other kids who have dyslexia.

If they make Hillside bigger, they can help more kids.

Sincerely,

Molly Segrue
4004 Periwinkle Lane
Longmont, CO 80503

Walker, Samuel

From: Kym Hansler <kym818@hotmail.com>
Sent: Thursday, October 14, 2021 1:29 PM
To: Frederick, Summer; admin@hillsidelearning.org; LU Land Use Planner
Subject: [EXTERNAL] Hillside Learning

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has served as a valuable community resource to Boulder County and its underserved dyslexic population since 2005. Not only does Hillside work to provide evidence-based instruction to its dyslexic students, but also works with the greater local community to provide free knowledge and resources dyslexic families need for different types of interventions and next steps. The school's impact is much greater than its academic program alone.

My relationship with Hillside began in 2017 when my son was diagnosed with dyslexia. Before Hillside, he thought he was dumb, was experiencing bullying and had suicidal ideation. After only two weeks at Hillside he bounded out, smiling, saying, "Mom, turns out I'm not dumb, I'm dyslexic and smart. These kids are my people." So when I say Hillside saved his life; I'm not being dramatic.

I believe this expansion is so important because 20% of the population has a learning difference and the more of them that have intervention earlier, the less unnecessary suffering these kids will endure. Boulder's population will be better for this expansion.

Dyslexia impacts a student both in and out of the classroom, shattering their confidence, impacting their emotional well-being, and creating a ripple effect that is felt throughout the entire family. Hillside is so much more than a private educational institution; it is a place where children's confidence is restored. Please consider supporting this project expansion so more families can benefit from this life-changing experience.

Sincerely,
Kym Hansler
Parent of Hillside Student
303-859-1461

Sent from my iPhone

Walker, Samuel

From: Bay Reed <bhreed01@bvsd.org>
Sent: Thursday, October 14, 2021 5:30 PM
To: LU Land Use Planner
Cc: Frederick, Summer; admin@hillsidelearning.org
Subject: [EXTERNAL] Hillside Learning Center expansion (Docket SU-20-0005)

Dear Boulder County Planning Board,

I am writing today as a student of Hillside School. I have attended Hillside from 5 grade to 6 grade. I am in 6 grade.

Hillside is important to me because it's easier for me to learn reading, writing and math there because it is hard for me to learn reading, writing and math at a public school. The teachers at Hillside are nice and understanding. I like the small class sizes because the teacher can focus on one or two people at a time instead of a bunch of people. Hillside has helped improve my reading and has helped me feel more confident and able to self advocate.

I am thankful for Hillside because it is a good environment for me to learn in. I hope that you can approve the Hillside project so more kids can learn how to love school again too.

Thank you for reading,

Bay Reed

Walker, Samuel

From: Chia S. <chiaterryrn@gmail.com>
Sent: Sunday, October 17, 2021 11:59 AM
To: LU Land Use Planner; sfredrick@bouldercounty.org; admin@hillside.org
Subject: [EXTERNAL] Docket SU-20-0005
Attachments: Hillside Support.pdf

Support for school expansion. Please see attached.

Chia Solari
2193 Madison Dr
Boulder County

To: planner@bouldercounty.org, sfredrick@bouldercounty.org, admin@hillside.org

I SUPPORT the expansion of Hillside School. (Docket SU-20-0005)

If this proposal was about wheelchair ramps for disabled veterans or auditory crosswalks for the blind, the room would be silent. And yet your discrimination towards those with silent disabilities is deafening!

Dyslexia is a neurobiological alteration in brain structure and function. It is not a choice. It is not because the person isn't trying. It cannot be fixed with a pill. Dyslexia can be a lifelong struggle of academic failures, poor self-esteem, and like many invisible learning disabilities, the beginning of the preschool to prison pipeline. But it doesn't have to be. Through the use of evidenced based, multisensory, and direct & explicit instruction, dyslexics can achieve as much as their non-disabled peers. For those who believe that this instruction takes place in the public school system, I can tell you first hand, it does not. In fact, the school system perpetuates and allows failure and simply moves the student along.

Hillside School does what the public school system cannot and will not do: Teach dyslexic children reading, writing, and math using direct and explicit, evidenced based, multi-sensory instruction in a homogeneously grouped student mix.

What does that mean?

> It means four students who have similar learning needs and goals with one teacher for three hours a day being taught in a way their brains need and understand.
>
> It means spending $18,360 to send my child to school in the basement of a church because Hillside has outgrown its original building.
>
> It means teaching my 7th grader to read beyond a 3rd grade level and move beyond 2nd grade math.

To those who have written in previous complaining about property values, noise, and traffic, I ask you to consider this:

> The cost of **not** properly educating a child with dyslexia represents not only a greater societal cost but also a decrease in the social security and Medicare contributions that aging populations depend on.
>
> Many families carpool to Hillside. In fact, the traffic impact & noise of Hillside is far less than other neighborhood schools which have school busses and hundreds of cars move through neighborhoods four times a day.
>
> The aesthetics of the new buildings & property is visually more appealing than the current building and property and will actually increase property values.

Chia Solari
2193 Madison Drive
Boulder County

Walker, Samuel

From: Monica Vanmatre <monicavanmatre@gmail.com>
Sent: Tuesday, October 19, 2021 12:23 PM
To: LU Land Use Planner
Cc: Frederick, Summer; Admin Hillside
Subject: [EXTERNAL] Hillside Expansion

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has served as a valuable community resource to Boulder County and its underserved dyslexic population since 2005. Not only does Hillside work to provide evidence-based instruction to its dyslexic students, but also works with the greater local community to provide free knowledge and resources dyslexic families need for different types of interventions and next steps. The school's impact is much greater than its academic program alone.

My relationship with Hillside began in 2017 when my son, Hank, was tested for Dyslexia. Hank had a childhood seizure disorder. When Hank struggled to read I asked his teachers if he should be tested for learning disabilities. All of his teachers felt he was within a normal range of ability but I decided to follow my intuition and have him tested. A testing specialist found Hank to be severely dyslexic and in need of intervention. We were put on a waitlist for enrollment to Hillside and eventually Hank attended (and still attends) Hillside as a 3rd grader. Hillside has been essential to Hank's learning successes. Without this additional help, Hank would be struggling with his confidence and in all areas of his life. But instead Hank believes his Dyslexia to be one of his many superpowers and Hank is a strong, confident and loving boy because of his confidence.

This expansion is so important for our community. Please do whatever in your power to fund, facilitate, encourage, and support this expansion.

Dyslexia impacts a student both in and out of the classroom, shattering their confidence, impacting their emotional well-being, and creating a ripple effect that is felt throughout the entire family. Hillside is so much more than a private educational institution; it is a place where children's confidence is restored. Please consider supporting this project expansion so more families can benefit from this life-changing experience.

Sincerely,
Monica Van Matre
Mother to Hank Van Matre
303-358-0336 / monicavanmatre@gmail.com

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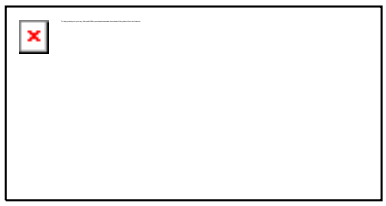


Monica M. Van Matre
Broker Associate
Re/Max Alliance on Walnut
303.358.0336 [call/text]
www.monicavanmatre.com

Walker, Samuel

From: Ask A Planner <no-reply@wufoo.com>
Sent: Tuesday, January 18, 2022 5:19 PM
To: LU Land Use Planner
Subject: [EXTERNAL] Ask a Planner - Susan Trollinger - SU-20-0005 -

If your comments are regarding a specific Docket, please enter the Docket number: SU-20-0005
Name: Susan Trollinger
Email Address: dtrollin@aol.com
Phone Number: (303) 516-9850
Please enter your question or comment: While I appreciate the work that was done to address the aesthetics of the proposed Hillside School modifications, I am not supporting the project. I still feel the building is too big for the site and is an imposition on the nearest neighbors. The property around this school is very residential and I do not believe that the size and the usage are appropriate to the surroundings.
Public record acknowledgement:
I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

Walker, Samuel

From: Ask A Planner <no-reply@wufoo.com>
Sent: Friday, January 21, 2022 2:18 PM
To: LU Land Use Planner
Subject: [EXTERNAL] Ask a Planner - Bruce Warren - SU-20-0005 - 7415 Lookout Road, Longmont, CO 80503

Boulder County Property Address : 7415 Lookout Road, Longmont, CO 80503 If your comments are regarding a specific Docket, please enter the Docket number: SU-20-0005
Name: Bruce Warren
Email Address: bwarren@niwot.com
Phone Number: (303) 652-2433
Please enter your question or comment: The Niwot United Methodist Church has reviewed the re-design of the proposed Hillside School project and supports the school's effort to address the concerns expressed by county staff and neighbors concerning building location, height, visual impacts and noise. Hillside School has always been a good neighbor and the church has worked with the school to make classroom space available and to share parking with the school. We urge you to approve the re-design submitted as part of the Hillside School application, and allow them to continue to serve this important need in the community.
Public record acknowledgement:
I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

Walker, Samuel

From: Ask A Planner <no-reply@wufoo.com>
Sent: Friday, January 21, 2022 5:15 PM
To: LU Land Use Planner
Subject: [EXTERNAL] Ask a Planner - Julie Causa - SU-20-0005 - 7415 LOOKOUT ROAD

Boulder County Property Address : 7415 LOOKOUT ROAD If your comments are regarding a specific Docket, please enter the Docket number: SU-20-0005
Name: Julie Causa
Email Address: juliecausa@gmail.com
Phone Number: (914) 466-8961
Please enter your question or comment: I live in Gunbarrel Estates and oppose the expansion of the Hillside School, docket SU-20-0005.

The new building Hillside is proposing to build is entirely too large for the lot they have identified for it. It completely invades the space of neighboring houses and in some cases, blocks any view from their windows. This is a residential neighborhood and cannot and should not support a large commercial building as is being proposed.

Additionally, similar businesses that have attempted to operate in Hillside's existing location have already failed, bringing a question around the need for this expansion.

The traffic on Lookout Road during the morning and evening commutes is substantial. This building would add to those already high traffic volumes, backing up vehicles even further. Unfortunately, RTD cut the bus route on this portion of Lookout Road during the pandemic, so public transportation is not currently an option for either users of Hillside School or other commuters in the area.

I have lived in this neighborhood for eight years and have not encountered any engagement opportunities by the school on this topic to help them understand how to work with the neighborhood to achieve their goals. The only notifications about this that I have received have been directly from Boulder County. I appreciate the county's outreach, but if the school was truly interested in being part of this community, they would reach out to the nearby residents to begin a dialogue.

I do support Hillside remodeling their existing building, within its existing footprint. Additionally, Hillside could consider a satellite campus in an area intended for this type of use, in an existing building, to avoid the environmental costs of new construction.

Thank you,
Julie Causa
Gunbarrel Weekend
5559 Colt Drive
Public record acknowledgement:
I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

Walker, Samuel

From: Mary Eldred <maryeldred@gmail.com>
Sent: Friday, January 28, 2022 12:28 PM
To: LU Land Use Planner
Subject: [EXTERNAL] Comments for Docket SU-20-0005
Attachments: New Building concerns.docx

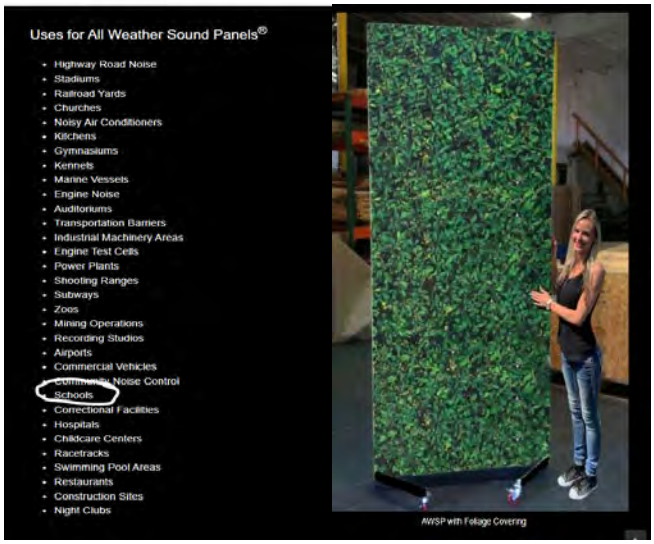
Hello Mr. Walker,
Attached are my comments and concerns about the redesign for Hillside School
Please let me know how I can be involved or stay informed of the progress of the application.

Many thanks
Mary
303-249-1719

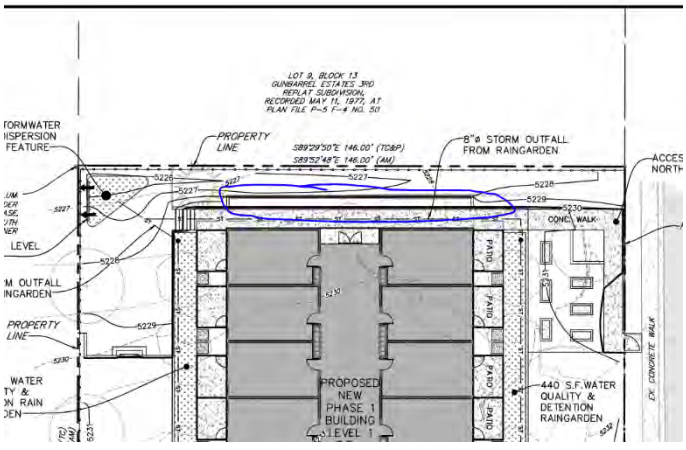
Mary Eldred
(Long time residential property owner to the north of Hillside School)

Hillside School Modification Proposal – Docket SU-20-0005
Revised Building Design concerns:

1. Exterior double doors in middle of North side Phase 1 –
   A. Playground noise – Students exiting/entering 12+ times per day for recess (shouting, screaming) from 40+ kids at a time. With exit doors to patios in each classroom, curious about why there is a need for a north exit door? How tall will the glass enclosure around the doors be? Will I still have privacy into my house, first and second story, given that the building will be so close to the lot line and the land continues to slope downward into my property?
   B. Understandable that for aesthetics you don't want to delete the North Door or windows. So, please consider acoustic barrier fencing (like Acoutiblok.com All Weather Sound Panels foliage print or foliage HD Acoustifence) to be included in the plan to lower the exterior noise level coming from play areas and walkway on north and east sides (https://www.acoustiblok.com/acoustiblok-soundproofing-product-lines/acoustifence-noise-reducing-fences/?gclid=Cj0KCQiAuP-OBhDqARIsAD4XHpdDNzXoprSBrvA7HyhViMVN2LZilAfuiq9fYvjpTgxb1sTdxs_ykJEaAhTrEALw_wcB



   C. What is this straight-line feature (circled in blue) on the plan, north of the concrete sidewalk boundary?



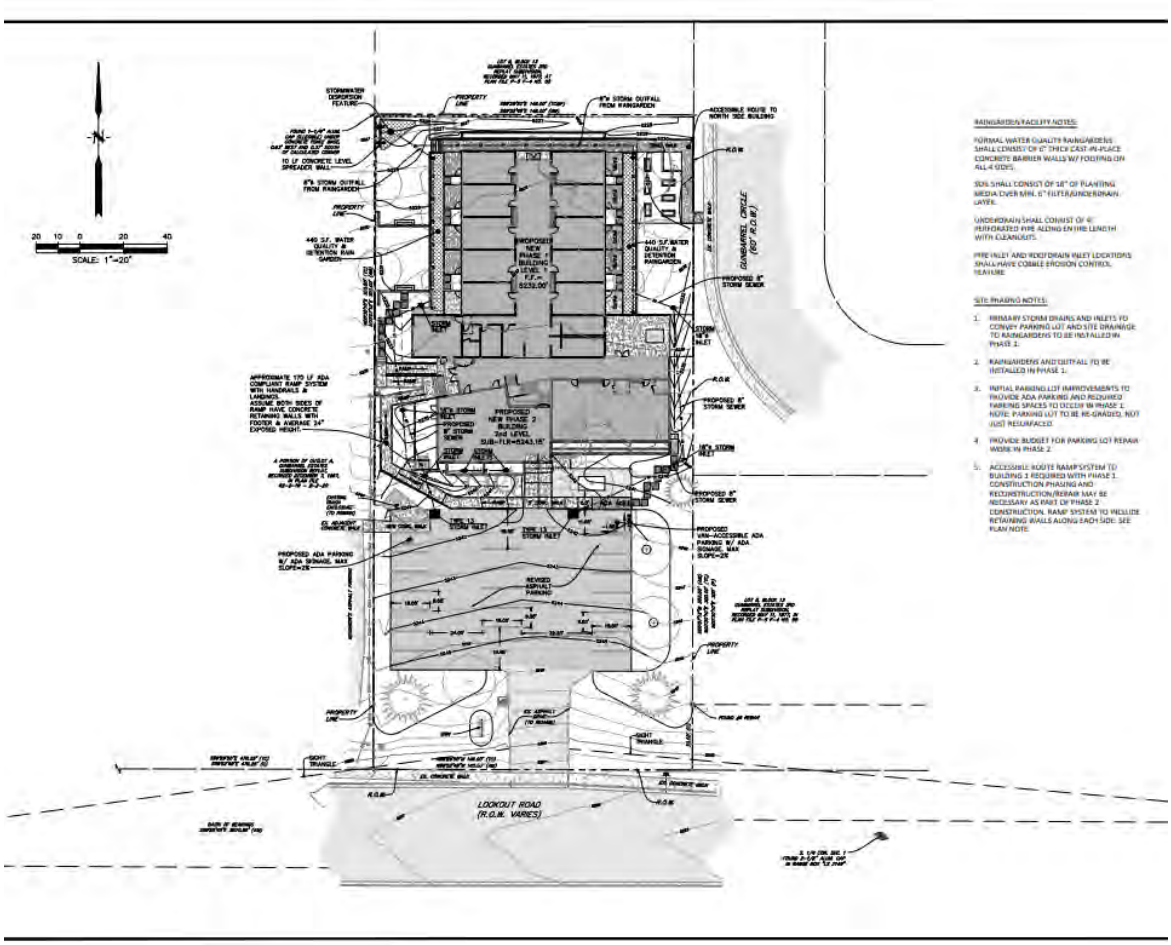
2. Entrance to property from East (Gunbarrel Circle)
   A. This gate must not become an easy vehicle drop off for parents who are late or irritated at the backlog in the parking lot. It would be disruptive to residents and add auto pollution and street

traffic congestion to our quiet street. What internal Hillside policies will be put in place to prohibit this?

3. Water Use
    A. Existing summer school programs which are not detailed currently in calculations on the plan, will impact water use equation, increasing water use estimates. Is irrigation of garden areas included in the water use estimate?
    B. How will this new addition and the doubling of student body number affect water pressure/flow rates for Gunbarrel Estates residents if at all?
4. Storm sewer/runoff (Summary pg 101)
    A. Towards Gunbarrel Circle (east) - Will there be a new underground connector sewer to the existing underground storm sewer under Gunbarrel Circle street, or will runoff go into surface of Gunbarrel Circle street gutter, or both? What might the impacts of this be to Gunbarrel Circle gutters?
    B. What is a "Stormwater Dispersion Feature" (northwest corner of lot)? What does it look like? How much will it adversely impact current water flow to my mature trees in that corner that have had run off for 40 years from that corner of the lot?
    C. Please provide visual of what the "Raingardens" will look like, other than what I gleaned from the "Boulder County Maintenance Agreement ONSITE FACILITIES -This Guide applies to the following BMPs on the property: • Rain Garden (bioretention): The rain garden is located on the west side of the new building and north of the existing building. The rain garden is designed for partial infiltration with a 4" slotted PVC underdrain. The outlet structure contains an orifice plate at the 4" PVC underdrain outlet along with controls for the minor and major storm releases, discharging through a 6" PVC to the level spreader in the northwest corner of the site." (Pg 84 of revised plan) Please explain this in laymen's terms. Where will the drainage go?
    D. Towards north/northwest - What natural water flow impacts will there by to my yard perimeter given the new design? Beneficial snow melt/rainwater from the school lot seeps into my yard naturally along the school's north property line which I rely on since trees have been growing there for decades – will this natural existing water flow be thwarted by the new concrete sidewalk (from east to west, on the north side of Phase I) and new drainage towards the northwest (pg 55, Sanitas Group Prelim Drainage Report)
    E. Was a new drainage report done given the new design parameters? I don't see one in the updated plans.
5. Sewer Line
    A. "No trees over sanitary line" (Landscape Plan Enlargement - pg 37) – Is the sanitary line going to be laid under the building and head towards Gunbarrel Circle or will it be under the landscaping or new concrete sidewalk along the north property line, prohibiting large trees from ever growing there? (pg 37)
6. Play Area on northwest corner
    A. Will there be enough height in trees to stop play equipment from entering my yard?
    B. Please include in the landscaping committee's plans specific wording to move the 'gagaball' court away from my shared property line on the northwest corner. I feel compelled weekly to get into the spruce tree and cedar bush when balls get stuck there and it's a bit precarious for me sometimes. Play equipment comes over several days each week all the way along the north shared property line already, let alone double the amount of kids in the future.
7. Landscaping
    A. How tall/what species of new 'evergreen shrubs' for screening be when placed on the north side? How tall with they typically grow; high enough to help give privacy to neighboring property?
    B. What species and size of Evergreen Tree (Juniper, other columnar?) will be planted on the north property line? How long will it take to become a sight and noise screen?
    C. Please NO ORNAMENTAL GRASS unless they are native CO xeric species
    D. Perennials – please only non-invasive or native species!

E. Could you please plant a ginkgo or two (ancient drought-tolerant species native to N. America) somewhere in the north along our shared property line? I love them, and it would lessen the blow of the coming 2 years + of construction years of noise and dust
F. Currently the old fence is not along the property line. If the school replaces the fence directly on the property line it will destroy plantings that have lived there for more than a decade, some more than 30 years. Can this be mitigated somehow? I rely on those trees and lilac bushes for screening and natural environment for wildlife as well as aesthetics for property values.

8. Construction
   A. Approximately when will construction start?
   B. How long should we *realistically* anticipate for construction to be completed?
   C. What type of written policy will be included of no construction equipment or workers entering the Hillside property from Gunbarrel Circle?
   D. What type of temporary construction privacy screening will be erected on the north and east sides to improve privacy of neighboring lots/the residential street during construction?
   E. What mitigation measures will be put in place to minimize:
      i. Noise
      ii. Dust
      iii. Construction equipment in neighborhood
      iv. Impact on roads if any
      v. Hours of construction work
   F. Will there be construction on weekends/holidays?



Summary
While I would love for there to be NO construction whatsoever to preserve the peace and aesthetics of my life in my home, I realize that the school has the right to build on its property. I appreciate the thoughtful consideration

of our opinions and perspectives. The new design is certainly much more in keeping with the neighboring feel and aesthetics and the wishes of the adjacent neighbors.
The redesign will still significantly impact the views from our street, which will certainly lower the property values of homes adjacent to the school. Such is the nature of progress. I hope the school will be open to and respectful of my suggestions for plantings and noise mitigation during the construction and then permanently as they move into the new buildings. Good fences make good neighbors, but so does communication, inclusion and engagement. I hope the school administrators take this to heart, as we are a close-knit neighborhood that is welcoming of new friends and neighbors who are willing to actually be part of our community. We hope that Hillside will be a good neighbor moving forward.

Walker, Samuel

From: Rob Renegar <rob.renegar@gmail.com>
Sent: Sunday, January 30, 2022 5:50 PM
To: LU Land Use Planner; Ott, Jean
Subject: [EXTERNAL] Rob Renegar: Response to Docket #: SU-20-0005, Hillside School Modification
Attachments: Rob Renegar - Response to Hillside School Modification (SU-20-0005), 01_30_2022.docx

To Whom It May Concern:

Good evening.
Attached is our response to the proposed building plans outlined by docket#: SU-20-0005. Our intent is for this to be included in the public record.
Please reach out with any questions or concerns.

Thank you,
Rob Renegar
Ph: 203-767-6477

January 30, 2022

Ms. Jean (Raini) Ott, CFM AICP, Planner II
PO Box 471, Boulder, CO 80306
Email: planner@bouldercounty.org , jott@bouldercounty.org
Docket #: SU-20-0005: Hillside School Modification

To Whom It May Concern:

We are the homeowners of 5400 Gunbarrel Circle, Longmont, CO 80503, which abuts the eastern border of the Hillside School property. Following the initial special use application for docket # SU-20-0005, we submitted our concerns and objections to the planned construction and building (submitted November 10, 2020).

We had hoped that our original objections and concerns would have been considered and addressed by the applicant (Hillside Learning Center). Our primary concerns were that the proposed building would take away our views of the foothills and mountains to the west from both our backyard and our front yard/driveway. This impact would reduce our enjoyment of our property and premises, severely reducing the intrinsic scenic value we currently enjoy.

Reading through the revised plan, it is clear that our original concerns about the negative impact of the proposed building on our mountain views still largely exist. The location of the building (along the eastern property line between the Hillside School lot and our property / Gunbarrel Circle) and its height will still have a significant impact, as shown on page 20 (comparative elevation renderings). We acknowledge that the applicants have modified the plan, adjusting the height of the building as well as the design. However, this will still result in a tremendous loss of our views of the mountains from our front yard and driveway areas. The additional proposed landscape buffers (trees) along the eastern fence line that forms the border between our backyard and the parking lot will cut off the mountain views from our backyard, as well as negatively impacting the sunlight we receive during the summer for our flower/vegetable beds.

Another aspect of concern has risen since our original objections and this new revision/review period for the modified building plan. When the original variance was filed for this parcel, the original developers reached out to the surrounding community, both in Gunbarrel Estates and across Lookout Rd. in Country Club Estates, to explain their intent, address concerns, and gain support for the development.

Following our original letter outlining our objections, there have been no notable interactions or communications with anyone representing the Hillside Learning Center (owners or otherwise). They did reach out to advise about the removal of the large tree that was previously on their property adjacent to ours. Otherwise, no one has contacted us or attempted to reach us regarding our concerns, their plans, how to address the differences, etc.

Moving forward, we would appreciate the applicants making reasonable efforts to discuss these plans with us, as the homeowners most directly affected by these proposed building plans. Specifically, we would like to understand:

- Why does the Phase 2 building need to be so tall?
- Is the clerestory section necessary, as this adds additional height? Why is the Phase 1 building need to be so tall?
- What can be done about not planting large/tall trees that will further obstruct our view and sunlight?
- What happens in the event that the church cancels or reneges on the agreement that currently allows the Hillside School to use the church's parking lot?
- What will be done to ensure that Gunbarrel Circle (section adjacent to eastern fence line) will not be used or negatively impacted by: construction vehicles during construction, parents/kids for drop-off and/or pickup, staff parking, etc.?

Given the continued negative impact to the nearby properties and residents, is this the ideal and only location for Hillside Learning Center to expand their operations? Have other locations and means for expansion been considered, where there would be minimal-to-no impact on the residential homeowners and the surrounding neighborhood? Have they considered integration directly into the schools within the broader community, which would allow them to meet their mission statement goal of serving a much larger population of students while also eliminating the current concerns and issues among nearby homeowners in Gunbarrel Estates?

In short, our original concerns and loss of one the most valuable aspects of our property have not been sufficiently addressed and the revised plan still represents a significant reduction of the mountain views from our property as a result of the proposed structures and landscape buffers. Due to these aspects and the negative impact on our enjoyment of our property, we remain opposed to the modified building plan for the Hillside School Modification by Hillside Learning Center.

With Regards,
Rob & Chrissy Renegar

Residents and Owners of:
5400 Gunbarrel Circle
Longmont, CO 80503

Email: rob.renegar@gmail.com
Ph: 203-767-6477

Walker, Samuel

From: Brady Van Matre <brady1@vanmatreconstruction.com>
Sent: Monday, October 18, 2021 3:34 PM
To: LU Land Use Planner
Cc: Frederick, Summer; admin@hillsidelearning.org; monicavanmatre@gmail.com
Subject: [EXTERNAL] In support of Hillside School's Expansion
Attachments: In Support of Hillside Expansion.docx

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has served as a valuable community resource to Boulder County and its underserved dyslexic population since 2005. Not only does Hillside work to provide evidence-based instruction to its dyslexic students, but also works with the greater local community to provide free knowledge and resources dyslexic families need for different types of interventions and next steps. The school's impact is much greater than its academic program alone.

My relationship with Hillside began in 2018, when my middle son, Hank Van Matre, got on the wait-list for Hillside. My son is at the extreme end of the dyslexic spectrum and getting left behind by BVSD. Even with the IEP he qualified for, BVSD simply lacks the resources necessary to teach kids like my son. We had to wait a couple years till Hillside had the capacity to take Hank.

I have seen firsthand the impact Hillside has on its community by teaching kids who would otherwise languish and get left behind by BVSD how to learn and thrive despite learning differently than other kids learn.

I believe this expansion is so important because my son had to wait two years till he could get a spot in the school. Those two years in BVSD were really hard on his self-esteem. He felt like the 'dumb kid' at BVSD. It was tough for him to get over it and he is a strong smart kid. A bigger school would have meant less time getting left behind by BVSD and less of a blow to his ego. He would have been two years ahead of where he is now.

Dyslexia impacts a student both in and out of the classroom, shattering their confidence, impacting their emotional well-being, and creating a ripple effect that is felt throughout the entire family. Hillside is so much more than a private educational institution; it is a place where children's confidence is restored. Please consider supporting this project expansion so more families can benefit from this life-changing experience.

Sincerely,
Brady Van Matre
Parent, Hank Van Matre
303-548-3605
brady@vanmatreconstruction.com

Van Matre Construction
214 N 120th Street
Lafayette, CO 80026
Brady @vanmatreconstruction.com
303-668-2222

TO: planner@bouldercounty.org
CC: sfrederick@bouldercounty.org, admin@hillsidelearning.org

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Sincerely,
Brady Van Matre
Parent, Hank Van Matre
303-548-3605
brady@vanmatreconstruction.com

From: Derek Moody
To: #LandUsePlanner
Subject: Fwd: SU-20-005 hillside school
Date: Sunday, October 11, 2020 4:18:00 PM

See below- used wrong email the first time.

-Derek
Dereklmoody@gmail.com
3392252542

Begin forwarded message:

> **From:** Derek Moody <dereklmoody@gmail.com>
> **Date:** October 11, 2020 at 2:29:08 PM MDT
> **To:** planner@bouldercouny.org
> **Subject: SU-20-005 hillside school**
>
> Hi,
> My wife and I own and live at 7305 Lookout road, just a few houses down from this school and wanted to say that we are in favor of them expanding. We look forward to having more families in our neighborhood.
> Regards,
>
> -Derek Moody
> Dereklmoody@gmail.com
> 3392252542

From: Susan Anderson
To: #LandUsePlanner
Subject: Docket #SU-20-0005
Date: Tuesday, October 13, 2020 8:14:10 AM

Concerned about school modification:
Too small parcel of land for size of building adding to existing building and parking lot; increase traffic on Lookout which is very congested at times causing entrance and exiting issues to parking lot and more back up of traffic on Lookout which is a major access road to Boulder for homes built out east; a few houses on Gunbarrel circle would basically have this built in their back yard.

Sue Anderson
7400 Mt Meeker Rd

Sent from my iPhone

From: Edmund Nespoli
To: #LandUsePlanner
Subject: Hillside School
Date: Sunday, October 11, 2020 6:26:45 PM

Please consider rethinking the plan to enlarge Hillside School. It sounds like the building is too large for such a small parcel of land in a residential setting. With increased enrollment comes increased traffic. Also, parking will not be sufficient.

Also, previously there have been at least two different schools in that same building that have failed.

Please reconsider and leave the footprint as it is.

Thanks.

Judy Nespoli
5574 Colt Drive
Longmont, Co. 80503
303-284-1907

Sent from my iPad

From: Wufoo
To: #LandUsePlanner
Subject: Ask a Planner - Chris Carter - SU-20-0005 - 7415 Lookout Road
Date: Monday, October 12, 2020 5:37:29 PM

Boulder County Property Address : 7415 Lookout Road
If your comments are regarding a specific Docket, please enter the Docket number: SU-20-0005
Name: Chris Carter
Email Address: tremoverb@me.com
Please enter your question or comment: Hello,
I live in gunbarrel estates, and this project far beyond acceptable for the location. The folks that have invested in this neighborhood did so for a reason, and that is to be away from density and enjoy a quaint little neighborhood. A building of that size and function would be a major shift for the owners in this community. The original building was clearly built as a residential property, and it's current use has been acceptable for quite some time. I think if the current school needs a building of the size they hope to build, they should look around as they are similar available buildings in the area.
Thank you,
Chris
Public record acknowledgement:
I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: Wufoo
To: #LandUsePlanner
Subject: Ask a Planner - Elizabeth Engelking - boco.org/SU-20-0005 -
Date: Wednesday, October 14, 2020 3:33:55 PM

If your comments are regarding a specific Docket, please enter the Docket number: boco.org/SU-20-0005
Name: Elizabeth Engelking
Email Address: betsye@comcast.net
Phone Number: (303) 530-7550
Please enter your question or comment: I am concerned that the traffic on Lookout Road in front of this property already has heavy traffic especially during evening rush hour that backs up from the stop sign on 75th St all the way back to Idylwild (pre-Pandemic but hopefully this too shall pass). Before adding more capacity to this school, the traffic load on Lookout needs to be addressed.
Public record acknowledgement:
I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: dtrollin@aol.com
To: #LandUsePlanner
Subject: Hillside Docket SU-20-0005
Date: Friday, November 6, 2020 8:53:31 AM

I do not support the expansion of the Hillside School for the following reasons:

1. The specificity of the build requires too much build for the lot. The lot is not big enough for a 10,000 sq foot addition even though it is within legal limits. This lot area behind the existing school is residential and that building would be right up against existing homes.

2. The number of students that the new build would serve does not justify the size of the build. A 10,000 sq foot building for 36 new students seems excessive .

3. The property has gone through different ownership through the years. Despite current operation since 2005, there is no long term assurance that a building of this size and its specific needs would be utilized by the current owner for any period of time. They could just build and sell and then the community is stuck with an overbuilt development that doesn't fit with the area.

Thank you

Susan Trollinger
5375 Desert Mountain Ct
Boulder CO

From: Meredith Rutherford Chavel
To: Ott, Jean
Subject: Re: referral packet for Docket SU-20-0005
Date: Friday, October 30, 2020 10:29:55 AM

Hi Raini,

Below is my feedback on the proposal. I live at 5375 Gunbarrel Circle, not an adjacent property but an impacted property given our proximity to the school. I want to preface my comments with I believe that Hillside School fills a gap by providing services that are not adequately provided by the public schools, for those that can afford it. It would be great to find a way to allow them to expand, while addressing the concerns of the immediate community.

These were the specific points that I did not see addressed, or addressed adequately:

- Given the location of the addition, the assumption is that construction access would be via Gunbarrel Circle and not Lookout Road. There was no mention of the proposal on repairs to the road post-construction. Gunbarrel Circle is in unincorporated Boulder County and the HOA for Gunbarrel Estates does not maintain the roads. The proposal needs to address re-paving post-construction to repair damages.
- The architectural renderings of the school include balconies or patios, that face directly onto Gunbarrel Circle. As a single-family residential neighborhood, this changes the dynamic and "feel" of the neighborhood. I strongly urge them to reconsider this feature, or shift it to face towards the school's property rather than into the privacy of the neighborhood.
- There was a preliminary proposal to build additional homes on the empty lot to the northwest of the school's property. It would be beneficial to see a statement on the density of the block, and infrastructure (sewer, water) when looking at the two proposals simultaneously.
- There is mention of the current drainage system to leverage drainage onto Gunbarrel Circle, and for that to continue. As the addition will change the drainage patterns, I kindly request more information as to what exactly the impact would be to Gunbarrel Circle. To reiterate, the neighborhood is in unincorporated Boulder County and the HOA does not maintain roads. Drainage cannot be increased, and there is no data to suggest if that has been investigated.

As Boulder County continues to grapple with issues of diversity and racism, it appears that Hillside's student population are primarily students whose families can afford the full tuition program. As part of this expansion, where their revenue will increase, it would behoove the school to make a commitment to diversity and offer more financial aid.

Finally, I would encourage the school to embrace the local community. The proposal was a surprise to the surrounding neighbors, and given our interaction with students and staff as we all work from home (throwing balls back over the fence, listening to recess, etc.), a cooperative and collaborative relationship should be encouraged. There is a perception of an elite, expensive school expanding at the expense of a long-term, established neighborhood. The school could have prevented this by reaching out to neighbors and holding local information sessions, prior to notification by the County of the addition.

I will watch the schedule for the public hearing, as I would very much like to participate.

Thank you,
Meredith

On Thu, Oct 29, 2020 at 12:47 PM Ott, Jean <jott@bouldercounty.org> wrote:

> Meredith,
>
> An email directly to me would be perfectly fine, or you can email planner@bouldercounty.org and I'll also receive it that way. In addition to written comments, you also have the option of speaking at public hearings that are held for the docket during the public comment section. Notification of those hearings will be posted on the docket webpage once they are scheduled (boco.org/su-20-0005).
>
> Thanks!
>
> Raini
>
> **From:** Meredith Rutherford Chavel <mrr1031@gmail.com>
> **Sent:** Thursday, October 29, 2020 10:41 AM
> **To:** Ott, Jean <jott@bouldercounty.org>
> **Subject:** Re: referral packet for Docket SU-20-0005
>
> Hi Raini,
>
> What is the appropriate forum to provide feedback on this proposal?
>
> Thank you,
>
> Meredith
>
> On Tue, Oct 13, 2020 at 10:41 AM Ott, Jean <jott@bouldercounty.org> wrote:
>
> > Good morning Meredith,
> >
> > We will mail you a hard copy this week of the referral packet for this docket. Please feel free to contact me directly with any questions or comments regarding this application.

Thanks!

Raini

Jean Lorraine (Raini) Ott, AICP, CFM

Planner II | Development Review Team

720.564.2271 | jott@bouldercounty.org | she/her/hers

Boulder County Community Planning & Permitting

2045 13th Street | Boulder, CO | www.BoulderCounty.org

303.441.3930 | P.O. Box 471 | Boulder, CO 80306

Formerly Land Use and Transportation – We've become a new department!

PLEASE NOTE: In an effort to mitigate the spread of COVID-19, the Boulder County Community Planning & Permitting physical office at 2045 13th St. in Boulder is CLOSED to the public until further notice. We will continue to operate remotely, including the online acceptance of building permits and planning applications. Please visit our webpage at www.boco.org/cpp for more detailed information and contact emails for groups in our department. You may also leave a message on our main line at 303-441-3930 and the appropriate team member will return your call. ***Thank you for your adaptability and understanding in this extraordinary time!***

From: Meredith Rutherford Chavel <mrr1031@gmail.com>
Sent: Sunday, October 11, 2020 3:42 PM
To: #LandUsePlanner <Planner@bouldercounty.org>
Subject: referral packet for Docket SU-20-0005

Hi - Can I please get a referral packet for Docket SU-20-0005? You can email at this address, or send by mail at : 5375 Gunbarrel Cir, Longmont, CO 80503.

Thanks,

Meredith

> --
>
> Meredith Rutherford Chavel
> M: 508-341-3350
> mrr1031@gmail.com

--

Meredith Rutherford Chavel
M: 508-341-3350
mrr1031@gmail.com

--
Meredith Rutherford Chavel
M: 508-341-3350
mrr1031@gmail.com

From: Anne Carpenter
To: #LandUsePlanner; Ott, Jean
Subject: Docket #: SU-20-0005 Expansion of Hillside School
Date: Wednesday, November 11, 2020 5:02:28 PM

November 10, 2020

Jean (Raini) Ott, CFM AICP, Planner I

PO Box 471

Boulder CO 80306

Email: planner@bouldercounty.org, jott@bouldercounty.org

Docket #: SU-20-0005

To whom it may concern:

We are the residents and homeowners of 5355 Gunbarrel Circle, Longmont CO 80503 which is directly north of the Hillside School property on Gunbarrel Circle. We have lived at this residence since 1988 and are concerned that the proposed expansion of the Hillside School (Docket #: SU-20-0005) will have a significant and negative impact on our property values, neighborhood and quality of life. The proposed building will permanently alter the character of the neighborhood that we have enjoyed for over 32 years.

While our home is not directly adjacent to the Hillside School property as some of our other neighbors, the impact would cause additional traffic and noise in the area both during construction and for years to come. Since all of the apartments were built west of us (near King Soopers and the Gunbarrel Shopping areas—and more being considered near Celestial Seasonings) the traffic has increased dramatically. Sometimes turning left onto Lookout Road is almost impossible at certain times during the day and there are cars for as far as you can see. This would only add to this increased traffic.

It seems that this is a rather large building for such a small plot of land. While the current building seems adequate for our neighborhood with room for outside play, this larger building would not be appropriate for our suburban residential environment. Since Covid-19 has put limits on our everyday life, maybe some creative scheduling or class size changes should be considered if they want to enlarge their school. Perhaps they could find some vacant office space for lease near here that could serve as a “satellite campus” for the time being until Covid-19 gets under control and our lives get more back to normal.

As we are not necessarily against the Hillside School wanting to serve more children with special needs, there must be other ways to do this that will not permanently alter the nature of our fine neighborhood, affect our property values and the quality of the life we have enjoyed here for so many years.

We strongly object to the current plans and request that this proposal be tabled until other options are provided before this project moves forward.

Sincerely,

Peter & Anne Carpenter

From: Jeff&Stacee
To: #LandUsePlanner; Ott, Jean
Subject: Docket #SU-20-0005
Date: Tuesday, November 10, 2020 6:37:56 PM

I'm writing to extend my concern regarding the expansion of Hillside School property in Gunbarrel. Our home is 6 houses away so the impact is not direct, but it seems there could be more consideration to the plans.

Please consider moving the construction to the west side of the lot and lower the height to 25 ft or less. This seems like a fair alteration and would save unnecessary stress and devaluation of property for the neighbors directly affected.

Please don't pave paradise.

Thank you,
Stacee McGovern
President of Gunbarrel Estates Home Owner's Association
Owner at 5420 Gunbarrel Circle

From: Debbie Daige
To: #LandUsePlanner; Ott, Jean
Subject: Hillside Learning Center (Docket SU-20-0005)
Date: Tuesday, November 10, 2020 2:03:40 PM

I am writing in opposition to Docket SU-20-0005 as we feel this will take away from our quite area.
Hillside Learning Center plans to build a two-story building of 10,500 sq. ft. This would be directly in the view from our front yard/window. We already have to deal with the noise when the students are outside. We have lived here for @ 20 years and would like to keep our views of the mountains and our property values.

We would like to suggest that they put the additional building on the west side of their lot.
Also hoping they will not have drop offs and pickups from Gunbarrel Circle. We have young children riding bikes and playing outside and do not want additional traffic on our quiet street. This will add additional traffic to Lookout Road which is not good either.

We would like to suggest a lower profile building on the west side of the lot. I think the land use code states a height of 25 ft. or less. We don't want to be looking at a commercial building in our neighborhood. This will be a direct effect on our quality of life.

Please do your best to see if the plans can be changed to make everyone happy.

Thank you for listening!

Debbie and Paul Daige
5407 Gunbarrel Circle
Longmont, CO 80503

From: kelly siu jablonski
To: #LandUsePlanner
Subject: Docket SU-20-0005 Hillside School Modifications
Date: Tuesday, November 10, 2020 4:25:27 PM

Hello,
My name is Kelly Siu and live at 7060 Harvest Rd, Boulder. I am writing this email to fully support the Hillside School Modification Application. This school is near the
Gunbarrel Green neighborhood and I live adjacent to the Joshua School. I fully support the expansion needed to sustain business and modifications needed to enhance the classroom learning objectives. This school is a great amenity for the local community and county for children with learning disabilities. Allowing for shared parking between adjacent schools and churches is a great step in creating great economies of existing useful infrastructure. We love to see new buildings and landscape, not more parking lots if possible.
Sincerely,

Kelly Siu

From: Anne Oberg
To: Ott, Jean
Subject: Special Use Review Docket # SU-20-0005
Date: Monday, November 9, 2020 9:05:03 PM

Dear Raini,

Thank you for taking the time to speak with me, and for answering all of my questions.

I am writing to voice my concerns about the special use review notification for the Hillside School, docket # SU-20-0005, located in the Gunbarrel Estates neighborhood.

While I recognize the Hillside School serves an important community service, I question whether this is a viable property for their expansion project. The adjacent properties would be greatly, and in my opinion adversely affected by this expansion due to increased noise, utilities, sanitation, and traffic. The increased traffic would also impact the access to properties in both the Gunbarrel Estates and the Country Club Estates neighborhoods. Lookout Road is already backed up with traffic in both the mornings and the afternoons. The increased noise is also a concern due to the traffic, and due to the outdoor activities at the school. I live on Mount Evans Place across the meadow from the Hillside School, and I can hear the activity now when the kids are outside - which at this time I find joyful, but if this expansion is allowed that noise level will increase as well, and the noise could become a nuisance instead, especially for the adjacent properties. I honestly can't imagine having to live right next door to this project.

These expansion plans are also not within the 125% of the median size restriction of the Gunbarrel Estates neighborhood. I understand that the Hillside School property may not fall under the same restrictions that the rest of the neighborhood does, however, to allow that much of an expansion does seem to infringe upon the compatibility of the surrounding area and also the intent of the area with the adjacent United Methodist Church property having a rural preservation overlay. It seems it would be an over-intensive use for what was intended for this area. I feel this expansion would be unfair to the property owners in Gunbarrel Estates that rely on the land use codes to protect their properties.

Thank you,
Anne Oberg
5495 Mount Evans Pl
Longmont, CO 80503
970-531-1423 (cell)

From: Gunbarrel Resident
To: #LandUsePlanner
Subject: docket # SU-20-0005
Date: Wednesday, November 11, 2020 12:34:28 PM

To Whom It May Concern,

I'm writing to absolutely oppose the Hillside School expansion project (Docket # SU-20-0005). It is completely against the character of the neighborhood, an outrageous intrusion into the neighboring lots, and a completely unreasonable burden on those immediately affected by the project. Increased noise, traffic, obstruction of views and a total change in the feel of the neighborhood are certain outcomes, which will negatively impact quality of life and property values. Under no circumstances can school traffic be allowed into the neighborhood and especially up along Gunbarrel Circle road. There is a limit to what people in neighborhoods should reasonably be expected to accept, and this is way over that limit. Please deny this expansion project -- it is unnecessary, bloated, and does not fit into this neighborhood in any way.

Sincerely,

A concerned Gunbarrel resident

From: Kathy Keener
To: #LandUsePlanner
Subject: Docket #SU-20-005Hillside School Modification
Date: Wednesday, November 11, 2020 11:14:08 AM

I am writing today to share my opinions about the expansion of the Hillside School in Gunbarrel.

Please do not allow this expansion to go forward until the services, amenities and transportation issues in the are are addressed. Gunbarrel has seen amazing residential growth in our area in recent years and we have no rec center, no library, one grocery store, and the closest city or county park is across Diagonal Highway at IBM.

I am not opposed to the expansion of the school per se and think it might actually be a nice fit for the neighborhood but the area can not sustain any more growth right now. Bringing 70 more students to the school each day will put another enormous strain on Gunbarrel. I do not think this is fair to keep allowing all of this growth in our area without adding ANY amenities.

Please fix the imbalance and put this project on hold.

Thank you,
Kathy Keener
7470 Augusta Dr
Boulder, CO 80301

From: Wufoo
To: #LandUsePlanner
Subject: Ask a Planner - Bruce Warren - SU-20-0005 - 7415 Lookout Road, Longmont, CO 80503
Date: Thursday, November 12, 2020 5:16:13 PM

Boulder County Property Address : 7415 Lookout Road, Longmont, CO 80503
If your comments are regarding a specific Docket, please enter the Docket number: SU-20-0005
Name: Bruce Warren
Email Address: bwarren@niwotlaw.com
Phone Number: (303) 652-2433
Please enter your question or comment: To: Boulder County Community Planning and Permitting Department
From: Niwot United Methodist Church

We have reviewed the Hillside School Modification, Docket SU-20-0005, and have no conflicts.

Hillside School has been an excellent neighbor of the Church, and has worked cooperatively with the Church to maximize use of the existing parking lot of the Church, thereby avoiding the need for construction of an additional paved parking lot on Hillside property and reducing the environmental impact of the proposed development.

Hillside School is a non-profit organization with a mission of serving a student population that is often underserved. The Church supports Hillside School's mission to serve these students of the Boulder County community. The Hillside parcel has been in use for many years as a school, and school uses are specifically permitted in the Suburban Residential (SR) zoning district, as are churches. While expansion proposals are sometimes opposed by nearby neighbors who are understandably most affected by the expansion, it is important to remember that schools in residential neighborhoods have a long history of being an essential aspect of our communities. We are confident that Hillside will mitigate the impact of its expansion in the design of this project, and fully support the application.
Bruce Warren, Administrative Council Co-Chair
Public record acknowledgement:
I acknowledge that this submission is considered a public record and will be made available by request under the Colorado Open Records Act.

From: Steve De Tar
To: #LandUsePlanner
Subject: Comments for SU-20-0005 Hillside School Modification
Date: Wednesday, November 11, 2020 4:45:42 PM

We live at 5475 Mt. Evans Pl., located across the NUMC field west of the Hillside school. Our comments for SU-20-0005 are:

- Direct impact to our property after the proposed school expansion will be:
    - Increase of noise from larger student population.
    - Increased traffic on Lookout Rd. during high-traffic times.
        - The traffic study did not address impacts at Lookout Rd. and Mt. Evans Pl./Clubhouse Dr. This is a significant deficiency. Both west-bound and east-bound turns onto Lookout Rd. are issues during both morning & afternoon drive times. This intersection is a main entry/exit point for Gunbarrel Estates and Country Club Estates. Filling traffic gaps with cars coming out of the church & school parking lots will make this worse.
        - Will traffic study volumes be reconfirmed when traffic returns to normal to determine if the statistical adjustments used are valid? What happens if the current adjustment assumptions are wrong?
        - The traffic study did not address impacts at 71st and CO-52. This is 15% of the traffic to/from the school and already a bad intersection (even with planned intersection changes).
- Impact to our neighbors' properties (5375, 5383, 5407 Gunbarrel Circle):
    - Substantial increase in noise from higher student population.
    - Substantial decrease in western sunlight/view due to 2 story structure. The application boasts of sinking the structure into the hillside. However, the elevation drawing shows the roof line of the new structure near the same height as the existing structure. Did the applicant look at lowering the new structure 1 story? Many schools have basement class rooms.

Additional questions that we have related to this application are:

- Will any construction traffic enter the property from Gunbarrel Circle or Mt. Evans Pl. (via the Niwot UMC property)? If so, how will this be mitigated? Will streets be repaired afterwards?
- If utility work is required into Gunbarrel Circle how will this be mitigated. To what standard will the street be repaired?
- Did the applicant discuss plans and mitigation with the Gunbarrel Circle property owners prior to the application submission? How was the design changed to mitigate any concerns?
- What requirements will be placed on construction to limit impacts to the neighborhood?

Thanks,

Steve De Tar

Niola De Tar

5475 Mt. Evans Pl.
Longmont, CO 80503

From: Tegan Corradino
To: #LandUsePlanner; Ott, Jean (Raini)
Subject: Hillside Learning Center expansion (Docket SU-20-0005)
Date: Sunday, January 3, 2021 2:54:17 PM

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has served as a valuable community resource to Boulder County and its underserved dyslexic population since 2005. Not only does Hillside work to provide evidence-based instruction to its dyslexic students, but also works with the greater local community to provide free knowledge and resources dyslexic families need for different types of interventions and next steps. The school's impact is much greater than its academic program alone.

My relationship with Hillside began in 2013 when we moved to Boulder, CO. Our second son is dyslexic, we needed help getting him services and finding a school to match his needs. Even though he was too old for Hillside, the staff at Hillside met with us, assessed him and gave us sound advice. He also was tutored one summer at Hillside to get his reading level up. After his time there, his level as well as his confidence as a reader progressed. We have also, as parents attended many of the informational meetings put on by Hillside. As a family we have all benefited from having this school in our community.

I have seen firsthand the impact Hillside has on its community through advising many of my friends to Hillside. Kathy Sherman at Hillside has met with and helped many families I know in town. Hillside is a part of Boulder that has affected many many families in a positive way. They take kids and families in and make them their own, regardless of their attending the school or not and help them through their child's education. Many times, I send a friend there that has been struggling with their child's education and the report back is, that place is a miracle!

I believe this expansion is so important, not only can Hillside meet the needs of their current students, but they can and knowing them, they will see to it that the community benefits from the space with guest speakers for the entire community, informational evenings, community support. We ALL would benefit from the added space at Hillside. It really is a special place that is welcome to anyone that walks through the door.

Dyslexia impacts a student both in and out of the classroom, shattering their confidence, impacting their emotional well-being, and creating a ripple effect that is felt throughout the entire family. Hillside is so much more than a private educational institution; it is a place where children's confidence and a families unit is restored. Please consider supporting this project expansion so more families can benefit from this life-changing experience.

Sincerely,
Tegan Corradino
Parent of a Dyslexic Student/Board Member since Oct. 2020/Educational Advocate
tegan@mamabravamentoring.com
mamabravamentoring.com

From:	Sue Ryan
To:	#LandUsePlanner
Cc:	Ott, Jean (Raini); Sue Ryan
Subject:	Hillside Learning Center expansion
Date:	Tuesday, January 12, 2021 2:03:55 PM

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has been an invaluable asset to the Boulder community since 2005. The school has filled a gap in terms of educating children with dyslexia and other learning differences for years now but there is still a population of students who cannot access the program because of limited space. Hillside also wants to expand it's footprint within Boulder county through its outreach programs to provide information, resources and support to the community at large and also through its teacher education programs.

I have been connected to Hillside for many years in different capacities. My daughter began attending Hillside in 2007 at the age of 10. She was struggling mightily in her traditional school because of her learning differences. Hillside was her first and only experience of being in a classroom that offered instruction targeting her specific learning differences. It was also her only experience being in a classroom that was comfortable enough and safe enough to allow her to learn. Years after she attended, I joined the board at Hillside and am now serving as Chairperson of the board.

As a parent of a child with learning differences at Hillside, I can attest to the dramatic impact that the school has on the students and their families and the Boulder community at large. I have personally experienced frantic outreach from families around Boulder who are looking for help with their children who are struggling in and out of school because of learning differences. Time and time again, I have referred them to Hillside where they received valuable help and assistance – whether or not they ended up joining the school community.

As a board member, I can speak to the incredible dedication and competency of the administration and faculty at Hillside. They are dedicated to helping kids with learning differences by teaching to their specific needs while also addressing the needs of the families and the needs of the community as a whole.

I believe this expansion is so important because there is such a need for the services Hillside provides to the Boulder community – not just to its students but also to people outside the school who are dealing with the same issues with their kids. The free-to-the-public monthly Hilltopics talks and speakers are just one example of Hillside's outreach to the community at large.

The impact that dyslexia has on students and their families is hard to put into words. These children are not able to learn in a traditional setting and, as a result, they experience stress and anxiety that can affect them for the rest of their lives. Hillside provides a safe haven and an early intervention that can change the trajectory of these kids lives.
Please consider supporting this project expansion so Hillside can provide their life-changing education to more students, support more families and provide more resources to the community at large.

Sincerely,

Sue Ryan
Board Chairperson
720-317-1009
sueryan@indra.com

From:	Genny McGregor
To:	#LandUsePlanner
Cc:	Ott, Jean (Raini); admin@hillsidelearning.org
Subject:	Hillside Learning Center Expansion: Docket SU-20-0005
Date:	Tuesday, January 12, 2021 10:10:32 AM

Dear Boulder County Planning Board,

My name is Genevieve McGregor. My son's name is Ryan Fetherston. In 2016, Ryan was diagnosed with dyslexia. He was 8 years old.

The pain of untreated dyslexia is real. My child was suffering from incredible low self-esteem, frustration with his inability to perform academically and facing increased admonition from adults and educators. He was constantly suffering and, as his mother, I could feel his pain everyday.

Reports have shown that 49% of the prison population suffer from dyslexia.
Dyslexics are 46% more likely to commit suicide to end the suffering and lack of acceptance they experience.
It is heartbreaking and shameful, but I could see Ryan go down either path. We were both so lost.

Gratefully, there are resources like Hillside and educators like Kathy Sherman to help kids who are struggling with dyslexia.

Ryan attended Hillside for his 5th grade year, in 2017. He did not graduate with the ability to read 'Moby Dick'. Better yet: he accepted himself, understood his dynamic differences and learned to advocate for what he needed and deserved--in his education and in his life.

Hillside does not just change lives, it saves them.

Please grant Hillside Learning Center in their proposed expansion (Docket SU-20-0005).

Sincerely,
Genevieve McGregor
Proud Mom of Hillside alum, Ryan Fetherston
gennyryansmom@gmail.com
303-579-7503
30-year Boulder county resident, property owner, voter

From: Russ Hullet
To: #LandUsePlanner
Cc: Ott, Jean (Raini); admin@hillsidelearning.org
Subject: Hillside Learning Center expansion (Docket SU-20-0005)
Date: Tuesday, January 12, 2021 4:22:12 PM

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005).

My daughter attended Hillside from 2017-2019. I will be brief. Hillside did for her what no other school or teacher could do. She was in a wonderful private school prior to attending Hillside, yet they didn't have the training, skills or resources to meet the specialized needs of a dyslexic student. Hillside turned her school life around. I remember picking her up at Hillside and her saying, "Daddy, I feel smart here (at Hillside)!" I don't know if you can imagine how that statement is like gold for the parent of a child who had been coming home from school feeling overwhelmed, confused and emotionally defeated.

She is now integrated back into her previous school and is doing great. She took the foundation, skills and knowledge of her own learning style and needs back to middle school, and is doing solid work and succeeding. She is one of those kids who could have fallen through the cracks and floundered.

What they do at Hillside, and the teachers and staff who work there, are special. It would be a mistake not to give them the space they need to grow and flourish. The lives of countless children and their families will be changed for the better if this expansion is approved.

Sincerely,
Russ Hullet

From:	Sonia Schnitzer
To:	#LandUsePlanner
Cc:	Ott, Jean (Raini); Admin Hillside
Subject:	Hillside Learning Center expansion (Docket SU-20-0005)
Date:	Tuesday, January 12, 2021 6:29:40 PM

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has served as a valuable community resource to Boulder County and its underserved dyslexic population since 2005. Not only does Hillside work to provide evidence-based instruction to its dyslexic students, but also works with the greater local community to provide free knowledge and resources dyslexic families need for different types of interventions and next steps. The school's impact is much greater than its academic program alone.

My oldest son attended Hillside for 3 years. Today, he is in grade 9 at an IB boarding school in Canada. He would never have been able to make it this far, were it not for Hillside School.

During our son's time at Hillside, my husband and I were actively involved with the school. So many times, I saw parents, coming to Hillside like we did, filled with fear and desperation and feeling isolated and helpless. The faculty and staff provide, not just hope, but real solutions, real change, real results.

Unlike with other private schools, families don't send their children to Hillside for status, or the sports, or cred on college applications. They send their children to Hillside because they have no other choice. They will take extra jobs. They will borrow from family. It is no word of exaggeration to say that Hillside saves families.

I feel deep gratitude that we were able to get our son into Hillside. Sadly, every year the school is forced to turn away more and more families, simply because there is not enough room. Allowing this project expansion would be your part in giving these children, these families a chance to succeed. In providing these families with access to this life-changing school: Hillside School.

I am confident that you will see how essential Hillside School is for these families, for this community, for this city, and you will approve their expansion request.

Sincerely,

Sonia Schnitzer

Former Hillside Parent

sonia@appliedbroadband.com

303-808-5239

From:	Heather Andersen
To:	#LandUsePlanner
Cc:	admin@hillsidelearning.org; Ott, Jean (Raini)
Subject:	Please support Hillside Learning Center expansion (Docket SU-20-0005)
Date:	Tuesday, January 12, 2021 9:49:36 PM

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has served as a valuable community resource to Boulder County and its underserved dyslexic population since 2005. Not only does Hillside work to provide evidence-based instruction to its dyslexic students, but also works with the greater local community to provide free knowledge and resources dyslexic families need for different types of interventions and next steps. The school's impact is much greater than its academic program alone.

My relationship with Hillside began in 2016 when our school raised the question about dyslexia for our son given some early signs. We reached out to Hillside as a resource and asked for help with testing. They were an invaluable help at a time when we had so many questions. Our son was tutored by a Hillside teacher for 1st grade since we could not get into a class at first. He and my daughter (twins) both went to Hillside for 2nd and 3rd grades.

The ability of our kids to gain reading and writing skills in the environment at Hillside was amazing. The individualized teaching that addressed their unique needs was invaluable in accelerating their progress. It allowed our kids to rejoin their "regular" school with greater confidence and ability to contribute to the classroom during their time at Hillside and thereafter.

I believe this expansion is so important because there is no other resource for children and families with dyslexia and that needs to change. We know first hand the frustration of knowing there was a way to help our children but no space for them to gain access to the assistance. This serves a very clear need that Boulder will benefit from - the children who return to school after support from Hillside can contribute more, teachers and parents will have more support and resources to reach more children and we will all be the better for it.

Dyslexia impacts a student both in and out of the classroom, shattering their confidence, impacting their emotional well-being, and creating a ripple effect that is felt throughout the entire family. Hillside is so much more than a private educational institution; it is a place where children's confidence is restored. Please consider supporting this project expansion so more families can benefit from this life-changing experience.

Sincerely,
Heather Andersen
Alumni Parent
720-705-2123
heatherandersen07@gmail.com

--

Heather Andersen

Executive Coach

Cell: (720) 705. 2123
Email: Heather@visibleimpactleadership.com
Site: http://visibleimpactleadership.com

From:	BalloonRiot
To:	#LandUsePlanner
Cc:	Ott, Jean (Raini); admin@hillsidelearning.org
Subject:	Hillside
Date:	Wednesday, January 13, 2021 3:48:45 PM

Dear Boulder County Planning Board,

I am writing today as a former student of Hillside School. I attended Hillside from the 3rd Grade to the 5th Grade.
Hillside is such a good school. I have spent so much of my early childhood there with memories that I will never forget. I grew up with some form of a learning problem. I learn things different from other kids, so it was always a struggle when I had to attend public schools. Then I started to go to Hillside. They taught me in a way that made sense to me. So then I felt better about myself when It came to math, science and reading. Hillside is such an important school to me and a lot of other kids and grownups now. I hope that you can approve the Hillside project so more kids can learn how to love school again too.
Thank you and have a good day,
Kazimir

From:	Suzanne Neuman
To:	#LandUsePlanner
Cc:	Ott, Jean (Raini); admin@hillsidelearning.org
Subject:	Hillside Learning Center expansion (Docket SU-20-0005)
Date:	Friday, January 15, 2021 1:53:59 PM

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005).

Hillside SAVES children's LIVES. Hillside saves entire families.

These statements may seem hyperbole, but I can attest that over the past 15 years of Hillside's existence many, many parents have stated these words to me over and over again.

Why me? I am the co-founder of Hillside and have interacted with Hillside parents at school gatherings, our free educational speaker series, and much more.

How else do I know? I am the mother of a child with dyslexia. I know, first hand, the pain and anguish of parenting a child who is suffering in a regular public school classroom due to learning differences, whose self-esteem is being crushed on a daily basis in an environment that does not have the knowledge or resources to help that child reach their potential or instill confidence that, yes, that child IS capable of learning.

Hillside would like to be able to positively impact and, yes SAVE, more children and families by increasing their capacity to serve more children, directly in our classrooms, through our assessment and consultation services, our free monthly educational speaker series, and also, by providing teachers in the community - from both public and private schools - with the knowledge and skills necessary to effectively and compassionately teach children with dyslexia in their own classrooms.

Hillside impacts not only the children in our classrooms and their own families, but our reach is wide and our impact literally life changing for many families with children who learn differently.

Please support our project expansion so more children and families can benefit from everything Hillside has to offer.

Sincerely,
Suzanne Neuman
Co-Founder, Hillside School
suzannen@gmail.com
303-601-5034

From:	Catherine Raveczky
To:	#LandUsePlanner
Cc:	admin@hillsidelearning.org; Ott, Jean (Raini)
Subject:	Hillside Learning Center expansion (Docket SU-20-0005)
Date:	Sunday, January 17, 2021 8:12:34 AM

Dear Boulder County Planning Board,

I am writing today as a parent of a former student of Hillside School. My son attended Hillside during his 5th grade year (2019 – 2020).

We were so grateful he had the opportunity to finally receive the instruction he needed for his dyslexia / dysgraphia. It was an invaluable experience for him because it helped to normalize his learning experience, improved his self-esteem, and gave him the skills he needed to become a stronger reader.

Not only this, but it was helpful for me as a parent to know that he was finally working with teachers who were experts in dyslexia and knew how to give him the support he needed. It was a relief for us as a family to know he was in such good hands.

I hope that you can approve the Hillside project so more kids can learn how to love school again too.

Thank you for your time,

Catherine Raveczky
53 Illini Court
Boulder, CO 80303

From:	Patricia (Patty) Shull
To:	#LandUsePlanner
Cc:	Ott, Jean (Raini); admin@hillsidelearning.org
Subject:	Request to support Hillside School Expansion
Date:	Monday, January 18, 2021 7:26:40 PM

Dear Boulder County Planning Board,

I am writing to express my support for the proposed Hillside Learning Center expansion (Docket SU-20-0005). Hillside has served as a valuable community resource to Boulder County and its underserved dyslexic population since 2005. Not only does Hillside work to provide evidence-based instruction to its dyslexic students, but also works with the greater local community to provide free knowledge and resources dyslexic families need for different types of interventions and next steps. The school's impact is much greater than its academic program alone.

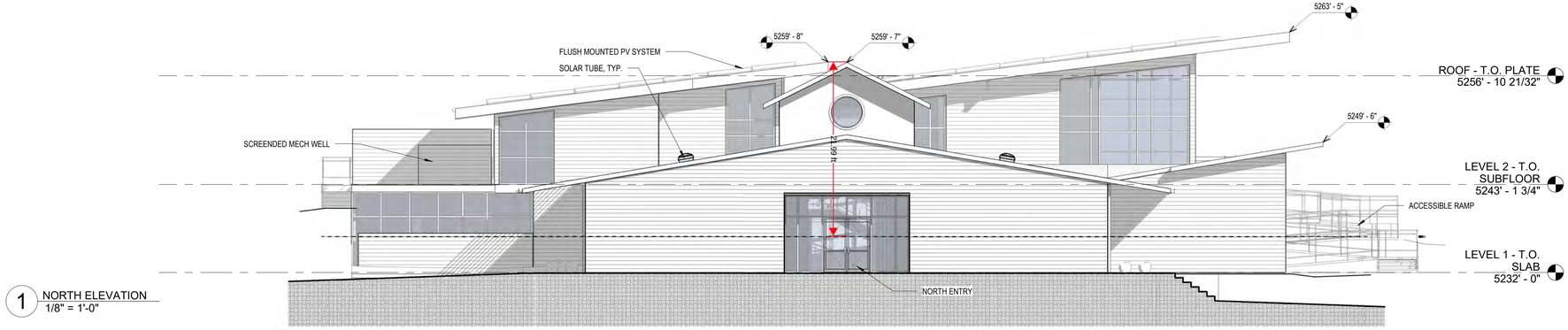
My relationship with Hillside began March of 2013 and continued for 4 years.
I have seen firsthand the impact Hillside has on its community through amazing parent and student support. HILLSIDE IS AMAZING! PLEASE ASSIST THEM IN EVERY WAY.

I believe this expansion is so important because teens with learning disabilities are more likely to get into substance abuse, legal issue and drop out of school.

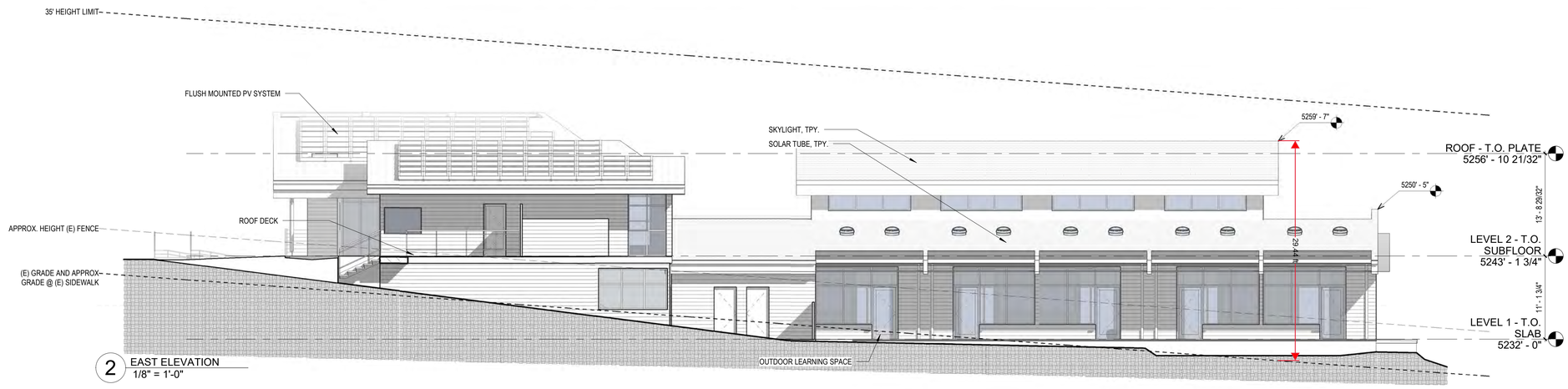
Dyslexia impacts a student both in and out of the classroom, shattering their confidence, impacting their emotional well-being, and creating a ripple effect that is felt throughout the entire family. Hillside is so much more than a private educational institution; it is a place where children's confidence is restored. Please consider supporting this project expansion so more families can benefit from this life-changing experience.

Sincerely,

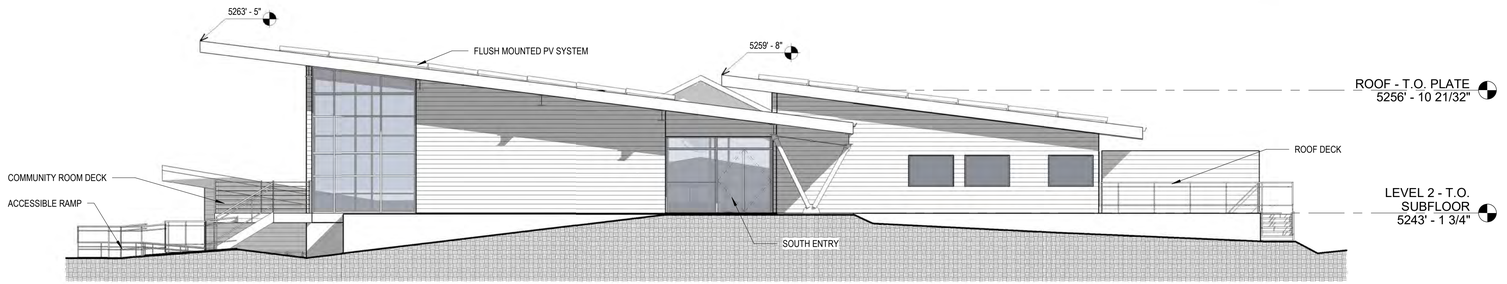
Patty Shull, Parent of Dyslexic Teen
713-446-8700



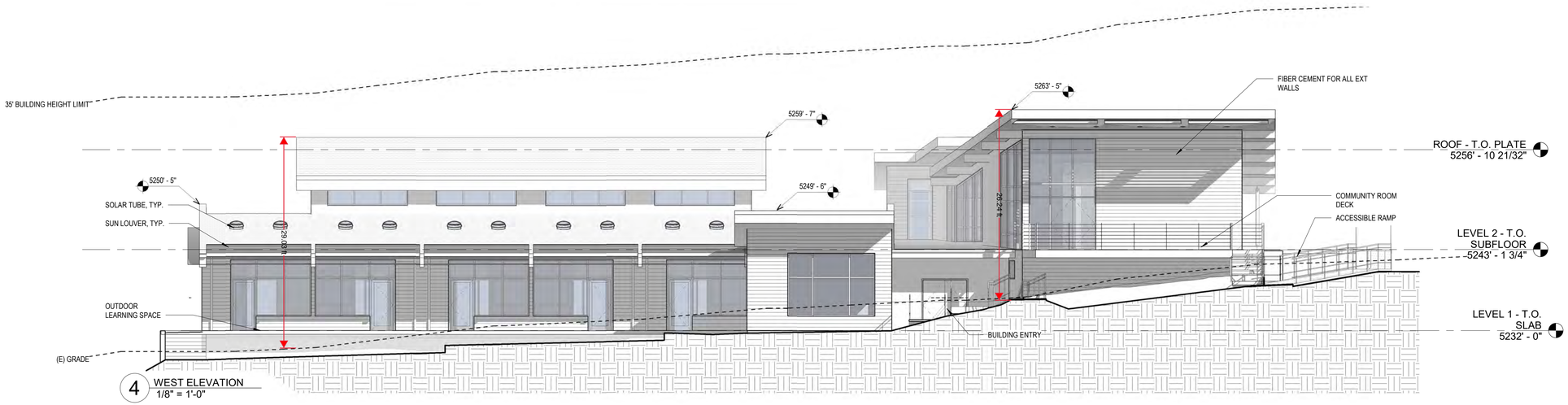
1 NORTH ELEVATION
1/8" = 1'-0"



2 EAST ELEVATION
1/8" = 1'-0"



3 SOUTH ELEVATION
1/8" = 1'-0"



4 WEST ELEVATION
1/8" = 1'-0"

caddis
Architecture, planning, etc.

BOULDER
1521 Easy Rider Lane #102
Boulder, CO 80304
tel: 303.443.3629

hello@caddispc.com
www.caddispc.com

HILLSIDE SCHOOL

7415 Lookout Road
Longmont, CO 80503

Full Size: 0" 1" 2"
Date: 03/03/2022
Project: Project #1923
Archive:
Plot Date: 3/3/2022 11:13:08 AM
Revisions:

Rev#	Date	Description

Modification to Special Use, Resubmittal

PHASE 2 EXTERIOR ELEVATIONS

A203

Walker, Samuel

From: Bryan Bowen <bryan@caddispc.com>
Sent: Wednesday, March 9, 2022 2:36 PM
To: Walker, Samuel
Cc: Cathy Dong
Subject: [EXTERNAL] Hillside floor areas

We just verified the areas, here they are:

Phase 1 is 6719 sf
Phase 2 is 7519 sf
Total is 14,238 sf

thank you!

- b

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