



Community Planning & Permitting

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BOULDER COUNTY PLANNING COMMISSION AGENDA ITEM #1

April 19, 2023, at 2:00 p.m.

All Commissioners' public hearings and meetings will be offered in a hybrid format where attendees can join through **Zoom** or **in-person** at the Boulder County Courthouse, 3rd Floor, 1325 Pearl Street, Boulder.

PUBLIC HEARING with PUBLIC TESTIMONY

STAFF: Hannah Hippely, AICP – Community Planning and Permitting

Docket SU-18-0011: Mackintosh Academy

Request: Special Use and Site Specific Development Plan review amendment for an Educational Facility including: allowing an expanded use of the property through the reduction of the no build area, the construction of a new 4,355 -square-foot building (resulting in a maximum 25,000 sq. ft.) and site improvements, an increase in the number of students from 155 to 190 maximum all of which will be Kindergarten through 8th grade (removing the High School element of previous approvals), the removal of the restriction on staff numbers.

Location: 6717 S. Boulder Road, on the northwest corner of the intersection of S. Boulder Road and Ed's Way (a private road), in Section 2, Township 1S, Range 70W.

Zoning: Estate Residential (ER)

Applicant/Property Owner: Jessica Dauchy, Mackintosh Academy

Agent: Danica Powell, Trestle Strategy Group

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SUMMARY

The applicant requests a Special Use and Site-Specific Development Plan approval to amend SU-06-015 for an Educational Facility within the Estate Residential (ER) Zoning District. With the recommended conditions of approval, staff finds the request can meet the Special Review Criteria in Article 4-601 of the Boulder County Land Use Code (the Code) and recommends the Planning Commission recommend conditional approval to the Board of County Commissioners.

PARCEL HISTORY

In 1995, the Sacred Heart of Mary Parish and The Abbey of St. Walburga applied to have their 154-acre property divided into 4 parcels, to expand the church, and to establish an Educational Facility (the Bridge School). This application was approved in 1997, and one of the parcels created (Parcel 4) was purchased for open space by the City of Boulder. The City of Boulder also obtained a conservation easement over the north portions of Parcel 2 and Parcel 3. Parcel 1 remains in the ownership of the Archdiocese of Denver. As per the approval an Educational Facility (the Bridge School) was established on Parcel 2. The conditions of approval of the Bridge School included the establishment of a ‘no build’ area on Parcel 2 as well as other conditions related to necessary facilities and improvements, and a student limit of 75 students. The ‘no build’ area condition was in response to concerns about the appropriate amount of development on the property. The resolution of approval (SU-95-23_SE-95-39 BOCC Resolution 96-90, Attachment B) states “In the Board’s assessment, any further structural development on these parcels would constitute new urban development contrary to the Comprehensive Plan and would be an over intensive use of land violating the special use criteria”.

In 2000, the Bridge School applied (SU-00-0012) to amend the previous approval asking for an increase in student numbers and to allow the construction of a 5,544 sq. ft addition to the existing 17,900 sq. ft. building. Only the increase in student numbers (to 105) was approved, and the most notable conditions of approval included specific limitations on enrollment and special events and those related to transportation impact mitigation. (See SU-00-0012 Development Agreement Attachment C) In 2006, the Bridge School again requested an amendment (SU-06-015) to permit additional students, allow a second operator (The Hillside Learning Center) to use the site, and modify the limitations on athletic and special events. Student numbers were increased to 155 students in K-12 along with 24 full time staff, and other conditions addressed parking, traffic, the onsite wastewater system, and signage. (See SU-06-0015 Development Agreement Attachment D). Concerns related to the impact of the facility on the rural character of the area, mitigation of the transportation impacts of the school, and the provision of adequate on-site facilities (parking, OWTS, etc.) are persistent in the dockets from 1995 to 2006.

CURRENT PROPOSAL

The current owners of the property, the Mackintosh Academy, opened their school at this location in 2010. In 2018, they applied to modify the previous approvals to allow the construction of a 9,109 sq. ft. building resulting in 30,000 sq. ft. of Floor Area on the site, an increase in student (pre-K to 8th grade) numbers to 190, an increase in staff, and the elimination of the High School (9-12 grades) elements of the school. The application was considered by agencies and staff multiple times (June of 2018, September of 2019, June of 2021) but was not presented to Planning Commission. The largest concern was the impact of the development on the rural character of the area and the application’s ability to meet the Additional Provisions for Special Review for Community Uses (Article 4-602.C.3) which could allow additional Floor Area if met. The Code limits Community Uses (of which an Educational Facility is one) to 25,000 sq. ft. of Floor Area on parcels between 20 and 34.9 acres. The Code, in Section 4-602.C.3, does provide the ability for existing uses to expand over that maximum provided Transferrable Development Credits are purchased and additional mitigation measures are put in place. In response to the challenge in meeting these additional provisions the applicant has revised the proposed size of the new building to 4,355 sq. ft. and resulting total Floor Area on the property to the allowed 25,000 sq. ft. allowed without needed to meet the additional provisions.

The current proposal includes the construction of a new 4,355 sq. ft. and 30 foot in height multipurpose building and the removal of existing Floor Area to ensure the overall maximum is maintained, the reduction of the ‘no-build’ area put in place by previous approvals to allow the construction of the new building, an increase in student numbers to 190 and the removal of the limitation on staff numbers, elimination of the High School (9-12th grade) element, a revised building plan, site improvements including updated site access, parking lot configuration, and circulation plan, a transportation demand management (TDM) plan, site landscaping, new drainage plan and new water and sewer connections to existing updated systems. This revised application was again referred to agencies and certain referral responses warranted a response from the applicant. The responses to the agencies along with updated materials were provided in March of 2023.

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 Code, with the recommended conditions of approval.

REFERRALS

On four occasions, this application was referred to the typical agencies, departments, and adjacent property owners. All responses received are included as Attachment E and summarized below.

County Development Review Team – Access & Engineering (DRT-A&E): In the referral dated 7/10/2018 staff noted that legal access to the property is provided by Ed’s Way a private road and that a Stormwater Quality Permit (SWQP) will be required with the building permit application. Staff provided comments related to the drainage plan and indicated that the existing accesses shall be improved to meet the specifications of the Boulder County Multimodal Transportation Standards. It was noted that vehicle capacity improvements to the intersections in the area were not needed but that it is necessary to improve pedestrian access from the bus stops on South Boulder Road particularly the stop on the south side of South Boulder Road (eastbound traffic). A plan showing delineated parking spaces, compliant with ADA parking requirements and bicycle parking requirements was required. In a subsequent referral dated 10/29/2019 it was stated that questions regarding the preliminary drainage report were answered, a requirement that design details for the proposed pedestrian access connection between the bus stop on the south side of South Boulder Road and the subject parcel must be included in plans submitted for permitting, required a stand-alone, dimensioned parking plan that demonstrates compliance with the Boulder County Multimodal Transportation Standards be included in plans submitted for permitting, noted that an access permit will be issued at the time of building permit review, and that an Access Improvement and Maintenance Agreement (AIMA) shall be issued for Ed’s Way. The AIMA will be completed by the Transportation Department and approved as part of the Building Permit process. In a 3rd referral response dated 7/19/2021 staff required that a revised grading fact sheet signed and stamped by a Colorado registered Professional Engineer, Landscape Architect, or Architect, be submitted as part of the building permit application. In regard to the proposed crosswalk that will connect pedestrians across Ed’s Way to a pathway that will enter the school grounds at the southeast corner of the property staff noted that the pathway must be a minimum of 6 feet in width to provide adequate space for students to walk in groups. A recommendation about relocating the crosswalk was included. Staff reiterated the need for a detailed parking plan and requirements for parking lots. A final referral response was provided by staff on 4/11/2023. Comments provided addressed the need for a signage plan to accompany the crosswalk installation at Ed’s Way, the need to provide measures to facilitate a safe crossing of South Boulder Road for users of the eastbound bus routes, the need for an additional bike rack, electric vehicle charging station requirements, the need for a Boulder County Stormwater Quality Permit (SWQP) and needed additional details for the drainage plan.

County Public Health Department: In the 8/7/2018 referral response staff noted that the OWTS was not adequately sized, that a property certificate did not accompany the 3/9/12 sale of the property, that

childcare under kindergarten age requires that the applicants submit a Boulder County Child Care Plan Review Packet to the Child Health Promotion Program, that a cafeteria will require a Plan Review from BCPH before a building permit may be obtained, that a retail food establishment license will also be required prior to operation of a cafeteria. An updated referral dated 4/12/2023 was provided. Staff noted that the OWTS was adequate for a school with 240 daytime people and that occasional and limited special events are permitted but if special events occur on a regular or continuous basis, a Change of Use Permit from BCPH may be required. Staff reiterated the requirements related to care of children under kindergarten age and the use of the kitchen.

County Building Safety & Inspection Services Team: The referral dated 7/24/2018 noted the requirement for a building plan review and permitting, highlighted specific requirements of the building code, and noted that 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.

County Wildfire Mitigation Team: The referral dated 8/28/2018 identified that the development is at risk to loss of life and property from wildfire. Recommendations related to the use of Ignition-Resistant Materials and Construction and the implementation of Defensible Space were provided along with conditions of approval.

County Natural Resource Planner: The referral dated 8/2/2018 noted Boulder County Comprehensive Plan and resource inventory designations on the parcel. A concern regarding the visual impact of the proposed 35-foot-tall building was expressed. Staff requested that the status of the management plan for the 1.5-acre cottonwood/ditch/pond area which was required by a previous approval be evaluated. Staff noted that “neither Wetlands nor Riparian Areas would be impacted. The proposed development is on the very edge of the HBA and is clustered in an area of existing developed. Agricultural Lands of Statewide Importance would not be significantly impacted, and the McGinn Ditch not disturbed. All trees to be removed are non-native, horticultural varieties”. Staff recommended that a Revegetation Plan be required. Staff provided a second referral dated 10/25/2019 and stated that they had no further comments beyond those provided 8/2/2018 and that the previous comment regarding the resource management plan had been resolved and is no longer an issue. Staff provided a third referral dated 6/22/2021 and noted that all of the concerns related in the 8/2/2018 memo have been addressed. Questions related to the included farm plan were asked.

County Long Range Planning: Staff provided a response dated 7/31/2021 noting the maximum Floor Area for a Community Use outlined in the Land Use Code along with a reference to Article 6-602.C.3 which could allow development in excess of that limit.

City of Lafayette City Engineer: The referral dated 8/21/2018 noted that the city is the water service provider to the site and provided comments related to the layout of the water service components and requirements for service and inspection. In a referral response dated 1/20/23 the City asked that Boulder County defer approval of the application until their comments were addressed and provided a list of comments.

City of Boulder Planning: The referral dated 7/24/2018 noted that the project is located within Area III-Rural Preservation under the Boulder Valley Comprehensive Plan (BVCP). The city found the proposed 9,109 square foot building to be inconsistent with the BVCP.

City of Boulder Open Space and Mountain Parks: The letter dated 7/23/2018 noted the city ownership of adjacent lands and conservation easements in the area. The city provided information regarding the use and treatment of these adjacent open spaces. The City owns a conservation easement on the subject property and noted that the landowners are to quitclaim mineral rights to the city in order

to fulfill the terms of the conservation easement. The city also provided comments related to the McGinn Ditch and recommendations regarding landscaping and exterior lighting. The city provided a second referral dated 7/13/2021 and reiterated the comments previously provided. The city provided a third referral dated 1/25/2023 and reiterated the comments previously provided. An email from the City dated 3/8/2023 noting that the requested transfer of mineral rights was underway was provided with the materials submitted in March 2023.

Rocky Mountain Fire: The referral response dated 7/28/2018 stated “no concerns provided all construction meets current 2012 IFC code requirements.”

Mountain View Fire Protection District: In the referral response dated 6/9/2021 the agency noted that “the site design will need to ensure building access requirements meet fire code for access to all exterior portions of the building within 150’ of a fire truck. The placement of the new building and its access will need to account for any access changes to the existing building.” In the subsequent referral received from the district 1/26/2023 they provided a list of items relating to emergency access and fire sprinklers that needed to be addressed by the applicant. A letter dated 3/9/2023 noting that Mountain View has reviewed the Site Plan with updated drawings for emergency access dated 3/6/23 and stating that “the designed emergency access as shown will meet required emergency access. Emergency water supply is available and pending final building design sprinkler requirements will be evaluated. We have no further comments during site plan review” was provided in the applicant’s March 2023 submittal materials.

Xcel Energy: In the referral response dated 7/24/2018 Xcel noted that PSCo owns and operates existing natural gas and electric distribution facilities along Ed’s Way and requested that they are shown on the plans. PSCo would like to remind the developer to call the Utility Notification Center have all utilities located prior to any construction and provided direction should the project require any new natural gas or electric service or modification to existing facilities. In a second referral Xcel noted a conflict with the project, stating “PSCo owns and operates existing natural gas and electric distribution facilities within the easterly area of the property in the area of the proposed 18-inch CMP storm pipe. Please note that wet utilities are not allowed in a PSCo easement (Rec. No. 786146 Film 537, June 16, 1965)”. A response to this referral was requested. In the referral response dated 1/25/2023 Xcel again noted the conflict and requested a response. A comment letter dated 3/9/2023 indicating that the conflict with the stormwater facilities in the PSCo easement has been resolved was provided by the applicant in the March 2023 resubmittal.

Adjacent Property Owners: Four adjacent property owners submitted letters of objection to the 6/19/2018 referral request. Two property owners submitted letters of objections in response to the 6/8/2021 referral request. One property owner submitted a letter of objections in response to the 12/21/2022 referral request.

Agencies that responded with no conflict: County Conservation Easement Program, Urban Drainage and Flood Control District, Historic Preservation.

SPECIAL REVIEW CRITERIA

The Community Planning & Permitting staff has reviewed the standards for approval of a Special Review for an Educational Facility in the Estate Residential Zoning District, per Article 4-601 of 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,*

An Educational Facility may be permitted in the ER Zoning District if approved by Special Review. The proposed new building will meet the 30-foot height limitation and required setbacks. A building permit is required for the new grading associated with the implementation of the parking and drainage plans and the new building. Final confirmation that the zoning height limit and setback requirements are met will be made during the building permitting and inspection processes. Also, during the building permit review process the requirements of the Fire District for construction will be addressed as noted in the County Building Safety & Inspection Services Team referral.

The development standards found in Article 7 are applicable and as a condition of approval, prior to the issuance of any building or grading permit associated with the parking lot expansion or construction of the new building, the applicant shall provide a site lighting plan for review and approval which demonstrates that all proposed exterior site lighting meets the requirements found in Article 7.

Article 4-516.W related to Accessory Parking requires the installation of electric vehicle (EV) charging stations when a parking lot has more than 15 spaces (55 spaces are required). The Code provides options regarding the numbers and types of EV charging facilities that could satisfy the requirement. Prior to the issuance of any building or grading permit related to the parking lot expansion, the applicant shall provide the details regarding the EV charging station installation. The installation of the EV charging facilities shall occur as part of the parking lot expansion.

The proposal is subject to all applicable Public Health requirements related to childcare and consumer protection as spelled out in the referral from Public Health. As a condition of approval, prior to issuance of any permit for the new building the applicant shall demonstrate compliance with these or other applicable Public Health regulations.

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;***

Staff finds that the proposal is in character with the surrounding area. Located east of Boulder where other rural and Community Uses exist in a transition area before reaching Boulder's urban edge, a school has operated at this location for over two decades with no significant impact on the area. In 2010, the county updated the Land Use Code and defined the total amount of Floor Area permitted on parcels for Community Uses. This Code change clarified what amount of development would be considered compatible. Previously, limitations on development of this site and others did not benefit from any guidance in the Code and in this instance a 'no build' zone was established in order to address the concern regarding the impacts to the rural character of the area. Given the change in the Code, staff supports the reduction of

the 'no build' zone to allow the applicant the ability to build up to 25,000 sq. ft. of Floor Area on the property. As a condition of approval, the applicant shall obtain building permits for the deconstruction of all Floor Area so that the overall Floor Area on the parcel can be tracked over time and a building permit for the new building shall not be issued until there is a sufficient reduction in existing Floor Area, so the 25,000 sq. ft. limit is observed. Additionally, staff recommends a condition of approval requiring the revised No Build Zone to be documented in the development agreement as an exhibit.

The changes proposed that are most likely to have visible impacts are the construction of a new building and site improvements. The new building is located north of South Boulder Road and will be partially screened by the existing row of trees and the existing wall along South Boulder Road. It is not located in a significant viewshed, and while the building will be visible, this in and of itself does not have an overall negative impact on the character of the area. Significant site improvements include the expansion of the parking lot and implementation of a drainage plan. These improvements are at grade improvements and will largely be screened by the existing wall, which is to be maintained.

The changes to student and staff numbers contribute to the overall intensity of the use and have a potential to impact traffic patterns to the site which will be considered further below. Of note, the applicant will be removing the high school element from the school, and this removes the potential for student drivers and the need for various special events and sporting activities which were part of the high school component. The high school element and its associated impacts and events was a source of concern from a compatibility standpoint in the past and previous approvals allowed for limited sporting events which are no longer proposed by the applicant. A proposed condition of approval which states that the Educational Facility will serve pre K-8th grade students and shall not include students beyond 8th grade is included in the recommendation.

The application materials note that "the proposed multi purpose space will host existing activities and school gatherings similar to existing conditions. The space will be used for indoor eating during inclement weather, indoor physical education (P.E.), and regularly scheduled student events". The previous approval included 20 Student Events defined as drama productions, arts shows and science fairs for which students and parents attend the events. The previous approval also included 5 annual Parent Events such as back to school night for which only parents attend the events. The approval noted that no other events or use of the school are authorized except as expressly provided herein. These limitations are reiterated in the conditions of approval proposed for this special use amendment.

As conditioned, staff finds this criterion can be met.

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

No resources of concern were identified within the area of development on the property, the northern portion of the property is protected by a conservation easement, and the no build area protects the.

The area is designated as Rural Preservation under the Boulder Valley Comprehensive Plan. Staff finds that the applicant's proposed maximum Floor Area of 25,000 sq. ft. to be compatible with this designation as this is the maximum Floor Area designated in the Code. This maximum was developed through the Text Amendment process (DC-09-0005) to establish the amount of development considered compatible with the rural character of the county and was adopted into the Code effective November 4, 2010.

Staff finds this criterion is 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 proposed new building and associated site improvements are clustered with the existing development on the site, all of which is confined to the southeast corner. Staff has identified no significant impacts that would result from this development. The applicant has described the various ways they have improved the existing facilities over the years to create a more sustainable facility including upgrading the heating system, replacing windows, upgrades to lighting and water fixtures, and adding a solar energy system to the site. The implementation of this project will result in substantial site disturbance, as a condition of approval staff recommends that prior to the issuance of any building or grading permit, the applicant shall submit a revegetation plan for review and approval.

Therefore, staff finds this criterion is 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. Water service to the site is provided by the City of Lafayette. The applicant has engaged with the City to ensure adequate water service can be provided to the site. Provided in the March 2023 materials was an updated referral letter from the City noting that they did not have any further comments and that they would continue to work with the applicant on the final details of providing service to the project. As a condition of approval, prior to the issuance of a building permit for the new structure the applicant shall provide a letter from the City of Lafayette indicating that adequate water service and facilities are provided to the site and that the permit may be issued.

Sanitary sewer services are provided on site by the existing on-site wastewater treatment system (OWTS). The updated technical memo dated 8/1/2022 regarding the OWTS provided by the applicant and recent referral memo from Public Health indicates that the OWTS can support up to 240 people. This memo reflects a Major Repair permit (MAJP-2020-0036) that received final approval on 9/03/2020. The applicant proposes to increase students to 190 and

remove the limit on the number of staff. Given the limitations of the OWTS, staff recommends a condition of approval that limits the total regular occupancy of the site to the capacity of the OWTS which is 240 people, this would allow 190 students and 50 staff members. The application includes performances and gatherings (back to school nights and conferences) similar to what was previously approved under SU-06-015 and staff has proposed a condition of approval carrying forward the parameters regarding the annual numbers of these events. The memo from Public Health indicates that these occasional and limited events are permitted but indicated that use beyond this could require a change in use permit from BCPH.

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 application narrative states that a total of 71 parking spaces will be provided on site, that there is a yearly agreement with the adjacent church for the daily use of a 15 spaces, a yearly agreement for use of the church parking lot during key community events such as back to school night and conferences. Additionally overflow parking is possible in the school's field area.

The application includes a Transportation Demand Management Plan, parking and circulation improvements and off-site pedestrian improvements. The successful implementation of these plans is essential to the project's ability to meet this criterion and conditions of approval specific to these items are proposed. Staff recommends as conditions:

- The applicant shall be subject to its proposed Transportation Demand Management Plan and full implementation of the Plan is required. This plan shall be included in the development agreement.
- The installation of the proposed of a crosswalk at Ed's Way and the development of a signing plan for the crosswalk is required. Prior to execution of the development agreement, the signing plan must be agreed to or approved. The plan must be implemented prior to increases in student population or within a timeframe agreed to within the development agreement.
- The development of mitigation measures to facilitate a safe crossing of South Boulder Road from the bus stop on the south side of the road are required. Prior to execution of the development agreement, the mitigation plan must be approved by the Public Works Department and included in the development agreement. The plan must be implemented prior to increase in student population or within a timeframe agreed to within the development agreement.
- Prior to execution of the development agreement, a dimensioned parking plan that demonstrates compliance with the Boulder County Multimodal Transportation Standards including but not limited to the provision of sufficient bicycle parking and ADA compliant spaces shall be provided.

With the recommended conditions, staff finds this criterion can be met.

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

The new building includes a platform with overhead doors and an outdoor stage, the applicant notes that outdoor amplification will be allowed on the new building facing campus inward only between the hours of 8am - 5pm, with occasional performances/gatherings that would end by 9pm. Staff is recommending these limits be included in the conditions of approval.

The development will trigger the need for a Boulder County Stormwater Quality Permit (SWQP). At the time of building or grading permit, the applicants must work with the Public Works Department to obtain a Stormwater Quality Permit (SWQP).

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

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

While the new building will be visible, the existing line of trees and wall along the front of the property help to mitigate the visual impact of the building and expanded parking lot, and the overall impact is not considered undue. Staff recommends a condition of approval requiring that the color of the new building be designed to blend with the surrounding natural environment to further mitigate potential impacts; medium to dark earthtone colors should be used. Prior to the issuance of a building permit, the exterior color of the building shall be reviewed and approved by staff.

As part of the application, a pedestrian connection is planned to be constructed into the site from the corner of South Boulder Road and Ed Way into the site. The applicant has indicated that the screening wall will be retained, and a gate will be installed in the wall to provide access to the site.

With the recommended condition of approval, 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 negative impacts to the health, safety, or welfare of the present or future inhabitants of Boulder County.

Staff finds this criterion is 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;*

The proposed project utilizes a site that has operated with some level of Community Use for many years, while a school has operated at the site for 26. The development is compact, it occupies approximately 3.5 acres of the 22.5-acre site. The applicant proposes to develop within the area previously impacted by the prior uses of the property as the area the new building and expanded parking lot was previously used as a cemetery by the Abbey (the remains of those buried there were relocated). The Mackintosh Academy has made significant investments in reducing the energy and water consumption of the existing buildings. The school itself provides for societal need to educate children. Overall, staff finds that there is a balance between current and future needs in this application which would permit the school to grow as proposed on an already developed site.

Staff finds this criterion is 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.*

One potential hazard identified on the site is Moderate Soil and Bedrock Swell Potential. This is most commonly addressed when designing the foundations of buildings, and the building permitting process ensures a safe outcome when poor soil conditions are found. This is a reasonable risk which can be mitigated at the time of building permit application and review.

It was identified that the site is at risk to loss of life and property from a wildfire. The referral provided 8/28/2018 included recommended conditions of approval however, this referral was drafted prior to the Marshall Fire and subsequent updates to the Building Code related to exterior materials. At this time, in order to address the wildfire hazard that exists staff recommends a condition of approval that prior to any application for any building or grading permits, the applicants shall develop a wildfire mitigation plan for approval by a county wildfire mitigation specialist.

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

The proposal includes approximately 1,390 cubic yards of non-foundational earthwork as part of the site improvements and the applicant has included a drainage plan which proposes drainage improvements to enhance management of storm water on site. Staff has not identified any alteration in historic drainage patterns or flow rates. As a condition of approval, the Drainage Plan shall be implemented along with construction of the expanded parking lot and new building. The Final Drainage Plan shall be reviewed and approved prior to the issuance of building or grading permits for the new building or parking lot improvements. The drainage plan review comments provided in the A&E referral from 4/11/23 shall be included in the Final Drainage Plan.

Therefore, staff finds this criterion can be met.

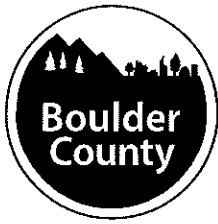
RECOMMENDATION

Staff has determined that the proposal can meet all the applicable criteria of the Boulder County Land Use Code for Special Review. Therefore, staff recommend that the Planning Commission recommends *conditionally approving docket SU-18-0011: Mackintosh Academy* 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 license or 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 any building or grading permit related to the parking lot expansion, the applicant shall provide the details regarding the required EV charging station installation. The installation of the EV charging facilities shall occur as part of the parking lot expansion.
3. Prior to the issuance of any building or grading permit associated with the parking lot expansion or construction of the new building, the applicant shall provide a site lighting plan for review and approval which demonstrates that all proposed exterior site lighting meets the requirements found in Article 7.
4. Prior to issuance of any permit for the new building the applicant shall demonstrate compliance with applicable Public Health regulations including but not limited to those associated with childcare and the use of the kitchen in the new building.
5. Prior to the issuance of any building or grading permit, the applicant shall submit a revegetation plan for review and approval.
6. At the time of building or grading permit, the applicants must work with the Public Works Department to obtain a Stormwater Quality Permit (SWQP).
7. Prior to the issuance of a building permit for the new structure the applicant shall provide a letter from the City of Lafayette indicating that adequate water service and facilities are provided to the site and that the permit may be issued.
8. The Educational Facility will serve pre K-8th grade students and shall not include students beyond 8th grade.
9. The no build zone is approved to be reduced to allow for the construction of the new building, the revised No build Zone shall be documented in the development agreement as an exhibit.
10. The maximum allowed Floor Area on the site is 25,000 sq. ft. The applicant shall obtain building permits for the deconstruction of all Floor Area so that the overall Floor Area on the parcel can be tracked over time. A building permit for the new structure shall not be issued until there is a sufficient reduction in existing Floor Area so the 25,000 sq. ft. limit is observed.
11. Prior to the issuance of a building permit the exterior color of the new building shall be reviewed and approved by staff. Colors must be medium to dark earth tone colors to mitigate the visual impact of the building.
12. Prior to any application for any building or grading permits, the applicants shall develop a wildfire mitigation plan for the site, the plan shall be reviewed and approved by a county wildfire mitigation specialist.
13. The full implementation of the proposed Transportation Demand Management Plan is required. This plan shall be included in the development agreement.
14. The installation of the proposed of a crosswalk at Ed's Way and the development of a signing plan for the crosswalk is required. Prior to execution of the development agreement, the signing plan must be agreed to or approved. The plan must be implemented prior to increases in student population or within a timeframe agreed to within the development agreement.
15. The development of mitigation measures to facilitate a safe crossing of South Boulder Road from the bus stop on the south side of the road are required. Prior to execution of the development agreement, the mitigation plan must be approved by the Public Works Department and included in the development agreement. The plan must be implemented prior to increase in student population or within a timeframe agreed to within the development agreement.

16. Prior to execution of the development agreement, a dimensioned parking plan that demonstrates compliance with the Boulder County Multimodal Transportation Standards including but not limited to the provision of sufficient bicycle parking and ADA compliant spaces shall be provided.
17. Occupancy of the site is limited to 240 people; this would allow the requested 190 students and 50 staff members.
18. Twenty annual Student Events (such as drama productions, art shows, science fairs where students and parents attend the events) and 5 annual Parent Events (such as back to school night, conferences where only parents attend the events) are permitted under this approval. No other events are authorized except as expressly provided herein.
19. Outdoor amplification will be allowed on the new building facing campus inward only between the hours of 8a.m. – 5 p.m., with occasional performances/gatherings that would end by 9 p.m.
20. The applicants shall be subject to the terms, conditions, and commitments of record and in the file for docket SU-18-0011: Mackintosh Academy.

ATTACHMENT A



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.

<i>Shaded Areas for Staff Use Only</i>
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			
<input type="checkbox"/> Appeal <input type="checkbox"/> Correction Plat <input type="checkbox"/> Exemption Plat <input type="checkbox"/> Final Plat <input type="checkbox"/> Limited Impact Special Use <input type="checkbox"/> Limited Impact Special Use Waiver <input type="checkbox"/> Location and Extent		<input type="checkbox"/> Modification of Site Plan Review <input type="checkbox"/> Modification of Special Use <input type="checkbox"/> Preliminary Plan <input type="checkbox"/> Resubdivision (Replat) <input type="checkbox"/> Rezoning		<input type="checkbox"/> Road Name Change <input type="checkbox"/> Road/Easement Vacation <input type="checkbox"/> Site Plan Review <input type="checkbox"/> Site Plan Review Waiver <input type="checkbox"/> Sketch Plan <input checked="" type="checkbox"/> Special Use/SSDP	<input type="checkbox"/> Special Use (Oil & Gas development) <input type="checkbox"/> State Interest Review (1041) <input type="checkbox"/> Subdivision Exemption <input type="checkbox"/> Variance <input type="checkbox"/> Other:
Location(s)/Street Address(es) 6717 S. Boulder Road					
Boulder, CO 80303					
Subdivision Name Saint Walburga					
Lot(s) Parcel 2	Block(s)	Section(s) 2	Township(s) 1 South	Range(s) 70 West	
Area In Acres 22.6	Existing Zoning ER - Estate Residential	Existing Use of Property Mackintosh Academy		Number of Proposed Lots 1	
Proposed Water Supply		Proposed Sewage Disposal Method			

Applicants:

Applicant/Property Owner Jessica Dauchy on behalf of Mackintosh Academy			Email jdauchy@mackboulder.com	
Mailing Address 6717 S. Boulder Road				
City Boulder	State CO	Zip Code 80303	Phone 303.554.2011	
Applicant/Property Owner/Agent/Consultant			Email	
Mailing Address				
City	State	Zip Code	Phone	
Agent/Consultant Danica Powell - Consultant			Email Danica@trestlestrategy.com	
Mailing Address 1350 Pine Street, Suite 5				
City Boulder	State CO	Zip Code 80302	Phone 303.579.6221	

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 <i>Jessica Dauchy</i>	Printed Name Jessica Dauchy	Date 11/30/22
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.

Mackintosh Academy - Boulder Special Use Review Application



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Overview

Located in Boulder County, Mackintosh Academy was established in 1977 (Littleton Campus 1977, Boulder Campus 2011). Mackintosh has an International Baccalaureate (IB) curriculum, serves a gifted learner population, and has a strong focus on social emotional learning (SEL). Mackintosh provides a high level of student teacher ratio, a robust Specialists program, and support staff to serve the students' academic and social-emotional needs.

The current facility is approximately 22,000 SF and is located on 22.6 acres at 6717 South Boulder Road. The Site is located in Boulder County with a zoning of Estate Residential (ER) and has no floodplain restrictions. A 9.88 acre conservation easement is on the property, and the McGinn ditch traverses the site in an east/west direction. Mackintosh Academy bought the property from Hillside School in 2011.



Our previous submission to the County in 2018, has been revised in response to comments received during the referral process and meetings with County staff and to be consistent with the Area III Rural Preservation area as well as the Special Review criteria. The approvals that are being sought today would allow Mackintosh Academy to realize its mission and serve the community in a manner that is sustainable for the long term. The school is much different than its predecessors, and takes a serious approach to seeking these approvals with the County and our neighbors. New construction includes a standalone 4355 sf multi purpose building to provide much needed indoor gym space, cafeteria, and a performing arts classroom. Additional site improvements include updated site access and parking lot configuration, site landscaping, new stormwater lines and water quality and detention areas, and new water and sewer connections to existing updated systems. Several smaller buildings will be removed in order to maximize the efficiency and multi-use opportunities of the new building.

Key changes include:

- phased increase in students from current 155 to maximum 190
- remove staff limitation
- removal of the allowance for High School (9-12) to reduce future impacts associated with older students (sports, night time activities, traffic, etc.)
- reduction in square footage from original building plan 9109 sf, to updated 4355 sf square foot multi purpose building
- removal of 1700 sf of various existing miscellaneous outbuildings
- removal of portion of the property from “no build” area to allow for new structure
- no development transfer credits required
- building height lowered to 30 feet
- improved drainage and water quality
- safer circulation for parking lot and drop off



These revisions will allow for 24,799 square feet of total square feet (in 2 buildings). According to Article 4-602 (c) (2) – Special Provisions: Special Review for Community and Lodging Uses the maximum development for this site would be 25,000 square feet. This section of the Land Use Code establishes maximum allowable square footage for a parcel where Community Uses and Lodging Uses are located. The maximum allowable square footage is dictated by the acreage of the parcel. The County adopted these provisions as recognition that while Community and Lodging Uses will develop in the County, specific limits to the development of those uses are necessary in order to help define the extent of the impacts of the proposed development, and ensure the proposed development is in keeping with the goals set forth in the Comprehensive Plan; such as protecting rural lands, establishing community buffers, and maintaining significant viewsheds. The proposal also includes a request to remove a small portion of the “no build” area to accommodate the new structure as shown in the exhibit below..



This proposal is a long term, conservative approach to allow the school to remain in this community and serve the students, faculty, and staff in a manner that reflects the core values of Mackintosh Academy. We recognize the hurdles we face in overcoming previous land use decisions on this property; however, we also recognize the County has revised their code to consider expansions to community serving uses. At the time that the previous land owner went through a Special Review process on this property, these maximums were not identified in the land use code.

Given these changes, and the change in the school management/ownership, we have taken a careful and methodical approach to our land use changes. At the same time, we have hired experts in the education, planning and engineering fields to professionally act on behalf of the project (which has been very expensive and time consuming) while drawing on resources from other partners (CU, Water Action Solutions, Partners of a Clean Environment (PACE), RGS Energy, LSC Transportation Consultants) that can support our efforts using cost effective, innovative methods.

Community Outreach

We have been working with the parents, staff and student body to prepare for this potential expansion for well over five years. Core to this process is being sensitive and proactive about how we use and relate to the land and the neighbors. Several initiatives have already begun to reduce traffic (including buying two

Mack mini-buses) and education for both students and parents about carpooling and trip reduction. Students have studied energy, water use, height, building location and noise in order to incorporate County core values and policies into the process and make a lasting impact. Our school is also deeply committed to teaching and embodying environmental sustainability. We have extensively researched previous land use cases and reviewed community comments received during these approvals. We conducted a multi year, robust community engagement process to engage with our neighbors and the County to address comments and demonstrate the principles of stewardship and community that are primary tenants of the school's philosophy.

Community Engagement and Project Key Dates:

- **February 15, 2017** – Campus Visioning meeting with school community
- **January 26, 2017** – Meeting with Boulder County about process
- **February 7, 2017** – Community meeting with neighbors
- **February 7, 2017** – Meeting with Dale Case
- **June 1, 2017** – Meeting with Dale Case
- **October 2, 2017** – Meeting with Habitat for Humanity
- **2018** - Installed 5 Smartsense toilets
- **April 2018** – Presented Campus Plan update
- **May 29, 2018** – Sent letter of project update to neighbors
- **Fall 2018** - Added two Mack vans for field trips and reduced 590 trips/school year
- **June 2018** – **First submittal to Boulder County**
- **October 2018** – Met with PACE to discuss efficiency and sustainability opportunities
- **November 29, 2018** - Met with Elain Erb (Sustainable Transportation Planner) with Boulder Transportation Connections to discuss Trip Tracker program for Mack
- **December 11, 2018** - Met with Way2Go/SchoolPool with Dr. Cog (Mia Bemelen) to discuss carpool and transit options. Met with DRCOG School Pool to discuss carpool and transit options
- **2019** - Replaced entire heating system with 5 energy efficient boilers and replaced every window in the building - both efforts led to major energy efficiency and savings
- **2019** - Replacement of all interior fluorescent bulbs with LED bulbs and fixtures
- **January 2019** - Water Action Solutions Report
- **March 2019** - Went to solar companies for bids, raised \$165,000 at Spring auction to install new roof and 35kW solar system
- **Spring 2019** – CU reports on school's Global Reporting Initiative environmental assessment
- **Spring 2019** - Energy monitoring and portfolio management through Energystar Benchmarking Portfolio Manager and Xcel Energy Profile
- **Spring 2019** - Collecting all energy bills since 2008 and tracking energy use, upgrades and benchmarking
- **Spring 2019 and ongoing** - Student training and leadership- lights, thermostats, monitoring
- **June 2019** - Installed 25 new light tubes to utilize natural light in classroom
- **June 2019** - Installed new gutters to displace rainwater and improve stormwater runoff
- **July 2019** - Installed new 35kw PV and new roof (\$85,000)
- **Fall 2019** - Design Mack Mobility program to offset traffic impacts as school increases capacity
- **Summer 2019** - Pursue PACE low water certification
- **Spring 2019** - Evaluated ditch water rights to utilize for future farming operations
- **Spring 2019** - Met with OSMP for guidance on practices on conservation easement
- **Spring 2019** - Researched Pilot program with VIA to do bus service and reduce daily trips and Single Occupancy Vehicles
- **Spring 2019** - Conducted transportation survey of Parents to identify opportunities and constraints

- **Spring 2019** - Replaced disposable silverware with washable silverware in middle school
- **August 2019 – Second submittal to Boulder County**
- **October 2019** – Received letter of Support from Chang Thai Zen
- **2020** - Major upgrades to OWTS including consolidation of multiple tanks and lift station and expansion of system to serve proposed development
- **Summer 2020** - Replaced remaining toilets with low-flush models and remaining faucets with water efficient models
- **November 18, 2021** - Met with Staff Planner, Hannah Hippley
- **December 3, 2021** - Met with Staff Planner, Hannah Hippley
- **April 18, 2022:** Met with Staff Planner, Hannah Hippley
- **September 11, 2022** - Current submittal to Boulder County

Project Goals

Through this addition, and associated campus improvements, Mackintosh will tie all of the currently scattered physical building and site elements together to create a cohesive campus to support the purpose, vision, and curriculum. Please see attached site plans, floor plans, and architectural imagery for more details.

The new space would help the school achieve the following goals:

- Improve campus safety and create a “front door/face” for the campus;
- Improve overall circulation including designated drop off/pick up zone, safe pedestrian zones and direct access to westbound RTD bus stop on South Boulder Road;
- Improve parking lot safety and increase the number of spaces;
- Improve fire access;
- Create a “teaching” building through high performance design, energy upgrades, and sustainability practices;
- Increase in high functioning multi-purpose spaces, with small increase in students, to allow full realization of the curriculum and support programming for gifted population of students (i.e. student/teacher ratios);
- Provide opportunities for social interactions at entrance and potential gathering area;
- Enhance the existing Transportation Demand Management (TDM) program;
- Incorporate sustainability measures (solar, lighting, energy);
- Ensure that school is a good neighbor – partnerships with neighboring farms, partnerships with local non-profits;
- Align school vision and function to the intended agricultural qualities and character of the Rural Preservation zone of Boulder County.

Site & Building Design Considerations

Sustainability/Energy/Water

Mack Academy is committed to sustainability principles and practices. Through this campus visioning process, specific site and building improvements were made, which reduced energy and water consumption, provided onsite renewables, reduced trips and reliance on the single occupancy vehicle.

More detail is provided in the analysis below, highlights include:

- Installed 35 kw solar PV;
- Water reuse;
- Implemented improved composting and zero waste practices;

- Implemented trip reduction programs;
- Utilized existing water rights for landscaping, food production, micro-farming and other agricultural uses;
- Replaced boilers, lighting, thermostats, windows, and installed low water use plumbing;
- Replaced septic system;
- Implemented agricultural management recommendations of OSMP.



Screenshot illustrating where solar panels were installed.

In 2020 Mackintosh Academy made significant improvements to their OWTS, see Updated OWTS Technical Memo. The 2020 design capacity was permitted to 1,999 gpd to be within the Boulder County OWTS Regulations. The previous five septic tanks and one lift station were consolidated to a new single-compartment septic tank and a new three-compartment septic tank with effluent filter and dosing chamber. Similarly, the collection system was consolidated and rerouted to the new septic tanks. A sanitary sewer stub was installed and capped prior to the 2,500-gallon single compartment septic tank for the proposed building. The pump and controls were updated to replace the aging infrastructure. The existing soil treatment area was left in service as it was still functioning as designed.

Preservation of Open Space, Conservation Easement and Habitat Restoration



The proposed building is clustered with the existing school building. The purpose of the conservation easement is for the preservation of the property as an independent school and for open space purposes. Allowed structures within the conservation easement are limited to one barn up to 16 feet in height and a maximum of 1,000 square feet. The existing conservation easement will not be impacted by the new structure or campus improvements. The McGinn ditch will also not be impacted.

A significant effort was made in 2017 to pursue a grant with National Geographic to convert an old stock pond on the property to an educational wetland. While this last effort was unsuccessful, the effort forged new relationships and partnership opportunities with multiple agencies and programs. Mackintosh Academy will continue to pursue opportunities to implement this vision and has significant commitment and leadership within the Mackintosh community as the partners identified in the first grant.

The project team and advisors included City of Boulder Open Space and Mountain Parks, The GLOBE Program, University of Colorado Boulder, Colorado State University, Playa Lakes Joint Venture, Colorado Natural Heritage Program, and Boulder County Audubon Society Teen Naturalist Program. The Civil, Environmental and Architectural Engineering Department at University of Colorado Boulder included the site as a Senior Capstone Project this past semester. The students in the course did an intensive site study and completed a suggested final design for the wetland. The Boulder County Audubon Society Teen Naturalists completed a nesting bird survey of the area.

Parking, Circulation and Transportation Demand Management (TDM)

Overall the circulation and parking will be greatly improved with the proposed site changes. Site improvements will include additional parking spaces, and designated accessible spots at the new entrance to the school, as well as designated van spots. The parking demand will generally stay the same for the proposed project. The proposal includes a slight increase in students (from 155 to 190). The proposed multi purpose space will host existing activities and school gatherings similar to existing conditions. The space will be used for indoor eating during inclement weather, indoor physical education (P.E.), and regularly scheduled student events.

The parking is being upgraded to provide better circulation, a drop off zone, and accessible and bike parking. Parking is provided as follows:

- Total Parking Required by code	55 Spaces
- Existing parking	55 spaces
- Existing parking to be removed/demolished	23 spaces
- Proposed parking spaces	39 spaces
- Total Parking Spaces Proposed	71 spaces

In addition the following spaces are available for overflow/event parking:

- Yearly agreement with neighboring church for daily use of 15 spots (see attached)
- Yearly agreement with church for use of overflow parking using most of their parking lots during key community events (ie: Back to School Night, Conferences, etc.)
- Overflow parking in school's field area (approximately 40 cars)



In anticipation of this submission, Mackintosh Academy purchased two 15-seater vans in 2017 to reduce trips and support the school's climate action goals. In 2017, these vans significantly reduced the number of and saved hundreds of vehicle miles driven. These vans reduce the number of trips because parents are not making an extra trip to/from the school to carpool (vans are driven by teachers). Parent carpool vehicles typically hold 2-3 children (versus a 15 child van). In addition, many Mack families are comprised of siblings and carpooling is encouraged to reduce the number of trips arriving/departing the school during drop off/pick up.

Sacred Heart of Mary is the only other use using the school’s main access point, Ed’s Way. The Church’s peak traffic times are weekends and holidays, which are opposite the school’s peak traffic times. Emergency vehicle access will be provided through the new parking lot on the south of the building as shown on the site plan. The Project Team met with Rocky Mountain Fire to review the proposed plans. Additional emergency access is provided on the shared access road between the school and the church. All driveways and accessways will be designed and constructed to meet specifications of the Boulder County Multimodal Transportation Standards (the Standards).

Additional TDM strategies include the addition of bike racks and an accessible pedestrian connection to the existing bus stop on South Boulder Road.

Special Review Criteria Analysis

The following table describes how the application fulfills the 4-601 review criteria.

A. A use will be permitted by Special Review or Limited Impact Special Review only if the Board finds that the proposed use meets the following criteria as applicable:

- 1. Except as otherwise noted, the use will comply 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;**

Response: Schools are permitted by right by Special Review in the Estate Residential zoning district. The proposed use meets the minimum zoning requirements and would stay below the maximum square footage allowed by Special Review. All proposed structures and site development will apply for and obtain the appropriate permits, including but not limited to building permits, grading permits, onsite wastewater treatment system permits, and stormwater quality permits. Additionally, proposed uses and construction will comply with all applicable Standards and Codes, including but not limited to Multimodal Transportation Standards, the appropriate Fire Safety Code, and any state licensing regulations.

- 2. The use 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;**

Response: The proposed 4355 square foot building for Mackintosh Academy is a new, separate structure from the current school building. It will be clustered close to the existing buildings and close to South Boulder Road (similar to other developments along this corridor). The new structure will be completely screened from adjacent roads and

properties through a combination of existing trees, vegetation, tall stone walls as well as future landscaping. The proposed building has been carefully located to the south and slightly west of the existing school in order to minimize visual impacts from South Boulder Road and nearby homes. The building was also rotated on an angle to minimize the long edges of the building from public viewsheds and glass was minimized to reduce glare.

A thick row of mature pine trees line the property along South Boulder Road to provide a year round visual screen. In addition, there is a high stone wall that traverses the south edge of the property further providing screening and shielding for both noise and views. Both the trees and the wall will be protected and remain in place with the proposed project. In addition, the school dedicated a new waterline easement north of the row of trees to the Zen center in order to protect these mature trees during the construction of the new water line.

The building has minimal soil disturbance and is located in an area that is currently developed with playgrounds and associated outbuildings. As the area is flat, there is very little topography or proposed grading. Site disturbance and grading will be minimized, and the proposed development is designed to reduce soil erosion and deter weed infestation. There are no natural hazards on the site, and the building has been carefully sited to ensure preservation of open lands, and all existing natural features.

In addition, the siting and location of the parking lot, improved circulation and new building will provide a primary entry for the school for security and safety, as well as establish a "front door/face" for the campus. The building will open out onto the existing courtyards to provide central gathering spaces which are shielded and protected by the buildings and set back from the road.

In order to construct the new building several small structures, storage units and the art classroom will be removed to consolidate and cluster the buildings. The proposed architecture reflects the agricultural values of the neighborhood, and will use natural materials that are often seen in barns and outbuildings in Boulder County.

3. The use will be in accordance with the Comprehensive Plan;

Response: The project has reduced the proposed square footage from approximately 9000 sf to less than 5000 sf. The property is located in Area III – Rural Preservation of the Boulder Valley Comprehensive Plan, which is an area being "where the city and county intend to preserve existing rural land uses and character." The proposed addition will be significantly less visible and have fewer impacts than the recently constructed Zen Center, which was found to be consistent with Area III, Rural Preservation.

Specifically , the proposed use is appropriate for Area III for the following reasons:

- It is small increase of an existing Community Use that is consistent and complimentary with the surrounding quiet and rural farm character;
- The use will not significantly increase traffic on South Boulder Road and will improve traffic safety from existing conditions;

- The proposed use is permitted by the Boulder County Land Use Code.

The subject parcel contains a number of Comprehensive Plan designations, including:

- Riparian Area;
- Wetlands;
- Conservation Easement – the northern portion of the parcel, held by Boulder OSMP;
- High Biodiversity Area (HBA) – S. Boulder Creek, ranked “B2,” of very high significance;
- View Protection Corridor;
- Major Agricultural Ditch – McGinn;
- Significant Agricultural Lands – of national, statewide and local importance.

In the spring of 2019, Mack met the City of Boulder's Open Space and Mountain Parks (OSMP) department for guidance on practices on conservation easement and to seek input on the best way to steward the land. Mackintosh Academy has followed all recommendations from OSMP, including the decision to rotationally graze animals - a herd of alpacas - on our entire conservation easement parcel in lieu of bringing in outside compost and soil, in order to increase soil quality, as well as decisions regarding where we are currently farming - we are currently doing some small scale vegetable farming on .5 acres of our conservation easement. We are committed to an open and continuous partnership with OSMP in order to continue to steward the land at the highest standard while meeting our educational goals of sustainable farming and food science as part of our school curriculum.

At these meetings, the use of the agricultural lands was discussed and several activities were implemented, including:

- Annual mowing of the existing grass field;
- Planting of dozens of native trees to improve the quality of the wetland areas;
- Creation of a farming site plan for the entire property, with a focus on how to develop the western-most plots of land;
- Creation of an irrigation site plan for the easement and adjacent spaces.

Mackintosh Academy staff also met with the McGinn Ditch company to discuss our water rights and the proper use of the ditch in irrigating our land. We worked with them to develop a future irrigation system that includes re-opening our secondary ditch that runs adjacent to the main ditch. We plan to implement their recommendations in the spring/summer of 2023 after implementing some irrigation infrastructure. In the meantime, we will be using our existing artesian well to irrigate our farm plot and garden closer east towards the main school area.

Neither Wetlands nor Riparian Areas would be impacted. The proposed development is on the very edge of the HBA, and is clustered in an area of existing development. Agricultural Lands of Statewide Importance would not be significantly impacted, and the McGinn Ditch not disturbed. All trees to be removed are non-native, horticultural varieties. At the time of building permit, a Revegetation Plan will be provided that includes: grass species to be used, an explanation of the treatment of excavated topsoil, mapped delineation of all disturbance areas (this includes construction staging and soil stockpiling areas, driveways, utility lines, and septic system), and locations of silt fences or erosion control

logs, if necessary. All horticultural species to be planted will be reviewed by the county, and will emphasize xeriscaping principles.

Educational centers and schools are important components of Boulder County. This site has been in continuous use as for educational and agricultural practice since 1935 when, an abbey was founded by nuns who came to Colorado as political refugees from Nazi Germany. Agriculture was at the heart of the abbey, and until 1997, the nuns farmed and grazed cattle on the 135-acre property (including the adjacent Sacred Heart of Mary property). Mackintosh Academy will continue this tradition through long term conservation and protection of this property and the introduction of regenerative farming practices.

The proposed continued use meets these specific policies of the Boulder County Comprehensive Plan:

AG 1.01 Agricultural Land Preservation. It is the policy of Boulder County to promote and support the preservation of agricultural lands and activities within the unincorporated areas of the County, and to make that position known to all citizens currently living in or intending to move into this area.

Mackintosh Academy will continue to manage the conservation easements for agriculture and habitat conservation as well as provide instructional and educational support systems to promote and support this policy.

EC 1.01 Social Protection. Boulder County strives to ensure that all persons have access to meaningful employment with fair compensation, adequate benefits and security in the workplace.

Mackintosh Academy provides employment to teachers (faculty) and staff who contribute in many ways in the community. Mackintosh has made significant investments and improvements towards the salaries and benefits of employees. Some of the key improvements have included: 5-8% average raises, investment in a vested 401K with a "double down match" of up to 5% employee and 7% employer, full spread of healthcare, dental, and vision options with costs covered at over 90% for employees, 50% of salary covered for FMLA, etc. We also benchmark salaries and benefits against local peer public and independent schools, and Association of Colorado Independent Schools (ACIS). Our significant investments and support for employees has led to consistently positive retention and overall job satisfaction. Our faculty and staff are highly invested in our local communities through various service oriented and non-profit organizations.

EC 1.02 Equity, Diversity, and Inclusion. Boulder County recognizes the intersectionality of identities and shall continue to welcome and promote greater equity, diversity and inclusiveness.

Mackintosh Academy's dedication and promotion of JEDI (justice, equity, diversity, and inclusion) education is baked into our school's mission statement. Our JEDI mission statement reads: "At Mackintosh we believe in the inherent dignity and value of each individual. We gain strength as a society and as a culture by having

diversity, inclusion and equity as a foundation for our actions. It is our responsibility to use our individual power and our power as an educational institution to break the cycle of systemic racism, and all other isms which perpetuate a harmful world and a world of inequity. As we believe that part of our responsibility lies in dismantling inequity, we challenge ourselves to regularly evaluate and refine our curricula, policies, and practices. We also commit to allocating the appropriate resources to ensure we embody our beliefs every day.”

ER 1.06 Land Owners and Nongovernmental Organizations. Boulder County shall work in partnership with private land owners and nongovernmental organizations to protect, conserve, and restore designated environmental resources using a variety of tools.

Mackintosh is a committed partner to managing and preserving the natural and agricultural resources associated with their property. Since a significant portion of the property is already in OSMP conservation easements, Mackintosh will continue to work with staff and stakeholders to ensure that this property continues to be managed using best practices as well as protect from any future risks. In similar fashion, Mackintosh will work with the McGinn Ditch to operate and maintain the ditch for all existing and future users of this water source.

PH 1.02 Equitable Economic Development. Boulder County supports policies and equitable economic development that increase the number and availability of living wage jobs, as well as jobs with paid sick leave.

PH 1.03 Childcare Services. Boulder County supports efforts to ensure that adequate childcare facilities are located throughout Boulder County, especially in mountain communities and other rural, underserved areas.

PH 1.04 Family Friendly Workplaces. Boulder County supports the creation and adoption of family leave policies and family friendly workplaces.

4. **The use 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 rearrangement of structures and land disturbance, and the use of sustainable construction techniques, resource use, and transportation management;**

Response: The Macintosh property is 22.6 acres and the area proposed for the new building is directly adjacent to existing structures and clustered close to South Boulder Road, reflecting the development patterns along this corridor. The area proposed for new buildings is less than 5000 square feet, which is approximately .005 % of the 22.6 acre

property. Combined with the other building, the total area to be developed with buildings is .03% of the property. The parking lot is being reconfigured to provide safer circulation, improved drainage, and permeability.

Other site improvements include play areas and gardens. The majority of the site will remain in either a no-build area of conservation easements. The proposed building is located in an area that is currently used for a playground with existing structures, mulched playscapes, asphalt and concrete. The construction will not disturb agricultural lands or natural areas.

In context with the surrounding development, including Sacred Heart of Mary Catholic Church and the recently constructed Zen Center, Macintosh Academy is much lower intensity. The removal of the High School from the allowed uses will significantly reduce impacts related to parking, noise (cheering, announcers), light pollution (illuminated sport fields) and traffic (no teenagers driving to/from school). There will be no outdoor athletic events generating noise or requiring lights. The new building will be designed to minimize light pollution through downlighting, project timers and internal light shielding.

The proposed building and associated improvements will remove several outbuildings and consolidate uses into one new multi functional building with minimal land disturbance. The improvements will improve site drainage and add water quality facilities that don't currently exist for the entire property. Runoff will be improved and this compact development will impact a very small percentage of the site near the road.

We are committed to an open and continuous partnership with OSMP in order to continue to steward the land at the highest standard while meeting our educational goals of sustainable farming and food science as part of our school curriculum.

5. The use will not have a material adverse effect on community capital improvement programs;

Response: There have been no capital improvements requested by this site.

6. The use will not require a level of community facilities and services greater than which is available:

Response: The existing facilities will serve the proposed building. Concurrent with the Zen Center construction, a City of Lafayette water line was extended and a trunk was added for our future building from Ed's Way across the property adjacent to South Boulder Road. The existing building connects to the waterline in Eds way and the new building will connect to the new line. The septic system was significantly upgraded in 2019/2020 and was sized for both existing and proposed uses.

7. The use will support a multimodal transportation system and not result in significant negative impacts to the transportation system or traffic hazards;

Response: The site is located immediately adjacent to a bus stop on South Boulder Road. A pedestrian crosswalk with signage is located across South Boulder Road. The proposed

site revisions will reduce existing traffic hazards that exist on the property by improving site circulation, creating a designated drop off area, organizing safer parking (away from drop off area) and creating a longer drop off site to avoid back ups into Eds Road. In order to improve access and safety to the existing site as well as reduce reliance on a single occupancy vehicle, the following multi-modal measures have been implemented since we started the Special Review process with the County:

2018

- Added two Mack vans for field trips and carpool;
- Met with Elain Erb (Sustainable Transportation Planner) with Boulder Transportation Connections to discuss Trip Tracker program for Mack;
- Met with Way2Go/SchoolPool at DRCOG (Mia Bemelen) to discuss carpool and transit options.

2019

- Researched Pilot program with VIA to do bus service and reduce daily trips and Single Occupancy Vehicles;
- Design Mack mobility program to offset traffic impacts as school increases capacity;
- Conducted transportation survey of Parents to identify opportunities and constraints (attachment - survey);
- Mapped carpool opportunities (see map in attachments).

2020/2021

- Covid didn't allow carpooling mitigation plans to begin.

Additional Proposed Mitigation measures/improvements with Special Review

- Implementing MackMovers (BVSD's "Trip Tracker") incentive program to increase "Green Trips" to/from our school. A "Green Trip" is any transportation by foot, bike, bus, or carpooling. This is our approach to incentivizing students and increase/influence carpooling efforts;
- We connect families through our existing "MackBot" directory (Blackbaud) that shows the physical location of all Mack families;
- Install 4 bike racks to encourage bike use to reduce vehicle traffic;
- Install new bus crosswalks, sidewalks, and a direct, safer entry to campus via Ed's Way to increase use of public bus transportation;
- Construct accessible access to bus stop;
- Purchase a third Mack bus to mitigate additional field trip traffic;
- We will explore ways to connect our campus to Open Space trails/property adjacent to our campus to increase safer bike traffic to/from campus;
- Reconfigured parking lot to reduce back ups onto Eds way, provide separation from auto and pedestrian circulation and prevent idling.

8. The use will not cause significant air, odor, water or noise pollution:

Response: The proposed use will not cause significant air, odor, water or noise pollution. The removal of several outbuildings will allow for consolidation of storage, maintenance, and other activities that currently take place on the property. The septic system was updated in 2019/2020, which significantly reduced existing odor impacts on the site and potential water quality impacts and the OWTS Property Transfer Certificate has been completed. New gutters were installed alongside the new roof to direct rooftop runoff into the future stormwater treatment system. The project will include a new detention pond with water quality treatment to improve water quality and treat stormwater runoff. There is no existing detention or water quality currently on the site. The improved circulation system and reconfigured parking lot will reduce idling times for cars. Outdoor amplification will be allowed on the new building facing campus inward only between the hours of 8am - 5pm, with occasional performances/gatherings that would end by 9pm.

9. The use will be adequately buffered or screened to mitigate any undue visual impacts of the use;

Response: Three viewshed perspectives were prepared to show the proposed visual impact from three prominent viewpoints from South Boulder Road. **Please note: these viewshed analysis show a larger building than what is being proposed.** As shown in the images, the proposed building will have extremely limited visibility due to the placement of the building close to the existing structure and below the height of a thick row of existing mature evergreen trees. In addition, there is a tall, solid wall along South Boulder road that further limits visibility into the site and of the proposed building. Mackintosh has worked to preserve the trees and in 2020, designated a new waterline easement to avoid impacts to this row of trees in order for the Zen Center to install the waterline serving their recent development.

10. The use will not otherwise be detrimental to the health, safety, or welfare of the present or future inhabitants of Boulder County; and

Response: The proposed improvements will improve the health, safety and welfare by creating a holistic campus to educate present and future residents of Boulder County.

11. The use 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.

Response: Mackintosh Academy shares the same sustainability values as the County and since acquiring the property in 2012 has significantly reduced the usage of gas, electricity, and water, while also reducing waste and improving recycling and composting practices.

In 2019, Mackintosh with a group of students in the CU Masters of Environment program to prepare a Global Reporting Initiative (GRI) environmental assessment based upon the school's primary areas of impact - energy, emissions, waste, and water. The report found an overall decrease in water usage, emissions and energy impacts due to the improvements and practices identified below. Based on this assessment, the students

provide both short term and long term recommendations in how to improve monitoring and sustainability of the school. Overall, we find Mackintosh's overall environmental impact to have reduced from a baseline year of 2012-2013 (academic year).

The following energy efficiency, conservation, and waste reduction measures have been implemented during the current process with the County in anticipation of Special Review.:

2016 - 2018:

- Met with PACE and implemented their key recommendations (Look into lighting/solar upgrades and forward proposals when ready; Install new faucet aerators and upgrade old toilets and urinals; Get a more intensive energy audit conducted by Xcel or similar, and sign the school up for EnergyStar's Portfolio Manager to track energy and water use; Advisors can help with custom signage, employee/student zero waste trainings, and connect you with new waste bins.)
- Replace 190 windows (2016)
- Installed 5 Smartsense toilets
- Raised \$165,000 at Spring auction to install new roof and installed new 35kw PV and new roof. This is the maximum allowed system we can put in re: Xcel rules.
- Energy monitoring and portfolio management through Energystar Benchmarking Portfolio Manager and Xcel Energy Profile (attachment)
- Evaluated ditch water rights to utilize for future farming operations
- Collecting all energy bills since 2008 and tracking energy use, upgrades and benchmarking; student training and leadership- lights, thermostats, monitoring
- Pursued PACE low water certification
- Installed 25 new light tubes to utilize natural light in classroom; Replaced all interior fluorescent and halogen bulbs with LED bulbs and fixtures
- Installed new roof and gutters to displace rainwater and improve stormwater runoff
- Water Action Solutions Report - Analysis and Recommendations for Water Use Efficiency at Mackintosh Academy (attachment)
- Replaced 5 boilers with energy efficient models
- Continue to maintain low water usage and pursuing PACE low water certification based on existing usage
- Replaced disposable silverware with washable silverware in middle school

Proposed Mitigation measures/improvements with Special Review

- Demonstrate an improvement of 10% for new construction in the proposed building performance rating compared with the baseline building performance rating as established by ASHRAE standard 90.1 – 2010 Appendix G, using a simulation model. Alternatively, meet an energy use intensity target (EUI) of 45 kBtu per square foot per year or less.
- Outdoor Water - Reduce the project's Landscape Water requirement by at least 30% from the calculated baseline for the site's peak watering month. Reductions will be achieved through plant species selection and irrigation system efficiency, as

calculated by the Environmental Protection Agency WaterSense Water Budget tool.

- Indoor Water - Reduce aggregate water consumption in the new structure by 20% from the baseline established by LEED for Schools WE PR Table 1. Reductions will be achieved for the following fixtures: Urinals, Water Closets, Public and Private Lavatories, Kitchen Faucets and shower heads, if applicable.

12. The use 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 Geological Survey landslide or earth/debris flow data, interim floodplain mapping data, and creek planning studies.

Response: There are no natural hazards associated with this site.

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 Geological Survey landslide, earth/debris flow data, and creek planning studies, all as applicable given the context of the subject property and the application.

Response: The historic pattern of stormwater runoff will not be changed. In 2016, the parking lot was regraded and a culvert installed under the parking lot to the roadside ditch along Eds Way. Improvements associated with this new building will provide new detention and water quality ponds for the entire site.

Mackintosh Academy Square Footage Analysis

	Existing Square Feet	Proposed Square Feet	Notes
Basement			
Classrooms	2,968	2,968	Library / Design / Lab / Offices
Accessible Storage A	327	327	Below Restroom across from Art Room
Accessible Storage B	186	186	Below Laboratory
Non Accessible Area	0	0	Below south east corner of building disconnected in 1998 renovation (825 sf not accessed, not counted)
Ground Level			
Main Building	16,696	16,696	
Art Classroom (standalone)	507	0	Existing To Be Removed
Playhouse	36	0	Existing To Be Removed
New Building	-	4355	Proposed multi purpose building
Misc. Site Storage			
Storage A	376	0	Existing To Be Removed
Storage B	121	0	Existing To Be Removed
Storage C	67	67	
Storage D	85	0	Existing To Be Removed
NEW Storage Shed	0	200	
1st Grade Gazebo	240	0	Existing To Be Removed
5th Grade Gazebo	192	0	Existing To Be Removed
Greenhouse	192	192	
Chicken Coop	575	0	Existing To Be Removed
Total	19,087	21,510	
Overall Total	22,568	24,991	
Allowed Square Footage on Site	25,000	4-602 (c) (2) – Special Provisions: Special Review for Community and Lodging Uses the maximum development for this site would be 25,000 sq. ft.	

Updated Project Application Materials

1. Updated 11" x 17" submittal drawings including Architectural, Landscape, Civil Engineering and Viewpoint Analysis drawings, October 20, 2022
2. Updated OWTS Technical Memo, August 1, 2022
3. Updated Mackintosh Grading Fact Sheet, August 5, 2022
4. Revised Mackintosh Drainage Report, August 5, 2022
5. Mackintosh Academy Transportation Demand Management (TDM) Plan, October 25, 2022

Supplemental Information

1. Design Inspirations
2. CU Sustainability Report and Presentation (Refer from Criteria 11)
3. Water-Use at Mackintosh Academy Boulder report
4. PACE Assessment of Mackintosh Academy Facility 2016
5. PACE Assessment of Mackintosh Academy Facility 2018
6. Mackintosh Academy's Natural Gas Usage
7. Mack Boulder Transportation Survey
8. Zen Center Letter of Support October 31, 2019
9. Parking Agreement with Adjacent Church Updated 8/15/22

ATTACHMENT A

10.25.22 Mackintosh Academy- Boulder • Special Review Transportation Demand Management (TDM)

In order to minimize impacts related to traffic during the phased expansion, we propose to implement the following strategies:

	Traffic Management Measures	Total Daily Trips
<p>Current Approvals 155 Students</p>	<ul style="list-style-type: none"> • Added 2 Mack Vans reduced 590 vehicle trips to/from campus per school year supporting off-campus field trips. • Added free EcoPass to faculty/staff that want to use public transportation. We will continue to push this benefit. • Completed a full community Traffic Use Study to determine the most impactful ways to reduce traffic to/from campus. • Encouraging carpooling too all new and returning parents. 	<p>From Traffic Study: 637 daily trips</p>
<p>Year 1 after Special Review approval</p> <p><i>Small increase in students and staff:</i> 170 students <i>(+25 students)</i></p>	<p>Example trip reduction methods:</p> <ul style="list-style-type: none"> • Carpool: We will start MackMovers (similar to BVSD's "Trip Tracker") incentive program to increase "Green Trips" to/from our school. A "Green Trip" is any transportation by foot, bike, bus, or carpooling. This will be our approach to using students to increase carpooling efforts. • Carpool: We will use and connect our existing "MackBot" directory that shows the physical location of all Mackintosh families to connect parents with others who want to carpool. • Bike Use: We will Install 4 bike racks to encourage bike use to reduce vehicle traffic. • Bike Use: We will explore ways to connect our campus to Open Space trails/property adjacent to our campus to increase safer bike traffic to/from campus. • Expand free use of EcoPass to faculty/staff that want to use public transportation. Increase awareness of bus use for Middle School students. Provide education around the benefits of First & Last Mile to increase use of RTD. 	<p>698 trips <i>(I.T.E. trip generation of 4.11)</i></p>
<p>Year 1 of New Building</p> <p><i>Possible growth to:</i> 170-190 students <i>(+5 - 20 people)</i></p>	<p>Proposal:</p> <ul style="list-style-type: none"> • Increase MackMovers programming to mitigate traffic increases. • Purchase a possible third Mack bus to mitigate additional field trip traffic. • Adding new bus crosswalks and a direct, safer entry to campus via Ed's Way to increase the use of public bus transportation. • Bike Use: If approved, we will add a trail connecting our campus to Open Space trails/property adjacent to our campus to increase safer bike traffic to/from school. • Install additional bike racks to further encourage bike use/traffic. • Expand free use of EcoPass to faculty/staff and Middle School students that want to use public transportation. Provide education around the benefits of First & Last Mile to increase use of RTD. 	<p>781 daily trips</p>

ATTACHMENT A

Based on the transportation study that Mackintosh conducted with families, the following measures were identified as viable options to reduce single-family car trips, improve traffic safety and reduce carbon emissions. These are programmatic solutions that are in addition to the already implemented programs and capital improvements:

MACK MOVERS INCENTIVE:

MackMovers is an incentive program, modeled after the Trip Trackers Program developed by Boulder Valley School District (BVSD) and now used by St. Vrain Valley School District (SVVSD). Like Trip Trackers, MackMovers would encourage families by rewarding students who walk, bike, skate, scoot, bus, or carpool to and from school. The MackMovers program would support the school-wide effort to reduce car congestion and pollution. Both BVSD and SVVSD have already confirmed that the MackMovers program may use the 50+ local business partners that redeem Trip Tracker Bucks, distributed monthly based on the number of *green trips*. The Mack Movers money earned from green trips could go towards prizes such as: sponsoring plants or animals on the Mack Farm, adopting a worm for our composters, donating dollars to a service organization of choice, planting a tree on campus, earning a class campout or picnic, receiving an eco-warrior badge, collecting a raffle ticket for bike, winning monogrammed Mack lunch bag/eco containers/silverware, donating of a science book to the library in your name, etc. The program and its prizes will be advertised on posters, emails, and flyers for both students and parents to see. In the November 2018 Traffic Study, nearly half of respondents indicated that *having an incentive* would make it likely, somewhat likely, or very likely that they would consider carpooling. Also, 77 respondents (68%) indicated that *pressure from their child to be eco-friendly* would make it likely, somewhat likely, or very likely that they would consider carpooling. The Mack Movers program intends to incentivize students to convince their parents to sign a Mack Movers Pledge to earn points towards a prize listed above.

CARPOOLING:

The existing MackBot (school database) can be utilized to help families connect to each other for geographic carpooling efforts. MackBot allows Mackintosh parents to easily connect with families in their neighborhood to arrange carpools. We plan to create a traffic manager position and appoint a parent to this role to help and encourage families to coordinate carpooling. Mackintosh completed an internal traffic study in November 2018. The decision to utilize School Pool is, in part, in response to the 88 parents (77%) who indicated that having the ability to see who lives nearby is likely, somewhat likely, or very likely to help them start carpooling. In the same study, 92 respondents (81%) indicated that having the ability to see others interested in carpooling would also make it likely, somewhat likely, or very likely to help them carpool. On average, 35-40 families participate in some carpooling to and/or from school. Mack will also incentivize teachers to carpool by reserving premium parking spots for those who help mitigate our traffic impact.

BIKE USE:

The proposed expansion adds additional bike racks to the campus to encourage people to ride to school. Currently there are no off street/protected bike routes to Mackintosh, however, we will continue to advocate with the City and County to create a bike trail system that connects students to our campus. The hope is that we would be able to utilize the existing Bobolink Trail System as a starting point for parents to drop-off their students. We would add a path that connects this Open Space to our campus so students would be able to bike to school on a safe and pleasant trail that avoids major roads.

MACK VANS:

Our 2017-2018 auction supported the purchase of two, 15 passenger Mack Vans.. These vehicles have proven their worth in supporting efforts to reduce vehicular traffic to/from campus. During a typical school year alone our two Mack Vans reduce 590 trips to/from campus by eliminating the need for parents to drive students to/from field trips. As we near the new enrollment capacity we will plan to purchase another Mack Van to further mitigate increased traffic as needed.

ECO PASS and FIRST & LAST MILE CONNECTIONS:

We are fortunate to have an RTD stop right outside our campus on the East/West bound sides of South Boulder. We will encourage the use of RTD bus transportation for employees and Middle School students by providing fully or partially comped ECO passes. By providing updated and proactive communication around the First & Last Mile Options, we will further increase the likelihood of RTD use. We have also added a new crosswalk across Ed's Way, and will create a new entrance through the eastside of our stone wall to provide a safer entrance to our campus.

Supplemental Information

1. Design Inspirations
2. CU Sustainability Report and Presentation (Refer from Criteria 11)
3. Water-Use at Mackintosh Academy Boulder report
4. PACE Assessment of Mackintosh Academy Facility 2016
5. PACE Assessment of Mackintosh Academy Facility 2018
6. Mackintosh Academy's Natural Gas Usage
7. Mack Boulder Transportation Survey
8. Zen Center Letter of Support October 31, 2019
9. Parking Agreement with Adjacent Church Updated 8/15/22

Design Inspirations

DINING COMMONS



MULTI-PURPOSE SPACES



OUTDOOR SPACES



EXTERIOR CHARACTER : INSPIRATION



EXTERIOR CHARACTER

INSPIRATION



Global Reporting Initiative Environmental Report

Prepared For:
Mackintosh Academy



Attention:
JJ Morrow
&
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Prepared By:
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1.0 EXECUTIVE SUMMARY

Mackintosh Academy plans to expand its campus within Boulder County Open Space. In order to be approved for this expansion, they need to demonstrate a history of reduced impact and develop a plan to ensure their expansion does not increase their impact on Boulder County Open Space. We performed a Global Reporting Initiative (GRI) environmental assessment based upon what the school's primary areas of impact were energy, emissions, waste, and water. We first established an understanding of the management and impact of the four topics areas. We found an overall decrease in water usage, emissions and energy impacts. Mackintosh's plans for expansion will likely reduce waste impacts as well. Based on this assessment, we provide both short term and long term recommendations in how to improve monitoring and sustainability of the school. Overall, we find Mackintosh's overall environmental impact to have reduced from a baseline year of 2012-2013 (academic year).

2.0 INTRODUCTION & BACKGROUND

2.1 MACKINTOSH & PROJECT CONTEXT

Mackintosh Academy (Mackintosh) is a small private elementary and middle school in Boulder. The students are challenged through their International Baccalaureate (IB) curriculum and cultivated through the school's mission of nurturing keen minds, compassionate hearts, and global action. In order to prepare for the schools growing population and increase the academy's operations, Mackintosh wishes to expand their campus by adding a new building. Currently, the school has 155 students and 35 full-time faculty members. The new building would provide room for an increased capacity of 190 students and 40 full-time faculty members. Before the academy can hope to expand, they must meet the standards stipulated by Boulder County. These may include the establishment of sustainable practices and building materials, in addition to the mitigation of transportation impacts and that of other inefficiencies.

In response to Boulder County's prerequisites for the school's expansion, as well as requirements for improvements within the current building on the campus, Mackintosh is now working to identify changes that need to be implemented and plan for future developments in the current building, as well as for the new building. These improvements will span over a wide range of areas, but will focus mainly on the emissions, energy, water usage, and waste generated on campus.

2.2 THE SIGNIFICANCE OF GRI REPORTING

Sustainability reporting is a process which helps organizations and their stakeholders understand what their impact is on global issues such as human rights, climate change, governance, and social well-being (GRI 2019). Reporting ensures that in their decision making, organizations are considering their global impact. Any organization can report on their sustainability and doing so displays accountability, transparency, and demonstration of proactivity on initiatives to the public (GRI 2019). Today, the Global Reporting Initiative (GRI) is the most universally used framework for sustainability reporting with 13,324 reporting organizations (GRI 2019). GRI reports require three universal standards guiding the reporting of relevant information such as their profile and how the topics material to the organization are managed. In addition to the three required standards, there are six economic standards, eight environmental standards, and nineteen social standards. Organizations can choose which of the topic-specific standards to report on – environmental, economic, and social - depending on what is determined as material

or significant to that organization. The guidance from GRI on material issues, choosing aspects which have the most significant impact on the organization, is a unique asset of using its framework (Ernst & Young LLP 2013).

Sustainability reporting through the GRI framework offers many benefits to organizations which all relate back to the value of collecting data on practices. Internally, benefits include management ones such as increased understanding of risk and opportunities, influence over long term management strategy and business plans, and benchmarking and assessing sustainability performance with respect to laws, norms, codes, performance standards, and voluntary initiatives. The data collection steps of sustainability reporting provide organizations with the necessary knowledge in order to continue to improve their practices (Ernst & Young LLP 2013). Economic internal benefits consist of streamlining processes thus improving in efficiency and reducing of costs. External benefits include the mitigation of negative environmental impacts, organizational influence on expectations about sustainable development, and increased stakeholder understanding of the organization's value (GRI 2019).

We chose to use the GRI framework to report on the sustainability of Mackintosh because of these many benefits including the ability to define materiality, assess long term performance, and increase understanding of Mackintosh's valuable initiatives. The Mackintosh Academy requires a framework to report on its current management practices and measure what has been done since 2008 by the school. The Mackintosh Academy's primary practices fall into four primary impact areas – energy, carbon (including energy use, food system, and transportation), waste, and water. These primary areas align closely with the Energy, Water and Effluents, Emissions, and Effluents and Waste topic specific disclosures within the GRI framework. A GRI style assessment of Mackintosh's activities demonstrates the impact of the school on the open space environment around that, how the organization's governance influences its history of impact, and what benchmarks can be implemented for the future.

3.0 METHODS

We used various methods during this project which can be categorized within four major phases of the project: 1) Baselineing; 2) Data Gathering; 3) Data Analysis; 4) Determine Recommendations. The first action we took was to analyze the different indicators and metrics to determine which would be most appropriate for this project. Due to the focus on environmental factors, we determined the Global Reporting Initiative (GRI) requirements and associated disclosures would be most appropriate. When we began baselineing, there was a significant amount data available at the start which allowed us to quickly develop a baseline set of data and compare against the data required by the GRI disclosures. This baselineing activity allowed us to determine what data gaps existed and data we needed to collect. In addition, during this phase we met with Danica Powell of Trestle Strategy Group, who was assisting Mackintosh in obtaining the expansion approval by the county. Meeting with Danica allowed to gain a better understanding of the needs of Mackintosh, current practices and operations, and confirm focus areas for the project. The second phase, Data Gathering, primarily consisted of a series of requests for information (RFIs). The RFIs were for data identified during Baselineing. We also conducted research within the focus areas of Energy, Water and Effluents, Emissions, and Effluents to better understand practices and to begin identifying potential improvements and recommendations. Lastly, during Data Analysis, we filtered through the additional data provided as a response to our RFIs to fill the gaps identified during Baselineing. As a result, we found

further information needed which required additional RFIs. After data was reviewed and organized, we performed data calculations to determine the amount of waste and water effluents being produced as well as emissions in accordance with, for example, the Greenhouse Gas (GHG) Accounting protocol. Once we performed all the necessary calculations, we synthesized the results and determined specific recommendations for improvement in each focus area.

4.0 TOPIC-SPECIFIC DISCLOSURES - ENVIRONMENTAL

4.1 ENERGY MANAGEMENT – GRI 302

In order to provide a one-of-a-kind learning environment for gifted and creative children, Mackintosh Academy considers energy material to its educational and business operations for their 155 students and 35 full-time faculty. Energy use through the Academy includes lighting indoors and outdoors, the combustion of natural gas from on-site boilers, cooling, computers, office equipment, refrigeration, and ventilation for its 20,810 Square Foot building. Stakeholders include students, parents, faculty, staff, prospective students, the Board and through their core values they strive to make efforts to mitigate climate change on the local scale and continually lower their GHG emissions by the implementation of previous and future energy efficiency initiatives. Xcel Energy, a Minneapolis-based company, is the only supplier of electricity across the Midwestern states. Due to Mackintosh's relationship as a consumer, it directly links them to the contribution of GHG emissions and overall climate change. The combustion of natural gas from on-site boilers and electricity use are the main sources of energy

Since Mackintosh purchased the property in 2011, it has had multiple Xcel accounts creating difficulty in management and tracking until July 2018. As of 2018, they have a single account moving forward for effortless identification of energy-related impacts through Xcel Energy portfolio. In 2019 they also signed up for Energy Star Benchmarking Portfolio Manager, an online tool you can use to measure and track energy consumption, and Xcel energy audit with rebates in which they send an energy advisor to complete a comprehensive audit of the facilities lighting, heating, cooling.

After consolidation of previous bills and releases of information from previous bookkeepers, complete energy bills from academic years 2012-2013 to 2017-2018 are available. The Academic year runs from August 1 to July 31st and 2012-2013 will serve as the baseline year for energy tracking. Energy use will be measured in total fuel consumption within and outside the organization from natural gas and electricity, energy intensity ratios, reduction of energy consumption and reductions in energy requirements of products and services. Measurements will be provided in Joules with a local conversion factor of $1\text{kWh} = 3600000\text{J}$ and $1\text{Therm} = 105,500,000\text{J}$ through the Microsoft Excel functions.

Sourcing electricity from the only provider creates a reliance on the current entity, which uses oil and natural gas thus reinforcing the negative loop. Through Mackintosh's energy efficiency initiatives, they plan on changing the current buildings' roof and having solar panels installed that would power both old and new building. Initially, a 39 kW-DC standard solar panel module were installed. Initial assessments with RGS Energy concluded the proposed system would create 55,750 kWh annual of electricity, offsetting the Academy's 2018 total energy use of 45,600 kWh. This will help the overall energy system to rely on renewable energy rather than oil and gas for electricity and would allow them to continue to track their energy usage through a single Xcel account creating tracking accessibility.

4.1.1 Energy Consumption within the organization – GRI Disclosure 302-1

Total fuel for consumption for the academy comes in the form of natural gas for combustion in boilers used for heating resulting in a total of 9.6311E+12J equivalent to 91290.00 Therms for the baseline academic school years 2012-2013 to 2018-2019. The total energy consumption within the organization from non-renewable sources, electricity, was found to be 1.3441E+12 equivalent to 372,960 kWh from the baseline academic year 2012-2013. For this calculation fuel consumption of natural gas was not added as it is already counted under fuel consumption. Overall, the total energy consumption within the organization was 1.09752E+13J we have seen an increase in the natural gas and electricity use through the years which can be attributed to the growth of the school. Beginning with 2012-2012 they had 80 students plus faculty, in 2016-2017 they had highest enrollment of students 132 students - the maximum enrollment allowed per their annual report. Today, they have 155 students and 35 full-time faculty with intentions to continue to grow. Mackintosh does not currently obtain energy from renewable sources and they do not sell electricity, heating, cooling, and steam.

Results, shown in Figure 1, were found by adding each academic year in kWh then converted to Joules using the local conversion of 1kWh = 3600000J and Microsoft Excel workbook functions.

Yearly Energy Use in Electricity and Natural Gas		
Academic Year	Electricity in Joules	Natural Gas in Joules
2018-2019	1.6704E+11	1.00584E+12
2017-2018	2.13696E+11	1.20291E+12
2016-2017	2.17152E+11	1.06038E+12
2015-2016	1.9584E+11	1.44271E+12
2014-2015	1.73088E+11	1.59885E+12
2013-2014	2.04192E+11	1.663E+12
2012-2013	1.73088E+11	1.65741E+12
Total	1.3441E+12	9.6311E+12

Figure 1. Yearly Electric Energy and Natural Gas Usage

4.1.2 Energy Consumption outside the organization - Disclosure 302-2

Consuming non-renewable fuel is the main direct contributor to Scope 1 GHG Emissions and consuming purchased electricity, heating contributes to the indirect Scope 2 GHG Emissions, the results of these direct and indirect emissions can be found under Emissions Disclosure.

4.1.3 Energy Intensity - Disclosure 302-3:

Mackintosh energy intensity ratios, shown in Figure 2, will be defined using the organization-specific metric of the number of full-time occupants of 179 and 20,810 square foot building and the absolute energy consumption of each academic year listed in Joules. The types of energy included in the intensity ratio will be natural gas and electricity. The ratio will only use energy consumption within the organization as there is no outside consumption.

Academic Year	Absolute Energy Consumption -Electricity & Natural Gas (Joules)	Building Footprint (20,810 Square Feet)	Full-Time Occupant (179 Occupants)
2017-2018	1.17288E+12	56361220.57	314867.154
2016-2017	1.41661E+12	68073378.18	380298.2021
2015-2016	1.27753E+12	61390317.16	342962.6657
2014-2015	1.63855E+12	78738707.35	439881.0467
2013-2014	1.77194E+12	85148510.33	475690.0019
2012-2013	1.86719E+12	89725540.61	501260.0034
2011-2012	1.83049E+12	87962181.64	491408.836

Figure 2. Energy Intensity Ratio

4.1.4 Reduction of energy consumption - Disclosure 302-4

Mackintosh has taken a number of steps in order to uphold to their core values as well as reduce their energy use resulting in a decrease of GHG emissions. In the summer of 2016, Mackintosh replaced 76 windows from a single paned with steel and aluminum frames with an R-Value of 0.85 to 7/8 Double Paned Insulated Low E Glass with an R-Value of 4.03 and 270 light transmission that allows solar radiation to heat but insulates from the cold. The five 1960's era boilers that were leaking and heavily corroded with 60% AFUE (Annual Fuel Utilization Efficiency) with 5 new 85% AFUE boilers. The windows and boiler replacement resulted in reducing the usage of electricity usage from the academic year 2016-2017 60,320 kWh (2.17152E+11J) to the current academic year 2017-2018 resulting in a 23.07% reduction as of today. A reduction of 1.6% energy use from academic year 2016-2017 to 2017-2018. A downward trend from 60,320 kWh (2.17152E+11J) compared to the academic year 2017-2018 59,360 kWh (2.13696E+11J) indicates that the window and boiler replacement was efficient given the increase in student occupancy in the academic year 2017-2018 following the boiler replacement. As far as the boiler replacement it has decreased the use of natural gas by 26% from the academic year 2015-2016, before the boiler was replaced, to the academic year 2017-2018 totaling a 2273.00 Therm decrease. The baseline year of 2012-2013 showed an overall 27% decrease, 4308.00 Therm reduction compared to the academic year 2017-2018. Overall, Mackintosh's continued efforts have proven to reduce both electricity and natural gas use over time. Based on the occupancy per year beginning in 2013-2014 we saw a 41.23% reduction in electricity used per occupant per school year, listed in Figure 3 and 4.

Figure 3. Energy per Occupant

Academic Year	Full-Time Occupant	Occupant (Students/ Faculty)
2017-2018	0.012456409	179
2016-2017	0.017827967	160
2015-2016	0.020704332	140
2014-2015	0.021445507	121
2013-2014	0.021196584	109

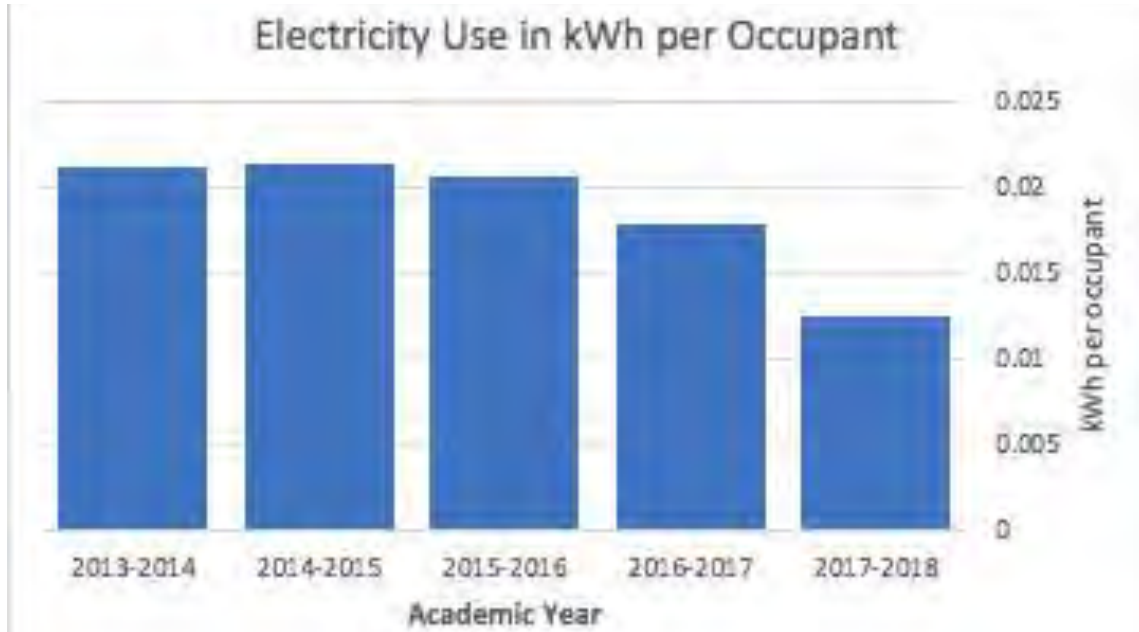


Figure 4. Electricity Use per Occupant

Mackintosh’s expansion will bring opportunities for energy reduction in the long-term, with a central Xcel Energy portfolio, Energy Star benchmarking Portfolio Manager, Xcel energy auditor, potential implementation of solar panels, and continual energy efficiency initiatives they will be able to eventually be powered by renewable energy, decreasing the indirect and direct impacts of GHG emissions to climate change as shown in Figures 5 and 6.

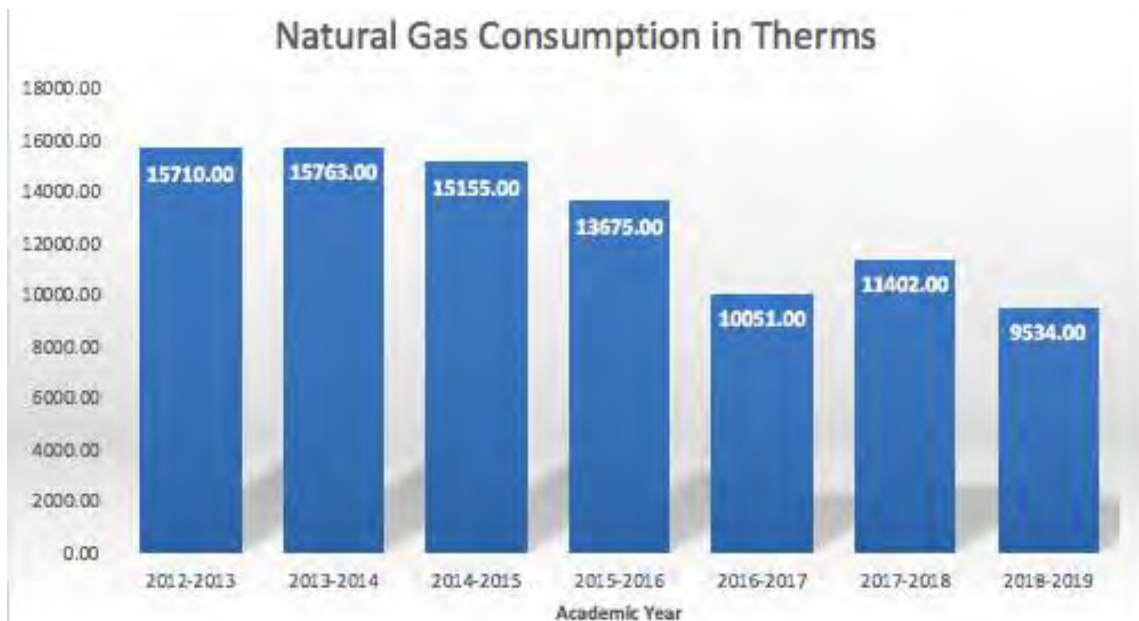


Figure 5. Natural Gas Consumption

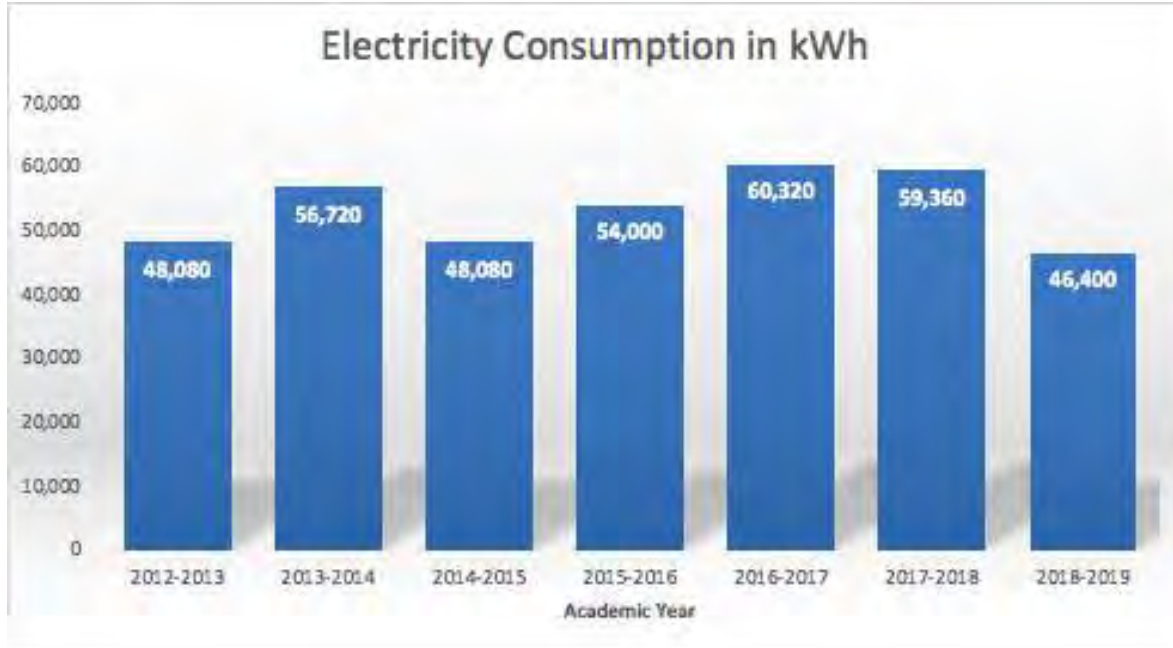


Figure 6. Electricity Consumption

4.1.5 Reductions in energy requirements of products and services - Disclosure 302-5:

Mackintosh does not have a significant reduction in energy requirements for products and services.

4.2 WATER AND EFFLUENTS – GRI 303

4.2.1 Interactions with Water as a Shared Resource - 303-1 & Disclosure 303-2: Management of Water Discharge Impacts - 303-2

The need to provide sanitation services and drinking water to Mackintosh Academy's 155 students and 35 full-time faculty makes water material to its operations. Potable water is received from a single water meter account from the City of Lafayette and used indoors for domestic purposes including toilets, urinals, faucets, and wash basins. Historically, the school has not used water for other typical educational purposes such as locker room showers or cafeterias. Because the water is used for a limited range of indoor sanitation purposes, it is all discharged to Mackintosh's onsite septic systems. The effluent is then treated to the Colorado Water Quality Control Commission established standards.

Withdrawing all water from a single account allows for straightforward identification of water-related impacts. Water use can be analyzed by examining usage since the 2009-2010 academic year on the property. Analysis methodologies include the comparison of usage across academic years, use per occupant across academic years, water use intensity based upon square footage, and billing analysis. The billing analysis indicates within what tier of the water budget the Mackintosh Academy is being billed related to their use during water stress times.

Water-related goals and targets are set based upon both Mackintosh's historical water usage and a comparison to similar local institutions' water usage. Comparing water use per occupant, academic yearly water consumption, and water use intensity across the years on the property provides significant data and trends. Since the 2009-2010 academic year, the average yearly

consumption is 169 kilogallons and total water consumption has declined since the 2015-2016 academic year. Examining the percentage change between academic years in each of the analysis categories helps the school understand whether they are improving or not. For example, average water use per occupant across academic years has decreased 3.81% on average while Mackintosh has simultaneously been increasing enrollment by an average of 13.22%. If Mackintosh continues this trend of neutral consumption, it will help offset the proposed new buildings' increased demand. To compare their impacts to similar institutions, Mackintosh uses the "Benchmarking Task Force, Collaboration for Industrial, Commercial, and Institutional Water Conservation". This document is from a 2007 initiative which calculated average water-use per occupant for 184 educational facilities in Colorado. Those benchmarks show that Mackintosh's average of 3.53 gallons per person per day is 42.22% lower than the average water use of educational facilities in Colorado. Water use intensity, gallons per square foot, is also well below the average for Colorado educational facilities. While this average has likely gone down since 2007, these analyses demonstrate that Mackintosh is significantly more efficient in its water use than the average Colorado educational facility. Another tool used by Mackintosh is examining what tier of the City of Lafayette water budget Mackintosh is being billed within. In the tiered water budget system, lower water usage is correlated lower tiers and higher water usage is indicated through higher tiers. Water accounts are billed based upon what tier their water usage falls within. Mackintosh has been billed in the first tier in 93.9% of bills and the first two tiers in 99% of the bills thus demonstrating a high level of water efficiency.

With the expansion, Mackintosh will begin to use water for a cafeteria and irrigation. The cafeteria water will be drawn from the same water account and discharged to the onsite septic system. It will be necessary to intentionally manage the capacity of increase water discharged to their septic system to insure it is not over capacity. Additionally, septic systems require a level of maintenance to ensure they are low impact on the ecosystems around them therefore the school will need to implement a mindful maintenance plan. For their regenerative farming efforts, the school plans to use the ditchwater to which it has water rights. The Mackintosh Academy's primary stakeholders are its faculty, students, and students' parents. Mackintosh has a history of engaging its students in order to understand and participate in sustainability initiatives and the expansion offers a wide array of increased opportunities to continue to engage students in the management of water as a shared resource. For example, using well and ditch water for gardening and farming will both maintain low demand for potable water and create learning opportunities for efficient irrigation and sustainable landscape design.

4.2.2 Water Withdrawal - Disclosure 303-3

The Mackintosh Academy and the City of Lafayette are in an area of medium to high risk of water stress which indicates 20-40% according to the Aqueduct Water Risk Atlas and 3.4-3.8 on a scale of 5 (5 being the highest water risk) according to the WWF Water Risk Filter. These indicators account for the quantity of accessible water available. Therefore, all water which is withdrawn for the Mackintosh Academy's usages is in an area of medium to high water stress. Currently, all water withdrawn is from a third-party water provider - the City of Lafayette. Mackintosh Academy withdraws on average 169 kilogallons. In the 2017-2018 academic year, 163 kilogallons of fresh, potable water were withdrawn. The City of Lafayette gets its water from the surface water of the Baseline Reservoir, Waneka Reservoir, and the Goose Haven Reservoir.

If the Mackintosh Academy proceeds with its expansion, it will also be using up to 8 acre-feet per year of water from surface water from the McGinn ditch.

4.2.3 Water Discharge – Disclosure 303-4

At this time, all water is used indoors for domestic purposes and so all the water used goes into Mackintosh’s onsite septic system. Therefore, in the 2017-2018 academic year, about 163 kilogallons were recycled into the water basin. There are no substances of concern and all water discharge occurs in an area of medium to high water stress.

4.4.4 Water Consumption - Disclosure 303-5

The operations of the Mackintosh Academy can be considered all non-consumptive and therefore there is no significant water consumption. As long as 90-95% of the water withdrawn is recharged into waterways then it will continue to be If the school builds a cafeteria this will likely not significantly change past the 90-95% point therefore only water withdrawal will need to be tracked. For farming operations, it may be of use to install a water meter on the hose or apparatus used for watering from the ditch in order to keep levels below 8 acre feet per year. Water use per occupant is shown in Figure 7 and total water use per Academic year in Figure 8.

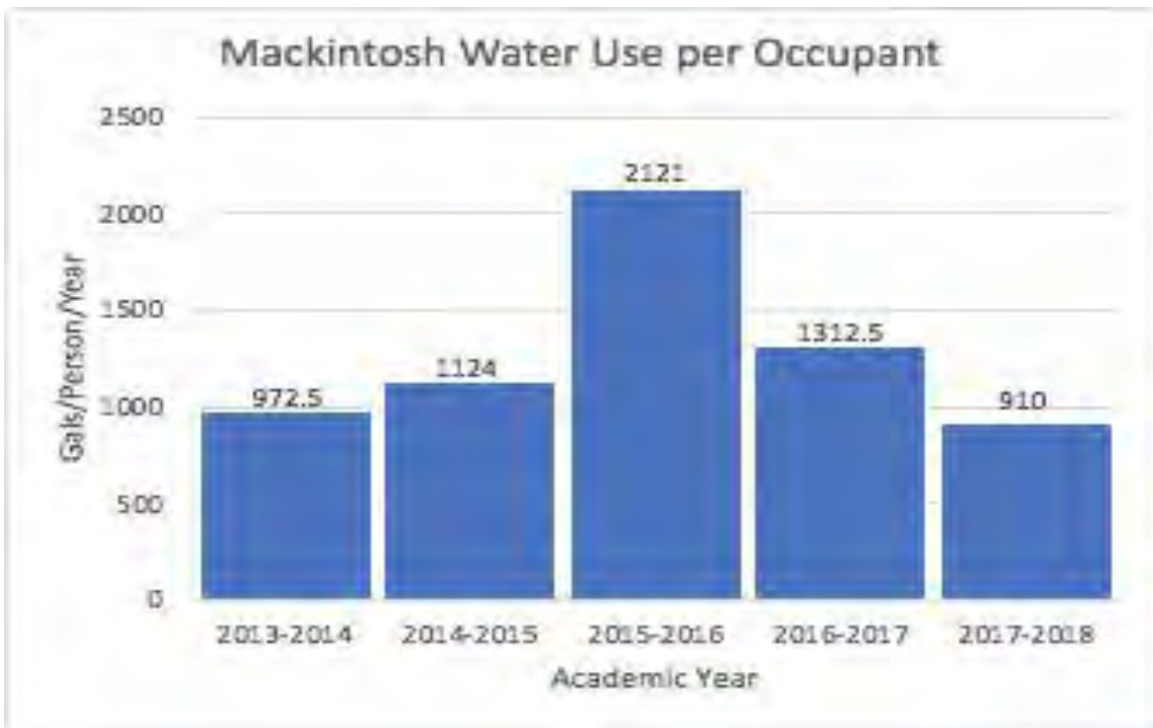


Figure 7. Mackintosh Water use per Occupant per Academic Year

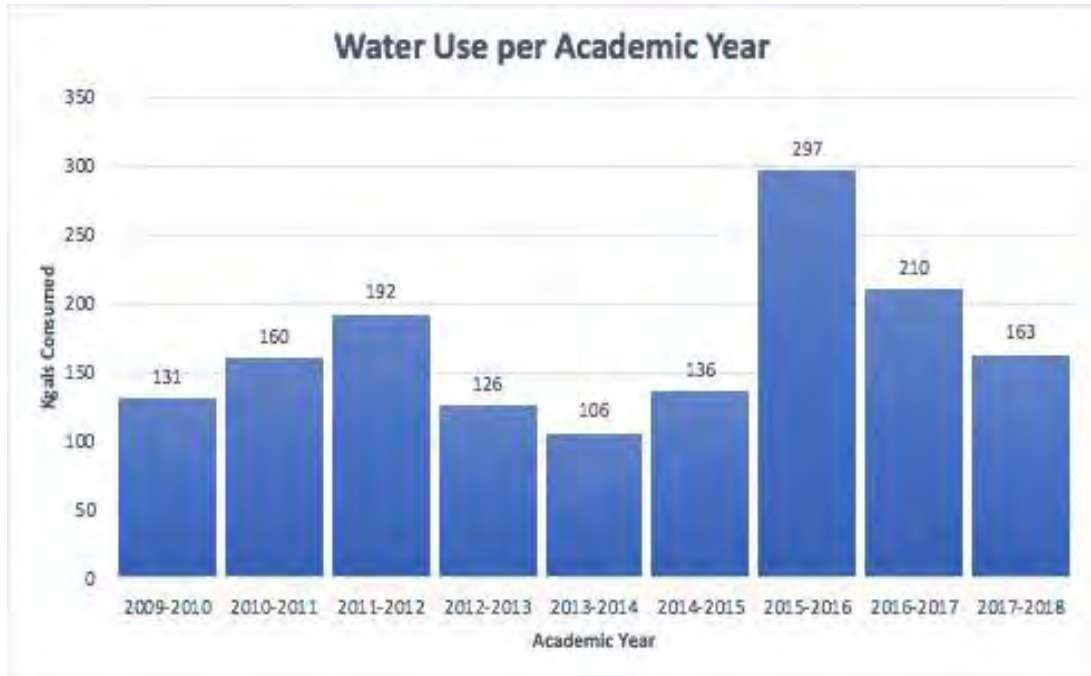


Figure 8: Mackintosh Total Water Use per Academy Year

4.3 EMISSIONS – GRI 305

4.3.1 Management Approach: Emissions - GRI 103-1, 103-2, 103-3

In the daily operations and functions of Mackintosh Academy, the combustion of greenhouse gas (GHG) occurs both through direct and indirect sources. These emissions are primarily a byproduct and environmental externality of the energy and electricity consumed on and off site and the transportation of people, goods, and services. As the anthropogenic increase in GHG, carbon in particular, is the leading cause of climate change, addressing institutional emissions is a material concern. As guided by their core values of “acting responsibly” and “making a meaningful contribution to the world,” Mackintosh strives to reduce its contribution to climate change. In doing so, the administration of Mackintosh aims to both identify and reduce their main emission sources. This material concern is addressed through cataloguing total direct and indirect emissions and measuring the effectiveness of on and off site initiatives, programs, and projects to reduce the Academy's carbon footprint.

In making emissions a material topic, Mackintosh can take onus of their carbon footprint through making changes at the local scale. As the effects of climate change vary by geography, time, and intensity, Mackintosh itself may not be specifically until impacted by their GHG emissions. The unique carbon emitted by the school does not directly cause harm to the institution, its students, employees, and staff, or operations directly. This carbon is emitted into the atmosphere, contributing to climate change at large. While Mackintosh cannot act to address the global impacts of climate change at a large scale, they can reduce their reliance on the local systems, technologies, and corporations that are associated with their production of GHG. As such, the disclosure of GHG emissions is bound by the impacts associated with Mackintosh's reliance on Xcel Energy for electricity, the combustion of natural gas from on-site boilers, the usage of busses for travel, and the emissions from ancillary operations. In total, in addressing the

materiality of its emissions within each Scope, as shown in Figure 9, Mackintosh aims to address the sources by which the Academy contributes to climate change and its associated impacts.

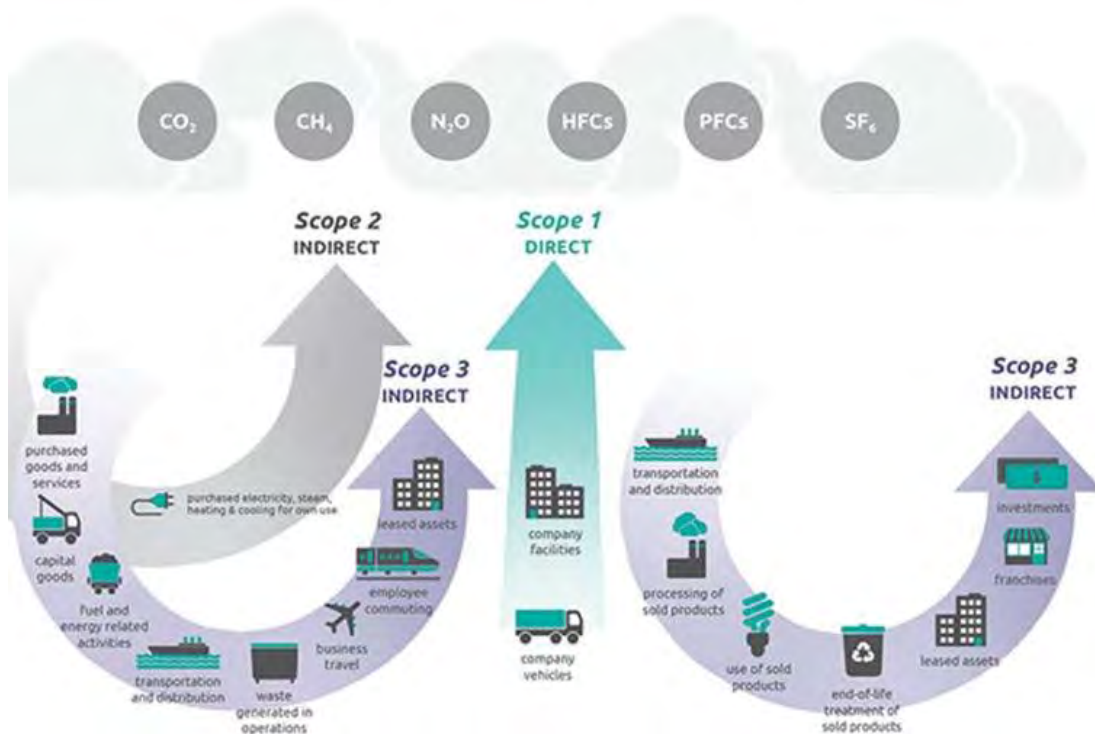


Figure 9. Greenhouse Gas Scope Emissions (Source: www.carbontrust.org)

4.3.2 Direct (Scope 1) GHG Emissions - GRI 305-1

CO₂ is the primary gas that identified and incorporated into the calculations of Mackintosh Academy's Scope 1 GHG emissions. As the other greenhouse gases to consider (CH₄, N₂O, HFCs, PFCs, SF₆, NF₃) were de minimis, such gases were not incorporated into the direct emissions of Mackintosh Academy. As CO₂ was the only gas included in the Scope 1 emissions, the Global Warming Potential (GWP) factor used in these calculations was 1. Moreover, biogenic CO₂ emissions are not considered in the scope of this disclosure as such types of emissions are not associated with the Boulder Campus. As such, the CO₂ emissions from the direct operation of Mackintosh Academy is the key data analyzed in this disclosures Scope 1 GHG emissions.

In identifying Mackintosh Academy's Scope 1 emissions, site-specific data was used for calculations. In particular, the measurement of the direct energy source consumed (coal and gas) is this disclosures' main data source. As reported in Disclosure 302-Energy, Scope 1 emissions includes the total energy consumption within the organization; this is comprised of the non-renewable fuel consumed on site, specifically the natural gas consumed for heating. This information was obtained from on-site natural gas consumption documented by Xcel energy bills. These data were organized and analyzed on the school year calendar, from August 1st to July 31st. The Scope 1 GHG emissions were calculated for the academic years 2012-2013, 2013-2014, 2014-2015, 2015-2016, 2016-2017, and 2017-2018. For this disclosure, the baseline year used is 2012-2013 as that is the year farthest back with sufficient data. This period was selected because it is the farthest back year with the most sufficient data. After setting this baseline, this report documented the GHG emissions for each year afterwards.

ATTACHMENT A

It is important to note that transportation emissions are an additional source of Mackintosh's Scope 1 emissions. Direct transportation emissions are a result of school sponsored field trips held throughout the year. Looking to modes of transportation, from 2012-2016, the school used individual cars that held up to 4 students. This disclosure assumes that on average 8 cars were operated, using unleaded petrol for their fuel source, and driven around 120,000 miles a year combined (15,000 miles for each car). However, since 2017, Mackintosh has operated 2, 15 passenger vans for field trips. These busses are estimated to each be driven a total of 30,000 miles (15,000 miles per each van) and combust diesel fuel. The direct GHG emissions of these cars and busses were calculated and then added to the total yearly on-site natural gas GHG emissions.

In assessing the Scope 1 GHG emissions, a standardized calculation methodology was employed. After organizing Xcel energy data, the total Therms of natural gas consumption per year was identified then converted to CO₂ equivalent. Our calculation process consisted of multiplying the number of consumed Therms of energy per school year by 29.3001 to convert to kWh, this number was converted to megawatt hours (MWh) by multiplying by 0.0001; next, this number was transferred into pounds through multiplying MWh by the regional utility emission factor of 1,737.7 lbs. This number was identified by the 2016 EPA eGRID2014v2 GHG Annual Output Emission Rate table. Finally, this number was divided by 2,000 to indicate the total emissions in tons equivalent of CO₂. This process was carried out for each academic school year.

In addition to the on-site boiler emissions, the direct GHG emissions of Mackintosh's transportation related direct emissions were calculated. The combustion of GHG from the assumed 8, 4-passenger personal cars was carried out through the following calculation: the number of gallons of unleaded gasoline combusted annually was identified by dividing the total miles driven annually by all cars (120,000 miles) by the estimated average miles/gallon of the vehicles (25 mpg). Next, the annual number of gallons emitted (4,375 gallons) was multiplied by the emissions coefficient for the fuel type (unleaded gasoline: 19.6 pound (lb) of CO₂/gallon); this equaled 85,750 lbs/gallon. Lastly, this product was divided by 2,000 to identify the total tons of CO₂ emitted per year. Through this protocol, 47.04 was identified as the total yearly tons of CO₂ equivalent of GHG emissions burned through usage of 8, 4-person cars each year. This number was then added to each academic years total direct CO₂ emissions.

Next this disclosure calculated the CO₂ equivalent of the 2, 15 passenger busses emissions and added that sum to the natural gas combustion. The direct combustion of GHG from these vehicles was carried out through the following calculation: the total amount of gallons of diesel combusted annually was identified by dividing the total miles driven annually of both vans (30,000 miles) by the average miles/gallon of the vehicles (10 mpg). Next, the annual number of gallons emitted (3,00 gallons) was multiplied by the emissions coefficient for the fuel type (diesel: 22.4 lb of CO₂/gallon) to get 67,200 CO₂/gallon. Lastly, this product was divided by 2,000 to identify the total tons of CO₂ emitted per year. Through this protocol, 33.6 was identified as the total yearly CO₂ tons equivalent of GHG emissions burned. This number was then added to each academic years total direct CO₂ emissions. Such a protocol ensured consistency and uniformity across periods. The following is a breakdown of the results of this calculation strategy.

Through the employment of a standardized data analysis, the GHG emissions for Mackintosh Academy per academic year and gross total were identified. Figure 10 and 11 illustrate the results of these calculations for Scope 1.

Academic Year	Yearly Therms	Natural Gas GHG Emissions (Metric Tons of CO2 Equivalent)	Transportation GHG Emissions (Metric Tons of CO2 Equivalent)	Total yearly Scope 1 GHG Emissions (Metric Tons of CO2 Equivalent)
2012-2013	15,710.0	91.8		138.92
2013-2014	15,763.0	92.19		139.23
2014-2015	15,155	88.63		135.68
2015-2016 (Boiler and windows replaced)	13,675.0	79.97		127.02
2016-2017	10,051.0	79.97		127.02
2017-2018	11,402.0	66.68		100.29
TOTAL	81,756.0	499.35		768.15
<i>Change from 2012-2018</i>	<i>-4,308</i>	<i>-25.12</i>	<i>4</i>	<i>-38.63</i>

Figure 10. Mackintosh Academy Yearly Scope 1 GHG Emissions

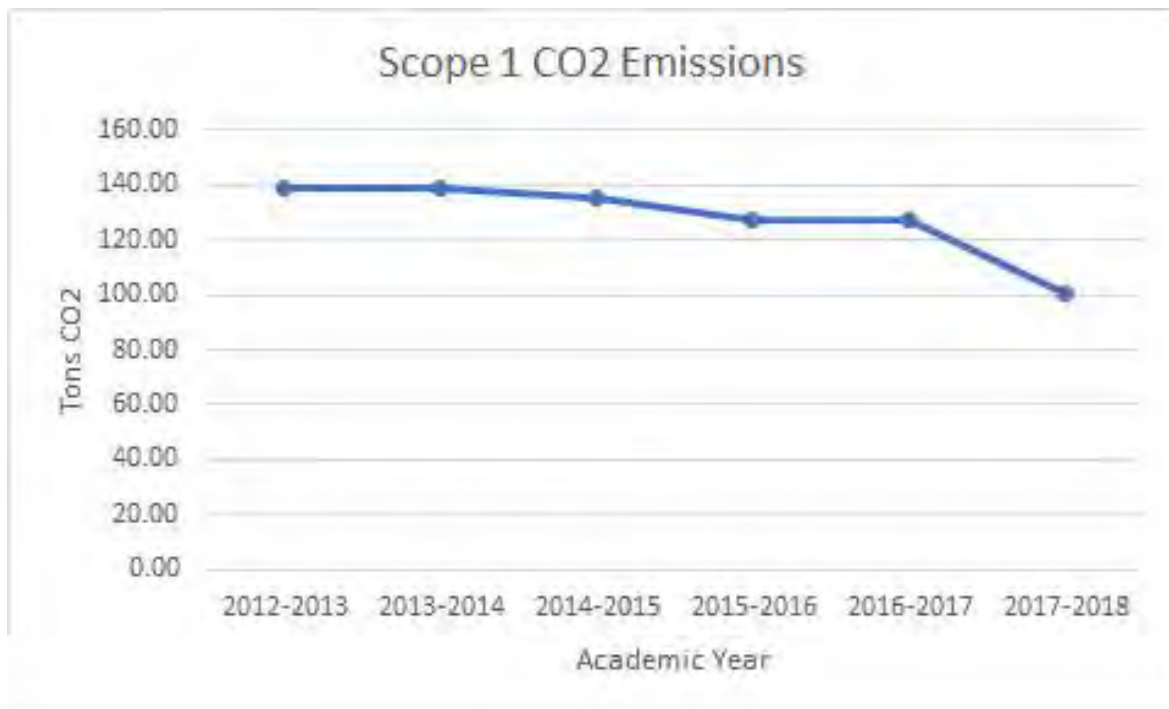


Figure 11. Scope 1 CO2 Emissions Trend

4.3.3. Energy Indirect (Scope 2) GHG Emissions - GRI 305-2

Building upon the assumptions, protocol, data, and results from the Scope 1 GHG emissions disclosure, a similar analysis was conducted for Mackintosh Academy’s Scope 2 emissions. Akin to Disclosure 305-1, CO2 is the primary gas identified and considered for calculations of Scope 2 GHG emissions. As the other greenhouse gases to consider (CH4, N2O, HFCs, PFCs, SF6, NF3) were de minimus, we did not incorporate them into the energy indirect emissions. Moreover, as CO2 was the only gas included in the Scope 2 emissions, the Global Warming Potential (GWP)

factor used in these calculations was 1. Moreover, gross market-based energy indirect (Scope 2) GHG emissions in metric tons of CO2 equivalent were not applicable to this site. As such, the indirect CO2 emissions from the operation of Mackintosh Academy is the key data analyzed in this disclosures Scope 2 GHG emissions.

In identifying Mackintosh Academy’s Scope 2 emissions, the electricity consumption of was used for calculations. In particular, the measurement of the direct energy source consumed (coal and gas) is this disclosures core data source. The sources of this Scope 2 disclosure include CO2 emissions from the generation of purchased or acquired electricity consumed by the organization. This information was obtained from off-site electricity consumption documented by Xcel energy bills. These data were organized and analyzed on the school year calendar, from August 1st to July 31th. The Scope 2 GHG emissions were calculated for the years 2012-2013, 2013-2014, 2014-2015, 2015-2016, and 2017-2018. For this disclosure, the baseline year used is 2012-2013; this period was selected because it is the farthest back year with the most sufficient data. After setting this baseline, this report documented the GHG emissions for each year onwards.

In assessing the Scope 2 GHG emissions, this disclosure followed a uniform calculation procedure. A standardized calculation methodology was employed. After organizing Xcel energy data, the total kWh of electricity consumption per year was identified then converted to CO2 equivalent. Our calculation process consisted of adding together the billed kWh for each payment period for each academic year, converting that sum into mWh, multiplying the mWh/year by the coefficient for the regional utility emission factor (1,737.7 lbs); this number was identified by the 2016 EPA eGRID2014v2 GHG Annual Output Emission Rate table. Next, this number was converted into tons of CO2/year (dividing by 2000). This process was carried out for each of the identified academic school years; such a protocol ensured consistency and uniformity across periods. The following is a breakdown of the results of this calculation strategy.

In applying this uniform procedure, the GHG emissions for Mackintosh Academy for each academic year and gross total consumption were identified. Figure 12 and 13 illustrate the results of these calculations for Scope 2.

Academic Year	Yearly kWh	Scope 2 GHG Emissions (Metric Tons of CO2 Equivalent)
2012-2013	48,080.0	41.77
2013-2014	56,720.0	49.28
2014-2015	48,080.0	42.05
2015-2016	54,000.0	37.17
2016-2017	60,320.0	41.52
2017-2018	59,360.0	40.86
TOTAL	326,560.0	252.67
Change from 2012-2018	+11,280	-0.91

Figure 12. Mackintosh Academy Yearly Scope 2 GHG Emissions

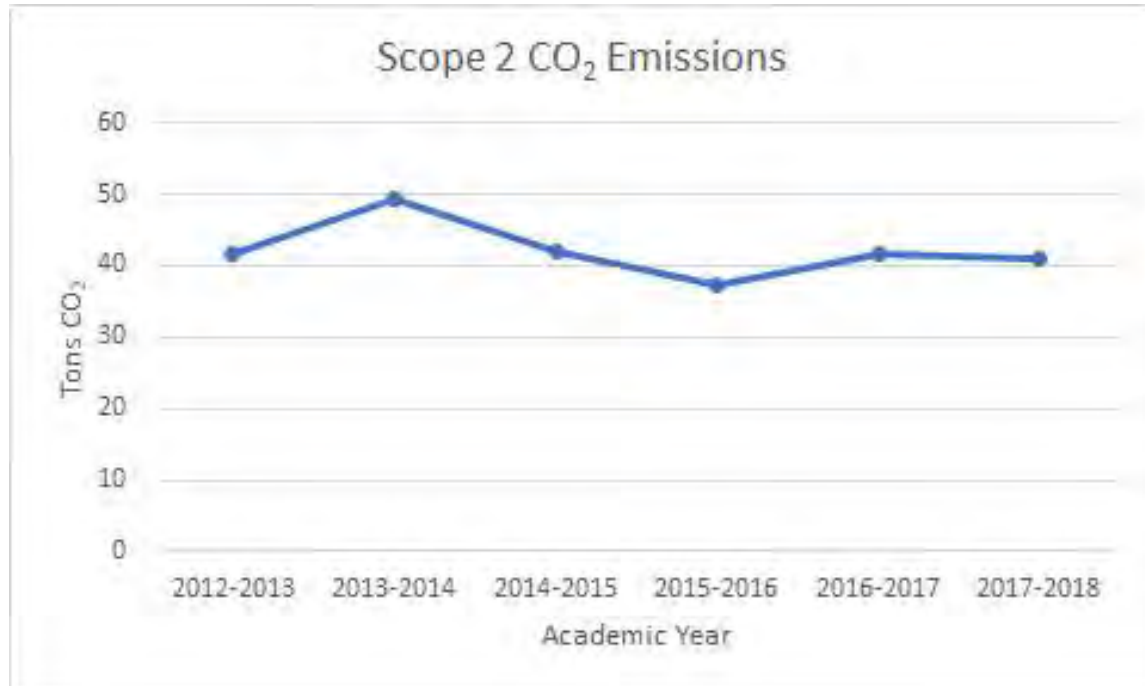


Figure 12. Scope 2 CO₂ Emission Trend

4.3.4 Other indirect (Scope 3) GHG emissions – GRI 305-3

In keeping with the assumptions, protocol, data, and results from the previous Scopes' GHG emissions disclosure, a similar analysis could be conducted for Mackintosh Academy's Scope 3 emissions. "Other indirect" (Scope 3) GHG emissions are a consequence of the organization's activities but fall outside of the source owned or controlled by Mackintosh Academy. These Scope 3 GHG emissions include both upstream and downstream emissions; specific identified sources for Mackintosh include the transportation of students to the school, the vehicular combustion of fuels from Western Disposals waste pick-up services, and the emissions from the drop off of catered school lunches. These sources of Scope 3 emissions were identified in particular due to their ability to contribute significantly to the Academy's total anticipated other indirect GHG emissions, but also because they offer potential areas for reductions that Mackintosh can undertake or influence in the future.

This potential Scope 3 GHG analysis fell outside the scope of this project. The need for more complete and comprehensive data for all of the possible Scope 3 emission sources is needed to create a comprehensive and actionable 305-3 disclosure. Additionally, as Mackintosh Academy is currently working to reduce their Scope 1 and Scope 2 emissions, there is lower institutional resources and time to additionally address Scope 3 emissions. However, this does not mean that currently planned changes in operations will additionally reduce the Scope 3 GHG emissions of the ancillary people and organizations. For example, Mackintosh has conducted surveys and analysis of students' transportation patterns and methods to and from the school and is planning to pilot programs to promote carpooling, ride-sharing, and alternative transit practices. Similarly, Mackintosh is hopes to phase out the delivery of daily student lunches to the school with the construction of an on-site kitchen. In total, as the Scope 3 emissions of the Academy are in flux and the resources to directly catalogue and reduce such emissions is low, this assessment does not include a Scope 3, indirect-indirect emissions disclosure. However, the total Scope 1 and Scope 2 GHG emissions for Mackintosh are illustrated in Figures 13 and 14.

Academic Year	Scope 1 and Scope 2 Combined GHG Emissions (Metric Tons of CO2 Equivalent)
2012-2013	180.70
2013-2014	188.51
2014-2015	177.73
2015-2016	164.19
2016-2017	168.54
2017-2018	141.15
TOTAL	1020.83
Change from 2012-2018	-39.55

Figure 13. Mackintosh Total Combined Scope 1 and Scope 2 Yearly GHG Emissions

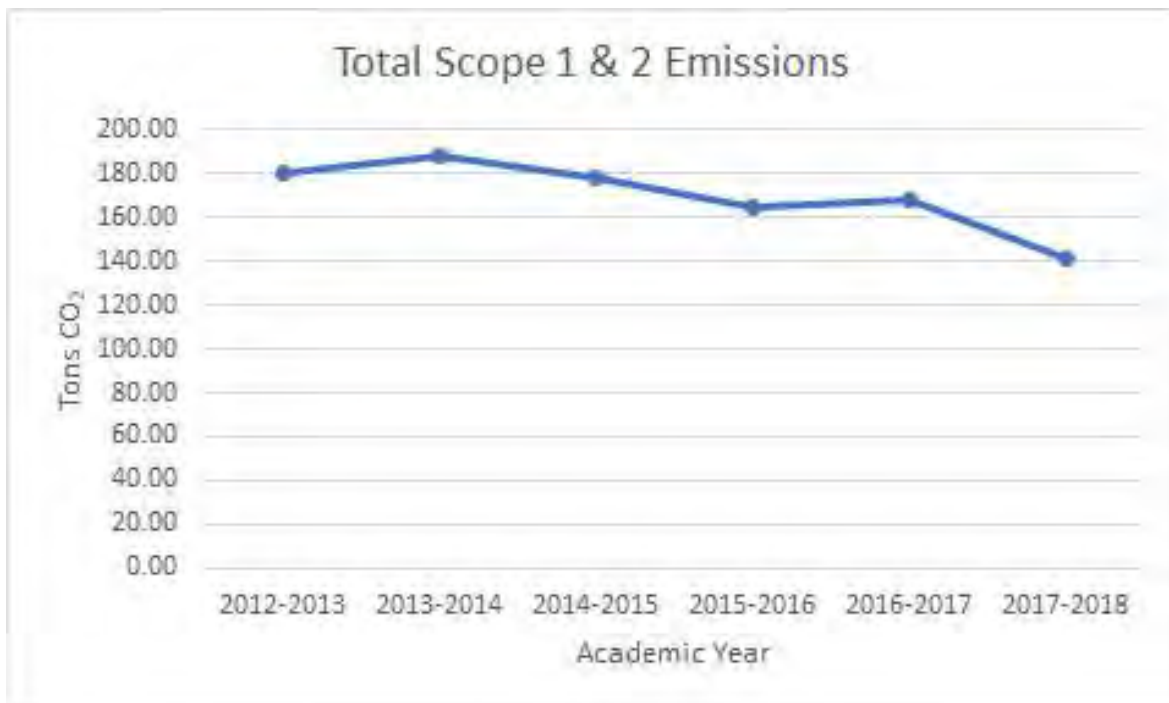


Figure 14. Total Scope 1 and 2 Emissions Trend

4.3.5 GHG emissions intensity 305-4

The intensity ratio utilized in the disclosure of emissions by Mackintosh Academy reflects their unique role as an academic institution. As such, the organization specific metrics include the CO₂ per full-time occupant (FTO) which includes full-time student (FTS), full-time employee (Staff and faculty) (FTE). An additional emissions intensity used is the CO₂ per building footprint (in square feet). This emissions intensity protocol was carried out across the schools various GHG emission scopes.

In assessing the emissions intensity of Mackintosh Academy GHG emissions direct (Scope 1) and energy indirect (Scope 2) are included. The GHG emissions for each respective scope were combined per academic year then divided by these organization specific metrics. As of 2018 there are 179 FTO and a total of 20,810 square feet. This procedure was carried out for the

school’s entire gross emissions as well. It is important to note that the GHG gasses of CH4, N2O, HFCs, PFCs, SF6, NF3 were de minimums in this assessment, the CO2 equivalent of these GHG falls outside the scope of the 305-4 emissions intensity disclosure. As such CO2 is the sole GHG included in this disclosure. Through this procedure, the following emissions intensity measures were determined.

The emissions intensity of Mackintosh Academy provides insight into how the institutions carbon emissions relate to the number of students in attendance and the footprint of the campus. The following scope specific ratios were calculated by dividing the absolute GHG emissions by the organization-specific metric (the number of full time occupants and building footprint in square feet). This information in Figures 15 and 16 provides a specific breakdown of the emissions broken down by the Academy’s occupancy and building footprint.

Academic Year	Total GHG emissions (Metric Tons of CO2)	Building Footprint (20,810 Square Feet)	Full-Time Occupancy (179 Occupants)
2012-2013	138.92	0.006675	0.77609
2013-2014	139.23	0.006690	0.7778
2014-2015	135.68	0.006520	0.7579
2015-2016	127.02	0.006103	0.7096
2016-2017	127.02	0.006103	0.7096
2017-2018	100.29	0.004819	0.5600
TOTAL	768.15	0.036912	4.291
Change from 2012-2018	-38.63	-0.0018	-0.21

Figure 15. Scope 1 Intensity Ratio

Academic Year	Total GHG emissions (Metric Tons of CO2)	Building Footprint (20,810 Square Feet)	Full-Time Occupancy (179 Occupants)
2012-2013	41.77	0.00200	0.233
2013-2014	49.28	0.00236	0.275
2014-2015	42.05	0.00202	0.234
2015-2016	37.17	0.00178	0.207
2016-2017	41.52	0.00199	0.231
2017-2018	40.86	0.00196	0.228
TOTAL	252.67	0.0121	1.411
Change from 2012-2018	-0.91	-0.00004	-0.05

Figure 16. Scope 2 Intensity Ratio

4.3.6 Reduction of GHG emissions – GRI 305-5

Since 2014, Mackintosh Academy has implemented several strategies to reduce their GHG emissions. In particular, recent renovations and installations have focused on addressing Scope 1 emissions through energy efficiency and conservation measures. In 2016, 76 windows were renovated with 7/8 double paned, insulated low E Glass, with an R Value of 4.03. These windows replaced the previous infrastructure that had an R Value of 0.85 and were warped and unable to close. Similarly, in the -summer of 2016, 5 boilers from the 1960s with a 60% Annual

Fuel Utilization Efficiency (AFUE) were replaced with boilers with an 85% AFUE and automated controls to maximize conservation of natural gas. These upgrades reduced Scope 1 onsite gas use and carbon emissions by 13.27 metric tons of CO₂. The 2016-2017 annual usage of 79.97 metric tons of CO₂ equivalent decreased with the installation of the boiler as evidenced by the 2017-2018 annual usage of 66.68 metric tons of CO₂ equivalent. These upgrades are the main structural improvements Mackintosh has undertaken to reduce their GHG emissions.

Transitioning from personal cars to vans for school field trips has additionally reduced Mackintosh's Scope 1 GHG emissions. From 2012-2016, the school relied on an estimated 7, 4-person cars for field trips. However, in 2017, Mackintosh acquired 2, 15-passenger vans. In doing so, the school has reduced vehicle miles traveled and their corresponding direct combustion of GHG from associated school travel. Assuming that on average, each vehicle traveled 15,000 miles each school year for field trips, the use of 7, 4-passenger cars produced 85.75 tons of CO₂ equivalent GHG emissions each school year. On the other hand, the 2, 15-passenger vans combust a combined 67.2 tons of CO₂ equivalent GHG emissions each term. Thus, in transitioning to vans, the school has reduced their transportation related Scope 1 emissions by 18.55 tons of CO₂ equivalent GHG emissions each school year since 2017. In total, in adopting vans for field trips and on-site infrastructural improvements, Mackintosh has moved to decrease their direct GHG emissions from the 2012 baseline.

Looking to the future, the organization has considered a PV solar installation to offset their entire onsite electricity generation. An initial assessment done by RGS Energy analyzed the impact of installing 39.7kW-DC standard solar panel modules. The proposed system would create 55,750 kWh annual of electricity, offsetting the Academy's 2018 total energy use of 45,600 kWh. While the implementation of this array is still to be determined, the project offers long-term financial and environmental payoffs.

4.3.7 Emissions of ozone-depleting substances (ODS) – GRI 305-6

Mackintosh Academy does not have any associated documentation or data to disclosure in terms of Ozone-depleting substances.

4.3.8 Nitrogen oxides (NOX), sulfur oxides (SOX), and other significant air emissions – GRI 305-7

Mackintosh Academy does not have any associated documentation or data to disclosure in terms of NOX, SOC, and other significant air emission gases or substances.

4.4. EFFLUENTS AND WASTE – GRI 306

With Mackintosh's student body of 155 and the 35 full-time faculty working within the building, waste will be produced inevitably as a result of their day-to-day operations. The students on campus currently sort waste into three categories: landfill, recycling, and compost. However, the school is not currently paying for one of the compost services provided by the city. As a result, the academy's waste is currently picked up in two separate categories: landfill and recycling. These services are provided for the school by Western Disposal, serving the city of Boulder, with waste receptacles on campus for the two categories. The school has the opportunity to increase the volume of waste that it diverts away from the landfill by making more efficient use of its current recycling systems, implementing a municipal compost program, and making use of Eco-Cycle compost services.

Waste generated in the school comes from the classrooms, bathrooms, and cafeteria. Each classroom has landfill and recycling bins for self-sorting. The cafeteria has bins for recycling, landfill, and compost that depend on student-led sorting as well. Western Disposal sends their recycling to other plants to have the material repurposed and sold. The goal of Mackintosh's management approach is to ensure that all waste associated with and generated on campus is disposed of in the correct way. Sign descriptions are placed above the appropriate receptacles in order to help users correctly dispose of their waste.

Due to the fact that there is not a full-service, on-site cafeteria, a large portion of the total waste generated by the school is produced in the cafeteria from the packaging used in food deliveries from outside vendors, shown in Figure 17. Students have the opportunity to order in lunch from a handful of different restaurants through Wholesome Food Services, a third party food delivery service working with schools in Colorado. Currently, food is delivered Monday - Thursday from California Pizza Kitchen, PF Chang's, Wahoo's, and Noodles & Company. Over the course of a three week period, an average of 165 orders were placed through these vendors each day. These order-in meals produce a high volume of waste because of the disposable containers, utensils, napkins, and bags that they include.



Figure 17. Examples of vendor-bought food

5.0 SHORT/MID-TERM RECOMMENDATIONS

5.1 ENERGY

Mackintosh can pursue technical methods for reducing their electricity consumption—LED (light-emitting diode) or CFL (compact fluorescent) lights, replacement of appliances such as refrigerators, dishwasher, and computers to Energy Star appliances, installation of smart thermostats, and upgrading air conditioning system. Increasing signage across the classrooms, bathrooms, and office space and installing motion sensor lights will result in a decrease in energy use. These projects, as well as recommendations outlined by an Xcel Energy auditor or Energy Benchmark portfolio, can aid in site-specific initiatives and improvements. Beyond technical efficiency and reduction methods, operational changes and social programs can encourage reductions in energy and electricity consumption.

With a newly established baseline tracking their energy and natural gas use will help focus self-target reduction goal for the next academic year 2019-2020. By establishing a clear goal and recommendations the academy will be able to achieve them easily. Moving forward with the implementation of solar panels will be detrimental for Mackintosh's proposed expansion as they are

currently not being as efficient with their electricity use as hoped after the boiler and window replacements.

5.2 WATER

Water is already managed quite well at Mackintosh however with the expansion water use will be likely increasing in an already water-stressed climate. Therefore, there are a few initiatives which Mackintosh could implement to curb their water use intensity with the expansion. Mackintosh could obtain the PACE certification or use WaterSense fixtures and guarantee that the facilities are equipped with ultra-low-flow, efficient fixtures. Mackintosh could build a self-implemented water budget based upon previous years. The city of Lafayette already implements a water budget during years of drought or water stress however a water budget just for Mackintosh could be a way to ensure efficient usage and self-awareness. This would require the installation of meters on the property. Additionally, a water budget could be something which educational curriculums are built around to bring the students into water awareness and low usage campaigns. In order to ensure that the onsite septic system is having a minimal impact on the surrounding ecosystem a regular maintenance schedule should be implemented as well.

5.3 EMISSIONS

Looking to the near-term, Mackintosh Academy can continue to reduce their Scope 1 and Scope 2 emissions through promoting energy efficiency, conservation, and renewable energy projects. An important starting point for is the continual tracking of building energy usage via Xcel portfolio. This data cataloging and analysis will provide insight when evaluating the effectiveness of future efforts to reduce on-site gas combustion and off-site electricity consumption. Specifically, this this initial step will provide a backbone for selecting and determining the effectiveness of potential technical upgrades and energy production measures to reduce the school's GHG emissions.

In terms of Scope 2 and Scope 1, solar installations and technical upgrades could further reduce Mackintosh's emissions. A major priority should be the installation of a photovoltaic (PV) solar installation as such an array could offset a majority if not the entirety of Mackintosh's electricity use and consumption. An initial assessment done by RGS Energy analyzed the impact of installing 39.7kW-DC standard solar panel modules. This proposed system would create 55,750 kWh annual of electricity, offsetting Mackintosh's 2018 total energy use of 45,600 kWh. In total, this proposed solar PV array offers long-term financial payoffs and would eliminate the bulk of the school's Scope 2 emissions.

Moreover, efficiency measures could address direct, Scope 1 emissions. On-site technical upgrades can help reduce Mackintosh's direct combustion of GHG. The installation of a heating, ventilation, and air conditioning (or HVAC) system could increase the school's energy efficiency. Specifically, Mackintosh should consider installing a system-wide Packaged Heating & Air Conditioning HVAC System with a high Annual Fuel Utilization Efficiency (AFUE) rating; this system is one of the most energy efficient effective climate control technologies. In total, through continually cataloging their emissions data and adopting these recommended energy production and efficiency measures, Mackintosh can continue to reduce their Scope 1 and Scope 2 emissions.

5.4 WASTE

Mackintosh has successfully established a baseline program to reduce the volume of landfill-bound trash generated within the building, which has aided in their increased diversion rates. However, there are certain areas that can be expanded in order to further improve their diversion rates. One system that can be expanded on is the silverware program that is currently being spearheaded by a group of middle schoolers. Their goal is to replace disposable cutlery with reusable silverware in the cafeteria, which can easily be adopted by the whole school. The academy also has the option to implement compost systems in its classrooms and cafeteria by placing bins in each room. The school has the capacity to utilize Eco Cycle’s weekly compost services and facilities. Continuing to use a self-sorting method is most effective and can be expanded to include a compost option. The success rate of this self-sorting method can be increased through the convenient placement of sorting signage at each trash, recycling, and compost area.

A summary of our short to mid-term recommendations are provided in Figure 18.

Disclosure	Recommendations	Method
Energy	<ul style="list-style-type: none"> Self-implemented energy reduction goals Energy efficient improvements Continue to track Energy Star Portfolio Manager and implement recommendations 	<ul style="list-style-type: none"> Determine feasible goal for the next academic year 2019-2020. Include teachers, students, and faculty in order to make efficient signage or use Eco-Cycle as a resource. LED or CFL, replacement of appliances to Energy Star, installation of a smart thermostats, HVAC system, upgrading air conditioning system, increasing signage, and installing motion sensor lights Xcel Energy data cataloguing and analysis Pursue installation of on-site solar PV System
Water	<ul style="list-style-type: none"> Self-implemented water budget Ultra-low flow fixtures Septic system maintenance 	<ul style="list-style-type: none"> Install meters and design a water budget based upon past usage and efficiency goals. Slightly higher grade and efficiency than just “low flow” Demonstrate a plan to ensure the septic system operates at a high grade
Emissions	<ul style="list-style-type: none"> Continuous GHG emissions measuring Reduce purchasing and production of Scope 2 electricity driven emissions Reduce Scope 2 emissions through on-site energy efficiency projects and technologies 	<ul style="list-style-type: none"> Xcel Energy data cataloguing and analysis Pursue installation of on-site Solar PV system Installation of HVAC system

<p>Waste</p>	<ul style="list-style-type: none"> • Reduce waste generated in cafeteria • Increase sorting accuracy • Increase diversion with a compost program 	<ul style="list-style-type: none"> • Continue expanding silverware program • Increase sorting signage throughout building • Utilize Eco Cycle compost services
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Figure 18. Summary of Short to Mid-Term Recommendations

6.0 LONG TERM SUSTAINABILITY RECOMMENDATIONS

6.1 ENERGY

Mackintosh can drastically reduce their energy use through long-term energy efficiency initiatives, school programs, and technology implementation, especially for their new building. Renewable energy must be implemented in order to continue to be true to their core values of helping the local and global community. If feasible, a third party standards such as the WELL Building Standard should be used, in their design they require high window performance, light output and lighting controls, and task-appropriate illumination levels are included to improve energy, mood and productivity (Standard.wellcertified.com, 2019). Motion detector lighting control for all classrooms, office space, toilets, sinks, and staircases would reduce energy consumption when there is no occupancy. Assure new building has LED or CFL lights, high-performance insulation, HVAC system, Energy Star appliances such as refrigerators, dishwasher, and computers, solar panels, and continue tracking energy use through Energy Star Portfolio Manager. Not only would Mackintosh's stakeholders reap the benefits, but they would be contributing to the greater good of mitigating climate change through reduction of energy use through renewable energy.

Among implementing a Green Club, or Energy Club among the current extracurricular activities offered would be beneficial for not only the energy and GHG reduction piece, but also for the future of the children. By learning about the importance of climate change and alternative energy technologies, students will learn about the social, environmental, and economic impacts these bring.

6.2 WATER

For long term sustainability initiatives, Mackintosh should think about the way that the school site is designed. Wherever possible, rainwater harvesting could be implemented through rain barrels or rain gardens which capture water for indoor use or for irrigation purposes. Other forms of green infrastructure could be designed into the site as well to manage stormwater impacts and augment the surrounding open space ecosystem. There is a technology known as “wetland cells” which is currently relatively new but is a great way to enhance the onsite septic system. These wetland cells provide a proactive natural filtering function and would better the water quality which is flowing through the property. Additionally, when considering interior design of the new building, a grey water reuse system could be integrated throughout the building to significantly lower the potable water used by the school.

6.3 EMISSIONS

Looking to long-term projects to reduce GHG emissions, Mackintosh can adopt lasting programs, initiatives, and technologies to reduce their Scope 1 and 3 GHG emissions. Looking to their direct emissions, the school can address the GHG emitted through the combustion of diesel from their 3, 15 passenger vans. This reduction can be achieved through replacing these vehicles with vans or busses that either use natural-gas or biofuels as their fuel source or that are electrically charged. As the availability of natural-gas or electric vehicles is rapidly increasing, Mackintosh should be financially savvy and acquire such vehicles when the infrastructure and technology has become more commonplace and has reached the mass consumer market. Second, Scope 1 emissions can be reduced through further structural efficiency upgrades, notably on their pre-existing structures. Building off the preceding boiler and window upgrades, a “Blower-Door Test” and energy efficiency audit will be helpful in indicating future efficiency measures. Potential recommendations from such an audit could include the insulation of buildings’ ceiling/attic and the sealing of any structural cracks or leaks. Addressing structural inefficiencies can decrease the amount of heat and energy lost on-site, further reducing the combustion of GHG from the school’s boiler. Third, Mackintosh can move forward with reducing Scope 3 GHG emissions from the carbon released by the vehicular use of employees, staff, students, and services to the school. Building off of and operationalizing the transit studies and surveys previously conducted, the school could reduce the number of vehicles used in the daily commute of students to and from the Academy. Specifically, Mackintosh could create a neighborhood carpool network, implement a robust bus pickup service, or provide incentives for the use of alternative transportation (like the BVSD Trip-Tracker Dollars Program). Additionally, transitioning to an in-house kitchen and lunch program will reduce the Scope 3 transportation-related emissions of the daily delivery of lunches provided by Wholesome Foods. In total, these long-term recommendations will prove essential in the continual reduction of Mackintosh’s Scope 2 and Scope 3 GHG emissions.

6.4 WASTE

Considering long-term projects and practices that are feasible for Mackintosh to adopt in the new building, campus wide waste should easily be reduced. Long term goals would include implementing new practices in both the current building and the new building. Reducing cafeteria waste can be successful through the incentivization of students bring lunch from home, reducing waste generated by the Wholesome Food Service vendors. Additionally, for the students who continue to buy food from these vendors, Mackintosh should provide silverware and napkins on campus, thus eliminating the need for the vendors to provide plastic cutlery and an excess of napkins. Starting conversations with food vendors can include creative implementation food strategies, like consolidating food orders into larger family-style containers or using reusable bags provided by the school. Continued use of the self-sorting method can increase accuracy through increased presence of signage throughout the building. This provides students, faculty, and guests with less guess-work and increases both sorting precision and waste diversion rates.

A summary of our long-term recommendations can be found in Figure 19.

Disclosure	Recommendations	Method
Water	<ul style="list-style-type: none"> Green infrastructure Grey water reuse 	<ul style="list-style-type: none"> Landscape design for rainwater harvesting, stormwater management,

	<ul style="list-style-type: none"> Wetland cells 	<ul style="list-style-type: none"> etc. Design a greywater re-use system in new building Integrated around septic system for natural filtering
Waste	<ul style="list-style-type: none"> Reduce cafeteria generated waste Increase waste sorting accuracy Reach out to lunch vendors to reduce packaging and disposable utensils 	<ul style="list-style-type: none"> Incentivize bringing lunch from home and reducing waste generated by Wholesome Food Service Increase waste sorting signage throughout buildings, including in classrooms Not include plastic cutlery and napkins, and consider dropping food off in family-style containers
Electricity	<ul style="list-style-type: none"> Solar panel implementation for new and current building Implement energy efficiency measures throughout current and new building Incentivize students learning through energy technology WELL Building Standards 	<ul style="list-style-type: none"> Adhere to proposed energy reduction goal placed by the corresponding academic year LED or CFL, Energy Star appliances, smart thermostats, HVAC system, motion sensor lights in new building Energy Club, Green Club for students to learn about energy efficient measures and other types of energy uses Xcel Energy data cataloging and analysis Pursue installation of on-site solar PV System
Emissions	<ul style="list-style-type: none"> Reduce Scope 1 GHG emissions from school sponsored transportation Reduce Scope 1 emissions through structural efficiency upgrades Reduce Scope 3 GHG emissions from student commute to/from school 	<ul style="list-style-type: none"> Acquire natural gas or electric busses for field trips and student transportation Conduct “Blower-Door Test” and structural energy efficiency audit and implement corresponding recommendations Implement neighborhood carpool network, robust bus pickup service, or incentivize use of alternative transportation

Figure 19. Long-Term Recommendations

7.0 GENERAL RECOMMENDATIONS FOR SUSTAINABILITY

Additionally, there are some aspects which could be integrated into Mackintosh’s operations which would increase the sustainability of all material areas to Mackintosh. One of those is the usage of Measurabl as a platform to collect, report, and act upon sustainability data. Measurabl would be a way to easily track Mackintosh’s sustainability impacts through automatically

uploading utility bills and easily translating them into reports. Measurabl also allows the user to track the impact of certain sustainability projects - such as the installation of solar panels.

Another way to demonstrate reduced impact would be to pursue a green building certification such as the WELL building standard certification which demonstrates that the building has been designed in a manner to elevate the health and wellbeing of its tenants. WELL building standard focuses on the areas of air, water, nourishment, light, fitness, comfort, and mind. Additionally, Mackintosh can integrate sustainability into their educational curriculum in order to make their students even more aware of their impact. Each topic area - water, energy, waste, and emissions - could be addressed through lessons and projects which act to both elevate the sustainability of the building and the knowledge of the students.

8.0 CONCLUSIONS

Mackintosh Academy, a private small school, provides their elementary and middle school students IB curriculum which is cultivated through the academy's mission of nurturing keen minds, compassionate hearts, and global action. Due to the academy's growth they would like to expand their current operations from 155 students and 35 full time faculty members to 190 students and 40 full-time faculty members through the construction of a new educational building. In order for the expansion to occur Mackintosh Academy has demonstrated the willingness and ability to implement more sustainable practices through sustainable building materials, reduction on transportation impacts, waste reduction, water reduction, emissions reduction, renewable energy implementation and improvement of other inefficiencies.

With a great water management history Mackintosh will be likely increasing in an already water-stressed climate upon the completion of the new building. Mackintosh could obtain the PACE certification or use WaterSense fixtures and guarantee that the facilities are equipped with ultra-low-flow, efficient fixtures. Mackintosh could build a self-implemented water budget based upon previous years. The city of Lafayette already implements a water budget during years of drought or water stress however a water budget just for Mackintosh could be a way to ensure efficient usage and self-awareness. This would require the installation of meters on the property.

Additionally, a water budget could be something which educational curriculums are built around to bring the students into water awareness and low usage campaigns. For long term sustainability initiatives, Mackintosh should think about the way that the school site is designed. Wherever possible, rainwater harvesting could be implemented through rain barrels or rain gardens which capture water for indoor use or for irrigation purposes. Other forms of green infrastructure could be designed into the site as well to manage stormwater impacts and augment the surrounding open space ecosystem.

Waste generated in the school is from the classrooms, bathrooms, and cafeteria. Each classroom has a landfill and recycling bin for self-sorting. Due to the fact that there isn't an onsite cafeteria, a large portion of the total waste generated by the school is produced in the cafeteria by packaging from food delivered by outside vendors. Students have the opportunity to order in lunch from a handful of different restaurants through Wholesome Food Services. Over the course of a three week period, an average of 165 orders was placed through these vendors each day. These order-in meals produce a high volume of waste because of the disposable containers, utensils, napkins, and bags that they include. Mackintosh has successfully established a baseline program to reduce the volume of landfill-bound trash generated within the building, which has aided in their increased diversion rates. Their goal is to replace disposable cutlery with reusable

silverware in the cafeteria, which can easily be adopted by the whole school. The academy also has the option to implement compost systems in its classrooms and cafeteria by placing bins in each room. The school has the capacity to utilize Eco Cycle's weekly compost services and facilities. Considering long-term projects and practices that are feasible for Mackintosh to adopt in the new building, campus wide waste should easily be reduced. Long term goals would include implementing new practices in both the current building and the new building. Reducing cafeteria waste can be successful through the incentivization of students bring lunch from home, reducing waste generated by the Wholesome Food Service vendors.

Mackintosh can drastically reduce their energy use through long-term energy efficiency initiatives, school programs, and technology implementation, especially for their new building. Renewable energy must be implemented in order to continue to be true to their core values of helping the local and global community. If feasible, a third party standards such as the WELL Building Standard should be used, motion detector lighting control for all classrooms, office space, toilets, sinks, and staircases would reduce energy consumption when there is no occupancy. Assure new building has LED or CFL lights, high-performance insulation, HVAC system, Energy Star appliances such as refrigerators, dishwasher, and computers, solar panels, and continue tracking energy use through Energy Star Portfolio Manager. Implementing a student led Green Club, or Energy Club among the current extracurricular activities offered would be beneficial for not only the energy and GHG reduction piece, but also for the future of the children in understand energy as a vital piece for learning.

Looking to long-term projects to reduce GHG emissions, Mackintosh can adopt lasting programs, initiatives, and technologies to reduce their Scope 1 and 3 GHG emissions. Their direct emissions can be addressed by GHG emitted through the combustion of diesel from their 3, 15 passenger vans. This reduction can be achieved through replacing these vehicles with busses that either use natural-gas or biofuels as their fuel source or that are electrically charged. Second, Scope 1 emissions can be reduced through further structural efficiency upgrades, notably on their pre-existing structures. Third, Mackintosh can move forward with reducing Scope 3 GHG emissions from the carbon released by the vehicular use of employees, staff, students, and services to the school. Mackintosh could create a neighborhood carpool network, implement a robust bus pickup service, or provide incentives for the use of alternative transportation (like the BVSD Trip-Tracker Dollars Program). Overall, Mackintosh Academy has shown the potential to drive out energy efficiency measures that will bring reductions over time in both natural gas and electricity consumption, water reduction initiatives within the new and old building, waste reduction opportunities through a cafeteria implementation, and overall reduction of emissions through the methods listed above. Through their commitment to serve their students and stakeholders and overall positively contribute to global community, Mackintosh's efforts will reduce their carbon footprint and show Boulder County their sustainability initiatives.

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Mackintosh Academy: Sustainability Report

Tara Copas, Alexa Cotton, Jennie Levine, Arleth O'Shee, Bridger Tomlin

Outline

ATTACHMENT A



- Background of Project
- GRI: Metric Framework
 - Water & Effluents
 - Effluents & Waste
 - Energy
 - Emissions
- Recommendations
 - Energy
 - Water & Effluents
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Mackintosh Expansion

Boulder County is requiring Mackintosh to conduct impact assessment of expansion



- Boulder private school
- Expanding campus
- 155 Students & 35 Full-time Faculty
- Increase to 190 Students & 40 Full-time Faculty
- Focus on:
 - Emissions
 - Energy
 - Water Usage
 - Waste Generated
- Reduction in both existing building & expansion

ATTACHMENT A

Goals of Approval

- + 9100 sf expansion
- Improve and mitigate:
 - Traffic impacts
 - Water usage
 - Visual and noise impacts
- Net-Zero, sustainable development
- Compatible development with “rural character”
- New building has to support existing school program and functions



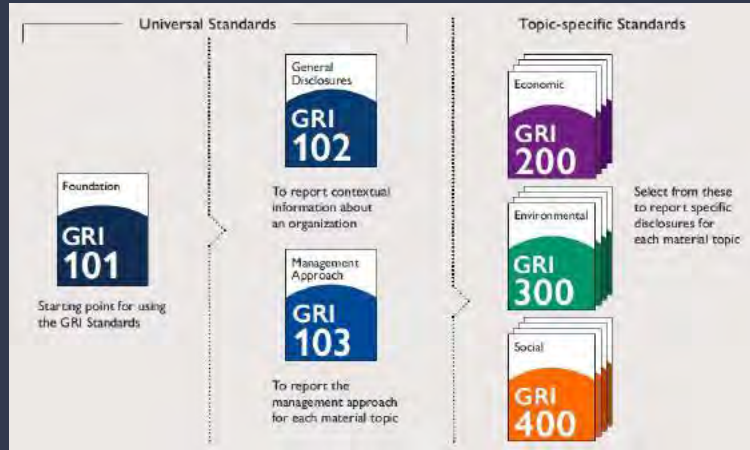
	Current	Proposed
	20,946	30,000
Teachers/Staff	35	40
Students	155	190
Summer Camps/Activities	105 students/day	TBD prefer no limit
Parent Events	5 events/year 105 people/event	TBD Prefer no limit

A63

ATTACHMENT A Expansion Plan



ATTACHMENT A GRI Reporting



- Most widely used sustainability reporting framework
- Value of data collection
- Alignment of topic disclosures and Mackintosh's primary areas of impact



ATTACHMENT A

Methods

1. Baselining
2. Data Gathering
3. Data Analysis
4. Data Recommendations

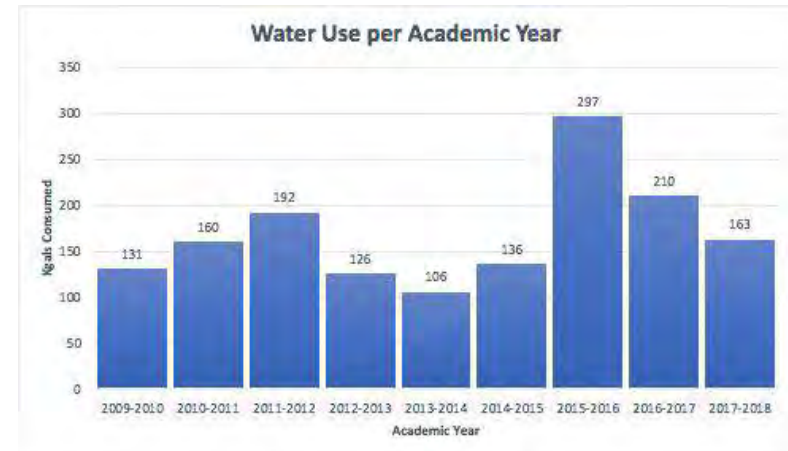
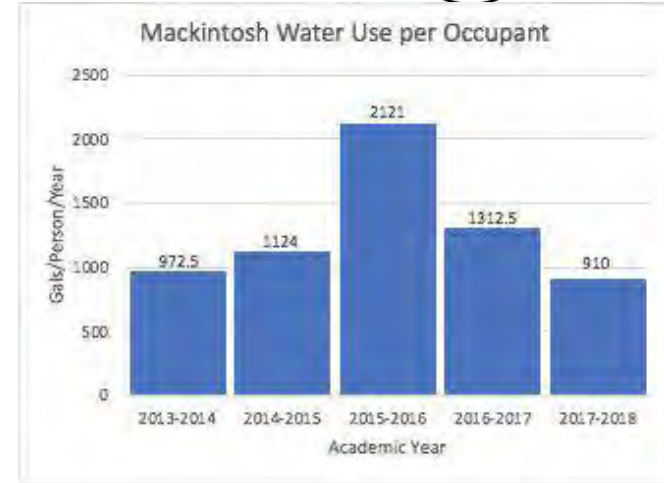


- Baselining
 - Analyzed Indicators & Metrics
 - Chose GRI
 - Confirmed Materiality - Interview with Danica
 - Baselined information needed
- Data Gathering
 - Sent RFI
 - Analyzed info received
 - Followed Up
- Data Analysis
 - Synthesized
 - Consolidated
- Determined Recommendations
 - Formed Report

Water & Effluents - GRI 303

ATTACHMENT A

- Current usages:
 - Toilets
 - Sinks
 - Drinking Water
- 163 kgals in 2018 vs. 169 kgal average
 - City of Lafayette Water
 - On site septic system
- 93.9% of bills within Lafayette's 1st tier
- Expansion?
 - Irrigation for farming
 - Water for cafeteria



A67

ATTACHMENT A Effluents & Waste -GRI 306

Current contributors:

- Cafeteria
 - Lunches, vendor-bought and homemade
 - Implemented silverware program
- Classroom generated
- Bathroom generated
- Utilizing both Landfill and Recycling Services

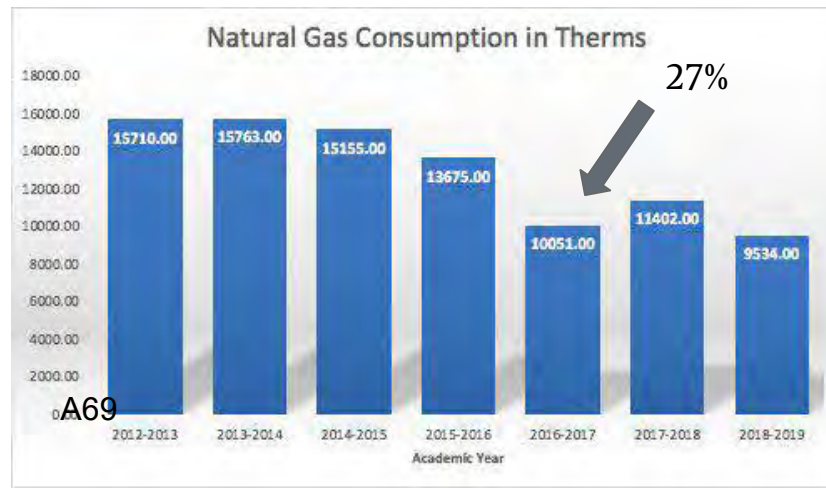
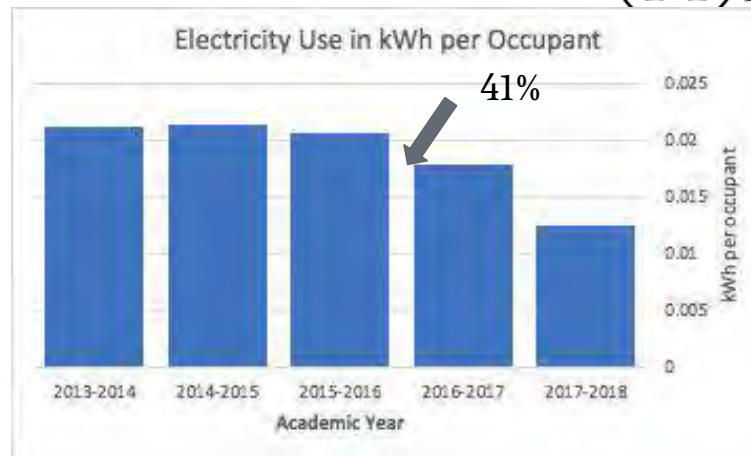


A68

Energy - GRI 302

ATTACHMENT A

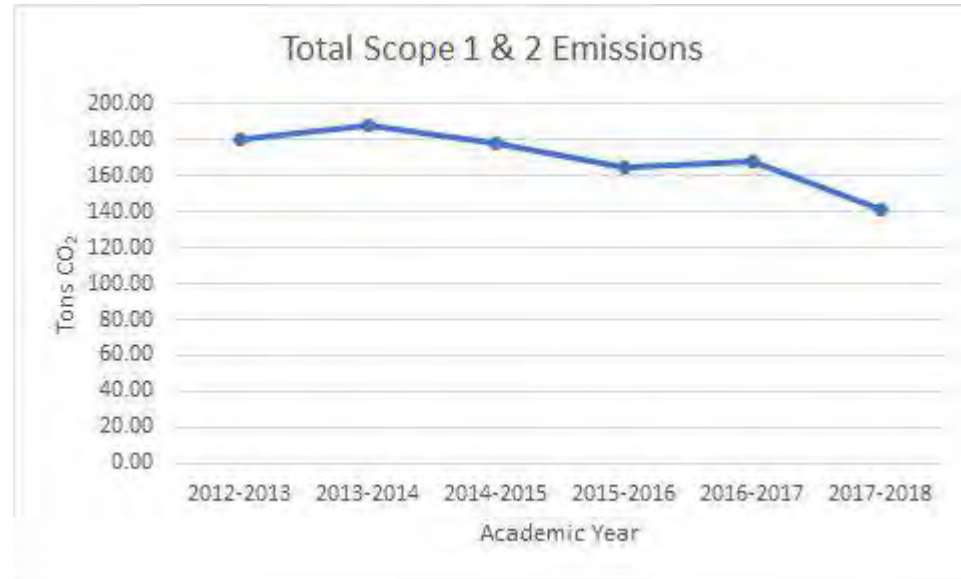
- Xcel Energy Portfolio, Energy Star Benchmarking Portfolio Manager
- Electricity and Natural Gas
 - Window and boiler replacement Summer 2016
 - R Value 0.85 → 4.03
 - 5 boilers → 85% AFUE
- Reduction in electricity and natural gas use
 - 27% reduction natural gas
 - 41% reduction in electricity/ per occupant/ per academic year



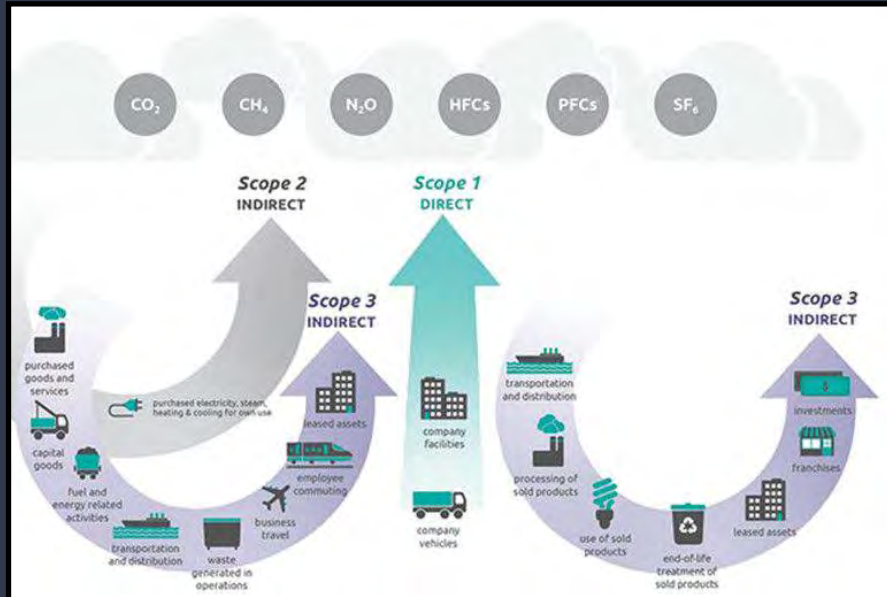
Total Emissions: GRI 305

ATTACHMENT A

- Scope 1: Natural gas & vehicles
- Scope 2: Electricity purchased



Combined Scope 1 and Scope 2 Reductions
(Metric Tons of CO₂ Equivalent):
-39.55



Emissions: GRI 305-1

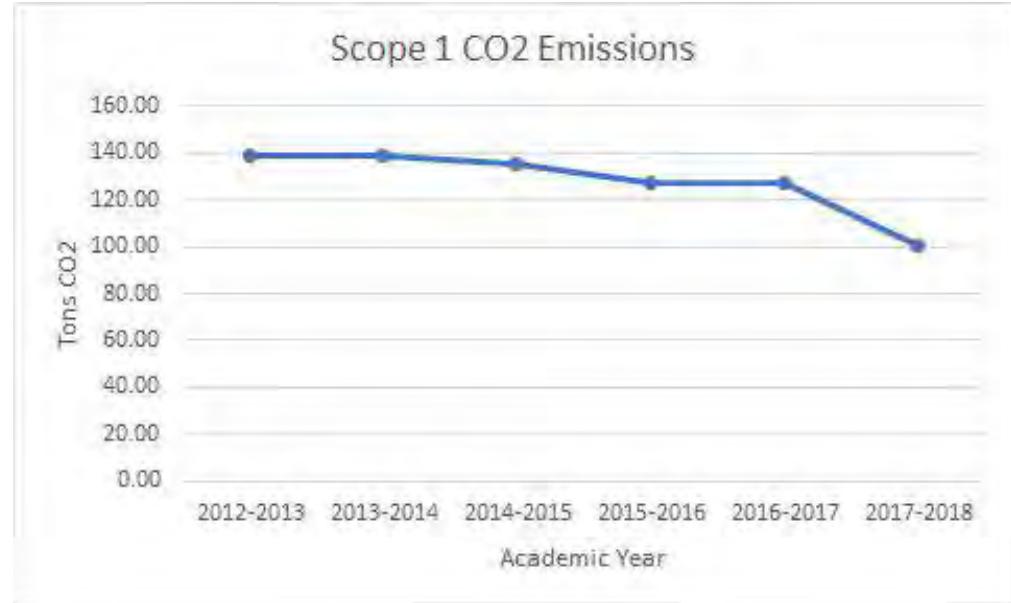
ATTACHMENT A

Scope 1- Direct GHG emissions from owned or controlled sources

- Generation of heating and cooling from combustion of fuels from boilers on-site



- Transportation of students: personal cars to passenger Vans



Combined Scope 1 Reductions
(Metric Tons of CO2 Equivalent):

Total: -38.63

On-Site Natural Gas: -25.12

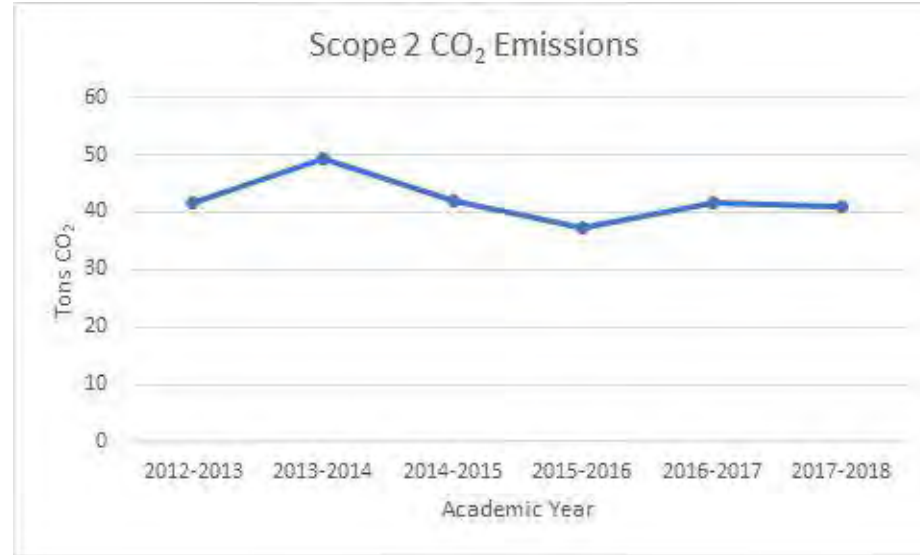
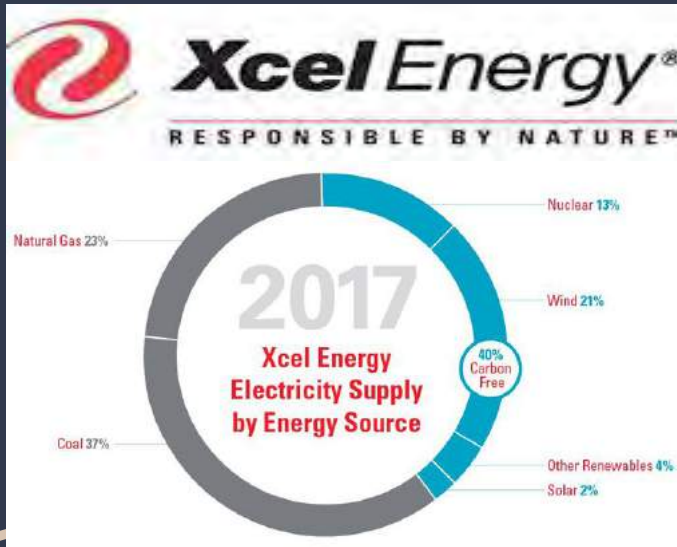
Transportation: -13.44

A71

Emissions: GRI 305-2

ATTACHMENT A

Scope 2-energy indirect GHG emissions from the generation of purchased or acquired electricity from Xcel Energy



Combined Scope 2 GHG Emissions
(Metric Tons of CO₂ Equivalent)
Reductions:

-0.91

Emissions: GRI 305-3

Scope 3: Consequential Indirect, upstream and downstream GHG emissions:

- Employee, staff, and student transportation to/from school and work related travel



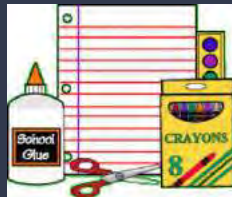
- Waste service transportation



- Food service transportation



- Extraction, production, and transportation of materials



Additional Emissions

Production of Ozone-Depleting Substances



Production of nitrogen oxides (NO_x), sulfur oxides (SO_x), and other significant air emissions



Recommendations

Short/Immediate and Long-Term Sustainability Suggestions

ATTACHMENT A

Water GRI 303: Short-Term

1. Ultra Low Flow fixtures
2. Water Budget
3. Maintain septic system

1. Low flow vs. ultra low flow
2. Self implement a water budget
 - a. Based upon previous years usage
 - b. Install water meter on the property
 - c. Install water meter on outdoor water apparatus
 - d. Integrate into curriculum: make students aware
3. In order to minimize impact
 - a. Understand how often it needs to be pumped
 - b. Demonstrate this awareness and plan to the county

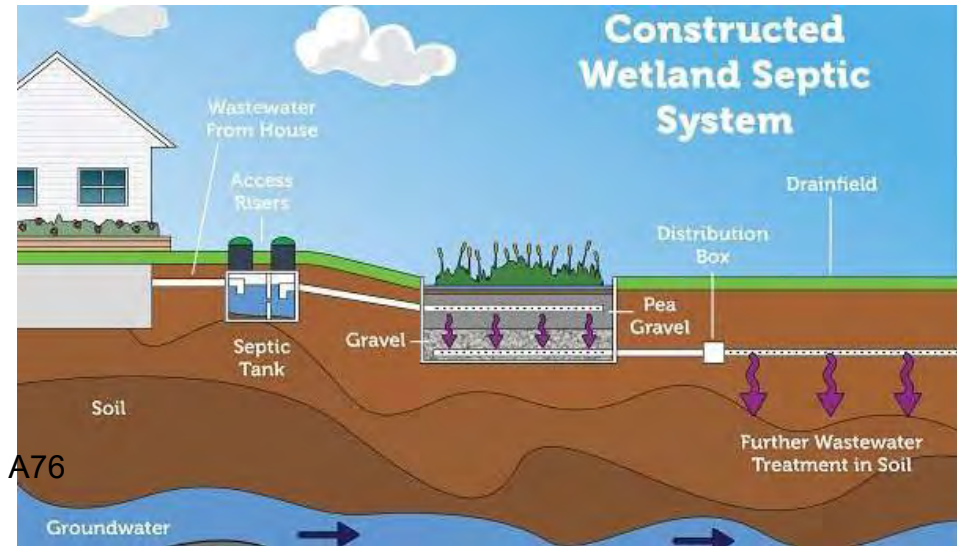


A75

Water GRI 303: Long-Term

1. Green infrastructure
2. Grey water reuse system
3. Wetland cells

1. Landscape design
 - a. Rainwater gardens = irrigation
 - b. Stormwater management
2. Integrate into building design
 - a. Reuse of non-potable water
3. More natural treatment of effluent of septic systems



Energy - GRI 302: Short-Term

ATTACHMENT A

- Solar Panel Installation
- Energy Audit
- Implement yearly energy reduction targets based on academic year
- LED, CFL lights, Smart thermostats, Insulation upgrades
- Increase signage across campus
- Xcel Energy Portfolio Manager Recommendations



Brightness	220+	400+	700+	900+	1300+
Halogen	18W	28W	42W	53W	70W
LED	4W	6W	10W	13W	18W
CFL	6W	9W	12W	15W	20W
Standard	25W	40W	60W	75W	100W



A77

Energy - GRI 302: Long-Term

- Solar Panel Installation
- Adhere to target reduction goals
- Implement Energy Club, Green Club
- Energy Star appliances for new building- Cafeteria
- Energy efficient HVAC system, motion sensed lights, EV Charging Station
- Xcel Energy data cataloging and analysis



A78



Emissions ATTACHMENT A GRI 305: Short Term

1. Continuous GHG emissions measuring
2. Reduce Scope 2 emissions through renewable energy production
3. Reduce Scope 1 emissions through on-site heating efficiency projects and technologies



1. Xcel Energy data cataloguing and analysis
2. Implement on-site Solar PV system (Outlined in RGS Energy Audit)
3. Installation of HVAC system



A79

Emissions ATTACHMENT A CRI 305: Long Term

1. Reduce Scope 1 GHG emissions from school sponsored travel
2. Reduce Scope 1 emissions through structural efficiency
3. Reduce Scope 3 GHG emissions from student commute
4. Reduce Scope 1 GHG emissions through carbon sequestration.



1. Acquire natural gas/electric busses for field trips and student transportation
2. Conduct “Blower-Door Test”/structural energy efficiency audit and implement corresponding recommendations
3. Implement neighborhood carpool network, robust bus pickup service, or incentivize use of alternative transportation (BVSD Trip Tracker Program, Eco-Pass Program)
4. Pursue regenerative agriculture operations for on-site to capture atmospheric carbon.



A80

Effluents & Waste - GRI 306: Short-Term

1. Reduce waste generated in cafeteria
2. Increase sorting accuracy
3. Increase diversion with a compost program
4. Sustainable Purchasing Policy

1. Continue expanding silverware program
2. Increase sorting signage throughout building
3. Utilize Eco-Cycle compost



A81

ATTACHMENT A Effluents and Waste - GRI 306: Long-Term

1. Less cafeteria waste
2. Increase waste sorting accuracy
3. Discuss reduction of plastics with lunch vendors
4. Cafeteria in new building - less food waste

1. Incentivize bringing lunch from home and reducing waste generated by Wholesome Food Service
2. On-site catering or dining option
3. Increase waste sorting signage
4. Eliminate plastic cutlery and napkins



A82

Monitoring Recommendations

1. Measurabl platform
 - a. Track sustainability impact
 - b. Project impacts
 - c. Produce Reports
2. Green Building Standard: i.e. WELL
3. Education - lessons and projects



A83

measurabl



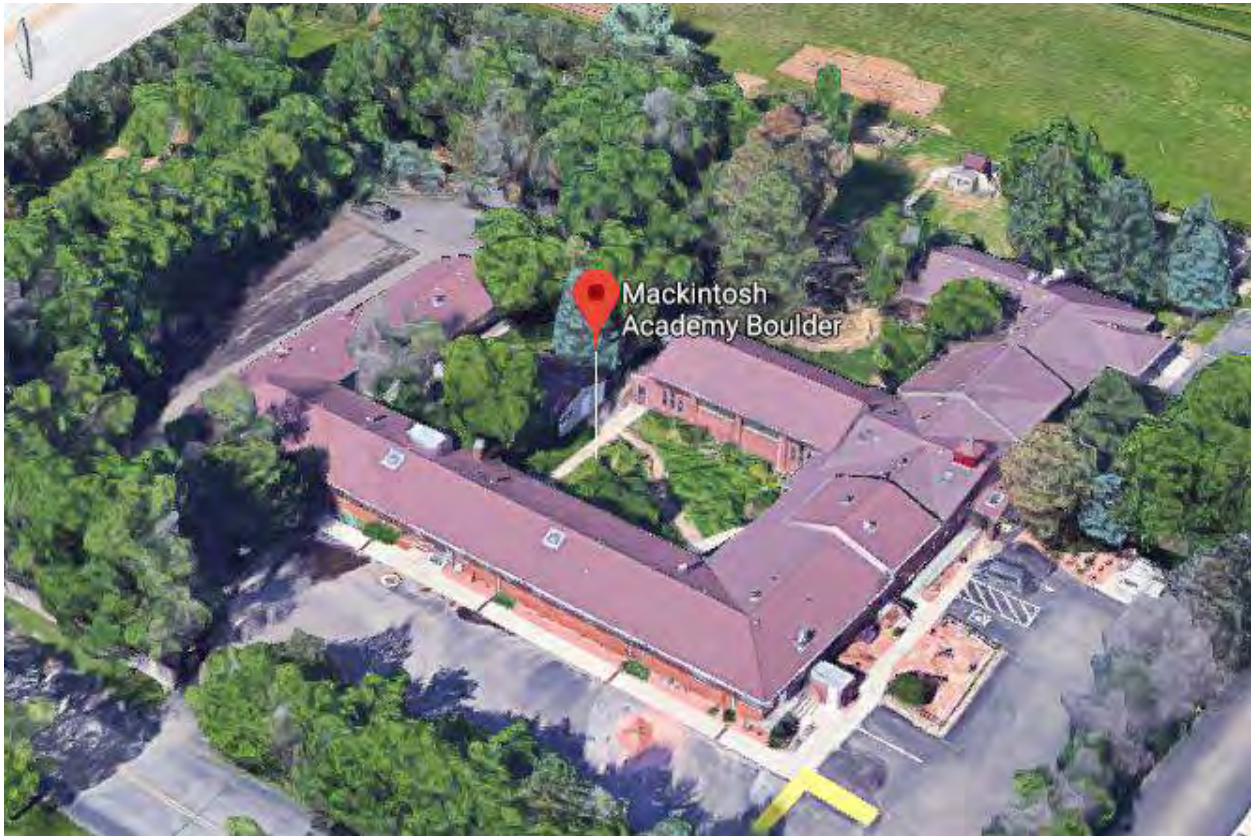
Questions?



Water-Use at Mackintosh Academy Boulder

Analysis and Recommendations for Water-Use Efficiency

January 2019



Mackintosh Academy Boulder
6717 South Boulder Road
Boulder, CO 80303

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Executive Summary

- Since 2009, Mackintosh (and previous occupants) have used an average of 169kgals per academic year.
- Since 2009, water-use has declined at an average rate of 3.81% year, although the total consumption has fluctuated significantly over the time period.
- Mackintosh uses significantly less water when compared to other school facilities both in terms of water-use per occupant and water-use intensity (per sq ft).
- The average water-use for each occupant at Mackintosh is 1,288 gallons per year or 3.53 gallons per day (42% lower than average).
- The average water-use intensity at Mackintosh is 7.7 gals/sq ft/year (49% lower than average).
- Mackintosh is billed in the first two tiers of Lafayette Water's tiered billing structure 99% of the time.
- Water-use efficiency strategies for the existing building are to upgrade all plumbing fixtures and to obtain PACE certification.
- For the new proposed building, recommendations are to use only WaterSense labeled products and to incorporate sustainable design principles into the building design and site development.
- For water management in general, recommendations are to utilize well/ditch water for future landscape irrigation, create leak detection awareness, create a sustainability committee, and to monitor and track water-usage regularly.



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Introduction

Mackintosh Academy Boulder, a K-8 school located in Boulder, Colorado, is currently planning a campus expansion project. The proposed development includes the addition of a 9,109 square foot multi-use educational building that will provide many benefits to the campus while allowing the school to increase student enrollment and supporting faculty. As part of the planning and permitting process, Boulder County's Land Use department has requested a sustainability assessment and plan to ensure that the new development is completed in an environmentally responsible fashion. Specifically, Mackintosh needs to demonstrate its plans to mitigate environmental impacts in the categories of water, energy, and transportation, as described in Article 4-602.C.3 of the Boulder County "Special Use Review" Land Use Code.

This purpose of this study is to provide Mackintosh with a detailed analysis of the school's current and historical water usage. The report also provides the school with recommended water-use efficiency and conservation measures, which can be utilized to mitigate the impact of the new development. The desired outcome is that by implementing the recommendations, the school will be able to achieve savings in average per capita water consumption, which will allow the school to increase its enrollment without increasing the facility's overall water consumption. Finally, this report serves as a demonstration of Mackintosh's commitment to sustainability and the school's desire to develop and grow holistically.



Water-Use Analysis

Account Information

Mackintosh's Boulder Campus receives its potable water from the City of Lafayette. The school's current facility (measuring 21,944 sq ft) is serviced by a single water meter account, detailed in **Table 1** below:

Table 1: Water Account Information					
Water Provider	Account Name	Account Number	Service Address	Account Type	Meter Size
City of Lafayette	MACKINTOSH ACADEMY	08-0270-03	6717 South Boulder Rd	Outside City Limits	1.5"

Water Consumption

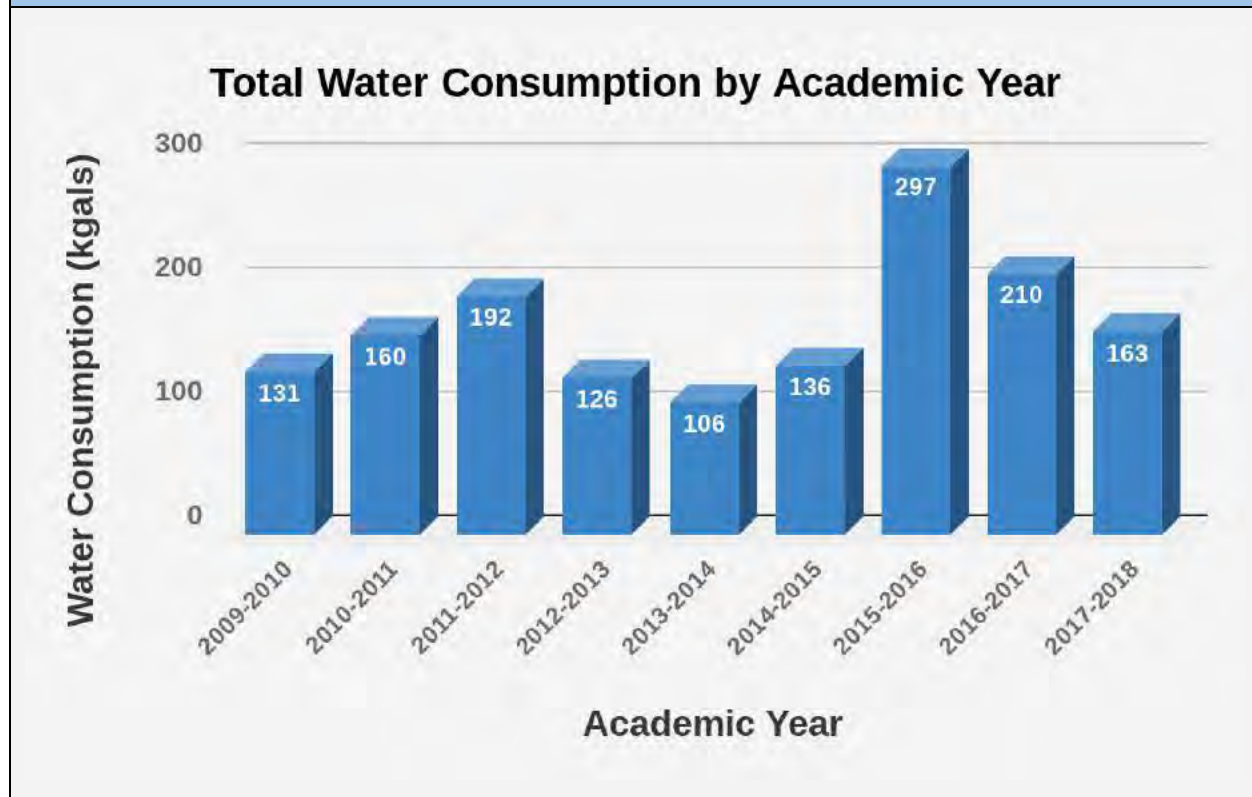
This account supplies Mackintosh with indoor water for domestic purposes. The primary use of this water is for the school's restroom facilities, including: toilets, urinals, faucets, and wash basins. The school does not use water for other purposes typical of educational facilities like showers in locker rooms or a school cafeteria. Additionally, the school does not regularly use this water for irrigation or landscaping purposes.

The following analysis was conducted by obtaining water consumption data from January 2009-Present, provided by the City of Lafayette Water Utility (available in the Appendix). The water-use analysis focuses primarily on the years since Mackintosh has owned the property, beginning in 2011. Prior to this, The Bridge School and Hillside School occupied the property. The water consumption prior to 2011 is included for historical context.

An overview of Mackintosh's total annual water consumption is displayed in **Figure 1**, followed by key findings. The data is organized by "Academic Years", which includes 12 months, beginning in August of each year.



Figure 1:

**Key Points:**

- **169 kgals** is the average yearly consumption over the entire study period
- **175.71 kgals** is the average yearly consumption since Mackintosh has occupied the property in 2011
- Total water consumption has **declined since 2015-2016**

The 2015-2016 academic year is significantly higher than other years in total water consumption (43.1% higher than the average). While the reason for this increase is unknown, there are several plausible explanations: The water-use is highest during the Spring months of May, June, and July which suggests water from this account may have been used for irrigation purposes. The school may have hosted a large event or several events in the early summer, like day-camps, which would increase overall water usage. Additionally, the school could have experienced a leak that went unnoticed for a period of time. The importance of regular monitoring will be discussed in Recommendations.



Water-Use Comparisons

In order to understand how Mackintosh's current and historical water-usage compares to other education facilities, 3 metrics are presented and discussed below:

1. Water-Use Per Occupant

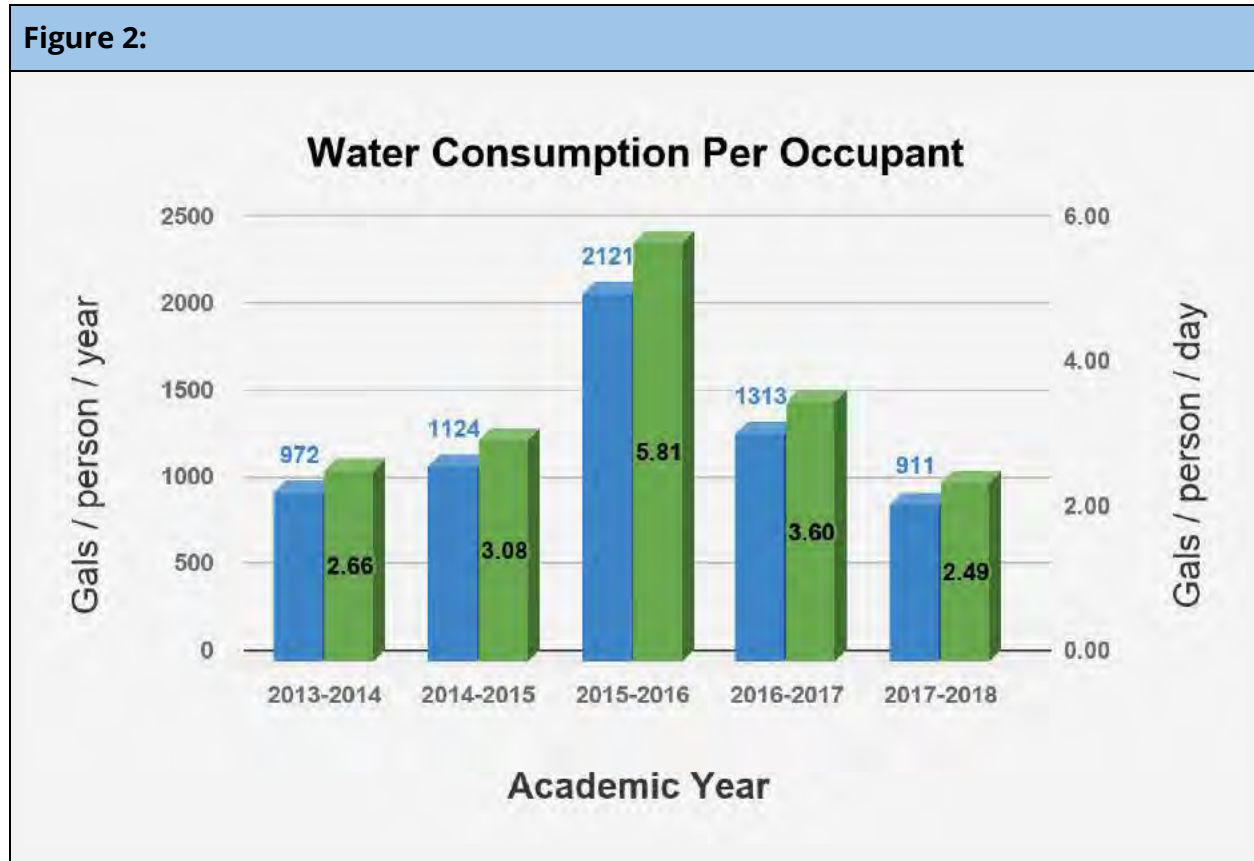
Water-Use Per Occupant is a measurement of how much water each building occupant uses during a given time period. This is an important metric for this study because the school's occupancy and total water consumption has changed significantly over the time, as shown in **Table 2**. Occupancy data (the total number of students and faculty) was only available for the years since 2013.

Table 2: Consumption and Occupancy				
Academic Year	Total Water Consumption	Percentage Change	School Occupants	Percentage Increase
2009-2010	131kgals	-	n/a	-
2010-2011	160 kgals	+18.13%	n/a	-
2011-2012	192 kgals	+16.67%	n/a	-
2012-2013	126 kgals	-52.38%	n/a	-
2013-2014	106 kgals	-18.87%	109	-
2014-2015	136 kgals	+22.06%	121	11.01%
2015-2016	297 kgals	+54.21%	140	15.70%
2016-2017	210 kgals	-41.43%	160	14.29%
2017-2018	163 kgals	-28.83%	179	11.88%
Average	169 kgals	-3.81 %	142	13.22%

On average, total water consumption has decreased at a rate of 3.81 percent per year, while also increasing enrollment by 13.22% per year. Mackintosh will need to maintain this trend of neutral consumption in order to offset the demand of the proposed new building.



Figure 2 presents this data in two additional statistics. Gallons per person per year was calculated by dividing total annual consumption by the number of occupants for the year. Gallons per person per day was calculated by dividing the previous number by 365 days.



Key Points:

- **3.53 gallons per day** is the average water-use for each occupant at Mackintosh
- On average, each occupant uses **1,288 gallons per year**

With these normalized figures, Mackintosh's water-use per occupant can be compared to similar education facilities. A 2007 initiative called "Benchmarking Task Force, Collaboration for Industrial, Commercial, and Institutional Water Conservation"¹ calculated average water-use per occupant for 184 educational facilities in Colorado. These averages are displayed and compared to Mackintosh's averages in **Table 3** below:

¹http://coloradowaterwise.org/Resources/Documents/ICI_toolkit/docs/Brendle%20Group%20and%20OCWW%20ICI%20Benchmarking%20Study.pdf



Table 3: Educational Facility Comparison			
<i>Water-Use Per Occupant</i>	Mackintosh (2013-2018)	Benchmarking Task Force (2007)	Percent Difference
Average Gals / person / day	3.53	6.11	42.22%
Average Gals / person / year	1,288	2,230	42.22%

It is important to note that the state average has likely decreased since its publication in 2007, but there has not been a comprehensive update for Colorado schools since then. Regardless, Mackintosh's water-use per occupant is significantly lower (42.22%) than the statewide averages for educational facilities. This is likely due to the fact that Mackintosh does not have the same water end-uses of a typical school, like water used in cafeteria kitchens or irrigation for recreation fields.

2. Water-Use Intensity

Water-Use Intensity is a common measurement for water consumption in commercial, industrial, and institutional (CII) buildings. It is calculated by dividing the total annual consumption by the total area (in square feet) of the building. Historically, Mackintosh has been well below the averages when compared to available statistics. **Table 4** compares Mackintosh's Water-Use Intensity against two estimations from the previously cited Benchmarking Task Force (2007) and a more recent study from the Energy Information Administration's Commercial Building Energy Consumption Survey (2012)².

Table 4: Water-Use Intensity Comparison			
<i>Water-Use Intensity</i>	Mackintosh	BTF (2007)	EIA CBECS (2012)
Avg annual consumption	169 kgals	-	-
Existing sq ft	21,944	-	-
Annual consumption per square foot	7.7 gals	15.5 gals	15.0 gals

² <https://www.eia.gov/consumption/commercial/reports/2012/water/>



3. Billing Analysis

A final method of understanding water-use efficiency is to analyze utility billing patterns. Like many water providers across the Front Range, the City of Lafayette uses a tiered billing structure that incentivizes conservation. Each month, the customer is given a water budget allowance, which is determined by the size of the water service meter and account type. If Mackintosh's monthly use is within the first tier, they are charged a modest rate of \$5.86/kgals. The rate increases through each of the 5 tiers, rewarding customers who are more efficient water users, and penalizing those who aren't. Therefore, a breakdown of Mackintosh's monthly billing figures can serve as an indicator of efficiency.

As detailed in **Table 5**, since 2009, the account has been billed in the first tier 93.9% of the time. The account has only been billed in the second tier 6 times, and once in the third tier (September 2011). This suggests that both Mackintosh and the previous occupants have been extremely efficient water-users, staying within the first two tiers 99% of the time, and never exceeding the 4th or 5th tier.

Table 5: Monthly Billing Breakdown by Tiers (2009-2018)			
Billing Structure	Allowance	Months Billed	Percentage of months
Tier 1	1 - 36 kgals	108	93.9%
Tier 2	37 - 71 kgals	6	5.2%
Tier 3	72 - 107 kgals	1	0.9%
Tier 4	108 - 143 kgals	0	0%
Tier 5	143 + kgals	0	0%



Efficiency and Conservation Recommendations

The following efficiency and conservation strategies have been developed to provide guidance for Mackintosh's current and future water management. Each strategy is briefly described in terms of its sustainability impact and institutional benefits received.

Existing Building

As shown in the Water-Use Analysis section, the existing building at Mackintosh is already a low water-using facility. There are however, additional conservation and efficiency measures (shown in **Table 6**) that can be implemented to ensure the building maintains this level of efficiency.

Table 6: Efficiency and Conservation Strategies for Existing Building		
Strategy	Environmental Benefit	Educational Benefit
Upgrade plumbing fixtures	Lowers per person consumption, allowing increases in enrollment without increasing total water-usage	Students are provided a tangible way of learning about water conservation as fixtures are replaced
Obtain PACE Certification	Ensures facility is equipped with high efficiency, low-water using fixtures	Publicly recognized display of Mackintosh's sustainability values

Proposed Building

The newly proposed building can be seen as an opportunity for Mackintosh to further display its commitment to sustainability values. By incorporating the latest high-efficiency plumbing fixtures coupled with principles of sustainable design, the new development can likely be completed without creating a significant increase in overall water-demand. An overview of efficiency strategies for the new building are outlined in **Table 7**.


Table 7: Efficiency and Conservation Strategies for Proposed Building

Strategy	Environmental Benefit	Educational Benefit
Use WaterSense labeled fixtures	Ensures all new fixtures are high-efficiency models	Sets precedence for a water efficient future at Mackintosh
Incorporate sustainable design principles into building and site development	<i>Rainwater harvesting, greywater reuse, green infrastructure, rain gardens, infiltration basins, etc.</i> Lowers potable water demand and reduces stormwater runoff	Creates opportunities for students to learn and engage with sustainable design features of new building

Water Management

Water management strategies (**Table 8**) refer to more general water conservation practices that will ensure Mackintosh remains a responsible water steward.

Table 8: Water Management Strategies

Strategy	Environmental Benefit	Educational Benefit
Utilize well and ditch water for gardening, farming, and landscape irrigation	(If needed in future) Maintains low demand of potable water from water provider	Creates learning opportunities for food systems, sustainable landscape design, and efficient irrigation
Create a leak detection awareness program	Leaks are addressed quickly, saving unnecessary water waste and associated costs	Students can become involved with water efficiency by finding and reporting leaks
Create a sustainability committee	Raises awareness and provides structure for implementation of sustainability and water strategies	Creates engagement opportunities for staff, students, parents, & community at large
Monitor and track water-use regularly	Allows manager to quickly respond to abnormal increases, leaks, or undesired trends in water-use	Schoolwide water-use savings can be rightfully acknowledged and published among the Mack community



Summary

This report examined the water-use consumption from 2009 - 2018 on the site which Mackintosh currently occupies. As Mackintosh continues the approval process for the proposed campus expansion, several findings from this report can be referred to, including: the average total annual consumption, the average water-use per occupant, and the average water-use intensity. This report has determined that Mackintosh is a relatively low water-using facility, as compared to similar education facilities both in Colorado and across the US.

This report also contains a suite of water-use efficiency and conservation recommendations that can be utilized as actionable and guiding strategies for the current and future water-use at Mackintosh. With some strategic commitment, Mackintosh will effectively be able to expand its campus while acknowledging and responding to the growing school's environmental impact.



Appendix

Boulder County Land Use Code - [Article 4-602.C.3](#)

- | |
|---|
| <p>b. Any significant additional land use impacts resulting from the expansion are offset as follows:</p> <ul style="list-style-type: none">(i) Increase in traffic to and from the site: through an acceptable, multimodal transportation management plan, and provision of transportation system improvements reasonably necessitated by the expansion.(ii) Increase in water and energy usage at the site: through an acceptable plan to incorporate sustainable measures and practices, including but not limited to use of renewable energy sources, management of energy and water demands, and energy-efficient construction methods.(iii) Increase in visual impacts of the development: through a plan that substantially mitigates visual impacts using the design, location, and number of buildings and other developed areas to screen buildings and developed areas, and through the use of natural topography, landscaping, color and materials, and below-grade construction or construction shielded by existing development.(iv) Increase in noise: through appropriate siting of, or limitations on hours of operation or types of, noise-generating activities. |
|---|

Billing data from City of Lafayette

Jaime Philp and Greg Keith
Mackintosh Academy Boulder
6717 S. Boulder Rd.
Boulder, CO 80303



Thank you for taking the time to meet with me on Thursday to discuss your efficiency and sustainability opportunities at Mackintosh Academy. It's great to see all of the efforts that the school is putting into sustainability, and this report should outline much of what we discussed during our walk-through of the school.

TOP OPPORTUNITIES

- Look into solar bid for NW corner of property
- Install occupancy sensors and new faucet aerators
- Advisors can help with custom signage, employee/student recycling trainings, and connect you with rebates for new waste bins

I am here as a free resource to help your business become more sustainable, so please don't hesitate to call or email if you have any questions. I look forward to working with you and helping Mackintosh Academy Boulder become more efficient!

CERTIFICATIONS

PACE certification will showcase to your customers and employees that your business has achieved a high level of environmental performance. To achieve certification in the following areas, businesses must demonstrate:

- **Energy Efficiency:** an ENERGY STAR Portfolio Manager rating of 75 or higher.
- **Zero Waste Diversion:** at least a 70% diversion rate.
- **Water Conservation:** 20% less water consumption than the usage predicted if all fixtures meet code.

ENERGY EFFICIENCY OPPORTUNITIES

LIGHTING

Simple Actions to Improve Lighting Efficiency

- Turn off lights when you leave the room or building.
- Delamp (i.e. remove excess bulbs and sockets) over lit areas.
- Use ENERGY STAR rated bulbs and fixtures since they are certified to use less energy.

Upgrade Halogen or Incandescent Lighting to LED Technology

Upgrading halogen or incandescent screw-in light bulbs to LEDs can reduce energy by 80%, reduce your cooling load, lower maintenance costs, and improve lighting quality in your space.

Xcel Energy now offers pre-discounted screw in LEDs:

businessledinstantrebate.com/Locator/Distributors

Upgrade Fluorescent Lighting to LED

Replace T8 fixtures with LED troffer fixtures, which can provide superior lighting quality, dim better than fluorescents, work better with occupancy sensors, last longer, and use 40-60% less energy.

Delamp Fluorescent Fixtures

Permanent delamping (removing excess bulbs and sockets) is an easy way to save energy in over-lit areas.




Install Occupancy Sensors

Occupancy sensors installed in common areas, such as bathrooms or classrooms, are a great way to save energy by automatically turning lights off when the area is not in use.

Rebates & Incentives

Existing	Upgrade	Estimated Energy Savings	Boulder County Rebate*	Xcel Energy Rebate
 A19 (50-75 Watt)	 LED A19 (10-15 Watt)	80%	\$.25 per watt reduced	<u>Pre-discounted</u>
 BR30 lamps (50-70 Watt)	 LED BR30 (10-15 Watt)	80%	\$.25 per watt reduced	Discounted at the <u>distributor</u>
	or			
	 LED Downlight (10-15 Watt)	80%	\$.75 per watt reduced	\$35/fixture
 Fluorescent T8 lamps (32 watt)	 Retrofit to LED T8 tubes (15-20 watts)	40-60%	\$.30 per watt reduced	\$2-10 per tube
 4' T8 Troffer, 3 lamp (113 watts)	 LED Troffer (40-50 watts)	50-55%	\$.75 per watt reduced	\$50 per fixture

Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.

Existing	Upgrade	Estimated Energy Savings	Boulder County Rebate*	Xcel Energy Rebate
 Standard Light Switch	 Occupancy Sensor or Photo Sensor, wall mounted	15-25%	\$50 per switch	\$15-25 per switch
 Incandescent Exit Sign	LED Exit Signs	85-95%		\$25/fixture

*Rebates have run out for 2016

Lighting Contractor List

You can use any contractor you wish, but for your convenience I have provided a link to lighting contractors that have worked on Partners for a Clean Environment projects in the past and are aware of the incentive programs available: www.energysmartyes.com/business/find-a-contractor.html

BUILDING ENVELOPE

Simple Actions to Improve Building Envelope Efficiency

Energy can easily be lost through windows and doors, especially when they are left open or have leaks. There are several ways to increase the efficiency of your building envelope without spending too much or spending nothing at all.

- Check window and door frames for leaks.
- Caulk leaks to prevent the loss or gain of unwanted air.
- Replace door seals.

HEATING, VENTILATION AND COOLING (HVAC)

The total of all financial incentives (i.e. Partners for a Clean Environment rebates, utility rebates, etc.) for HVAC measures will be limited to 50% of the total project cost and \$5,000 per parcel.

Please contact your Advisor before purchasing any equipment to verify rebate eligibility.

Simple Actions to Improve HVAC Efficiency

Whether you upgrade to more efficient HVAC equipment or keep the unit you have, you can always take steps to make it as efficient as possible, including:

- Perform routine (i.e. quarterly) maintenance on HVAC equipment.
- Upgrade to programmable thermostats, and make sure thermostats are programmed to power down on nights, weekends, and holidays.
- Keep supply and return air ducts clean.
- Regularly clean motors and coils, and replace filters.

Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.

Direct Evaporative Pre-cooling

Direct evaporative pre-cooling (DEPC) units use evaporation to lower the temperature of the air that blows across the exterior coils of your existing roof top unit (RTU). This pre-cooled air then increases the compressor’s efficiency and the system’s cooling capacity without adding moisture to the interior air. DEPC units work well in our climate and have good paybacks for large RTUs.

Upgrade Split System to High-Efficiency Unit

Air conditioning technology is continually improving. High-efficiency models can reduce cooling energy use by 20-50% and are available at reasonable prices.

Upgrade Existing Hot Water Heater to a High-Efficiency Unit

High-efficiency storage hot water heaters can save 10-20% on energy versus the minimum standard. Tankless water heaters can save 45-60% on energy, where appropriate. Heat pumps can save 65% compared to electric heaters. Solar hot water heater with electric backup can save 70-90% on energy use.

Rebates & Incentives

The total of all financial incentives for HVAC measures will be limited to 50% of the total project cost and \$5,000 per parcel.

Upgrade	Boulder County	Xcel Energy	Per
Split System 15 SEER, <5.4 Tons	\$314/\$79	\$65+	Ton (existing works / not)
Direct Evaporative Pre-cooling		100	Ton
Evaporative Cooler Replacing DX Cooling	\$0.20-2.00		CFM
Water Heater 92% Efficiency Minimum		\$2	kBTU

*Rebates have run out for 2016

HVAC Contractor List

You can use any contractor you wish, but for your convenience I have provided a link to HVAC contractors that have worked on Partners for a Clean Environment projects in the past and are aware of the incentive programs available: www.energysmartyes.com/business/find-a-contractor.html

RENEWABLES

Eligible renewable systems can receive a rebate of \$1 per watt up to \$10,000. To be eligible for renewable energy rebates through Boulder County, please note the following:

- There must be an appropriately sized system or unit installed on existing rooftops and parking shade structures or on the ground within the boundaries of an existing facility.
- North-facing roofs do not qualify because they do not allow full utilization of sunlight.
- There must be minimal shading by trees, buildings, and other structures.
- The property must be free from deed restrictions on photovoltaic (PV) systems.
- The roof needs to be able to support a PV system installation.
- A list of eligible PV system modules and inverters is available on the California Energy Commission’s website.

Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.

- All PV systems must carry a five-year warranty from both the manufacturer and the installer, including parts and labor.
- Rebuilt, used, refurbished, or portable equipment does not qualify.
- Rebates for renewable energy are only available to businesses that demonstrate a Portfolio Manager (PM) score of 60 or greater. If you cannot show a PM of 60 or greater, your Advisor will work with you to identify a list of efficiency measures that must be implemented prior to receiving a rebate for renewables.

ADDITIONAL SERVICES

Portfolio Manager

[ENERGY STAR's Portfolio Manager](#) can be used to track the water and energy use of your building, establish a baseline, and compare your usage to similar facilities. Your Advisor can help you set up an account, which is the first step toward PACE certification in energy.

A \$100 bonus rebate is available if your business is over 5,000 square feet and you work with your Advisor to benchmark your properties prior to starting an upgrade. The bonus rebate is issued after the upgrade is complete.

Energy Loans

Elevations Credit Union and US Bank have partnered with Partners for a Clean Environment to offer low-interest loans for energy upgrades. Find out more at: www.elevationscu.com/business-m/loans/energy-loans or contact Doug Priest at US Bank: 303.702.6232, douglas.priest@usbank.com

REBATE CAPS

Partners for a Clean Environment rebates for a project may be adjusted such that the total of all financial incentives (i.e. Boulder County rebates, utility rebates, etc.) for all lighting and other non-HVAC measures will be limited to 60% of the total project cost; the total of all financial incentives for HVAC measures will be limited to 50% of the total project cost and \$5,000 per parcel.

REBATE RESERVATIONS

Rebate dollars can be reserved by submitting a bid to your Advisor, who will submit the reservation request, verify eligibility, and set the reservation amount. You will be contacted ten days prior to the reservation expiration if the project has not yet been completed.

Reservation Guidelines

- Reservations are held for up to 60 days for lighting and other non-HVAC projects and 90 days for HVAC and solar projects.
- Reservation extensions may be granted for extenuating circumstances – only one extension will be granted per project.
- If the project is not completed by the reservation expiration date, you may submit a new reservation if rebate funds are still available.

Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.

WASTE REDUCTION & DIVERSION OPPORTUNITIES

RECYCLING AND COMPOST

Start Composting

Based on a quick assessment of the waste stream, it looks like an additional 25% of materials could be diverted from the landfill through composting. By setting up compost collection, you may be eligible for incentives to help offset some of the cost.

Expand Your Recycling Program

To divert even more waste from the landfill, you could implement a hard-to-recycle program for items not included in traditional curbside pickup.

- The Center for Hard-to-Recycle Materials (CHaRM) in Boulder recycles hard-to-recycle materials, such as block Styrofoam, plastic wrap, electronics, and more. Visit www.ecocycle.org/charm for more information.
- The Household Materials Management Facility (HMMF) properly disposes of hazardous materials, such as compact fluorescent bulbs, cleaning products no longer being used, etc. Visit www.bouldercounty.org/env/hazwaste/pages/hazmatfacility.aspx for more information.

Custom Waste Signage

You can also take advantage of Partners for a Clean Environment (PACE) waste signage with your logo, which can be customized with materials most commonly found in your waste stream.



Free Waste Training for Employees and Students

Your expert Advisor can teach your employees and students about composting and recycling, why it is important, and how to participate effectively. To keep diversion high, include zero waste trainings in your new employee and student orientation and provide refreshers at meetings.

Rebates & Incentives

Applicable Incentive	Provider	Amount
Compost and Recycling Bins	Boulder County	\$300
Incentive for Adding New Recycling or Compost Service	Boulder County	\$150

Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.

Compost and Recycling Bins



Partners for a Clean Environment (PACE) provides \$300 towards infrastructure to increase diversion, including the purchase of additional waste collection bins. Your Advisor will help you determine product eligibility. The following table includes waste collection bin suggestions that your Advisor can help you purchase and ship directly to your business.

Example Compost and Recycling Bins and Pricing		
Waste Watcher 23 gallons	Hanging Waste Basket 0.75 gallons	Recycling Basket 7 gallons (28 quart)
\$74.95 each	\$3.50 each, lid \$1.10	\$5.25 each
		

*Rebates have run out for 2016

WATER CONSERVATION OPPORTUNITIES

Rebates & Incentives

Applicable Incentive		Provider	Amount
	0.5 gallon per minute handwashing sink aerator	Boulder County	Free
	1.5 gallon per minute kitchen sink aerator	Boulder County	Free

BATHROOM FIXTURES

Upgrade Toilets to WaterSense-Labeled Toilets

The toilets in your building are both 1.28 and 1.6 gallons per flush (gpf) tank-type toilets. Upgrading all fixtures to 1.28 or less gpf toilets can help your facility reduce water use. It is important to install WaterSense-labeled equipment when replacing these fixtures. WaterSense toilets are independently certified to have an effective flush volume and pass performance tests. A list of WaterSense-labeled products is at: www.epa.gov/watersense/products/index.html

Upgrade Urinals with 0.5 GPF Water Sense-Labeled Urinals

The men's restrooms are equipped with 1.0 gpf urinals, which could be upgraded to waterless or WaterSense-labeled urinals that use no more than 0.5 gallons per flush.

Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.

Upgrade Aerators at Hand washing Sinks to 0.5 gpm Models

The existing aerators have a flow rate of 2.0 or 2.2 gpm. Upgrading to a high efficiency model is both easy and inexpensive. Your Advisor can switch out some of the aerators (standard size), or you can purchase high efficiency aerators (junior or Tom Thumb) at any local hardware store and install them yourself. Please keep in mind that all public bathrooms and kitchen hand wash sinks should be equipped with a 0.5 GPM aerator per national code. For any other sink, a 1.5 GPM aerator would be acceptable.

KITCHEN EQUIPMENT

Upgrade Kitchen Aerators on Non-Hand washing Sinks to 1.5 gpm Models

The existing aerators could be upgraded to a 1.5 gpm model, which is both easy and inexpensive. At 1.5 gpm, you can reduce your water use without sacrificing water pressure. You can purchase high efficiency aerators at any local hardware store and install them yourself, or if they're the right size, your Advisor can do them for you.

ADDITIONAL EFFICIENCY INFORMATION

The EPA has developed a document that describes best management practices, retrofit options, and replacement options to improve the efficiency of many different types of equipment. They even have some great information on optimizing the water efficiency of cooling equipment. You can access the online version at:

www.epa.gov/watersense/commercial/docs/watersense_at_work

STORMWATER

Stormwater pollution occurs when rain or snow melt flows over streets and picks up trash, oil, dirt, and other pollutants as it travels. These pollutants are then carried to the storm drainage system, which drains directly into our local creeks and streams, untreated. Only rain and snow should be deposited on the ground. For more information visit: www.keepitcleanpartnership.org

Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.

Jaime, Danica and JJ
Mackintosh Academy Boulder
6717 S. Boulder Rd.
Boulder, CO 80303



Thank you for taking the time to meet with me on Wednesday to discuss your NEW efficiency and sustainability opportunities at Mackintosh Academy. It's great to see all of the efforts that the school is putting into sustainability, and this report should outline much of what we discussed during our walk-through of the school.

TOP OPPORTUNITIES

- Look into lighting/solar upgrades and forward Your Advisor proposals when ready
- Install new faucet aerators and upgrade old toilets and urinals (Your Advisor can install aerators at no cost)
- Get a more intensive energy audit conducted by Xcel or similar, and sign the school up for EnergyStar's Portfolio Manager to track energy and water use
- Advisors can help with custom signage, employee/student zero waste trainings, and connect you with new waste bins

I am here as a free resource to help your business become more sustainable, so please don't hesitate to call or email if you have any questions. I look forward to working with you and helping Mackintosh Academy become more efficient!

CERTIFICATIONS

PACE certification will showcase to your customers and employees that your business has achieved a high level of environmental performance. To achieve certification in the following areas, businesses must demonstrate:

- **Energy Efficiency:** an ENERGY STAR Portfolio Manager rating of 75 or higher.
- **Zero Waste Diversion:** at least a 85% diversion rate.
- **Water Conservation:** water savings 15% better than usage predicted by code

ENERGY EFFICIENCY OPPORTUNITIES

LIGHTING

Simple Actions to Improve Lighting Efficiency

- Turn off lights when you leave the room or building.
- Delamp (i.e. remove excess bulbs and sockets) over lit areas.
- Use ENERGY STAR rated bulbs and fixtures since they are certified to use less energy.

Upgrade Halogen or Incandescent Lighting to LED Technology

Upgrading halogen or incandescent screw-in light bulbs to LEDs can reduce energy by 80%, reduce your cooling load, lower maintenance costs, and improve lighting quality in your space. Xcel Energy now offers pre-discounted screw in LEDs:

businessledinstantrebate.com/Locator/Distributors

Upgrade Fluorescent Lighting to LED

Replace T5 and T8 fixtures with LED troffer fixtures, which can provide superior lighting quality, dim better than fluorescents, work better with occupancy sensors, last longer, and use less energy.





Delamp Fluorescent Fixtures

Permanent delamping (removing excess bulbs and sockets) is an easy way to save energy in over-lit areas.






Install Occupancy Sensors

Occupancy sensors installed in common areas, such as bathrooms or closets, are a great way to save energy by automatically turning lights off when the area is not in use.

Rebates & Incentives

Existing	Upgrade	Estimated Energy Savings	Boulder County Rebate*	Xcel Energy Rebate*
 A19 (50-75 Watt)	LED A19 (10-15 Watt)	80%	\$.25 per watt reduced	Pre-discounted at Distributor
 Halogen MR16 (50-75 Watt)	LED MR16 (10-15 Watt)	80%	\$.25 per watt reduced	Pre-discounted at Distributor
 Fluorescent T8 or T5 lamps	Retrofit to LED tubes 	40-60%	\$.30 per watt reduced	\$2-5 per tube

Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.

Existing	Upgrade	Estimated Energy Savings	Boulder County Rebate*	Xcel Energy Rebate*
4' T8 Troffer, 2-4 lamp (113 watts) 	LED Troffer (35-50 watts) 	50-55%	\$.75 per watt reduced	\$30 per fixture
 Standard Light Switch	 Occupancy Sensor or Photo Sensor, wall mounted	15-25%	\$50 per switch	\$.05 per controlled watt
 Incandescent Exit Sign	LED Exit Signs	85-95%	No rebate available	\$25 per fixture

Lighting Contractor List

You can use any contractor you wish, but for your convenience I have provided a link to lighting contractors that have worked on Partners for a Clean Environment projects in the past and are aware of the incentive programs available: www.energysmartyes.com/business/find-a-contractor.html

BUILDING ENVELOPE

Simple Actions to Improve Building Envelope Efficiency

Energy can easily be lost through windows and doors, especially when they are left open or have leaks. There are several ways to increase the efficiency of your building envelope without spending too much or spending nothing at all.

- Check window and door frames for leaks.
- Caulk leaks to prevent the loss or gain of unwanted air.
- Replace door seals.

Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.

HEATING, VENTILATION AND COOLING (HVAC)

Simple Actions to Improve HVAC Efficiency

Whether you upgrade to more efficient HVAC equipment or keep the unit you have, you can always take steps to make it as efficient as possible, including:

- Perform routine (i.e. quarterly) maintenance on HVAC equipment.
- Upgrade to programmable thermostats, and make sure thermostats are programmed to power down on nights, weekends, and holidays.
- Keep supply and return air ducts clean.
- Regularly clean motors and coils, and replace filters.

Rebates & Incentives

The total of all financial incentives for HVAC measures will be limited to 50% of the total project cost and \$2,000 per parcel.

Upgrade	Boulder County	Xcel Energy	Per
Split System 15 SEER, <5.4 Tons	\$314/\$79	\$65+	Ton (existing works/not)
Direct Evaporative Pre-cooling	\$100	\$100	Ton
Evaporative Cooler - Replacing DX Cooling	\$1.00		CFM
Boiler Tune-Up		\$.25	kBTU
Water Heater - 92% Efficiency Minimum		\$2	kBTU
Programmable Thermostat	\$100		Unit

HVAC Contractor List

You can use any contractor you wish, but for your convenience I have provided a link to HVAC contractors that have worked on Partners for a Clean Environment projects in the past and are aware of the incentive programs available: www.energysmartyes.com/business/find-a-contractor.html

RENEWABLES

Install or Purchase Renewable Energy

Eligible renewable systems can receive a rebate of \$1 per watt up to \$15,000. To be eligible for renewable energy rebates through Boulder County, please note the following:

- There must be an appropriately sized system or unit installed on existing rooftops and parking shade structures or on the ground within the boundaries of an existing facility.
- North-facing roofs do not qualify because they do not allow full utilization of sunlight.
- There must be minimal shading by trees, buildings, and other structures.
- The property must be free from deed restrictions on photovoltaic (PV) systems.
- The roof needs to be able to support a PV system installation.
- A list of eligible PV system modules and inverters is available on the California Energy Commission's website.

Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.

- All PV systems must carry a five-year warranty from both the manufacturer and the installer, including parts and labor.
- Rebuilt, used, refurbished, or portable equipment does not qualify.
- Rebates for renewable energy are only available to businesses that demonstrate a Portfolio Manager (PM) score of 60 or greater. If you cannot show a PM of 60 or greater, your Advisor will work with you to identify a list of efficiency measures that must be implemented prior to receiving a rebate for renewables.

ADDITIONAL RESOURCES

Track your Energy and Water use with Portfolio Manager

[ENERGY STAR's Portfolio Manager](#) can be used to track the water and energy use of your building, establish a baseline, and compare your usage to similar facilities. Your Advisor can help you set up an account, which is the first step toward PACE certification in energy.

Commercial Property Assessed Clean Energy (C-PACE)

[C-PACE](#) is a means of financing energy efficiency, renewable energy, and water efficiency projects with zero up front costs, a positive cash flow, and the loan stays with the building if your business relocates. A line of credit is secured through a traditional lender and a tax assessment is placed on the building.

REBATE RESERVATIONS

Rebate dollars can be reserved by submitting a bid to your Advisor, who will submit the reservation request, verify eligibility, and set the reservation amount. You will be contacted ten days prior to the reservation expiration if the project has not yet been completed.

Reservation Guidelines

- Reservations are held for up to 60 days for lighting and other non-HVAC projects and 90 days for HVAC projects.
- Reservation extensions may be granted for extenuating circumstances – only one extension will be granted per project.
- If the project is not completed by the reservation expiration date, you may submit a new reservation if rebate funds are still available.

Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.

WASTE REDUCTION & DIVERSION OPPORTUNITIES

RECYCLING AND COMPOST

Custom Waste Signage

You can also take advantage of Partners for a Clean Environment (PACE) waste signage with your logo, which can be customized with materials most commonly found in your waste stream.



Free Waste Training for Employees and Students

Your expert Advisor can teach your employees and students about composting and recycling, why it is important, and how to participate effectively. To keep diversion high, include zero waste trainings in your new employee and student orientation and provide refreshers at meetings.

Rebates & Incentives

Applicable Incentive	Provider	Amount
Compost and Recycling Bins	Boulder County	\$300
Incentive for Adding New Recycling or Compost Service	Boulder County	\$150



Compost and Recycling Bins

Partners for a Clean Environment (PACE) provides \$300 towards infrastructure to increase diversion, including the purchase of additional waste collection bins. Your Advisor will help you determine product eligibility.

Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.

WATER CONSERVATION OPPORTUNITIES

Rebates & Incentives

Applicable Incentive	Provider	Amount
 <p>0.5 gallon per minute handwashing sink aerator</p>	Boulder County	Free
 <p>1.5 gallon per minute kitchen sink aerator</p>	Boulder County	Free

BATHROOM FIXTURES

Upgrade Toilets to WaterSense-Labeled Toilets

The toilets in your building are both 1.28 and 1.6 gallons per flush (gpf) tank-type toilets. Upgrading all fixtures to 1.28 or less gpf toilets can help your facility reduce water use. It is important to install WaterSense-labeled equipment when replacing these fixtures. WaterSense toilets are independently certified to have an effective flush volume and pass performance tests. A list of WaterSense-labeled products is at: www.epa.gov/watersense/products/index.html

Upgrade Urinals with 0.5 GPF Water Sense-Labeled Urinals

The men's restrooms are equipped with 1.0 gpf urinals, which could be upgraded to waterless or WaterSense-labeled urinals that use no more than 0.5 gallons per flush.

Upgrade Aerators at Hand washing Sinks to 0.5 gpm Models

The existing aerators have a flow rate of 2.0 or 2.2 gpm. Upgrading to a high efficiency model is both easy and free, as your Advisor can do this for you.

KITCHEN EQUIPMENT

Upgrade Kitchen Aerators on Non-Hand washing Sinks to 1.5 gpm Models

The existing aerators could be upgraded to a 1.5 gpm model, which is both easy and free, as your Advisor can do this for you.

STORMWATER

Stormwater pollution occurs when rain or snow melt flows over streets and picks up trash, oil, dirt, and other pollutants as it travels. These pollutants are then carried to the storm drainage system, which drains directly into our local creeks and streams, untreated. Only rain and snow should be deposited on the ground. For more information visit: www.keepitcleanpartnership.org

Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.

TRANSPORTATION OPPORTUNITIES

EcoPass

The EcoPass smartcard is valid for unlimited rides on all regular RTD bus and light rail service. Employees with an EcoPass are five to nine times more likely to ride the bus than employees without one, reducing parking issues and emissions from commuting. There are free and discounted EcoPass programs detailed in the chart below.

EV Charging Stations

Providing electric vehicle (EV) charging stations at work has been demonstrated to make employees 20 times more likely to purchase an EV even though 80% of charging typically happens at home. Grants are available from the Regional Air Quality Council up to \$9,000 for Level II charging stations.

Carpool and Vanpool

Employees can split commute costs and reduce emissions by vanpooling and carpooling. [WayToGo](#) matches carpool and vanpool riders in the Denver metro area, [VanGo](#) offers a Guaranteed Ride Home (GRH) program for members, and [Commuting Solutions](#) helps commuters in the Northwest Metro Region identify these and other alternative commute options, as well as helps available incentives.

Encouraging Biking

Encouraging employees to bike is part education, part culture, and part infrastructure. Your Advisor is available to give trainings and presentations on how to motivate employees and create the right conditions at the office for a successful bike commuting program like adding bike storage or showers. Boulder County offers up to four free bike racks per business.

Rebates & Incentives

Transportation Opportunities	Incentive
Employee EcoPass	60% reimbursement for first year, 30% for second
EV Charging Station	\$9,000 from the Regional Air Quality Council
Carpools and Vanpools	Various incentives to start and continue
CarShare	Discounted corporate memberships
BikeShare	Discounted corporate memberships
Discounts for EcoPass Holders	10% off at local businesses
Tax Benefits	Federal tax benefits for transit passes and vanpooling
Bike racks	Up to four free bike racks from Boulder County

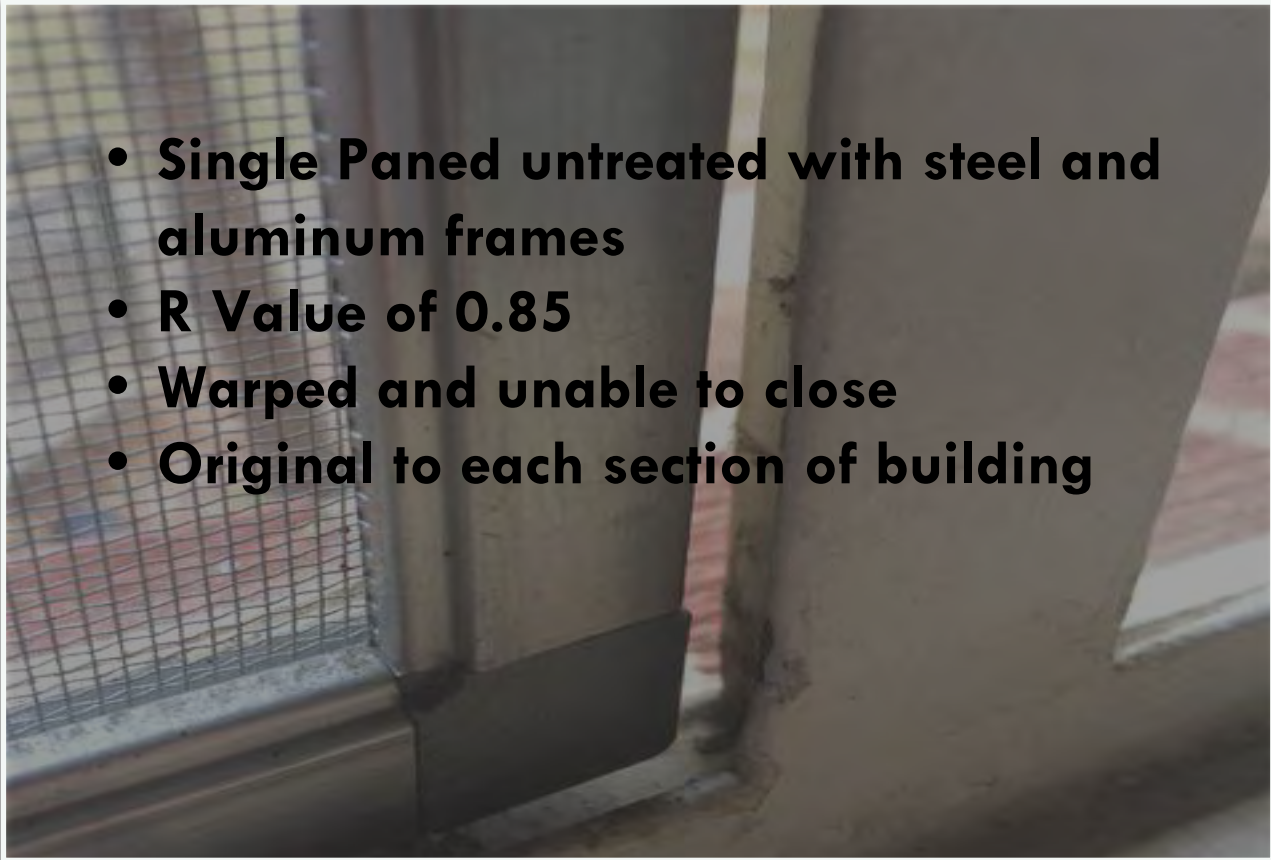
Note: Rebates are subject to change. Prior to starting any upgrade please call your advisor or the PACE hotline (303-786-7223) to help determine project eligibility and estimate potential incentives available.


MACKINTOSH ACADEMY NATURAL GAS USAGE



WINDOW REPLACEMENT SUMMER 2016

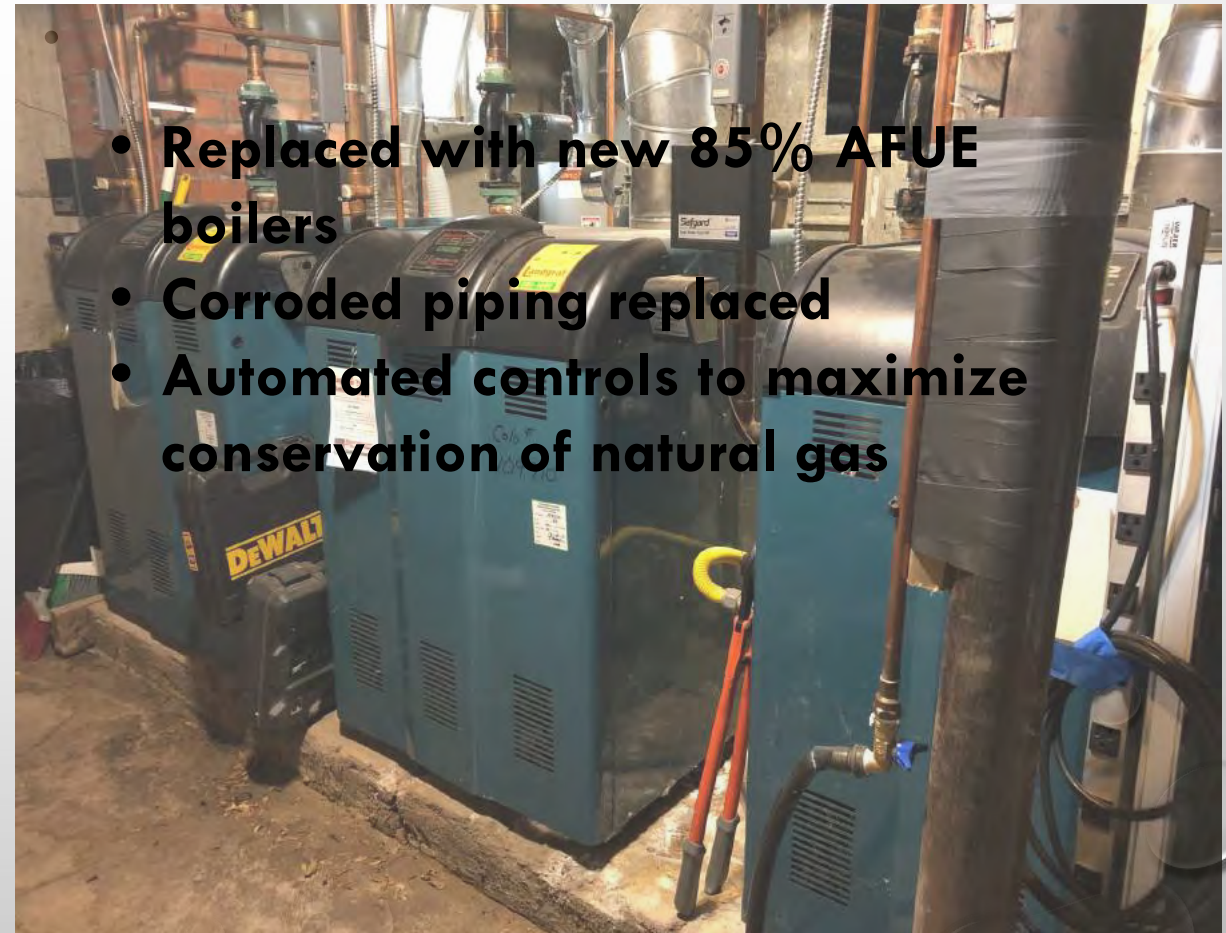
100% REPLACEMENT OF 76 WINDOWS

- 
- **Single Paned untreated with steel and aluminum frames**
 - **R Value of 0.85**
 - **Warped and unable to close**
 - **Original to each section of building**

- 
- **7/8 Double Paned Insulated Low E Glass**
 - **R Value of 4.03**
 - **270 Light Transmission allows Solar Radiation to heat but insulates from cold**

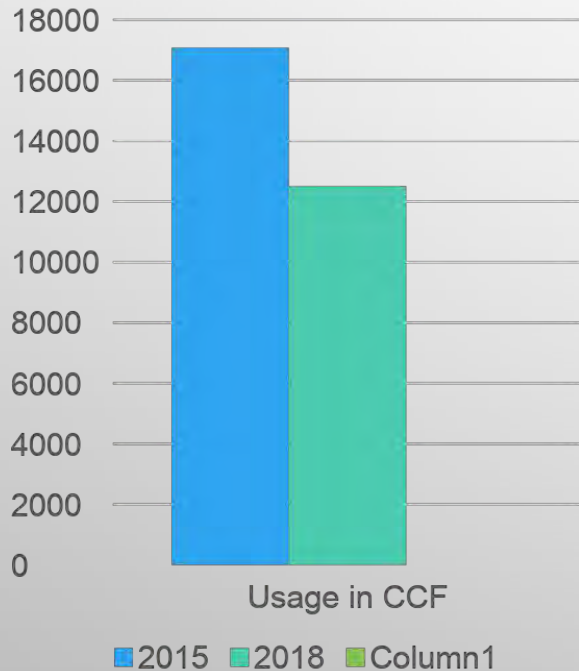
BOILER REPLACEMENT SUMMER 2016

5 BOILERS REPLACED

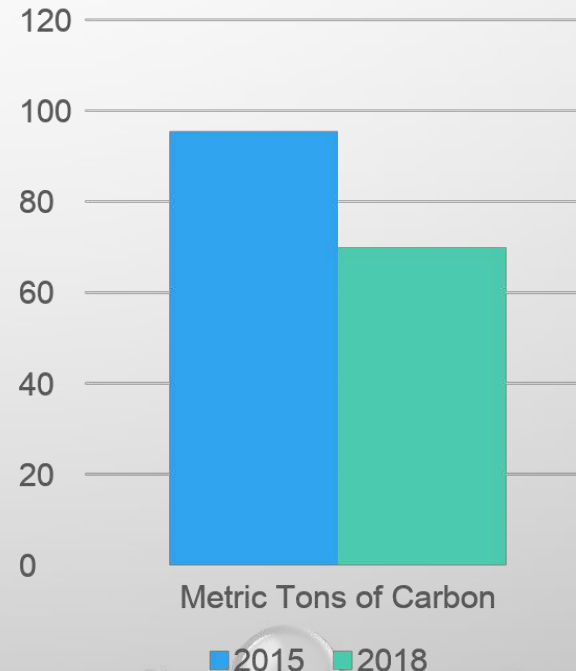


PROJECT RESULTS

- PRIOR YEAR ANNUAL USAGE OF 17,073 CCF (100 CUBIC FEET OF NATURAL GAS)
- POST PROJECT AVERAGE ANNUAL USAGE OF 12,505 CCF
- AVERAGE ANNUAL SAVINGS OF 4,568 CCF
- REDUCTION OF 25.53 METRIC TONS OF CARBON INTO THE ATMOSPHERE

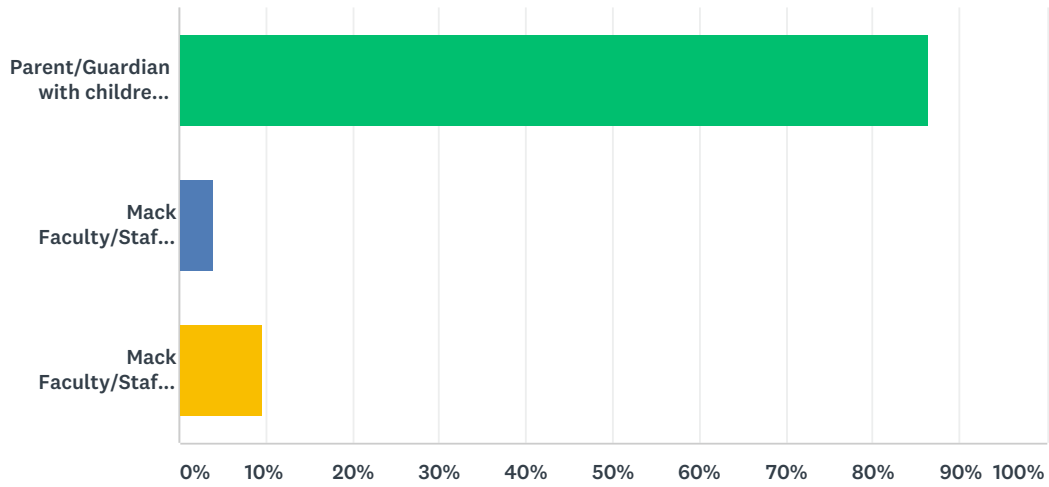


27% Reduction of Gas Use and Carbon Emissions



Q1 I am a:

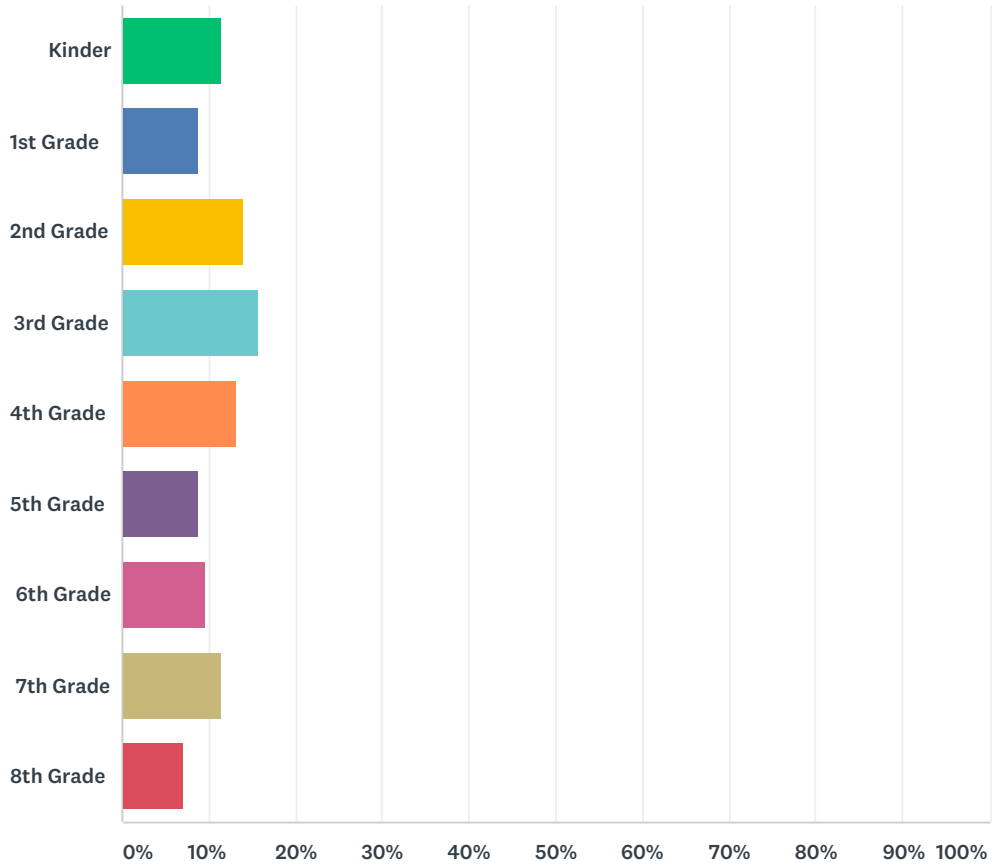
Answered: 125 Skipped: 0



ANSWER CHOICES	RESPONSES	
Parent/Guardian with children at Mack	86.40%	108
Mack Faculty/Staff with children at Mack	4.00%	5
Mack Faculty/Staff with NO children at Mack	9.60%	12
TOTAL		125

Q2 What grades are your children in?

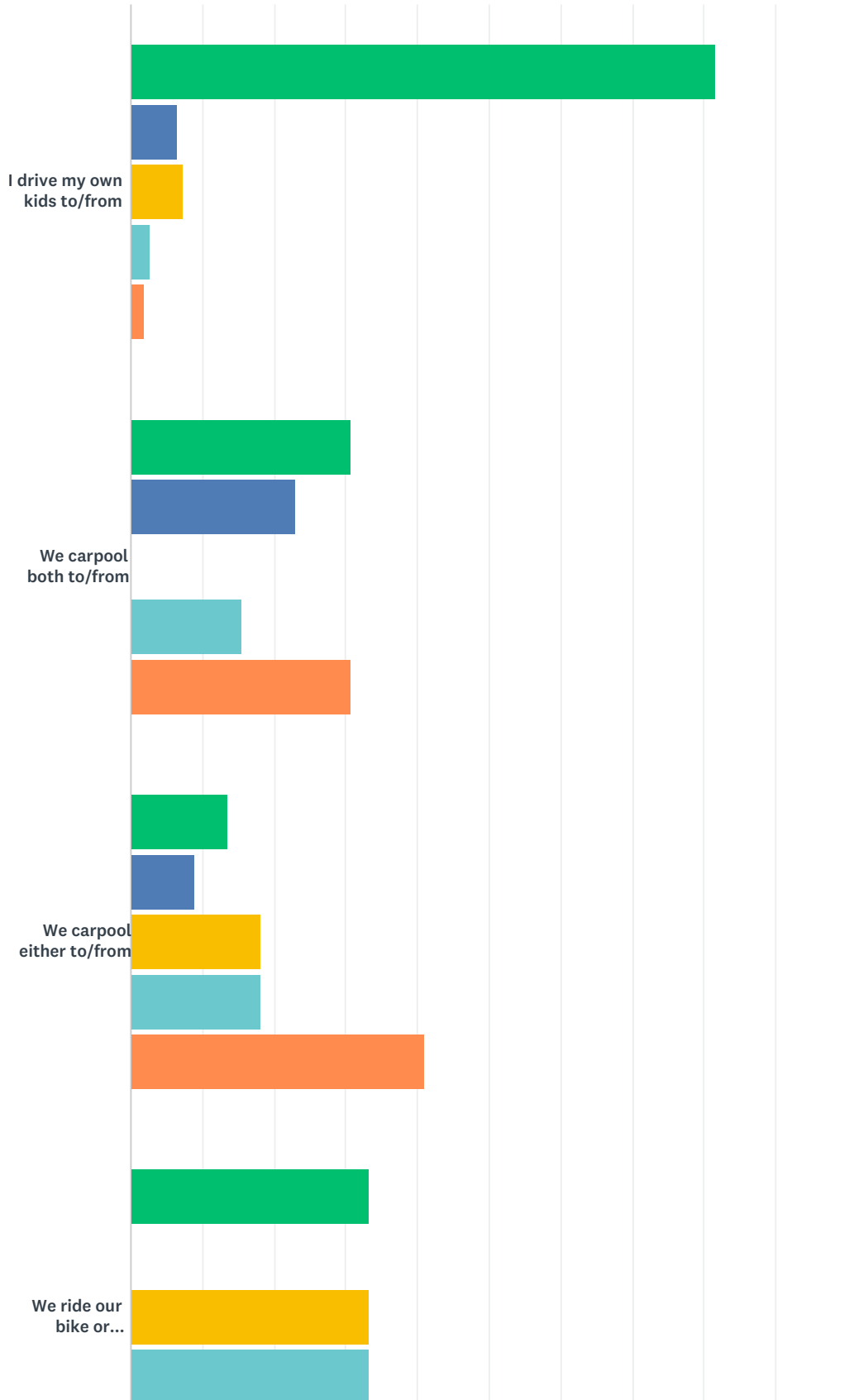
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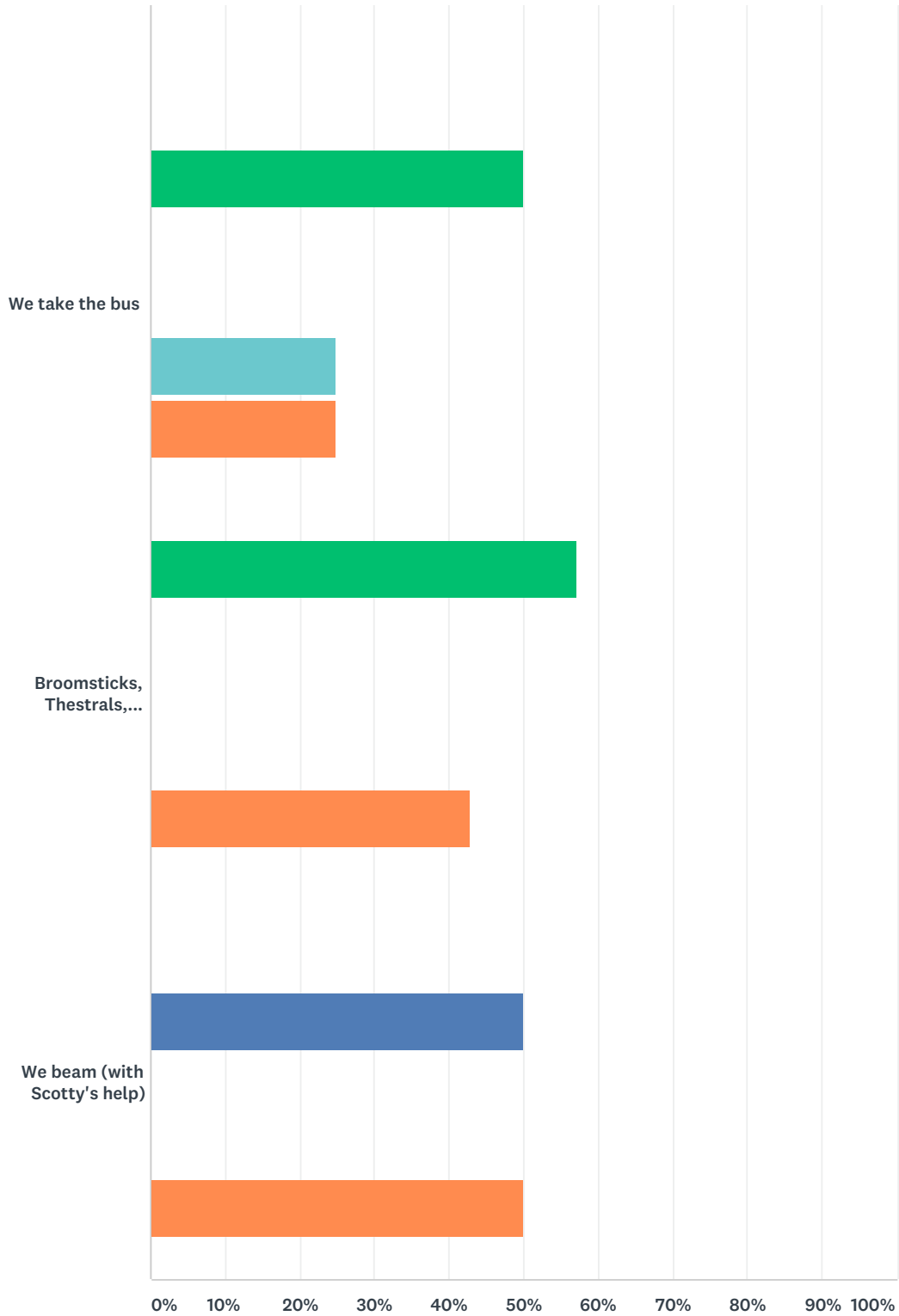


ANSWER CHOICES	RESPONSES	
Kinder	11.40%	13
1st Grade	8.77%	10
2nd Grade	14.04%	16
3rd Grade	15.79%	18
4th Grade	13.16%	15
5th Grade	8.77%	10
6th Grade	9.65%	11
7th Grade	11.40%	13
8th Grade	7.02%	8
TOTAL		114

Q3 How do you get to/from Mack Boulder the majority of school days?

Answered: 120 Skipped: 5





■ 5 days of the school week ■ 4 days of the school week
■ 3 days of the school week ■ 2 days of the school week
■ 1 day of the school week

	5 DAYS OF THE SCHOOL WEEK	4 DAYS OF THE SCHOOL WEEK	3 DAYS OF THE SCHOOL WEEK	2 DAYS OF THE SCHOOL WEEK	1 DAY OF THE SCHOOL WEEK	TOTAL
I drive my own kids to/from	81.65%	6.42%	7.34%	2.75%	1.83%	109
	89	7	8	3	2	

ATTACHMENT A

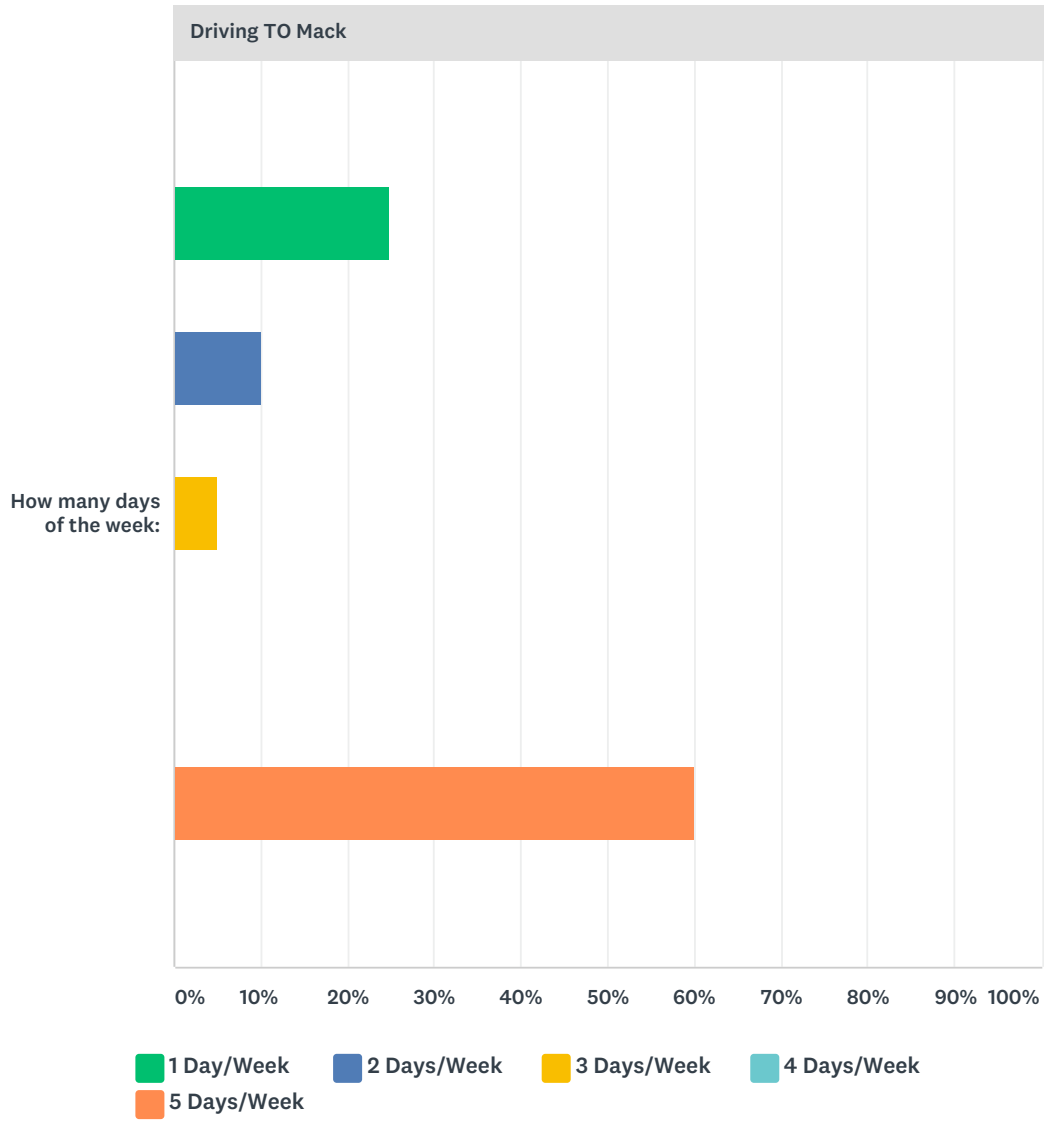
Mack Boulder Traffic Study

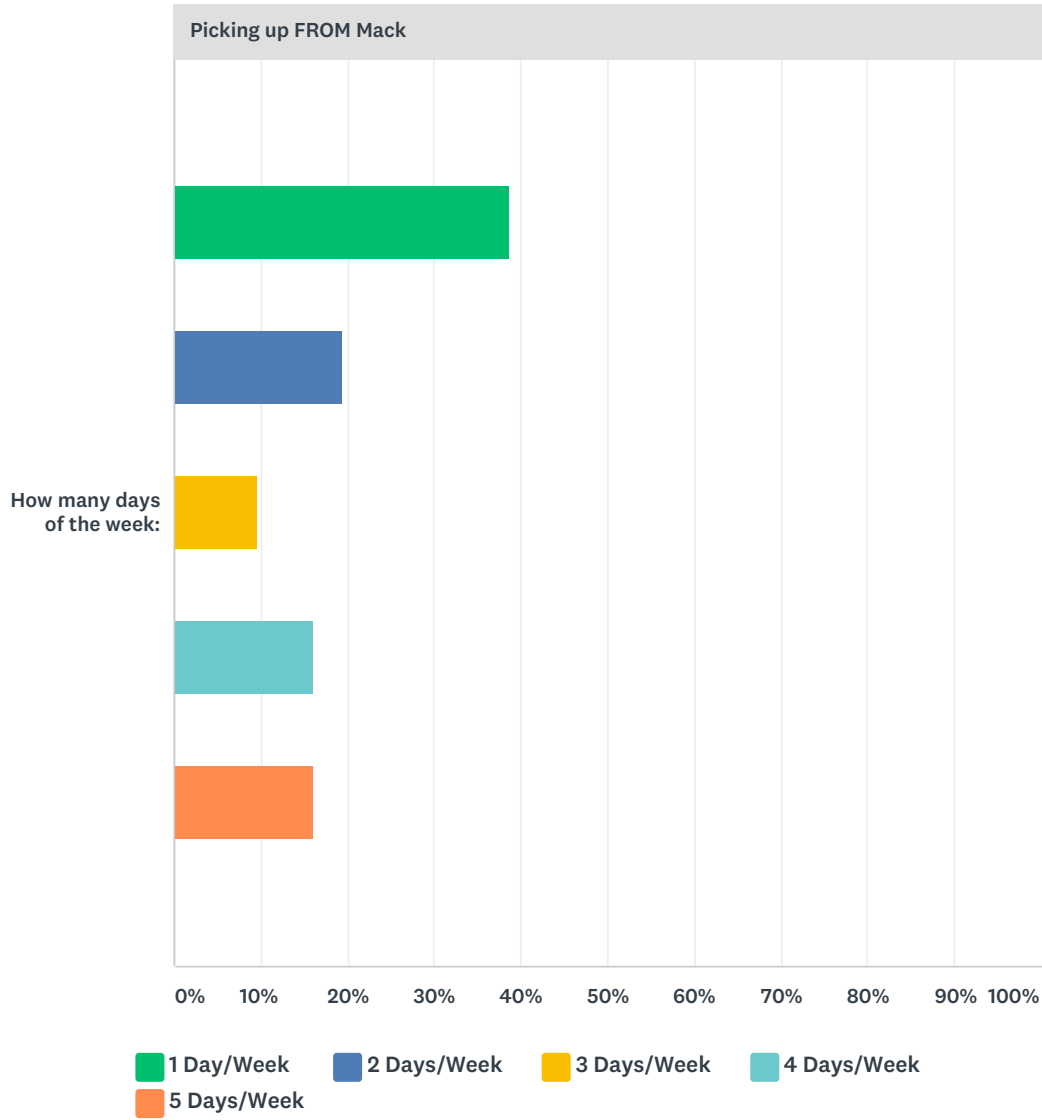
We carpool both to/from	30.77% 4	23.08% 3	0.00% 0	15.38% 2	30.77% 4	13
We carpool either to/from	13.64% 3	9.09% 2	18.18% 4	18.18% 4	40.91% 9	22
We ride our bike or skateboards	33.33% 1	0.00% 0	33.33% 1	33.33% 1	0.00% 0	3
We take the bus	50.00% 2	0.00% 0	0.00% 0	25.00% 1	25.00% 1	4
Broomsticks, Thestrals, Apparation, or the Floo Network	57.14% 4	0.00% 0	0.00% 0	0.00% 0	42.86% 3	7
We beam (with Scotty's help)	0.00% 0	50.00% 1	0.00% 0	0.00% 0	50.00% 1	2

#	OTHER (PLEASE SPECIFY)	DATE
1	My wife does drop-off	10/26/2018 1:48 PM
2	This would cover taking Harper to and from school...5 days per week (10 trips between Renee, Michal and Grandmother). FWIW, 7 of those 10 trips are made to or from Boulder commuting to/from work. Meaning we are not going out of our way or 'adding' traffic to S.Boulder Rd, per say.	10/26/2018 11:47 AM
3	train from platform 9 3/4	10/26/2018 9:56 AM
4	I drive myself	10/26/2018 9:18 AM
5	Carpool one direction once a week	10/25/2018 4:00 PM
6	I dream of doing any of the last two questions options. If available we would do these 5 days a week.	10/25/2018 1:10 PM
7	Next semester we will be bicycling 4-5 days a week and/or carpool/bus. We don't own a car, and this semester we just have a lucky nanny arrangement.	10/25/2018 11:28 AM
8	One of us parents drive to/from pickup. May not be me.	10/25/2018 11:21 AM
9	We bike there 5xwk and car home 5xwk	10/25/2018 11:18 AM
10	I drive one way, sitter drives in the afternoon.	10/25/2018 11:14 AM
11	drop off by bike, pick up by car	10/25/2018 11:07 AM
12	We occasionally bike. It would be nice to have a connecting bike path from the cherryvale path	10/25/2018 11:01 AM
13	Ride the bus when possible	10/25/2018 11:00 AM

Q4 If you carpool, how many days of the week to/from?

Answered: 34 Skipped: 91



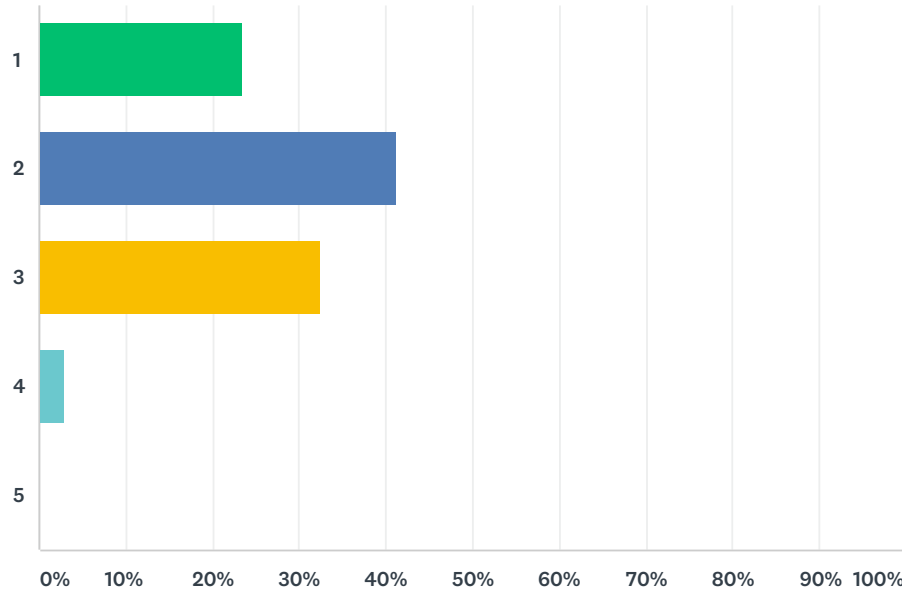


Driving TO Mack						
	1 DAY/WEEK	2 DAYS/WEEK	3 DAYS/WEEK	4 DAYS/WEEK	5 DAYS/WEEK	TOTAL
How many days of the week:	25.00%	10.00%	5.00%	0.00%	60.00%	
	5	2	1	0	12	20

Picking up FROM Mack						
	1 DAY/WEEK	2 DAYS/WEEK	3 DAYS/WEEK	4 DAYS/WEEK	5 DAYS/WEEK	TOTAL
How many days of the week:	38.71%	19.35%	9.68%	16.13%	16.13%	
	12	6	3	5	5	31

Q5 If you carpool, how many students do you take with you?

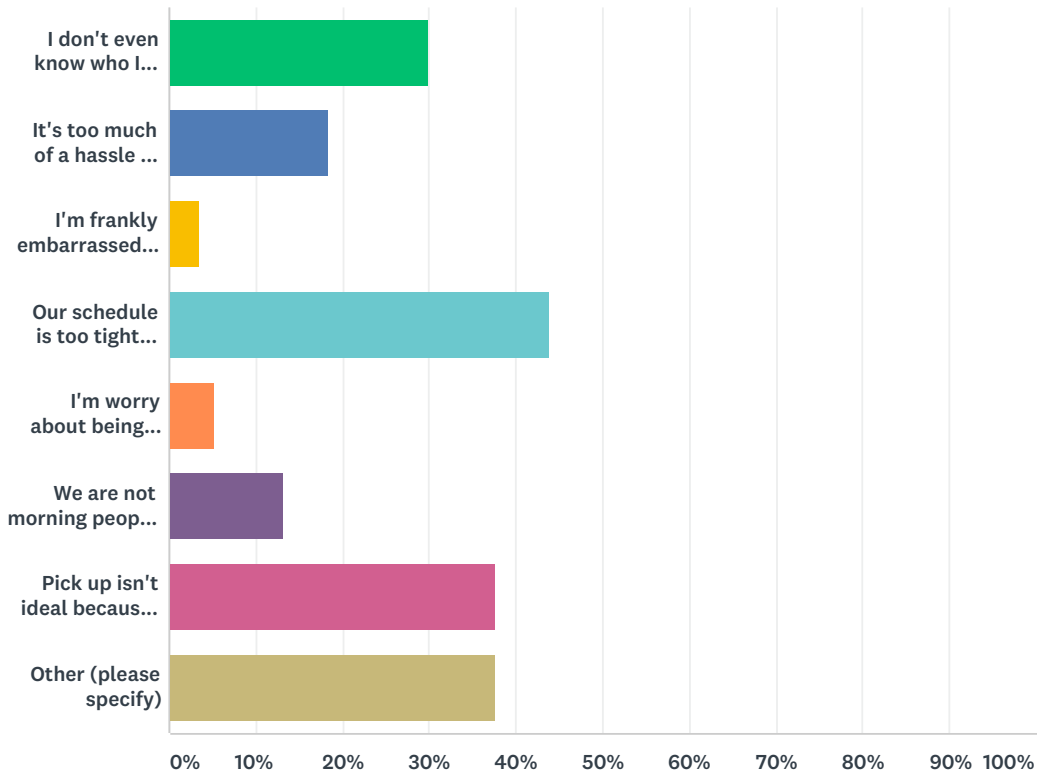
Answered: 34 Skipped: 91



ANSWER CHOICES	RESPONSES	
1	23.53%	8
2	41.18%	14
3	32.35%	11
4	2.94%	1
5	0.00%	0
TOTAL		34

Q6 What factors keep you from carpooling more often?

Answered: 114 Skipped: 11



ANSWER CHOICES	RESPONSES	
I don't even know who I could ask to carpool with.	29.82%	34
It's too much of a hassle to even have to think about it.	18.42%	21
I'm frankly embarrassed about our vehicle - animals could live off of the food dropped on the floor.	3.51%	4
Our schedule is too tight in the morning or afternoon.	43.86%	50
I'm worry about being responsible for other students in my vehicle.	5.26%	6
We are not morning people - no additional humans should be near us in the morning.	13.16%	15
Pick up isn't ideal because we always seem to have after school activities.	37.72%	43
Other (please specify)	37.72%	43
Total Respondents: 114		

#	OTHER (PLEASE SPECIFY)	DATE
1	We are also taking kids to Horizons	10/30/2018 12:22 PM
2	I could theoretically do it, but we live life on the edge. Getting my own kiddos to school late is bad enough, but the thought of making someone else late is too much to bear.	10/29/2018 12:03 PM
3	I'm always running late	10/29/2018 9:35 AM
4	I work in the mornings from home and have an unpredictable schedule. I can however pick kids up is needed.	10/29/2018 7:08 AM

ATTACHMENT A

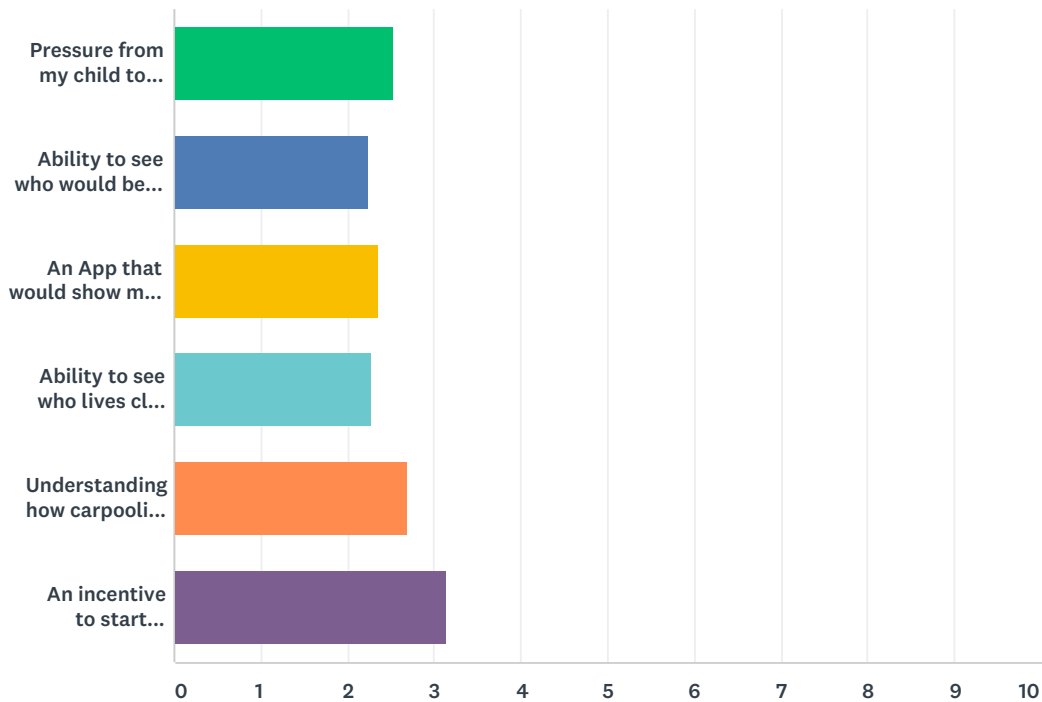
Mack Boulder Traffic Study

5	we both work and our schedules vary a lot, which makes it difficult to be consistent in a car pool agreement	10/28/2018 10:03 PM
6	Too close to school, no other families close enough for it to be worthwhile.	10/27/2018 6:20 PM
7	Ki is unreliable in the morning.	10/27/2018 3:03 PM
8	With both parents working outside the home, we have a complex schedule already and it would be hard to have more to think about. Because the school is exactly on our routes to work, we are not adding any to the local traffic.	10/27/2018 2:56 PM
9	other child at different school makes it too difficult	10/27/2018 1:03 PM
10	Small car can't fit more than 3 kids	10/27/2018 7:39 AM
11	Husband usually drives right past Mack for work.	10/26/2018 10:01 PM
12	Small car and scheduling difficulties	10/26/2018 4:12 PM
13	I enjoy the conversation time with my child on the way to school. During commute time we have some of our most interesting conversations. I don't want to give that up to commute more.	10/26/2018 3:03 PM
14	Two kids in the car. No space for carpooling.	10/26/2018 1:48 PM
15	We live basically at McCaslin/S.Boulder Rd...and 70% of our PU and DO's are to/from work. Coordinating with another family likely means that we end up going out of our way (geographically) and since we are doing this to/from work, there's no benefit to us for another family to get Harper. We previously carpooled 2 days a week with a family in San Francisco.....but, we were only separated by 6 blocks and the schedules worked out.	10/26/2018 11:47 AM
16	In the morning, I drive past the school on my way to work so it's convenient. In the afternoon, I think it's about flexibility.	10/26/2018 11:39 AM
17	Space is limited in car	10/26/2018 11:23 AM
18	None of these apply. I would be happy to carpool more frequently.	10/26/2018 11:13 AM
19	we live far away from main stream, - nobody to carpool with	10/26/2018 10:31 AM
20	no one in our area with whom to carpool	10/26/2018 9:56 AM
21	Extracurricular scheduling conflicts	10/26/2018 9:48 AM
22	At the moment, mostly carpool when picking up at Mack for playdate	10/26/2018 9:30 AM
23	Our car is full, we couldn't fit other people in unless we strap them to the top.	10/26/2018 9:26 AM
24	I drop off and pick up from Mack on the way to/from my other kids' school. Carpooling to Mack would only save time/money if I also arranged carpools for the other kids also, but, I don't have room in my car for more kids.	10/26/2018 9:07 AM
25	parenting schedule between mom and dad is not set, so we don't know ahead who will be driving. Carpooling is absolutely not feasible at this time. Perhaps at a later time. Also, sometimes we are running late. I can take this responsibility for my own child, but it wouldn't be fair to another child.	10/26/2018 9:03 AM
26	We have a child at another school who needs to be picked up and our car can't accommodate an additional child	10/25/2018 2:55 PM
27	There aren't any other Mack families that leave near us	10/25/2018 2:49 PM
28	The moment school gets out the kids are done being nice to anyone. No additional humans should be near us in the afternoon.	10/25/2018 2:30 PM
29	I could take someone else kid in the AM, but I have to drive Julia to school afterwards, so I am driving by mack anyway. We carpooled at our last school and loved it. One thing that holds people back I think is the carseat shuffle for little ones. I am always concerned if it is installed correctly.	10/25/2018 1:36 PM
30	There is only one other family in or area. They are not interested in carpooling.	10/25/2018 1:16 PM
31	We don't have a car so don't know what to offer in return.	10/25/2018 11:28 AM
32	Kid in other school needs to be dropped first. After school activities for each kid in different locations.	10/25/2018 11:21 AM
33	On a bike in the mornings. Others in our neighborhood bike as well.	10/25/2018 11:18 AM

34	I am a staff member. I need to be at school before students.	10/25/2018 11:16 AM
35	I have another son at a school in Boulder from Louisville, so tight drop off window and can't collect other children.	10/25/2018 11:14 AM
36	Lots of kids and we drive to multiple schools.	10/25/2018 11:13 AM
37	Morning time is when 1:1 happens and I don't want to share that.	10/25/2018 11:13 AM
38	Our carpooling vehicles can only accomodate a maximum of 3 kids.	10/25/2018 11:07 AM
39	we don't do very well with timing in the morning so don't want to make other people late like us, and Amanda is hard pressed to support our own child at pickup, let alone others	10/25/2018 11:07 AM
40	Multiple kids at two different schools means coordination is a problem	10/25/2018 11:07 AM
41	I pick up my child at 3:05, 4 days a week for gymnastics. Otherwise we would carpool more in the afternoon.	10/25/2018 11:03 AM
42	We live very far from Boulder and currently there aren't other parents who live near us so we haven't yet considered carpooling.	10/25/2018 10:56 AM
43	Sick kids in car	10/25/2018 10:55 AM

Q7 Of the following measures, which one is most likely to help you consider carpooling?

Answered: 114 Skipped: 11



	VERY LIKELY (DID YOU USE THE FORCE ON ME?)	SOMEWHAT LIKELY (I COULD BE CONVINCED)	LIKELY (MEH...I'M INTERESTED, BUT CAN'T COMMIT)	SOMEWHAT UNLIKELY (DON'T BE MAD AT ME)	NOT LIKELY AT ALL (HEH, JUST BEING HONEST)	TOTAL	WEIGHTED AVERAGE
Pressure from my child to start saving the Earth	26.73% 27	33.66% 34	15.84% 16	5.94% 6	17.82% 18	101	2.54
Ability to see who would be interested in sharing carpooling (static list)	29.91% 32	41.12% 44	14.02% 15	5.61% 6	9.35% 10	107	2.23
An App that would show me on any given day who would be interested in sharing carpooling (like a free Mack Parent Uber)	38.10% 40	24.76% 26	13.33% 14	9.52% 10	14.29% 15	105	2.37
Ability to see who lives close to me and/or on the way to/from Mack	36.36% 40	30.00% 33	13.64% 15	9.09% 10	10.91% 12	110	2.28
Understanding how carpooling would benefit Mack Boulder	21.65% 21	29.90% 29	22.68% 22	8.25% 8	17.53% 17	97	2.70
An incentive to start carpooling (gift cards, etc.)	17.53% 17	23.71% 23	15.46% 15	13.40% 13	29.90% 29	97	3.14

Q8 Do you have ideas for how we could mitigate/reduce traffic to/from Mack?

Answered: 70 Skipped: 55

#	RESPONSES	DATE
1	It would be great to have a bike path to school that didn't require riding on South Boulder Road, coming from the north.	10/29/2018 6:44 PM
2	Make the street crossing on S Boulder Rd safer. I would put my kids on the city bus if they had a signal there that would allow them to cross from the bus stop safely. Without that -- with traffic moving at 65 mph -- no way. I've asked the Boulder county about putting in a signal there, but they never responded.	10/29/2018 12:03 PM
3	Staggering start times and pick up times a bit more	10/29/2018 9:35 AM
4	I would send my child home on the bus if there could be a bus chaperone to make sure kids get off at the correct stops. (maybe a rotating parent volunteer?)	10/28/2018 10:07 PM
5	Offer a bussing service from a centralized location(s) in town like Dawson does.	10/28/2018 8:20 PM
6	Use school vans to pick up kids from different parts of town whose parents are willing to pay to be part of a van pool	10/27/2018 8:59 PM
7	Please have a light installed at S Boulder Rd. In two years, once the kids are old enough, they would take the bus home if the light were installed. As it stands it is unsafe for them to cross and get the bus.	10/27/2018 3:03 PM
8	If a traffic light was installed on South Boulder Rd at the entrance to Mack with a crosswalk (and or Crossing Guard / Staff) to make it safe for kids - our kids would be able to take a bus soon!	10/27/2018 2:59 PM
9	Use the Mack vans to do a pick-up/drop-off at one or two locations in Boulder, and possibly the other direction with the other van. Supported by parent fees for the service, possibly. OR, if Mack started offering school-made lunches daily, we would have some time and brain-space freed up in our daily routines to put more effort into car pooling.	10/27/2018 2:56 PM
10	Definitely carpooling.	10/27/2018 2:04 PM
11	Hybrid MackSchool bus	10/27/2018 1:43 PM
12	Carpooling initiative	10/27/2018 7:39 AM
13	School bus/vans!	10/26/2018 4:12 PM
14	Street too busy to consider riding bikes, but carpooling is an excellent idea. Tell Google to move somewhere else? (Ooh, did I just say that out loud??)	10/26/2018 2:05 PM
15	This is an old idea, and a good one...we used to have a thing called a "school bus." ;-) The nice thing is you already have such things; we could use the vans to bring kids to school. Deploy them to areas of high student density at a remote rally point, and then that's where those parents drop off their kids. Yes you'd need to hire a driver. But you never said the idea had to be free...	10/26/2018 1:48 PM
16	School-provided transportation would be amazing!! In the area that we live, there are at least 4-5 families driving to school in the morning. Often we are one behind the other, carpooling some but limited by space in cars.	10/26/2018 1:14 PM
17	Possibly only Mack buses going out to a central location where there could be a drop-off and reduce a 'portion' of multiple parents' trips? As mentioned prior, we both commute down SBR anyway, we already don't 'add' to the traffic by going to Mack, for the most part	10/26/2018 11:47 AM
18	Mack Vans 1 Boulder pick up, 1 east pick up Louisville/Lafayette	10/26/2018 11:43 AM
19	Persuade Louisville and Boulder to build safer biking connections to Mack... We'd quite likely bike in with the kids, at least in the warmer months, if it wasn't for South Boulder Road.	10/26/2018 11:39 AM
20	Launch a carpooling campaign!	10/26/2018 11:13 AM

ATTACHMENT A

Mack Boulder Traffic Study

21	change layout of parking and drop-off area to separate parking cars flow from dropping-off/picking-up (aka car-line) flow	10/26/2018 10:31 AM
22	possible gathering area for drop/off pick up to carpool - such as McDonalds parking lot on Mcaslin and Dillon...might also help us to not be late everyday	10/26/2018 9:56 AM
23	no	10/26/2018 9:52 AM
24	After school activities seem to be main issue for us. If we had a better idea who else was in/out for after school activities it would be easier to try to organize.	10/26/2018 9:49 AM
25	I'll brainstorm	10/26/2018 9:48 AM
26	Fantasy: Hybrid Mackschoolbus?	10/26/2018 9:30 AM
27	1. Busing from set spots in Louisville and Boulder 2. A traffic light or at least flashing lights to let people walk across South Boulder Rd.	10/26/2018 9:27 AM
28	Mack vans. Have five stops in North Boulder. Five stops in South Boulder. Charge parents \$5 per ride per child.	10/26/2018 9:13 AM
29	I don't need convincing from my daughter. My profession is environmental work, and if I had any capacity to do the right thing, believe me I'd be doing it before she gave me the pressure. Also, I just want to say that if it's smartphone-app based, I will definitely not participate in carpooling, because I don't want one more app complicating my life. I would only do it based on a regular arrangement with one other parent. Nothing complicated.	10/26/2018 9:03 AM
30	Help organizing carpools, bus chaperones (parent volunteers?)	10/25/2018 4:00 PM
31	Move closer to our house. Okay, only half kidding.	10/25/2018 3:07 PM
32	Sabrina (7th) would love to carpool to avoid Casey (1st). But we're still left driving Casey until he matures enough to handle carpooling. It's possible he would agree to a ride home in order to get home earlier. Currently he waits 30 minutes for Sabrina. There's also the hassle of ensuring a car seat.	10/25/2018 2:30 PM
33	Buses that pick students up "close" to where a large group of students may live - that may reduce driving time for parents and too many vehicles innundating the Republic of Boulder.	10/25/2018 2:26 PM
34	Bus pick up and drop off from strategic points?	10/25/2018 2:00 PM
35	Bus service	10/25/2018 1:39 PM
36	A van could do one pickup location in boulder, one in east county.	10/25/2018 1:36 PM
37	Robert suggests bussing kids in with a van route.	10/25/2018 1:34 PM
38	Have campus housing	10/25/2018 1:32 PM
39	Make a student campaign on the benefits of public transportation.. Using the bus to come to school, there is a stop right outside.	10/25/2018 1:23 PM
40	Add a bike path or access to approach from the north west without having to bike on South Boulder Road.	10/25/2018 1:10 PM
41	I don't	10/25/2018 12:50 PM
42	Use our Mack buses!	10/25/2018 12:37 PM
43	Carpooling in the morning seems particularly possible. Help with establishing carpool routes from families that leave near each other would be helpful. For example I recently found out another family in our class lives ~2 min from us. I never knew this because they have not listed their address in MackBot	10/25/2018 12:28 PM
44	I want to collaborate with city open space, and our ranching/farming neighbors, to get a dedicated trail from Dry Creek through those fields, to Mack. I want to bike with my child, but South Boulder Road during commute time is terrifying, and not worth it. I am happy to spearhead this. I have experience working with open space.	10/25/2018 12:24 PM
45	have a Mack bus that drops off and picks up at a specific location in each general town/area that students live in, i.e. Louisville, Lafayette, S or N Boulder.	10/25/2018 12:19 PM
46	Get electric cars	10/25/2018 11:59 AM
47	Mack-sponsored school bus	10/25/2018 11:50 AM

48	Have a bus front lafayette to Mack	10/25/2018 11:50 AM
49	Not really, but Often wish we could ride bikes. There is no way that I am letting my kids ride their bikes on that part of south boulder road. In an ideal world there would be recreational paths that connect to the school from other means and directions.	10/25/2018 11:48 AM
50	We would like to bicycle (and often do), but it is not a very safe route. From South Boulder, the sun is drivers' eyes both ways, and the interchange with 36 is messy. A bicycle path or alternate route would be cool. Is there a way to make a backroute gravel trail to Cherryvale or Baseline? Pie in the sky, I suppose, but those are much better roads to bike on than South Boulder Rd., and at least in good weather, I would do that. Problem is, any other route than Moorhead/South Boulder is likely to take twice as long. Alternatively, a Mack Bus Route using the Mack Busses would make all the difference - we would sign up in a second and be willing to commute to a bus stop. The reason the city bus scares me is because of crossing South Boulder Rd., so I won't feel safe putting my son on that alone for many years. (Flashing lights on the crosswalk would help a bit there.) For carpooling, if we could find a family who would be willing to take something else in trade (not sure what), that would help a lot. Do you have ideas? We don't own a car, but we'd be happy to pay money toward gas or whatever. But we feel like we can't ask for carpooling from someone else when we can't reciprocate. Overall, my dream is a Mack Bus Route. We would be happy to commute to a south boulder stop, wherever that may be. We would also pay for it if cost was not prohibitive.	10/25/2018 11:28 AM
51	I don't show up on the Mack parent directory map because my address is listed as a PO Box (our mail carrier is a bit unreliable and I'm worried about not getting important school mail so it all goes to the box). Maybe making a carpool specific map would be helpful. I'm in Gunbarrel and only see Carolina (1st grade mom) and the Graffs, Kate doesn't show up down the street from the Graffs and the Woodwards don't show up in Niwot so I feel like Nancy drew trying to get carpool sorted out. We carpoled to school every day for years at Finn's old schools.	10/25/2018 11:27 AM
52	Mack van kid pickup at Basemar shopping center each morning...	10/25/2018 11:21 AM
53	Could have a Mack Bus?	10/25/2018 11:18 AM
54	I would bike to work occasionally if we had better bike infrastructure in the area. It's scary to bike on South Boulder Rd. It would also be great if there was a crosswalk light where the crosswalk is in front of the school.	10/25/2018 11:16 AM
55	A real, licensed bus that picks up in north boulder.	10/25/2018 11:16 AM
56	Maybe a bus service?	10/25/2018 11:14 AM
57	Love the app idea!	10/25/2018 11:14 AM
58	Mack vans pickup kids within a certain mile area (say...20 kids within 2-5 miles).	10/25/2018 11:13 AM
59	Centralized pickup/dropoff locations might help with timing and accountability; smaller focus groups by neighborhood could help get conversations and intros started. It's not always ideal to carpool with LS & MS students because of school start/end timing.	10/25/2018 11:13 AM
60	Use the Mack buses for a central pick up point in Louisville	10/25/2018 11:09 AM
61	I really don't know. We live about 20-25 minutes from Mack and don't have an option besides driving. Well, I guess the bus is an option, but it would take us over an hour to get there via bus.	10/25/2018 11:09 AM
62	More people carpool.	10/25/2018 11:07 AM
63	A stoplight on S Boulder would be ideal, but a walk flasher would be next best.	10/25/2018 11:07 AM
64	We would love to bike, but are too nervous on S. Boulder Rd. If there was a bike path, etc we would bike instead.	10/25/2018 11:05 AM
65	Safer bike routes throughout Boulder County!	10/25/2018 11:03 AM
66	Carpooling kids get a 15 minute cushion for arrival in the morning	10/25/2018 11:02 AM
67	A bus would be lovely but I am sure too expensive... I love the idea of an app that we could check daily to see who might be interested in carpooling	10/25/2018 11:01 AM
68	Crossing lights to protect crossing if kids ride the public bus down to Mack	10/25/2018 11:00 AM
69	If there was a later start time I would consider carpooling	10/25/2018 10:56 AM
70	Not one that hasn't already been mentioned.	10/25/2018 10:56 AM

Q9 Do you have ideas for improving drop-off or pick-up safety & procedures?

Answered: 54 Skipped: 71

#	RESPONSES	DATE
1	No phone zone	10/29/2018 4:15 PM
2	As far as I can see, you do a really good job with this! PS - I have two kids - Kinder and 3rd, but it wouldn't let me choose both options in #2.	10/29/2018 12:03 PM
3	Someone to announce when each grade is outside and available for pickup to reduce circling cars	10/28/2018 10:07 PM
4	stop people/teachers from chatting while their car is in the 2 drop off/pick-up spots. Business-like...in/out, done. Re-route traffic to some of the church's roads? Traffic in comes in Ed's way on the western part instead of the part right by Mack?	10/28/2018 10:03 PM
5	not really	10/27/2018 8:59 PM
6	If a traffic light was installed on South Boulder Rd at the entrance to Mack with a crosswalk (and or Crossing Guard / Staff) to make it safe for kids - our kids would be able to take a bus soon!	10/27/2018 2:59 PM
7	Seems to work pretty well, especially when cars pull forward to allow two cars at a time.	10/27/2018 2:56 PM
8	Going around, traffic circle	10/27/2018 2:04 PM
9	Current program seems very safe	10/27/2018 7:39 AM
10	Marshal/volunteers. Speedbumps	10/26/2018 4:12 PM
11	The current procedure seems to be okay. Again, parents need to be considerate of one another, and be mindful that there are lots of people waiting, so no gabbing, catching up with teachers etc. Plan B) Take over the Catholic Church next door. We could convert it into Boulder Hogwarts and it would be awesome!!!!	10/26/2018 2:05 PM
12	See idea 1. School bus.	10/26/2018 1:48 PM
13	The turn into the school from S. Boulder Road always makes me nervous. There is a lot of congestion at times and people travel very fast. I'm not sure what the solution is, but hopefully that can be reduced before the school gets any bigger! The actual drop off in the school parking lot seems to be going smoothly this year. I appreciate that our kids get greeted every morning and I hope that continues!	10/26/2018 1:14 PM
14	I've never seen DO or PU creating a safety issues, personally. Living exactly across the street from Coal Creek Elem's front door....Mack parents seem to watch out for each other's kids really well, IMO	10/26/2018 11:47 AM
15	I think it works OK - at least for my arrival time in the morning.	10/26/2018 11:39 AM
16	List of parents and coordinating meeting points.	10/26/2018 11:23 AM
17	No	10/26/2018 11:13 AM
18	same as in #8 above	10/26/2018 10:31 AM
19	have parents sign a safety contract, I'm sure many people, like my husband, receive an enormous number of emails every day and probably skim at best most school emails	10/26/2018 9:56 AM
20	traffic light?	10/26/2018 9:52 AM
21	No. I think Mack does good job of this.	10/26/2018 9:48 AM
22	Seems to hum along pretty smoothly now	10/26/2018 9:30 AM
23	Traffic light at south boulder road.	10/26/2018 9:13 AM
24	Sorry, nothing to suggest	10/26/2018 9:03 AM

25	Staff member announces to waiting cars when specific grades are outside to reduce amount of circling.	10/25/2018 4:00 PM
26	I actually think, having only seen the drop off/pick up flow for a couple months- it seems incredibly organized and very considerate of safety considering the obvious challenges.	10/25/2018 3:07 PM
27	Seems pretty good already to me.	10/25/2018 2:30 PM
28	No. I'm so happy with carline!	10/25/2018 2:26 PM
29	For the most part I think it flows well.	10/25/2018 1:39 PM
30	No.	10/25/2018 1:34 PM
31	no	10/25/2018 12:50 PM
32	Best would be a new parking lot and school entrance configuration that would both allow easier traffic flow in/out of school and S. Boulder road, multiple lanes through the entire carline area (right now entrance to school is restricted to one lane so people that want to carline and people that want to park all have to stay in the same line. Also, if the school entrance could be near the carline area, then when we pick up kids from afterschool activities or aftercare, they could watch for their parents from inside the school, then pop out to get into the vehicle - eliminating all the time required for a parent to find a parking place, walk to the entrance, get in (which if it is 5:31, they cannot), get kid, get back to car, etc. Is there some way we can reward kids who can efficiently get out of their cars? Sometimes it takes a *really* long time for a kid to gather all their stuff, get out of the car, and get to a safe place so their parent can leave and the next can pull up.	10/25/2018 12:28 PM
33	I think you've designed a great system given the circumstances!	10/25/2018 12:19 PM
34	You're doing great!	10/25/2018 11:59 AM
35	None at the moment	10/25/2018 11:50 AM
36	No	10/25/2018 11:48 AM
37	You guys seem very efficient on this front. Kudos.	10/25/2018 11:28 AM
38	maybe consider a security camera, Finn got "lost" the other day, nanny picked him up on a day that wasn't her day & there were substitute teachers & no one saw him get in her car & everyone was really worried for a few minutes. Then a few days later I brought Shane and Ella home with me and no one noticed they got in my car...I don't want to step on toes but some sort of additional security is worth considering in this day and age of crazy, unexpected crime. Conversely, I emailed and called Mary and Melody one day to let them know Kim was getting Finn and they wouldn't let him get in her car until Brandy spoke with me in person where I was stuck at the (slow) mechanics with poor cell reception. A camera is intense I know but at least if a child went missing you'd know where to look.	10/25/2018 11:27 AM
39	I find pick up a challenge. I always park by the church and walk over. Mostly because my kid is not usually ready. A way for the cars that are going to park in the church to get by the cars lining up for car line. Maybe it is having us go in the east entrance and turn right into the church? Hadn't really thought about that before. Maybe having a little more time between the younger grade pickup and the older kids pickup to let things clear out?	10/25/2018 11:21 AM
40	Spread pick-up times out even more? In the grand scheme of things, it's not bad.	10/25/2018 11:18 AM
41	If we could expand our driveway, we could have a more formal system for checking identification and pick up lists when necessary without holding up traffic too much.	10/25/2018 11:16 AM
42	I think the school is small enough that it works totally fine.	10/25/2018 11:16 AM
43	Seems to work pretty well, but a light on S Boulder Road would really work well.	10/25/2018 11:14 AM
44	Current procedures for current setup works. I think once new building is up we can think about creative ideas with the new setup. Thx	10/25/2018 11:14 AM
45	What about "crossing guards" (but not for crossing) to increase awareness on S. Boulder Road? Parents in orange vests to help with traffic awareness & flow @ Ed's Way/SBR and also at the school entrance where people just can't seem to get it about blocking the driveway (#notgifted)?	10/25/2018 11:13 AM
46	I feel like the new parking lot has been a massive improvement.	10/25/2018 11:09 AM

47	I really wish we didn't have idling cars waiting to pick up kids/drop off kids. It is SO bad for the environment. I've seen parents sitting waiting on the side of the road before turning into the parking lot to pick up their kids and sometimes they let their cars run for 10+ minutes. "One minute of idling produces more carbon monoxide than the smoke from three packs of cigarettes." - http://enginesoff.com/pdfs/Vehicle-Engine-Idling-Myths-Facts.pdf So, I would really like to see less idling while waiting. Other than that, I'm not sure.	10/25/2018 11:09 AM
48	None I can think of at this time.	10/25/2018 11:07 AM
49	Adding bike accessible trail from cherryvale would be wonderful, though I understand there aren't that many of us...	10/25/2018 11:07 AM
50	No, I think the current method actually works fairly well.	10/25/2018 11:03 AM
51	A drop off/pick up loop that is not in the parking lot. Also, a drop off/pick up loop long enough to accommodate the long line of cars so that it's not backed up onto S Boulder Road.	10/25/2018 11:03 AM
52	Two lanes for drop off - I always get behind someone taking forever	10/25/2018 11:02 AM
53	I think it works very well - except the teachers tend to speed around our cars in the morning - which always makes me nervous	10/25/2018 11:01 AM
54	Not really.	10/25/2018 10:56 AM

ATTACHMENT A

October 31, 2019

Dear Boulder County Commissioners,

On behalf of the Chang Tai Zen Center we would like to write a letter of support for the proposed campus development project for the Mackintosh Academy. As you know, we are developing a Zen Center on South Boulder Road (immediately to the west of a Mackintosh Academy) which will serve the community by offering Buddhist teachings to the public and to future monks as well as weekly services and monthly ceremonies.

We have met with the leaders of the school to learn about the proposed building addition and long term campus plans, and we think they have done an excellent job respecting the rural nature of Boulder County, reflecting the agricultural heritage of the area, while allowing their core values as an independent school shine through. We have also reviewed their sustainability commitments and understand they have worked diligently and creatively to find solutions that mitigate any future impacts related to transportation, water, and energy. We very much support their mission and approach to educating the future leaders of our community, and we support their project wholeheartedly.

During our meetings, we discussed ways to work together as good neighbors and stewards of the land. Key items we discussed and agreed upon include:

- Zen Center to provide landscape screening along Zen Center's east-most road to provide screening and mitigation from noise and visual impacts to the play spaces located along the northwest area of Mack;
- Install a gate in Northeast corner of Mack/Zen boundary to allow student access to site via safer route than along South Boulder Road;
- Coordinated location of new waterline to serve Zen center and Mackintosh Academy. Discussed location to minimize impacts to trees and the school wall as well as timing of construction to minimize impacts to school activities and safety;
- Coordination on potential regenerative farming opportunities on both properties and ongoing educational opportunities between the two communities, including parents, students, visitors and residents.
- Potential collaboration on programming, events and activities in alignment with both organizations' missions and values.

We are very excited to support Mackintosh Academy in their thoughtful and sustainable plans to update their campus in order to exceed current education standards and to better educate children, to discover the best in ourselves and in each other, to develop a keen understanding of the world and how it works, and to make a meaningful contribution to it.

Please feel free to contact me directly with any questions.

Sincerely,



Dharma Master Jian Yan,
Liaison for Oversea Zen Center Projects of Chung Tai

AGREEMENT FOR USE OF PARKING FACILITY

This agreement is made as of the 15th day of September 2022 by and between the Archdiocese of Denver, a Colorado corporation sole ("Archdiocese") as trustee for the benefit of Sacred Heart of Mary Parish in Boulder, Colorado ("Parish") (Parish and Archdiocese referred to collectively as "Owner") and MacKintosh Academy Boulder, LLC ("User" and "School").

1. Description of Parking Facility: The parking facility subject to the terms of this Agreement consists of 15 parking spaces in the location indicated on the attached Exhibit "B" ("Parking Facility"). This use is authorized from Monday through Friday from 7:30 A.M. until 6:00 P.M.

The School may have use of the entire parking lot on the days marked in yellow on the attached Exhibit "C". No parking is allowed in the West Lot between the Parish office and Gospel Hall.

Absolutely no use or parking on the Emergency Access Road. Please see the attached Exhibit "D".

2. Use of the Parking Facility: The school may have use of the parking lot except for the west lot between the parish office and Gospel hall, and north parking lot between the parish office and church.

3. Rent: There is no rent for the use of the 15 parking spaces.

4. Term: The term of this agreement shall be from September 17, 2022 until June 1, 2023, parking shall be permitted Monday through Friday from 7:30 A.M. until 6:00 P.M. unless terminated sooner by written notice from either party.

NOTE: The Parish will provide the User with at least 24 hours' notice of any Parish sacramental event that would preclude the User from using the Parking Facility.

5. Renewal: Any additional Terms shall be at the discretion of the Parish. The User should notify the Parish in writing 30 days prior to the need for an additional term. Renewal will be considered providing that the Parish continues to own the Parking Facility during any subsequent Terms and provided that the use restrictions and limitations set forth in Paragraphs 6,7,8,9 and 11 are observed.

6. Sublease or Assignment: User's authorized right to use the Parking Facility shall not be sublet in whole or in part, and this Agreement shall not be assigned or transferred without the prior, express, and written consent of the Parish. Any User action contrary to this provision shall be void.

7. Signage: Any signage, labels or decals on autos parked on Sacred Heart of Mary property cannot be contrary to Catholic beliefs. This includes but is not limited to

signage, labels or decals pertaining to abortion rights, marriage equality symbols or any ideology that is contrary to Catholic beliefs as outlined in the Catechism of the Catholic Church. (The book "Catechism of the Catholic Church" to be provided to the School).

8. Damage to the Parking Facility and Maintenance: Any damage done to the Parking Facility by the User, User's employees, agents or invitees will be repaired by the User within 30 days of receiving notice from the Parish of such damage.

Snow removal shall be the responsibility of the Parish.

9. Indemnification: User shall protect, indemnify and save Owner and Owner's trustees, employees, and agents harmless from and against all liability, obligations, claims, damages, penalties, causes of action, costs and expenses, including reasonable attorneys' fees, imposed upon, incurred by or asserted against Owner by reason of any of the following, except to the extent caused by the negligence or willful misconduct of the Owner: (a) any accident, injury to or death of any person or loss of or damage to any property occurring on or about the Premises while User has use thereof; (b) any act or negligent omission of User or User's employees, agents or invitees, (c) any loss, damage or injury of User's Property on the Premises; or (d) any failure on the part of User to perform or comply with any of the provisions, covenants or agreements of User contained in this Agreement. If any action, suit or proceeding is brought against Owner by reason of any of the foregoing, User shall, at User's sole cost and expense, defend Owner in any such action, suit or proceeding with counsel approved by Owner, which approval shall not be unreasonably withheld. User's obligation to indemnify Owner and the other parties to be indemnified hereunder shall survive the termination of this Agreement.

10. Waiver: User understands that the Parish makes no warranties of any kind regarding the condition of the parking Facility, including but not limited to warranty of fitness.

11. Default: If User defaults in the performance of or compliance with any terms or conditions of this Agreement, this Agreement shall terminate and be forfeited, and the Parish may discontinue the Parking Facility's use authorized hereby.

12. Insurance Premium Increase: User agrees not to do anything that will increase the insurance premium payable with respect to the Parking Facility. If any company insuring the Parking Facility does increase its premium due to User's action or use, User will pay such additional premium as part of its covenant under this Agreement.

Additionally, as a pre-condition of the use provided for hereunder, User shall add the Archdiocese of Denver and the Sacred Heart of Mary Parish as named "Additional Insureds" on User's insurance policy to cover any liability arising out of or in connection with this Agreement and User's activities on the Parking Facility and shall otherwise satisfy the insurance requirements set forth in the Insurance Addendum (attached hereto as Exhibit "A" and made a part hereof). User shall provide the Parish with written

evidence of such coverage before assuming any use of the Parking Lot pursuant to terms of this Agreement.

13. Notices: All Notices under this Agreement must be in writing and either delivered personally or mailed by certified mail to:

Mackintosh Academy Boulder, LLC
Attn: JJ Morrow, Head of School
6717 South Boulder Road
Boulder, CO 80204
Phone Number: 303-554-2011

Sacred Heart of Mary Parish
Attn: Business Manager
6739 S. Boulder Road
Boulder, CO 80303

And To: The Archdiocese of Denver
Attn: Real Estate Department
1300 So. Steele Street
Denver, CO 80210

or such other addresses as the parties may provide by written notice to the other.

14. No Waiver: If the Owner fails to enforce any provision of this Agreement, they are not deemed to have waived such provisions and are not prevented from enforcing such provisions thereafter.

15. Severability: If any part of this Agreement is deemed invalid or unenforceable by a court of competent jurisdiction, the balance of this Agreement shall remain effective absent such provision.

16. Amendments: No modifications of this Agreement shall be effective unless in writing and signed by all parties.

17. Governing Law: This Agreement shall be governed and construed under the laws of the State of Colorado, and any suit to enforce any of the terms hereof shall be brought in the Denver County District Court, Colorado. Further, the Court may award to the prevailing party all reasonable costs and expenses, including attorney fees.

18. Paragraph Headings: The various paragraph headings are inserted for the convenience of reference only, and shall not affect the meaning or interpretation of this Agreement or any section thereof.

Signatures to follow.....

Archdiocese of Denver, a Colorado corporation sole,
As trustee for the benefit of Sacred Heart of Mary Parish in Boulder

By: _____
Keith Parsons, C.O.O., as attorney in fact for
Samuel J. Aquila, Archbishop

PARISH:

REVIEWED, ACKNOWLEDGED AND ACCEPTED
Sacred Heart of Mary Parish in Boulder

By: _____
Rev. Jonathan Dellinger, Pastor

USER:

Mackintosh Academy Boulder, LLC

By: _____ 9/13/22
T.J. Morrow
Title: Head of School

Exhibit A

Insurance Requirements

INSURANCE. User shall, during the entire term hereof, carry and maintain the following insurance written as primary policies, exclusive of any coverage the Parish may carry and in the amounts specified below, or at such other amounts as Parish shall, from time to time, reasonably request, with insurance companies and in a form satisfactory to the Parish. A certificate of insurance pertaining to this provision shall be delivered to the Archdiocese. Such insurance shall not be cancelable without 30 days' prior written notice thereof to the Parish and Archdiocese.

(i) Public Liability and Auto Liability Insurance. User shall maintain public and auto liability insurance in the amount of not less than One Million Dollars (\$1,000,000) per occurrence for the duration in which User uses the Premises. User will name the Archdiocese and the Parish as an additional insureds on its public liability insurance policy for the duration of User's using the Premises for claims arising out of User's operations or made by User's employees, agents, participants, guests, customers or invitees. User will provide proof to the Archdiocese that the insurance requirements have been met as outlined in this Lease. If User fails to fulfill the insurance requirements contained in this Exhibit A, then User agrees to defend, hold harmless and indemnify the Archdiocese and the Parish against and from any claim or cause of action arising out of User's operations or event or any claim or cause of action which is brought against the Parish by User, its employees, agents, guests, participants, customers, and invitees which is alleged against the Archdiocese and the Parish.

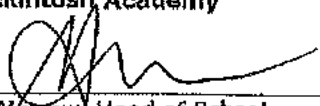
(ii) Fire damage insurance. User shall maintain fire damage insurance (fire legal liability) for the term of this Lease. User agrees to maintain fire damage coverage in the minimum amount of \$250,000.

(iii) Fire and extended coverage insurance. User shall maintain fire and extended coverage insurance covering all of User's equipment, trade fixtures, appliances, furniture, furnishings and personal property from time to time in, on or upon the Premises in an amount not less than the full replacement cost without deduction for depreciation.

SEVERABILITY PROVISION. If any paragraph of this Exhibit A is deemed or is determined to be in conflict with local or state or national statutes, then Parish and User agree that the portion of this Exhibit A which is in conflict with the statute will be stricken from this Exhibit A with the remainder of this Exhibit A remaining binding for all parties.

USER:

MacIntosh Academy

By: 
J.J. Morrow, Head of School

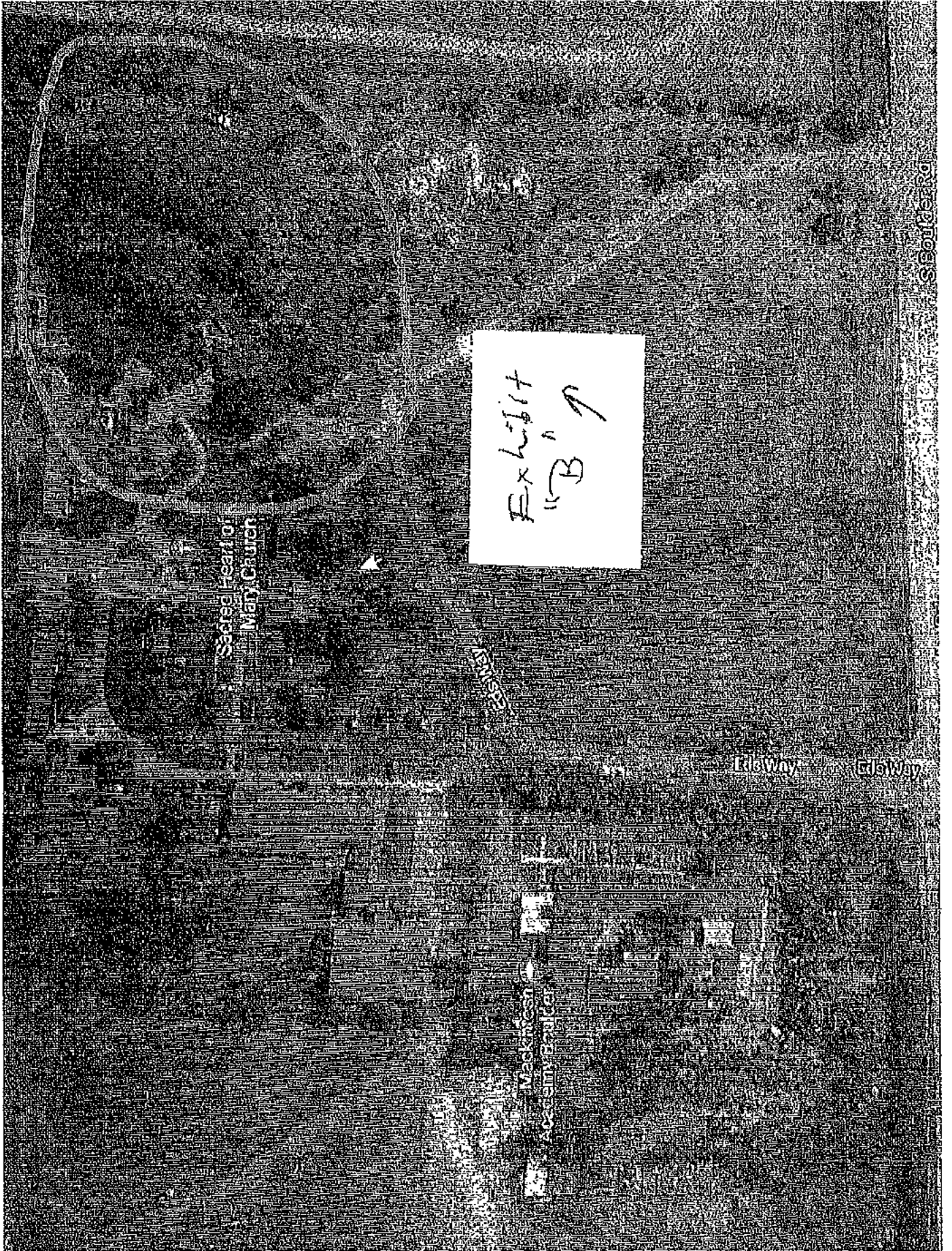


Exhibit "C"

Mackintosh Academy - Boulder | 22/23 CALENDAR updated 8/10/22

<p>0-15 Teacher Work Days 16 Open Classrooms & New Parent Orientation (8:30am) 17 First Day of School 18 MS Virtual Back to School Night (BYSN) 23 K-2 Virtual BSN 26 3-5 Virtual BSN 24 Early Dismissal (E.D.)</p>	<p>AUGUST '22</p> <table border="1"> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>Th</th><th>F</th><th>S</th></tr> <tr><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td></tr> <tr><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td></tr> <tr><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td></tr> <tr><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td></tr> <tr><td>28</td><td>29</td><td>30</td><td>31</td><td></td><td></td><td></td></tr> </table>	S	M	T	W	Th	F	S		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31				<p>FEBRUARY '23</p> <table border="1"> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>Th</th><th>F</th><th>S</th></tr> <tr><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td></tr> <tr><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td></tr> <tr><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td></tr> <tr><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td></tr> <tr><td>26</td><td>27</td><td>28</td><td>29</td><td></td><td></td><td></td></tr> </table>	S	M	T	W	Th	F	S				1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29				<p>10 E.D. 17 No School 20 Presidents Day - No School 24 E.D.</p>
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<p>7 E.D. 14 No school 17 No school (PD Day) 21 E.D. (Teacher Conf. Prep) 27 No School - PIS Conferences (8am-5pm) 28 No School - PIS Conferences (8:30am-3:30pm) 28 Mackwool (5:7pm)</p>	<p>OCTOBER '22</p> <table border="1"> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>Th</th><th>F</th><th>S</th></tr> <tr><td></td><td></td><td></td><td></td><td></td><td>1</td><td>2</td></tr> <tr><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td></tr> <tr><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td></tr> <tr><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td></tr> <tr><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td></tr> <tr><td>31</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	S	M	T	W	Th	F	S						1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31							<p>APRIL '23</p> <table border="1"> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>Th</th><th>F</th><th>S</th></tr> <tr><td></td><td></td><td></td><td></td><td></td><td></td><td>1</td></tr> <tr><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td></tr> <tr><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td></tr> <tr><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td></tr> <tr><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td></tr> <tr><td>30</td><td></td><td></td><td></td><td></td><td></td><td></td></tr> </table>	S	M	T	W	Th	F	S							1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30							<p>7 E.D. 7 Mackpraction Breakfast (8am-11am) 10-14 Faculty/Staff Appreciation Week 21 No School 24 No School 28 Avulsion</p>
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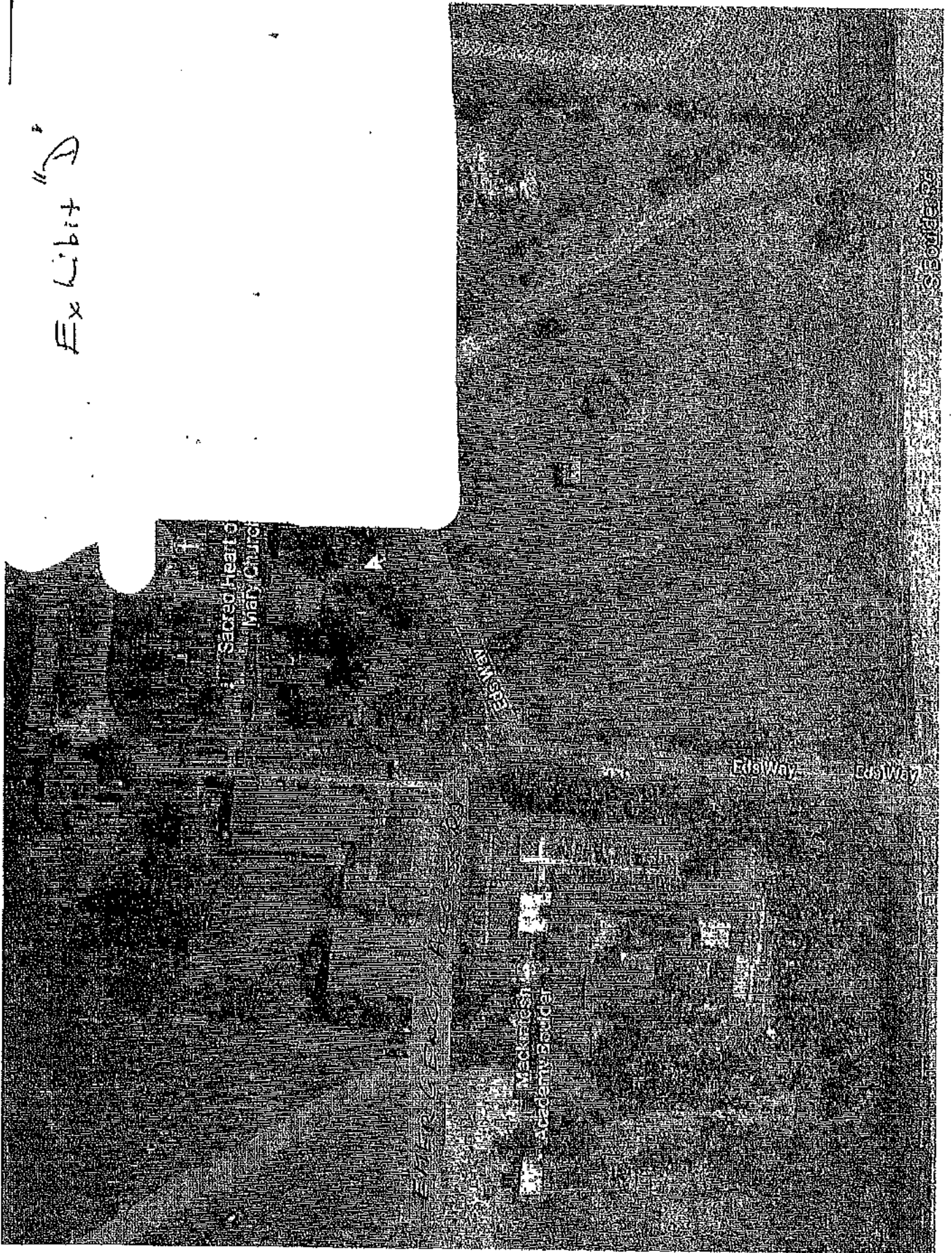
<p>4 E.D. 11 No School - Veterans Day 18 1/2 Day - Grandparents & Special Friends Day (8:30am-12pm) 21-26 Thanksgiving break No School</p>	<p>NOVEMBER '22</p> <table border="1"> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>Th</th><th>F</th><th>S</th></tr> <tr><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr> <tr><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td></tr> <tr><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td></tr> <tr><td>27</td><td>28</td><td>29</td><td>30</td><td></td><td></td><td></td></tr> </table>	S	M	T	W	Th	F	S			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30				<p>MAY '23</p> <table border="1"> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>Th</th><th>F</th><th>S</th></tr> <tr><td></td><td></td><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td></tr> <tr><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td></tr> <tr><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td></tr> <tr><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td></tr> <tr><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td><td></td><td></td></tr> </table>	S	M	T	W	Th	F	S			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31			<p>6 E.D. 19 E.D. (report withal) 24 last Day of School + Graduation (last day of school + Mackfest (12-2:30pm)) 25-31 Teacher Work Days 29 Memorial Day (off for faculty & staff)</p>
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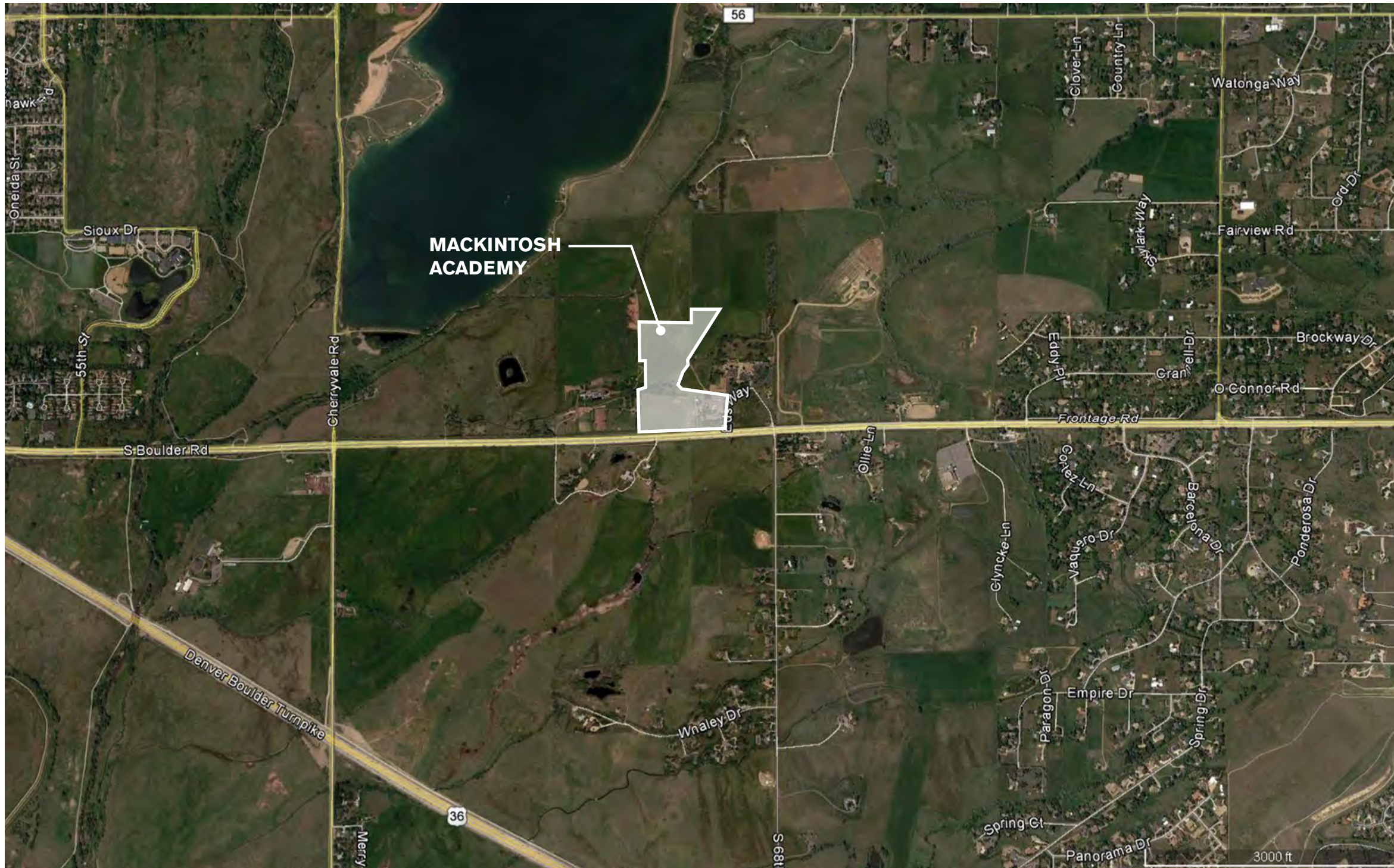
<p>9 E.D. 16 - Jan 3 Winter Break</p>	<p>DECEMBER '22</p> <table border="1"> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>Th</th><th>F</th><th>S</th></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td></tr> <tr><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td></tr> <tr><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td>31</td></tr> </table>	S	M	T	W	Th	F	S					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	<p>JUNE '23</p> <table border="1"> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>Th</th><th>F</th><th>S</th></tr> <tr><td></td><td></td><td></td><td></td><td>1</td><td>2</td><td>3</td></tr> <tr><td>4</td><td>5</td><td>6</td><td>7</td><td>8</td><td>9</td><td>10</td></tr> <tr><td>11</td><td>12</td><td>13</td><td>14</td><td>15</td><td>16</td><td>17</td></tr> <tr><td>18</td><td>19</td><td>20</td><td>21</td><td>22</td><td>23</td><td>24</td></tr> <tr><td>25</td><td>26</td><td>27</td><td>28</td><td>29</td><td>30</td><td></td></tr> </table>	S	M	T	W	Th	F	S					1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30		<p>1-2 Teacher Work Days 19 Juneteenth (off for staff)</p>
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<p>2-3 No School (PD Day Teachers) 13 E.D. 16 No School - MLK Day 20 Mackwool (5-7pm) 27 E.D.</p>	<p>JANUARY '23</p> <table border="1"> <tr><th>S</th><th>M</th><th>T</th><th>W</th><th>Th</th><th>F</th><th>S</th></tr> <tr><td>1</td><td>2</td><td>3</td><td>4</td><td>5</td><td>6</td><td>7</td></tr> <tr><td>8</td><td>9</td><td>10</td><td>11</td><td>12</td><td>13</td><td>14</td></tr> <tr><td>15</td><td>16</td><td>17</td><td>18</td><td>19</td><td>20</td><td>21</td></tr> <tr><td>22</td><td>23</td><td>24</td><td>25</td><td>26</td><td>27</td><td>28</td></tr> <tr><td>29</td><td>30</td><td>31</td><td></td><td></td><td></td><td></td></tr> </table>	S	M	T	W	Th	F	S	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31					<p>Friday Early Dismissals (E.D.)</p> <ul style="list-style-type: none"> • 12:25pm for K-2 • 12:35pm for 3-5 • 12:45pm for 6-8 <p>Special Early Dismissal: 11/10</p> <ul style="list-style-type: none"> • 11:00am for K-2 • 11:20am for 3-5 • 11:30am for 6-8 <p> <input type="checkbox"/> Early Dismissal (Special Days) <input type="checkbox"/> Parent/Teacher/Student Conferences <input type="checkbox"/> Teacher Work Day <input type="checkbox"/> Community Event <input type="checkbox"/> No School </p>
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• There may be other dates that come up where we need the rot but we will always give as much notice as possible

Exhibit "D"





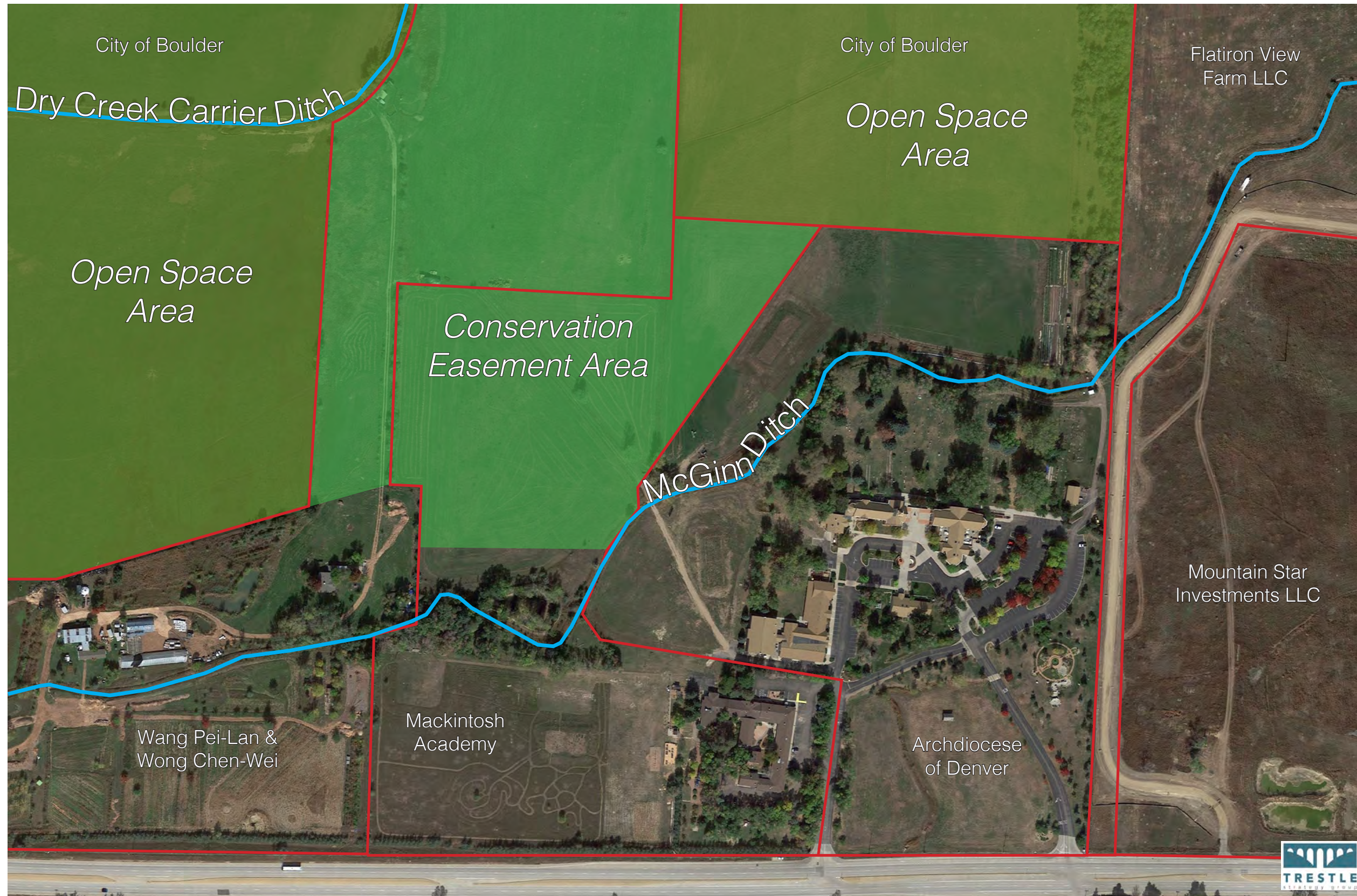
MACKINTOSH ACADEMY
BOULDER CAMPUS

VICINITY MAP



SPECIAL USE
REVIEW

03.06.2023



MACKINTOSH ACADEMY
BOULDER CAMPUS

USE/ OWNER MAP

February 15, 2017
SCALE : NTS

SPECIAL USE REVIEW



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BOULDER CAMPUS

USE/ OWNER MAP - PROPOSED SITE

February 15, 2017
SCALE : NTS

SPECIAL USE
REVIEW



MACKINTOSH ACADEMY
BOULDER CAMPUS

SPECIAL USE
REVIEW

03.06.2023

SITE PLAN



MACKINTOSH ACADEMY
BOULDER CAMPUS

SPECIAL USE REVIEW

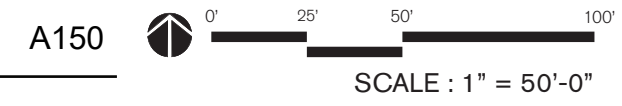
03.06.2023

- EXISTING SEPTIC TANK TO REMAIN
- EXISTING 1st GRADE GAZEBO TO BE REMOVED
- EXISTING GREENHOUSE TO REMAIN
- STORAGE SHED TO BE REMOVED
- EXISTING CHICKEN COOP TO BE REMOVED
- PROPOSED NATURE PLAY
- EXISTING 5th GRADE GAZEBO TO BE REMOVED
- STORAGE SHED C
- EXISTING PLAYHOUSE TO BE REMOVED
- EXISTING OUTDOOR DINING TO REMAIN
- RAISED LAWN WITH STEPS
- PLANTING BED, TYP.
- OUTDOOR DINING/CLASSROOM
- BIKE PARKING (12 SPACES)
- FREE RANGE CHICKEN YARD AND COOP
- GARDEN BEDS
- 110-FOOT OFFSET FROM CL OF S. BOULDER ROAD
- GRAVEL FIRE ACCESS
- EXISTING TREE/ LANDSCAPE BUFFER TO REMAIN

- MONUMENT ENTRY COLUMNS TO BE REMOVED. PAVING EXTENDED FOR THE FIRE ACCESS
- TOTAL EXISTING BUILDING AREA: 22,568 SF
- EXISTING AREA TO BE REMOVED: 2,132 SF
- PROPOSED NEW BUILDING AREA: 4,555 SF
- TOTAL PROPOSED AREA: 24,991 SF
- PROPOSED BUILDING HEIGHT, ABOVE EXISTING GRADE: 29'-6"
- ALLOWABLE BUILDING HEIGHT, ABOVE EXISTING GRADE: 30'-0"
- WEED MANAGEMENT**
- CONTROL STATE-LISTED NOXIOUS WEEDS AND OTHER INVASIVE PLANTS ON-SITE DURING CONSTRUCTION. USE NATIVE PLANT MATERIALS FOR REVEGETATION PURPOSES
- COORDINATE WITH BOULDER COUNTY TO CONFIRM THE DESIRED SEED MIX FOR REVEGETATION OF THE SITE.
- SEE BUILDING AREA ANALYSIS TABLE FOR EXISTING AND PROPOSED SQUARE FOOT AREAS
- STORAGE SHED B, TO BE REMOVED
- EXISTING ART CLASSROOM TO BE REMOVED/ PROPOSED OUTDOOR CLASSROOM (MODIFIED EXISTING FOUNDATION)
- 35 KILOWATT SOLAR PANEL SYSTEM
- EXISTING WALL TO REMAIN
- TRAFFIC CIRCULATION
- RELOCATED WASTE/ RECYCLING WITH ENCLOSURE
- DETENTION, RE: CIVIL
- STORAGE SHED A TO BE REMOVED
- EXISTING SITE WALL
- CROSSWALK

Mackintosh Academy Building Area Analysis			
Based on Building Survey by Hord Coplan and Macht on 1/30/2018			
Maximum Permitted SF per Boulder County Standards: 25,000			
	Existing SF	Proposed SF	Notes
Basement Level			
Classrooms	2,968	2,968	Library/Design Lab/Offices
Accessible Storage A	327	327	Below Restrooms across from Art Room
Accessible Storage B	186	186	Below Laboratory
Non Accessible Area	0	0	Below south east corner of building disconnected in 1998 renovation (825 sf not accessed, not counted)
Total	3,481	3,481	
First Floor Level			
Main Building	16,696	16,696	
New Building	-	4,355	
Art Classroom	507	0	To be removed
Playhouse	36	0	To be removed
Misc. Site Storage:			
Storage A	376	0	To be removed
Storage B	121	0	To be removed
Storage C	67	67	
Storage D	85	-	To be removed
NEW Storage Shed	-	200	
1st Grade Gazebo	240	-	To be removed
5th Grade Gazebo	192	-	To be removed
Greenhouse	192	192	
Chicken Coop	575	-	To be removed
Total	19,087	21,510	
Overall Total	22,568	24,991	

LANDSCAPE PLAN



**MACKINTOSH ACADEMY
 BOULDER CAMPUS**



● EXISTING PARKING SPACES	55
● EXISTING PARKING SPACES TO BE REMOVED	23
● PROPOSED PARKING SPACES	38
TOTAL PARKING SPACES:	70

Mackintosh Academy On-Site Parking Analysis	
Required Parking	
3 Parking spaces per Classroom	
Existing Classrooms	15
Proposed Classrooms	2
Total Classrooms	17
Total Required Parking	51

ADA Parking Spaces	3
Electric Vehicle Spaces	2
Bicycle Spaces	12

Provided Parking	
Total Existing Parking Spaces	55
Parking Spaces to be Removed / Demolished	23
Existing Parking Spaces to Remain	32
Proposed New Parking Spaces	38
Total Proposed On-Site Parking	70

PARKING LOT DIAGRAM

A151



SCALE : 1" = 50'-0"

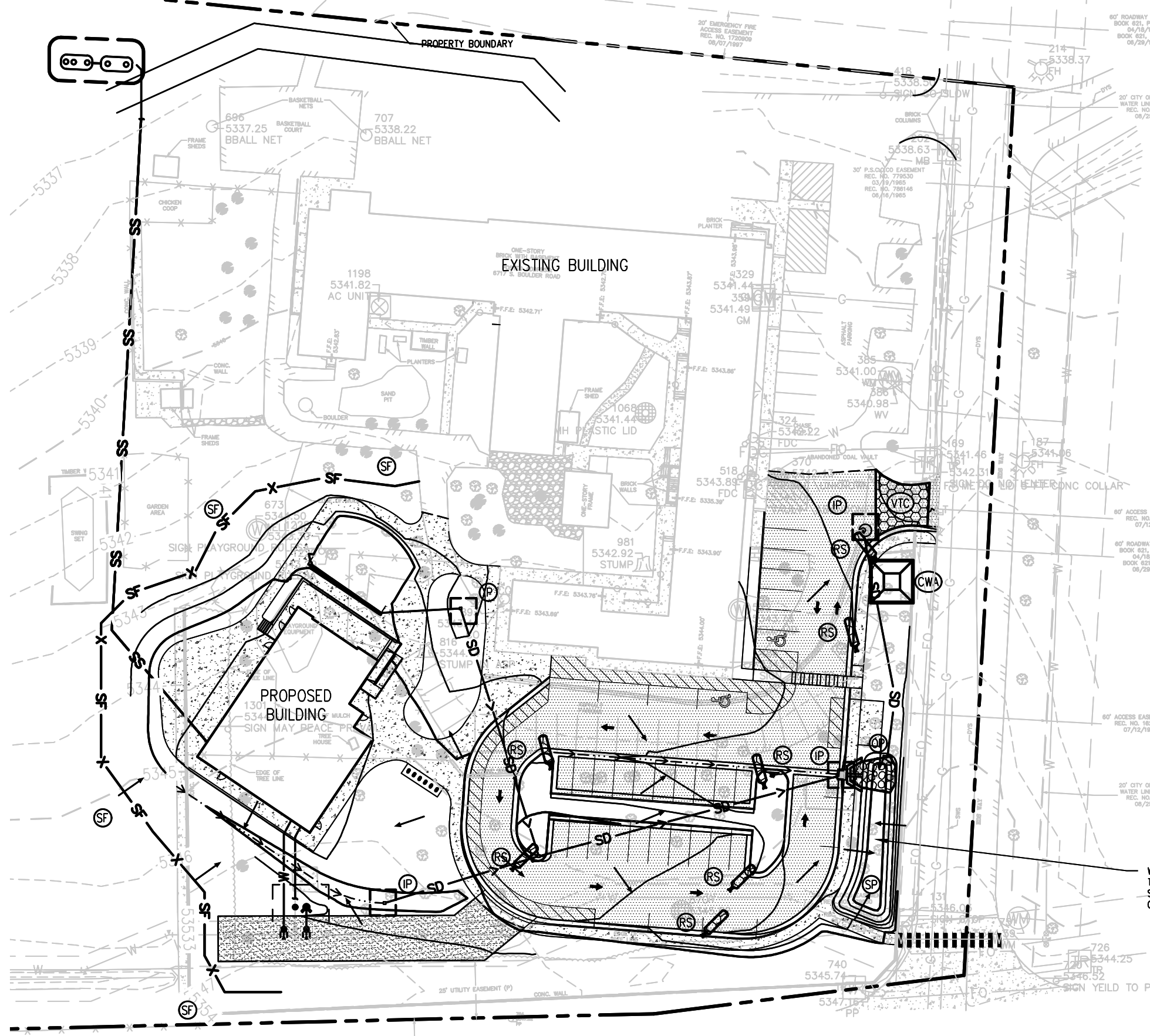
SPECIAL USE
 REVIEW

03.06.2023



EROSION AND SEDIMENTATION NOTES:

1. CONTRACTOR IS RESPONSIBLE FOR INSTALLING AND MAINTAINING ALL CONTROLS DURING INITIAL, INTERIM, AND FINAL CONDITIONS.
2. ALL CONTROLS SHALL BE INSTALLED WITHIN THE PROPERTY LINES UNLESS OTHERWISE SPECIFIED. WHEN CONSTRUCTION ACTIVITIES DISTURB ADJACENT AND/OR RIGHT-OF-WAY PROPERTIES, COORDINATION WITH PROPERTY OWNERS IS REQUIRED PRIOR TO CONSTRUCTION.



EROSION CONTROL LEGEND

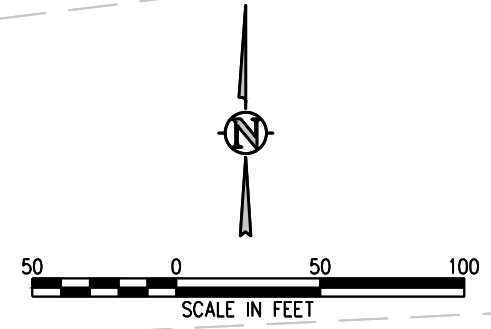
- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- LIMITS OF WORK
- INLET PROTECTION
- OUTLET PROTECTION
- VEHICLE TRACKING CONTROL
- SILT FENCE
- CONSTRUCTION FENCE
- SEDIMENT CONTROL LOG
- ROCK SOCK
- ROCK CHECK DAM
- CONCRETE WASHOUT AREA
- TEMPORARY SEDIMENTATION POND

WATER QUALITY TREATMENT TO BE USED AS TEMPORARY SEDIMENTATION POND DURING CONSTRUCTION

SOUTH BOULDER ROAD

EROSION AND SEDIMENT CONTROL PLAN

A152



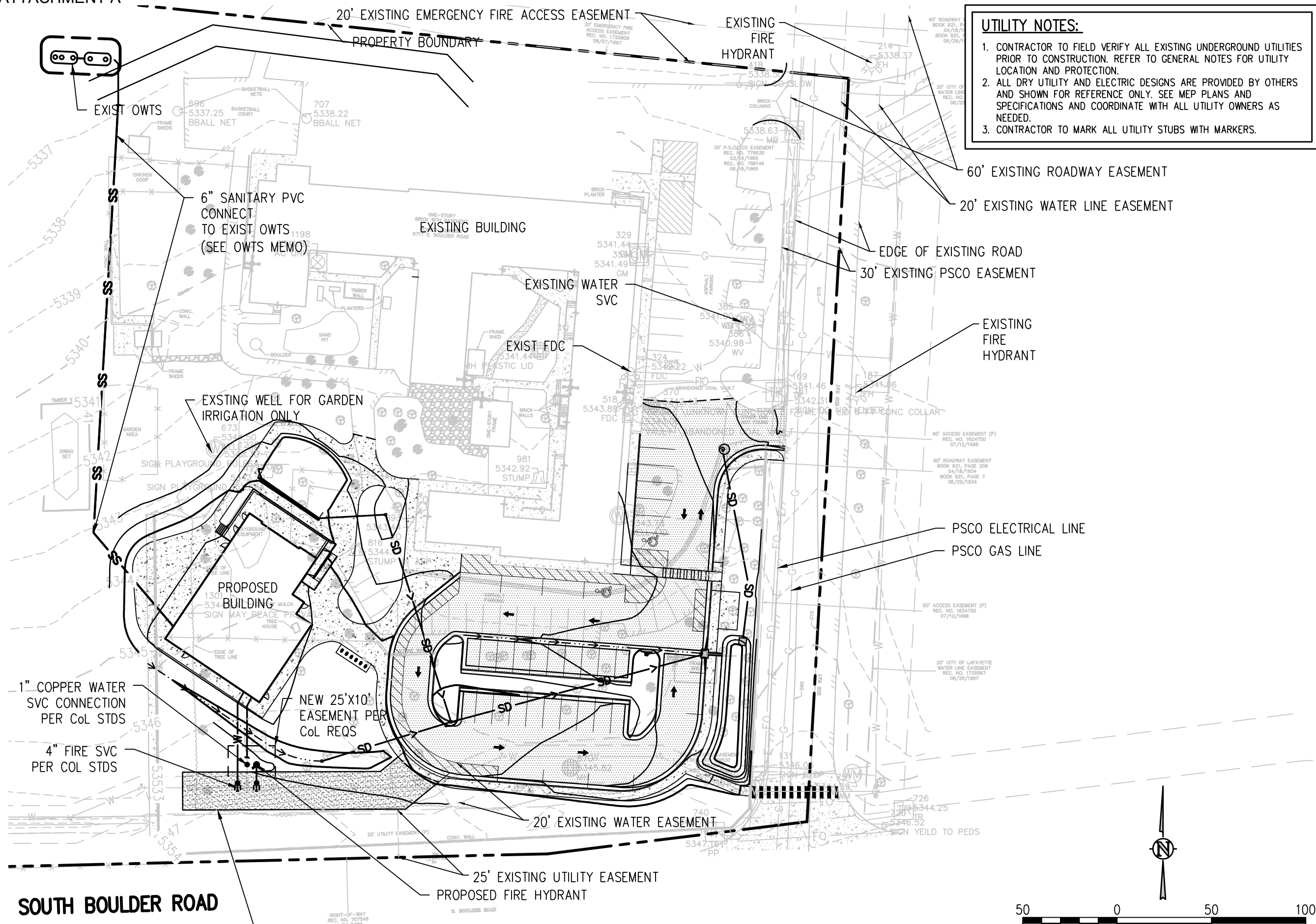
MACKINTOSH ACADEMY
BOULDER CAMPUS

SPECIAL USE REVIEW



UTILITY NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
2. ALL DRY UTILITY AND ELECTRIC DESIGNS ARE PROVIDED BY OTHERS AND SHOWN FOR REFERENCE ONLY. SEE MEP PLANS AND SPECIFICATIONS AND COORDINATE WITH ALL UTILITY OWNERS AS NEEDED.
3. CONTRACTOR TO MARK ALL UTILITY STUBS WITH MARKERS.



UTILITY PLAN
A154

MACKINTOSH ACADEMY
BOULDER CAMPUS

SPECIAL USE
REVIEW

HORIZONTAL CONTROL NOTES:



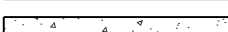

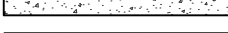
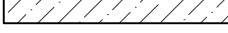
1. ALL DIMENSIONS AND RADII ARE TO FACE OF CURB, FACE OF BUILDING AND EDGE OF WALK UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
3. REFER TO GRADING AND DRAINAGE PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.

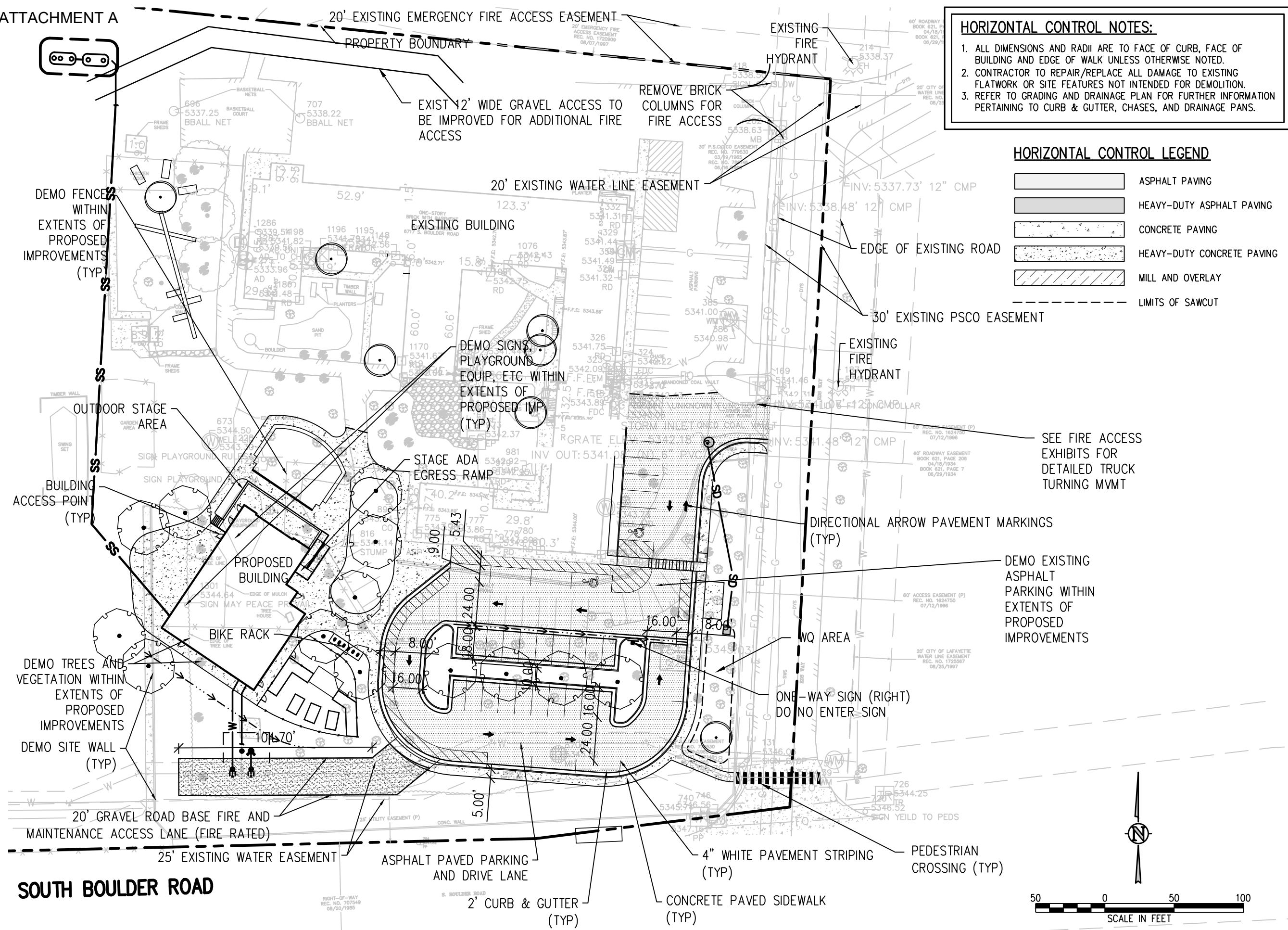
1800 Wazee Street, Suite 450
 Denver, CO. 80202
 303 607 0977
 www.hcm2.com



1512 Larimer Street, Suite 710
 Denver CO 80202
 303.444.1951
 info@jvayva.com

HORIZONTAL CONTROL LEGEND

-  ASPHALT PAVING
-  HEAVY-DUTY ASPHALT PAVING
-  CONCRETE PAVING
-  HEAVY-DUTY CONCRETE PAVING
-  MILL AND OVERLAY
-  LIMITS OF SAWCUT



MACKINTOSH ACADEMY
BOULDER CAMPUS

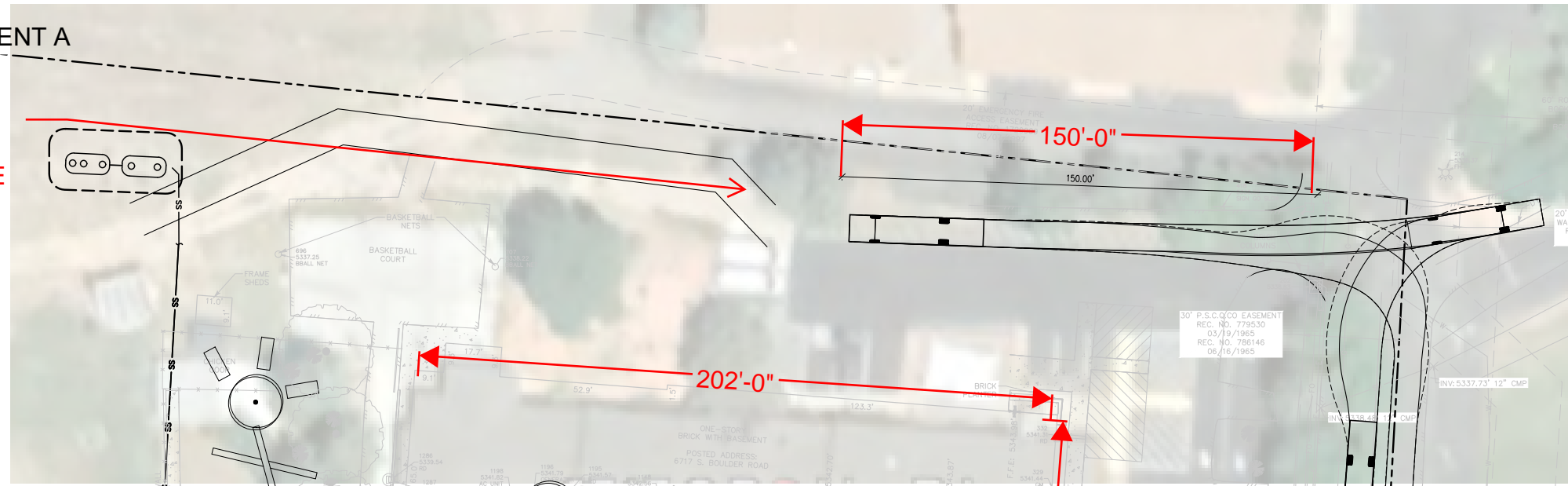


HORIZONTAL CONTROL PLAN
 A155

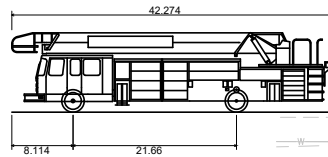
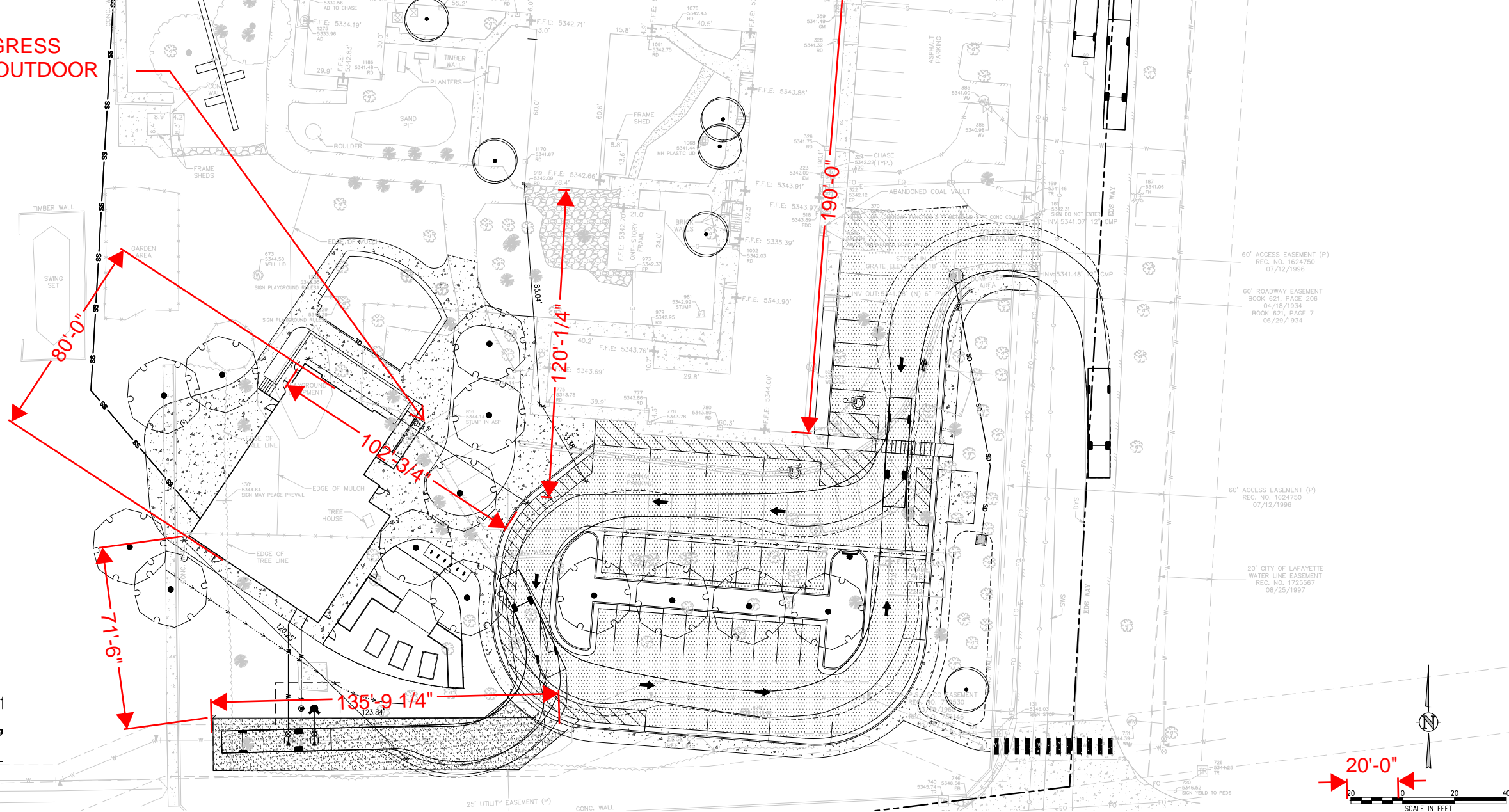
SPECIAL USE
 REVIEW

EXIST GRAVEL MAINTENANCE ACCESS TO BE IMPROVED TO ACCOMODATE ALTERNATIVE FIRE ROUTE

ATTACHMENT A



ADA EGRESS FROM OUTDOOR STAGE



Lafayette Fire Truck
 Overall Length 42.274ft
 Overall Width 8.500ft
 Overall Body Height 10.519ft
 Min Body Ground Clearance 0.950ft
 Track Width 8.500ft
 Lock-to-lock time 6.00s
 Wall to Wall Turning Radius 42.200ft

FIRE TURNING MOVEMENT EX-1

A156



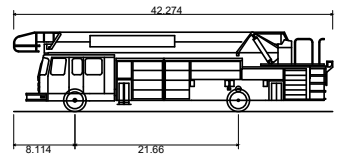
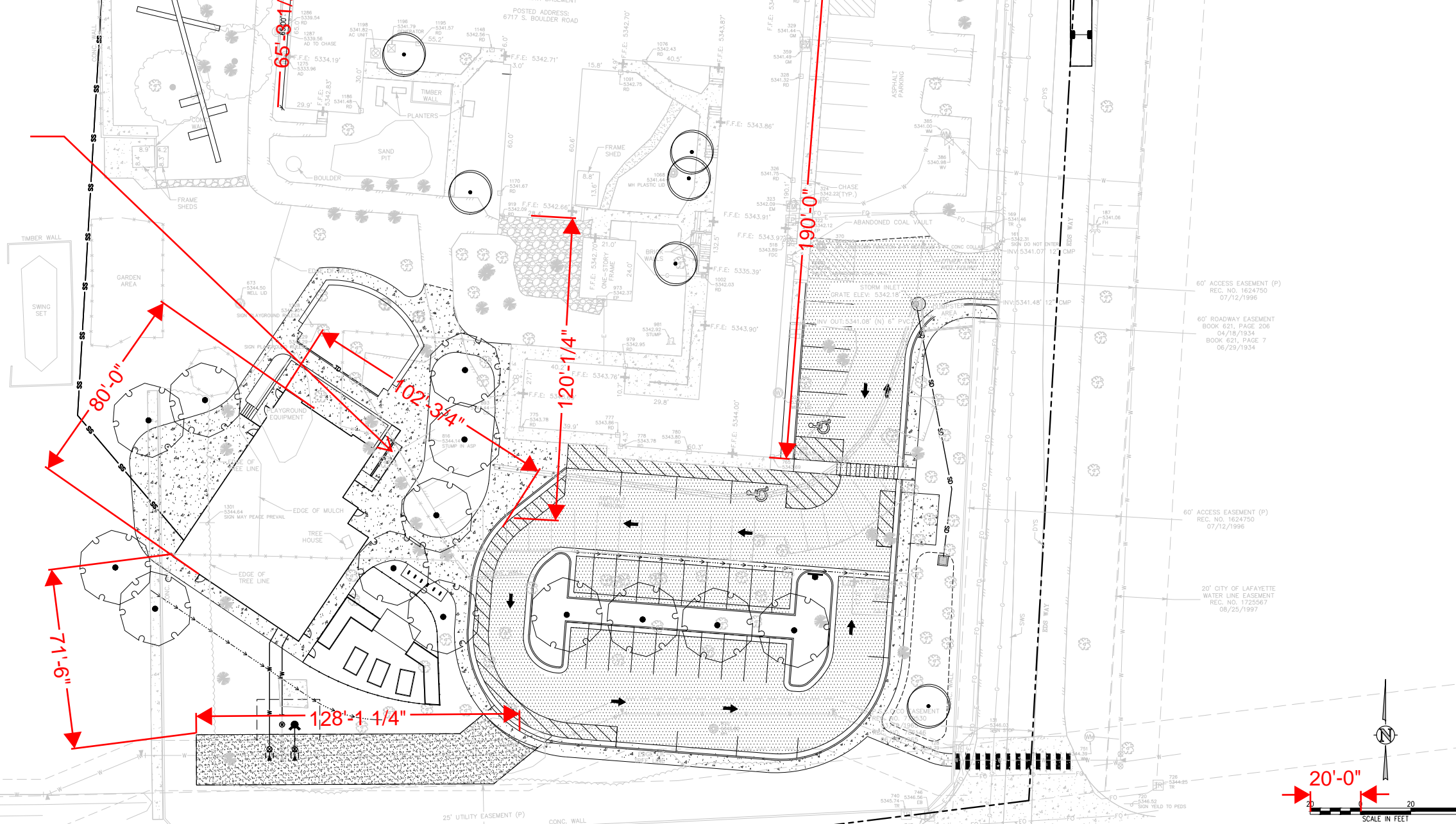
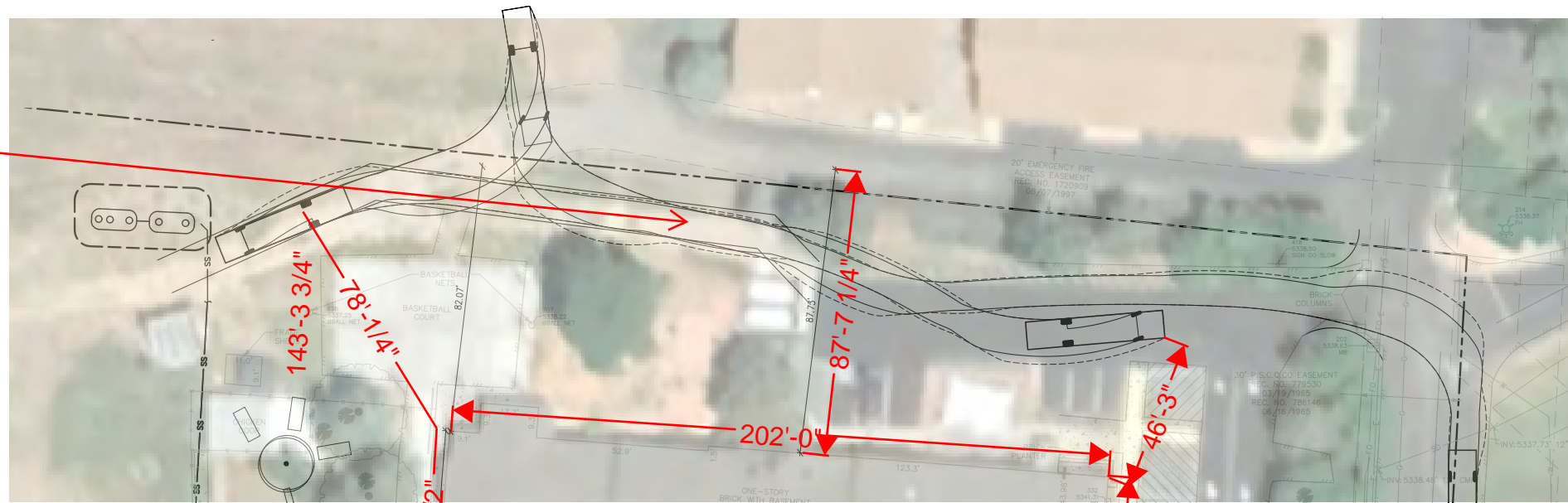
**MACKINTOSH ACADEMY
 BOULDER CAMPUS**

**SPECIAL USE
 REVIEW**

03.06.2023

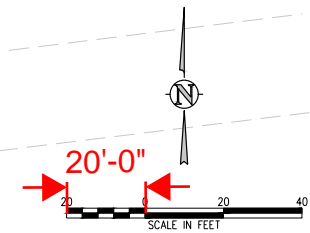
EXIST GRAVEL MAINTENANCE ACCESS TO BE IMPROVED TO ACCOMODATE ALTERNATIVE FIRE ROUTE

ADA EGRESS FROM OUTDOOR STAGE



Lafayette Fire Truck	42.274ft
Overall Length	8.500ft
Overall Width	10.519ft
Overall Body Height	0.950ft
Min Body Ground Clearance	8.500ft
Track Width	8.00s
Lock-to-lock time	42.200ft
Wall to Wall Turning Radius	

FIRE TURNING MOVEMENT EX-2
A157



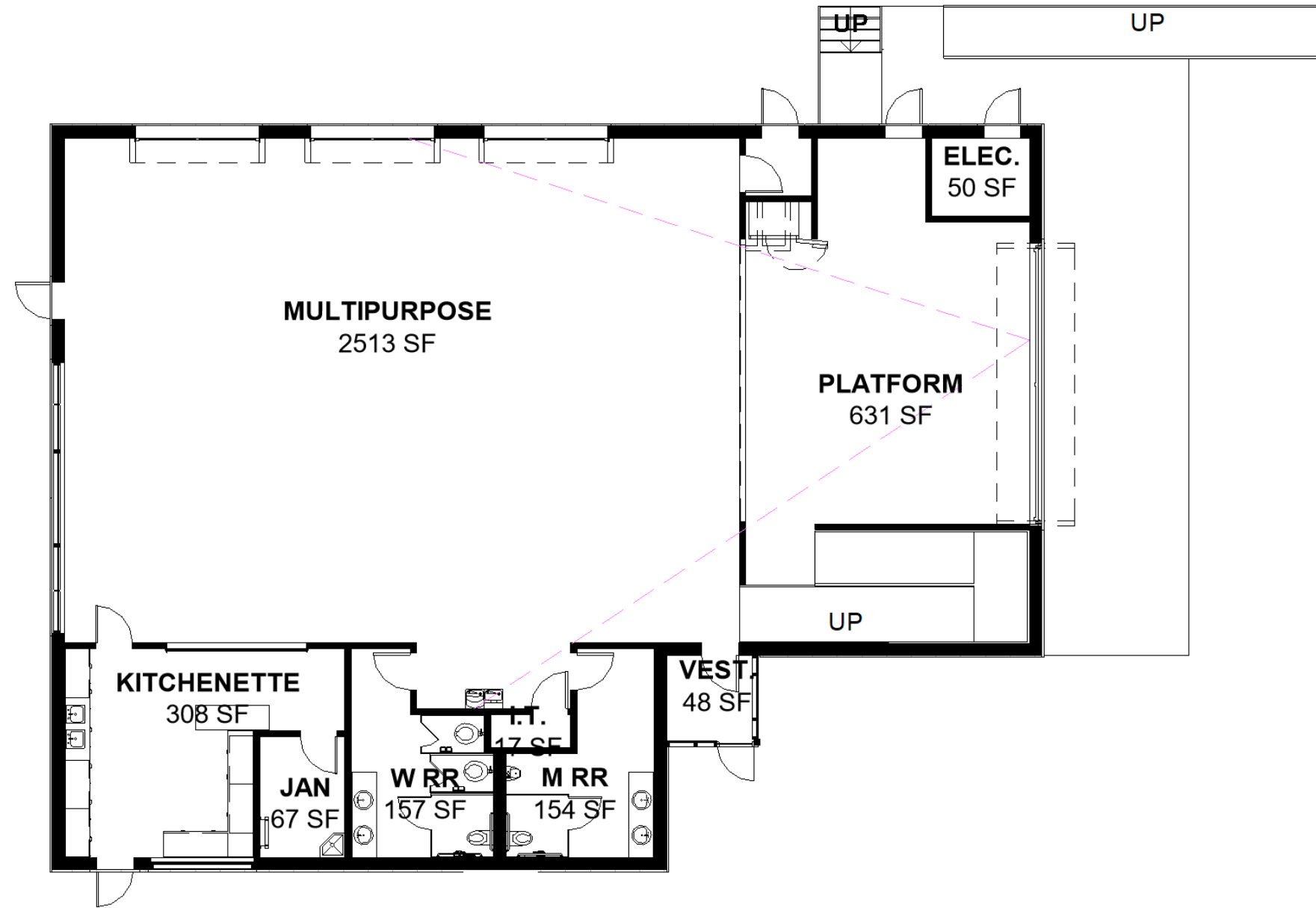
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SPECIAL USE
REVIEW



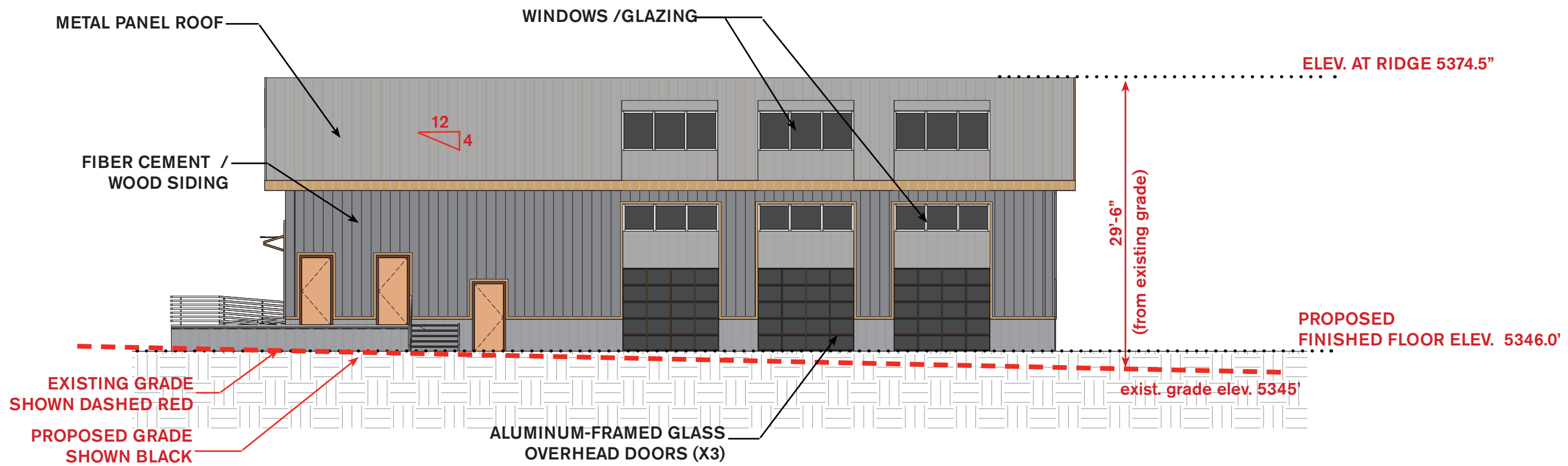
TOTAL BUILDING AREA: 4,355 SF

MACKINTOSH ACADEMY
BOULDER CAMPUS

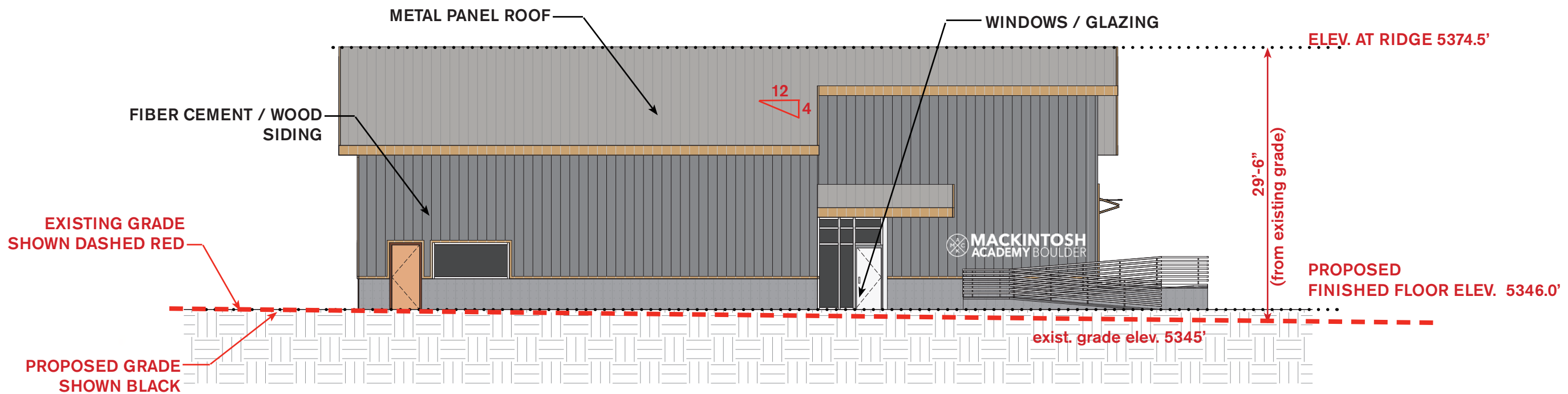
BUILDING FLOOR PLAN



**SPECIAL USE
REVIEW**



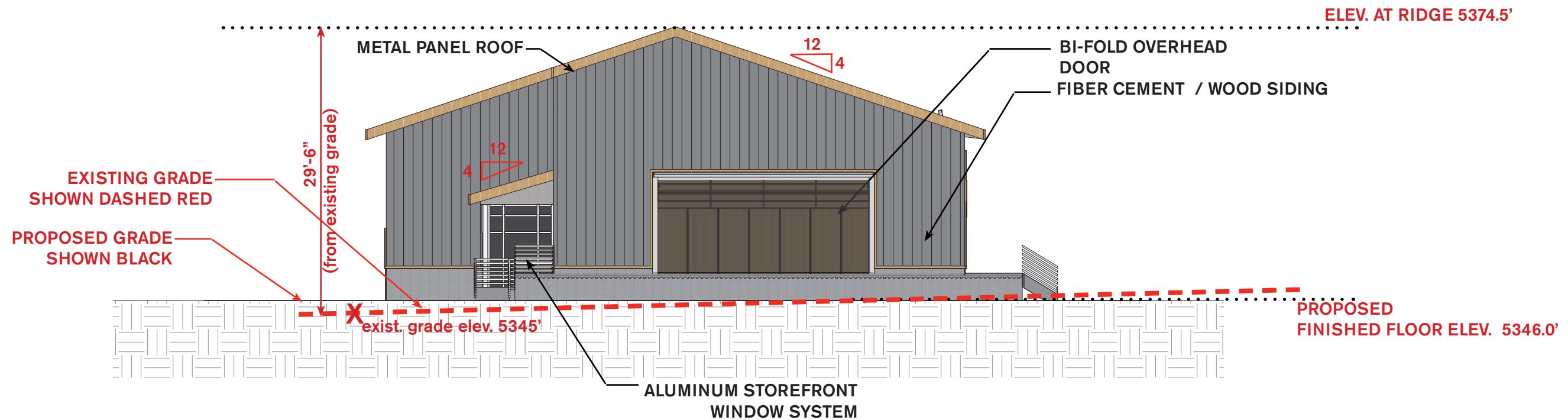
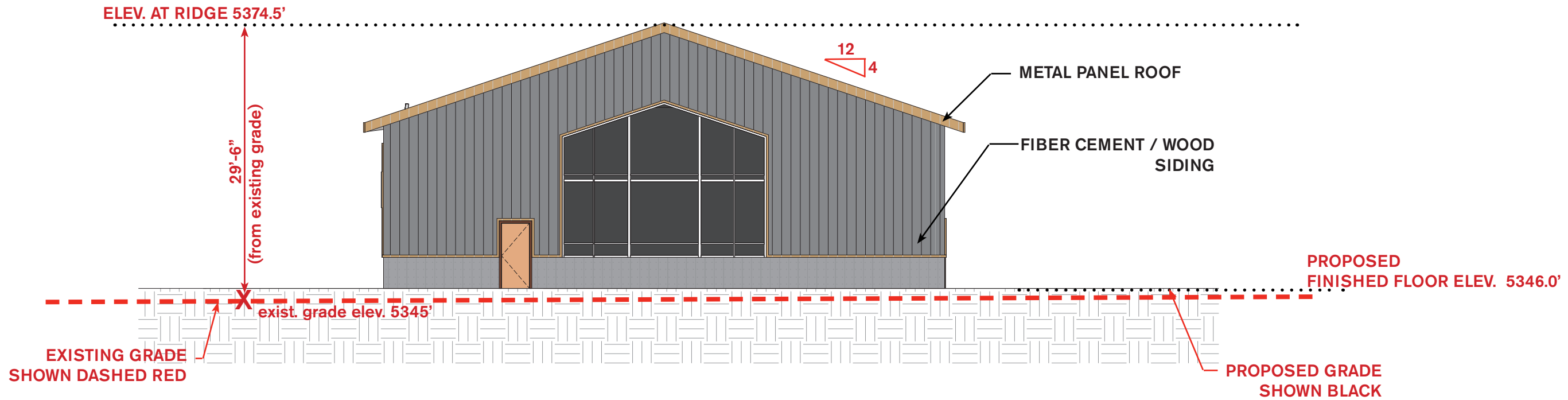
A7 | PRESENTATION NORTH ELEVATION



MACKINTOSH ACADEMY
BOULDER CAMPUS

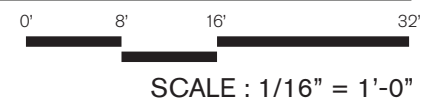
BUILDING ELEVATIONS

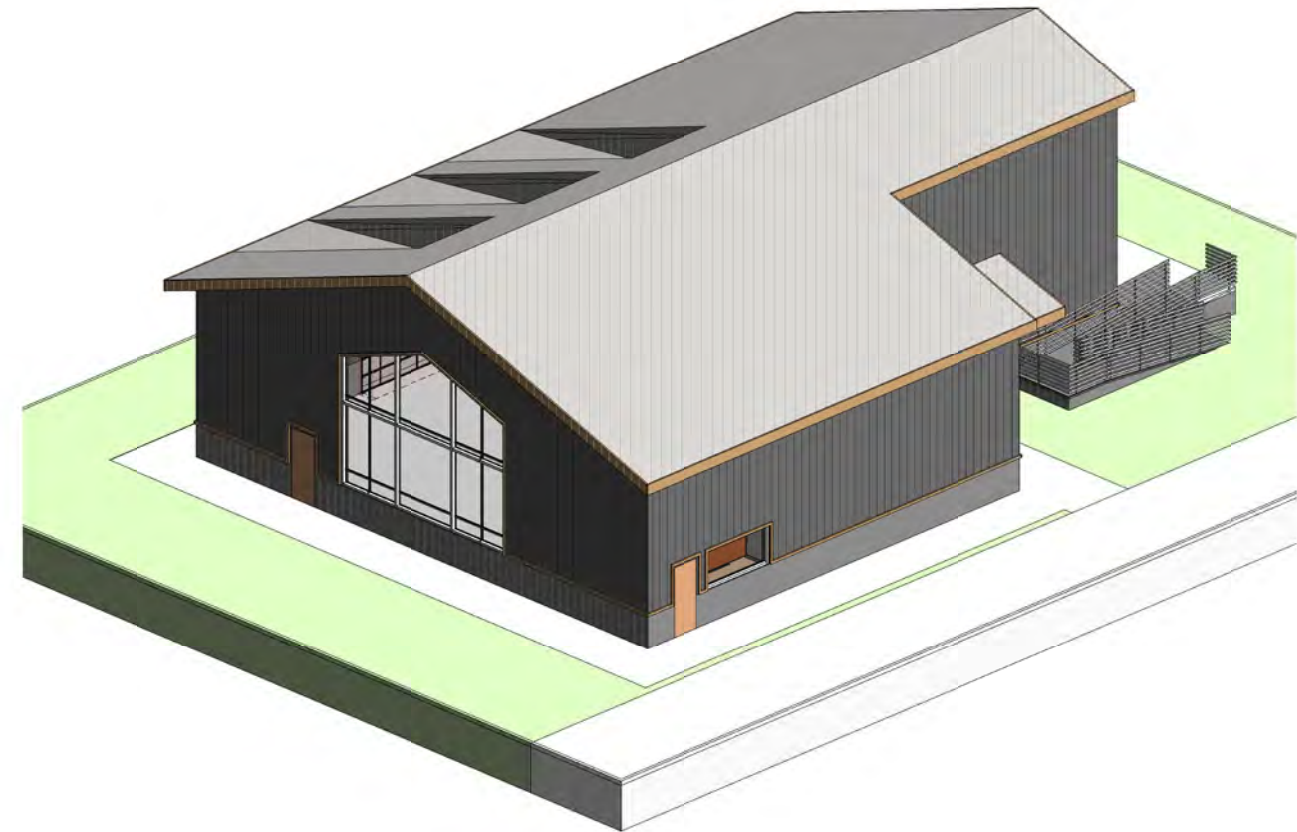
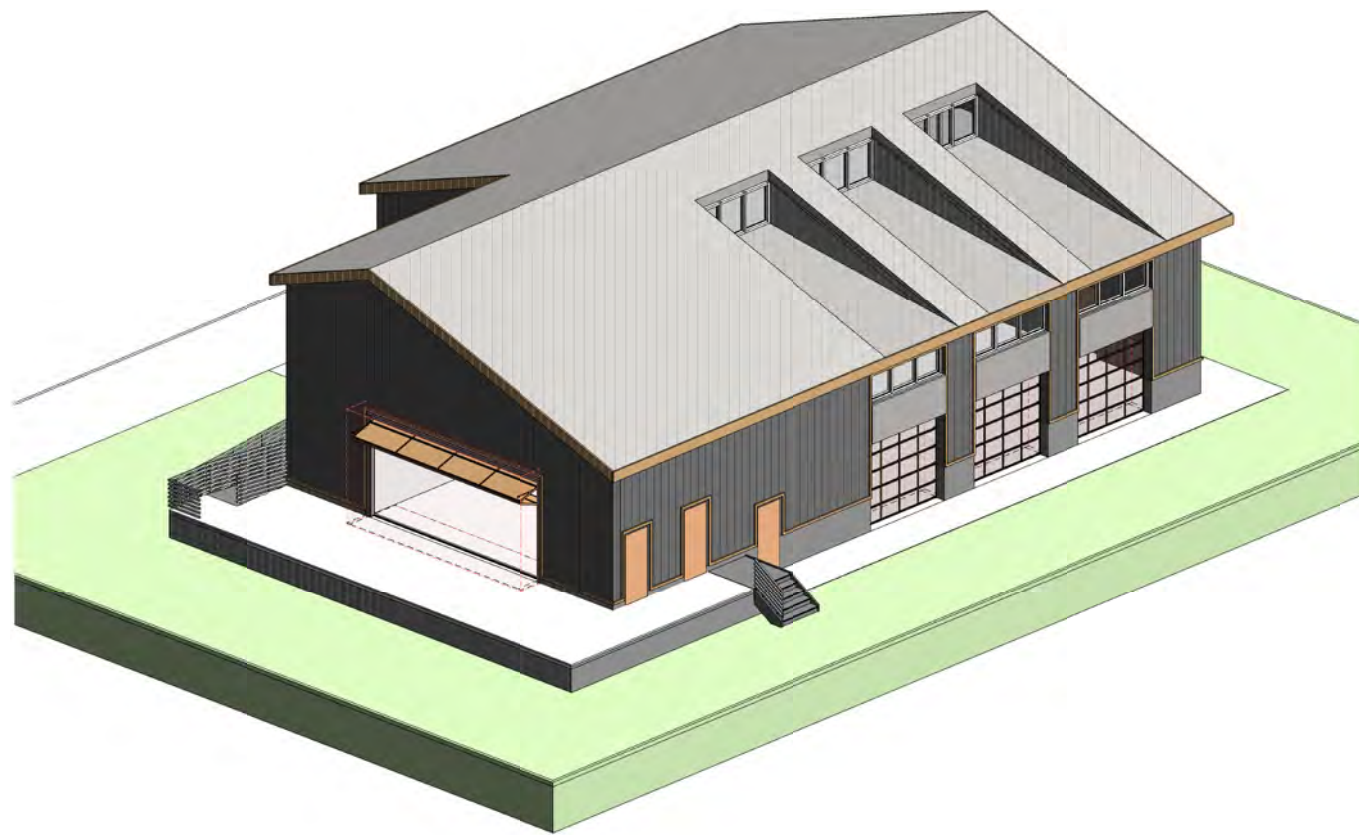




MACKINTOSH ACADEMY
BOULDER CAMPUS

BUILDING ELEVATIONS





MACKINTOSH ACADEMY
BOULDER CAMPUS



MACKINTOSH ACADEMY
BOULDER CAMPUS

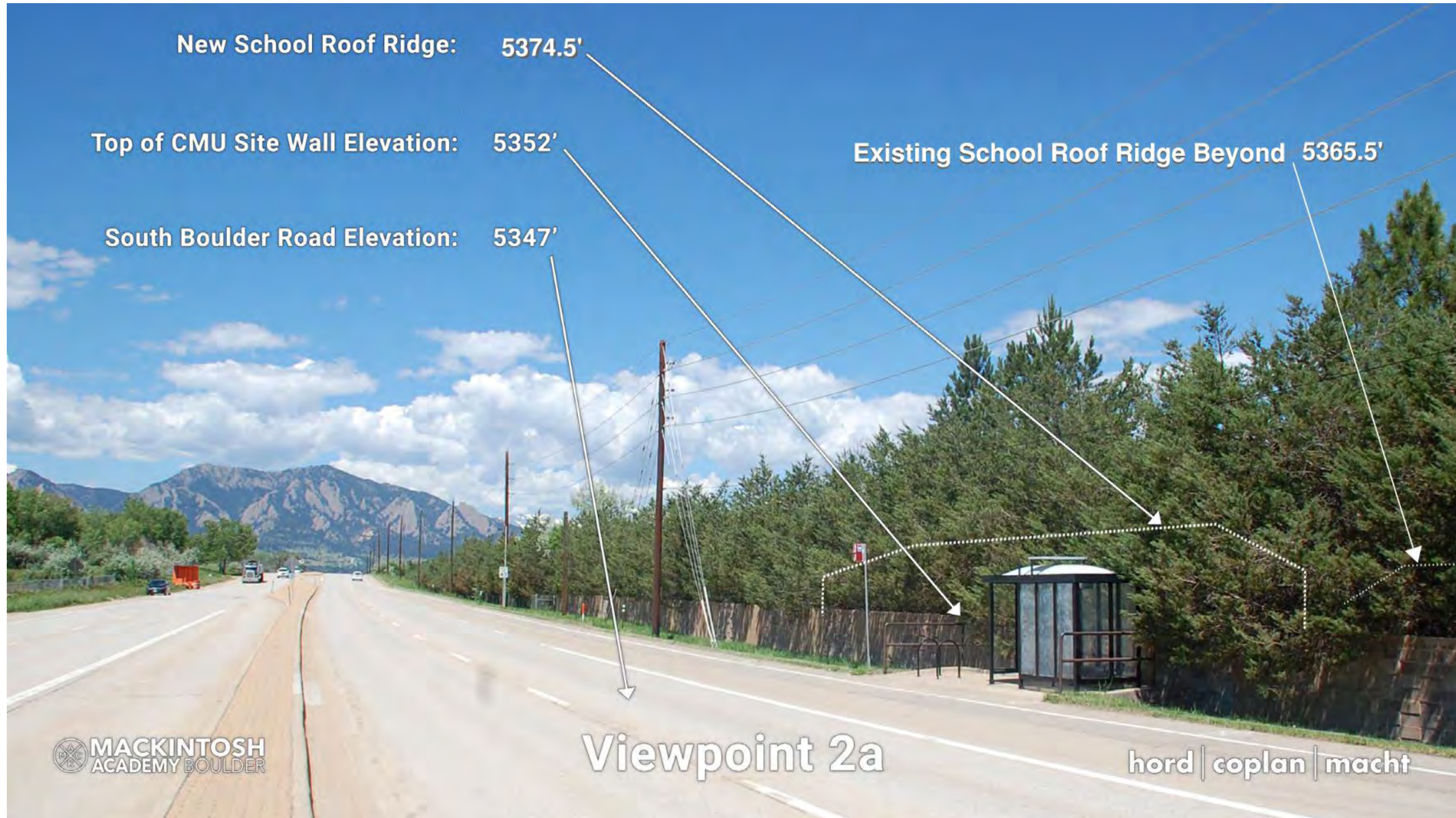




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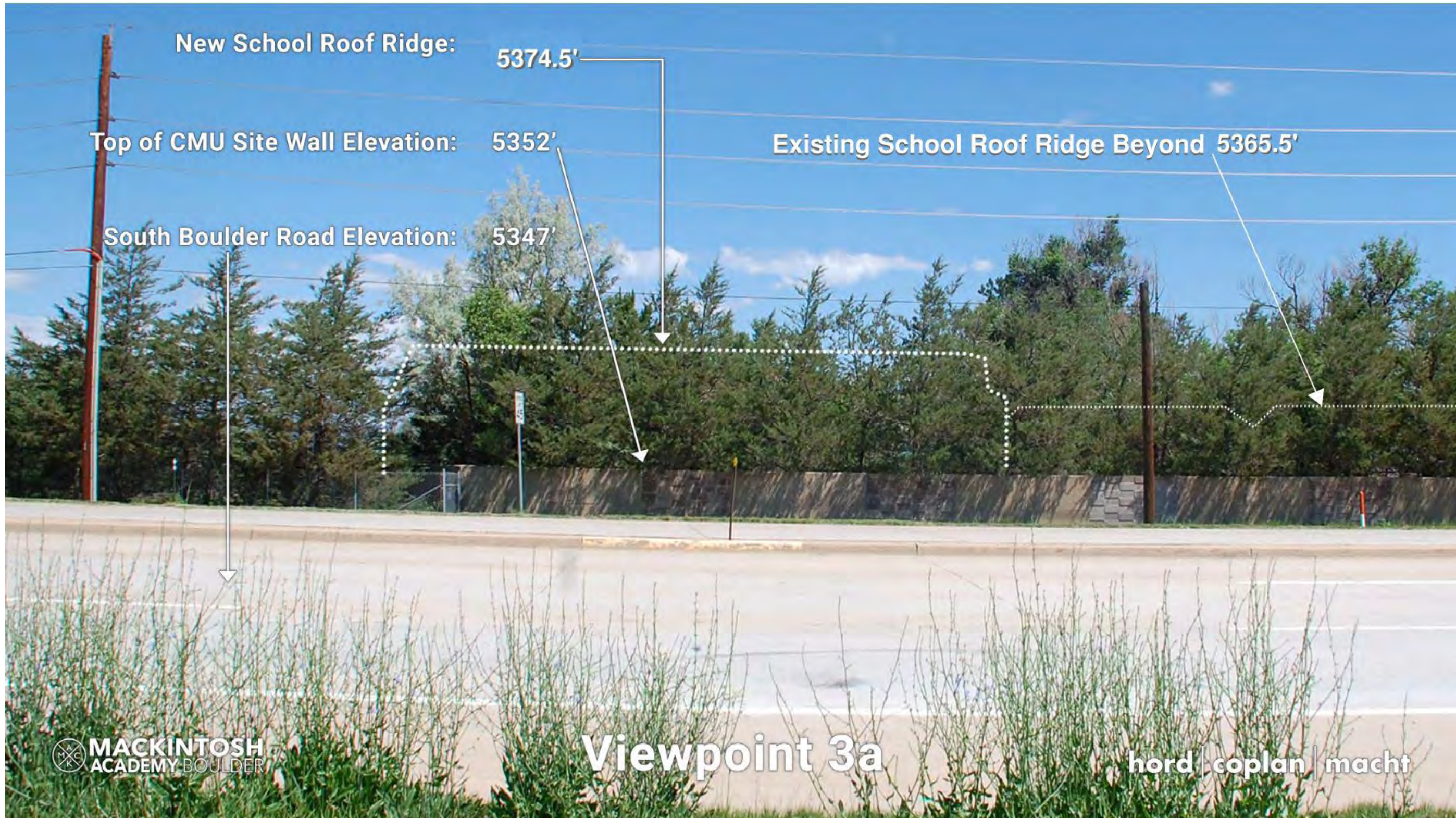
MACKINTOSH ACADEMY
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MACKINTOSH ACADEMY
BOULDER CAMPUS

ATTACHMENT A

10.25.22 Mackintosh Academy- Boulder • Special Review Transportation Demand Management (TDM)

In order to minimize impacts related to traffic during the phased expansion, we propose to implement the following strategies:

	Traffic Management Measures	Total Daily Trips
<p>Current Approvals 155 Students</p>	<ul style="list-style-type: none"> • Added 2 Mack Vans reduced 590 vehicle trips to/from campus per school year supporting off-campus field trips. • Added free EcoPass to faculty/staff that want to use public transportation. We will continue to push this benefit. • Completed a full community Traffic Use Study to determine the most impactful ways to reduce traffic to/from campus. • Encouraging carpooling too all new and returning parents. 	<p>From Traffic Study: 637 daily trips</p>
<p>Year 1 after Special Review approval</p> <p><i>Small increase in students and staff:</i> 170 students <i>(+25 students)</i></p>	<p>Example trip reduction methods:</p> <ul style="list-style-type: none"> • Carpool: We will start MackMovers (similar to BVSD's "Trip Tracker") incentive program to increase "Green Trips" to/from our school. A "Green Trip" is any transportation by foot, bike, bus, or carpooling. This will be our approach to using students to increase carpooling efforts. • Carpool: We will use and connect our existing "MackBot" directory that shows the physical location of all Mackintosh families to connect parents with others who want to carpool. • Bike Use: We will Install 4 bike racks to encourage bike use to reduce vehicle traffic. • Bike Use: We will explore ways to connect our campus to Open Space trails/property adjacent to our campus to increase safer bike traffic to/from campus. • Expand free use of EcoPass to faculty/staff that want to use public transportation. Increase awareness of bus use for Middle School students. Provide education around the benefits of First & Last Mile to increase use of RTD. 	<p>698 trips <i>(I.T.E. trip generation of 4.11)</i></p>
<p>Year 1 of New Building</p> <p><i>Possible growth to:</i> 170-190 students <i>(+5 - 20 people)</i></p>	<p>Proposal:</p> <ul style="list-style-type: none"> • Increase MackMovers programming to mitigate traffic increases. • Purchase a possible third Mack bus to mitigate additional field trip traffic. • Adding new bus crosswalks and a direct, safer entry to campus via Ed's Way to increase the use of public bus transportation. • Bike Use: If approved, we will add a trail connecting our campus to Open Space trails/property adjacent to our campus to increase safer bike traffic to/from school. • Install additional bike racks to further encourage bike use/traffic. • Expand free use of EcoPass to faculty/staff and Middle School students that want to use public transportation. Provide education around the benefits of First & Last Mile to increase use of RTD. 	<p>781 daily trips</p>

ATTACHMENT A

Based on the transportation study that Mackintosh conducted with families, the following measures were identified as viable options to reduce single-family car trips, improve traffic safety and reduce carbon emissions. These are programmatic solutions that are in addition to the already implemented programs and capital improvements:

MACK MOVERS INCENTIVE:

MackMovers is an incentive program, modeled after the Trip Trackers Program developed by Boulder Valley School District (BVSD) and now used by St. Vrain Valley School District (SVVSD). Like Trip Trackers, MackMovers would encourage families by rewarding students who walk, bike, skate, scoot, bus, or carpool to and from school. The MackMovers program would support the school-wide effort to reduce car congestion and pollution. Both BVSD and SVVSD have already confirmed that the MackMovers program may use the 50+ local business partners that redeem Trip Tracker Bucks, distributed monthly based on the number of *green trips*. The Mack Movers money earned from green trips could go towards prizes such as: sponsoring plants or animals on the Mack Farm, adopting a worm for our composters, donating dollars to a service organization of choice, planting a tree on campus, earning a class campout or picnic, receiving an eco-warrior badge, collecting a raffle ticket for bike, winning monogrammed Mack lunch bag/eco containers/silverware, donating of a science book to the library in your name, etc. The program and its prizes will be advertised on posters, emails, and flyers for both students and parents to see. In the November 2018 Traffic Study, nearly half of respondents indicated that *having an incentive* would make it likely, somewhat likely, or very likely that they would consider carpooling. Also, 77 respondents (68%) indicated that *pressure from their child to be eco-friendly* would make it likely, somewhat likely, or very likely that they would consider carpooling. The Mack Movers program intends to incentivize students to convince their parents to sign a Mack Movers Pledge to earn points towards a prize listed above.

CARPOOLING:

The existing MackBot (school database) can be utilized to help families connect to each other for geographic carpooling efforts. MackBot allows Mackintosh parents to easily connect with families in their neighborhood to arrange carpools. We plan to create a traffic manager position and appoint a parent to this role to help and encourage families to coordinate carpooling. Mackintosh completed an internal traffic study in November 2018. The decision to utilize School Pool is, in part, in response to the 88 parents (77%) who indicated that having the ability to see who lives nearby is likely, somewhat likely, or very likely to help them start carpooling. In the same study, 92 respondents (81%) indicated that having the ability to see others interested in carpooling would also make it likely, somewhat likely, or very likely to help them carpool. On average, 35-40 families participate in some carpooling to and/or from school. Mack will also incentivize teachers to carpool by reserving premium parking spots for those who help mitigate our traffic impact.

BIKE USE:

The proposed expansion adds additional bike racks to the campus to encourage people to ride to school. Currently there are no off street/protected bike routes to Mackintosh, however, we will continue to advocate with the City and County to create a bike trail system that connects students to our campus. The hope is that we would be able to utilize the existing Bobolink Trail System as a starting point for parents to drop-off their students. We would add a path that connects this Open Space to our campus so students would be able to bike to school on a safe and pleasant trail that avoids major roads.

MACK VANS:

Our 2017-2018 auction supported the purchase of two, 15 passenger Mack Vans.. These vehicles have proven their worth in supporting efforts to reduce vehicular traffic to/from campus. During a typical school year alone our two Mack Vans reduce 590 trips to/from campus by eliminating the need for parents to drive students to/from field trips. As we near the new enrollment capacity we will plan to purchase another Mack Van to further mitigate increased traffic as needed.

ECO PASS and FIRST & LAST MILE CONNECTIONS:

We are fortunate to have an RTD stop right outside our campus on the East/West bound sides of South Boulder. We will encourage the use of RTD bus transportation for employees and Middle School students by providing fully or partially comped ECO passes. By providing updated and proactive communication around the First & Last Mile Options, we will further increase the likelihood of RTD use. We have also added a new crosswalk across Ed's Way, and will create a new entrance through the eastside of our stone wall to provide a safer entrance to our campus.



JVA, Incorporated
 1512 Larimer Street
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 Denver, CO 80202
 303.444.1951
 info@jvajva.com

August 1, 2022

Ms. Adelle Willson, AIA, LEED AP, Principal
 Hord | Coplan | Macht
 1800 Wazee Street, Suite 450
 Denver, CO 80202

www.jvajva.com

RE: Mackintosh Academy – Onsite Wastewater Treatment System Evaluation Update
 JVA Job No. 1093e

Dear Ms. Wilson:

HCM is planning to build an additional 4,355 square feet (SF) of high-functioning, multi-purpose space for the Mackintosh Academy. An onsite wastewater treatment system (OWTS) serves the existing school, and connection to municipal sewer is still not feasible. JVA performed a records review, per capita flow analysis, and comparison with the original design and 2018 Boulder County OWTS Regulations (Regulations) to determine if the existing OWTS can serve the proposed improvement. The existing OWTS serving Mackintosh appears to be functioning properly and infrastructure sized appropriately for the proposed space. This technical memorandum (memo) summarizes that investigation and provides justification that the existing OWTS is operating and sized correctly for the proposed building use.

EXISTING OWTS INFRASTRUCTURE

Based on Boulder County OWTS records for the Mackintosh Academy site, the existing OWTS was designed in 1997 for 2,475 gallons per day (gpd) and re-assessed in 2007 by Drexel Barrell & Company (DBC). In 2020 Mackintosh Academy made significant improvements to their OWTS, see Table 1 below. The 2020 design capacity was permitted to 1,999 gpd to be within the Boulder County OWTS Regulations. The previous five septic tanks and one lift station were consolidated to a new single-compartment septic tank and a new three-compartment septic tank with effluent filter and dosing chamber. Similarly, the collection system was consolidated and rerouted to the new septic tanks. A sanitary sewer stub was installed and capped prior to the 2,500-gallon single compartment septic tank for the proposed building. The pump and controls were updated to replace the aging infrastructure. The existing soil treatment area was left in service as it was still functioning as designed.

Table 1 – Existing OWTS per JVA 2020 Design Improvements

Unit Process	Quantity	Description
Septic tanks	2	2,500-gallon single-compartment tank
		2,500-gallon three-compartment tank with effluent filter and dosing pump
Pump	1	Orenco PF 500512
Control Panel	1	SJE Rhombus, Colorado SX
Soil Treatment Areas*	1 with beds	Mounded soil treatment area 3,654 ft ²

*Existing prior to 2020 improvements



DESIGN CAPACITY CALCULATIONS

As with many private schools in Boulder County, the Mackintosh Academy is under special use review. The governing document approved in 2008 limits the Academy to: 155 students (K-12), 24 full-time staff members, 80 people allowed for sporting events (21 times a year), 105 people allowed for parent events (5 nights a year), and 105 students maximum for summer programs. With the addition of the proposed building, the Academy is proposing to expand to 190 students and 50 staff for a total of 240 people. The new building will consist of a multi-purpose space with stage, a kitchenette, and restrooms.

The original 1997 OWTS design used the industry accepted estimated daily wastewater flow values for a school with cafeteria, but no gym or showers; 20 gpcd for students and 15 gpcd for staff multiplied by a peaking factor of 1.5. For 75 students and ten instructors, the permitted design flow in 1997 was 2,475 gpd, see Table 2 below.

In 2007, DBC re-evaluated the OWTS design capacity at the request of the Bridge School of Boulder because occupancy increased to 155 students and 24 teachers. Using water occupancy data provided by the City of Lafayette and applying a peaking factor of 1.6, they calculated a water use per person of 9.6 gpcd and determined the existing system could handle the increase flow, see Table 2. See attached letter in Appendix A.

As discussed, in 2020 the design capacity was re-permitted to 1,999 gpd to be within the Boulder County OWTS Regulations; new OWTS infrastructure was also installed to replace aging equipment. New occupancy and corresponding per capita flows were not included during this permit renewal.

Water use data for the Academy from 2015-2017 was obtained from Lafayette Water. More recent data was not used due to COVID-19 changes in school activity. Lafayette Water records water usage monthly and rounds to the nearest thousand gallons. An industry standard of 10 percent of the water was assumed to have been consumed, leaving 90 percent to enter the OWTS. Based on this data, the Academy’s average wastewater generation was estimated at 600 gpd with 4.8 gallons per capita per day (gpcd). Similar water use data has been documented for schools in Colorado. Based on these data, the 240 people will generate 1,352 gpd of wastewater, including 200 gpd from the new kitchenette, which is below the 2020 design capacity.

Table 2 – Mackintosh Academy OWTS Design Capacity Comparison

Parameter	1997 OWTS Original Design Capacity	2007 OWTS Calculated Design Capacity	2020 OWTS Design Capacity Re-Permitted	2022 OWTS Calculated Design Capacity
Occupancy	75 Students 10 Staff	155 Students 24 Staff	-	190 Students 50 Staff
Per Capita Flowrates	Students: 20 gpcd Staff: 15 gpcd	Students and Staff: ² 9.6 gpcd	-	Students and Staff: 4.8 gpcd
Design Capacity	12,475 gpd	1,718 gpd	1,999 gpd	³ 1,352 gpd

¹Includes a 1.5 safety factor

²Include a 2.6 safety factor

³Includes 200 gallons of flow per day from the kitchenette



OWTS DESIGN EVALUATION

With the new building, the Mackintosh Academy is growing to 240 full-time students and staff. In order to determine whether this increase in occupancy can be treated with the existing OWTS infrastructure, the 2020 OWTS approval and sizing was compared with the 2022 increased occupancy, see Table 3 below.

The septic tank was sized based on the Regulations, which requires a minimum of a two-day hydraulic retention time (HRT) total in the septic tanks prior to a pumping chamber. Additionally, the first compartment or tank in series must hold one days' worth of volume. As seen in Table 3 below, the 2022 septic tank volume meets the 2020 original design and Regulations.


In order to determine whether this increase in flow can be treated by the existing STA, the 2020 OWTS STA square footage was compared with the new design flow. The Academy has 3,654 SF of existing mounded soil treatment area for wastewater disposal. Based on the 2022 design flow the minimum STA square footage required is 2,254, which is below the installed footprint.

Table 3 – Mackintosh Academy OWTS Design Comparison

Parameter	2020 OWTS Permitted Design Capacity	2022 OWTS Calculated Design Capacity	2022 Conformance with 2020 OWTS Design and Boulder County OWTS Regulations
Design Capacity	1,999 gpd	¹ 1,352 gpd	Yes 2022 calculated design capacity is below permitted design capacity of 1,999 gpd
Septic Tank Sizing	1,999 gpd * 2 days = 3,998 gallons	1,352 gpd * 2 days = 2,704 gallons	Yes 2022 calculated septic tank required volume is below permitted tank volume
Soil Treatment Area Sizing	1,999 gpd / 0.6 = 3,332 square feet	1,352 gpd / 0.6 = 2,254 square feet	Yes 2022 calculated soil treatment area requires is below permitted soil treatment area square footage

¹Includes 200 gallons of flow per day from the kitchenette

Sincerely,
 JVA, INCORPORATED

By: 
 Simon A. Farrell, P.E.
 Senior Project Manager, Associate

Appendix A – Permitted OWTS Documents
 Appendix B – Water Use Data



APPENDIX A – PERMITTED OWTS DOCUMENTS

1. Mackintosh Academy OWTS Improvements – Record Drawings, 2020; JVA Consulting Engineers
2. Water Usage Calculations Relating to the Onsite Wastewater System, 2007; Drexel Barrell & Company
3. Proposed Septic System, 1997; Drexel Barrell & Company

MACKINTOSH ACADEMY

ONSITE WASTEWATER TREATMENT SYSTEM IMPROVEMENTS

BOULDER, COLORADO

PERMIT SET

RECORD DRAWINGS
AUGUST, 2020

THIS RECORD DRAWING HAS BEEN PREPARED BASED UPON INFORMATION FURNISHED BY OTHERS. WHILE THIS INFORMATION IS BELIEVED TO BE RELIABLE, THE DESIGN PROFESSIONAL CANNOT ASSURE ITS ACCURACY, AND THIS IS NOT RESPONSIBLE FOR THE ACCURACY OF THIS RECORD DRAWING OR FOR ANY ERRORS OR OMISSIONS BY OTHERS. THOSE RELYING ON THIS RECORD DOCUMENT ARE ADVISED TO OBTAIN INDEPENDENT VERIFICATION OF THE AS-BUILT ACCURACY BEFORE APPLYING THESE PLANS FOR ANY PURPOSE.

CONTACTS

OWNER:	MACKINTOSH ACADEMY 6717 SOUTH BOULDER RD. BOULDER, CO 80303	J.J. MORROW (303) 554-2011 JJ@MACKINTOSHACADEMY.COM
ENVIRONMENTAL ENGINEER:	JVA, INC 1319 SPRUCE STREET BOULDER, CO 80302	SIMON FARRELL, P.E. (303) 565-4974 SFARRELL@JVA.JVA.COM



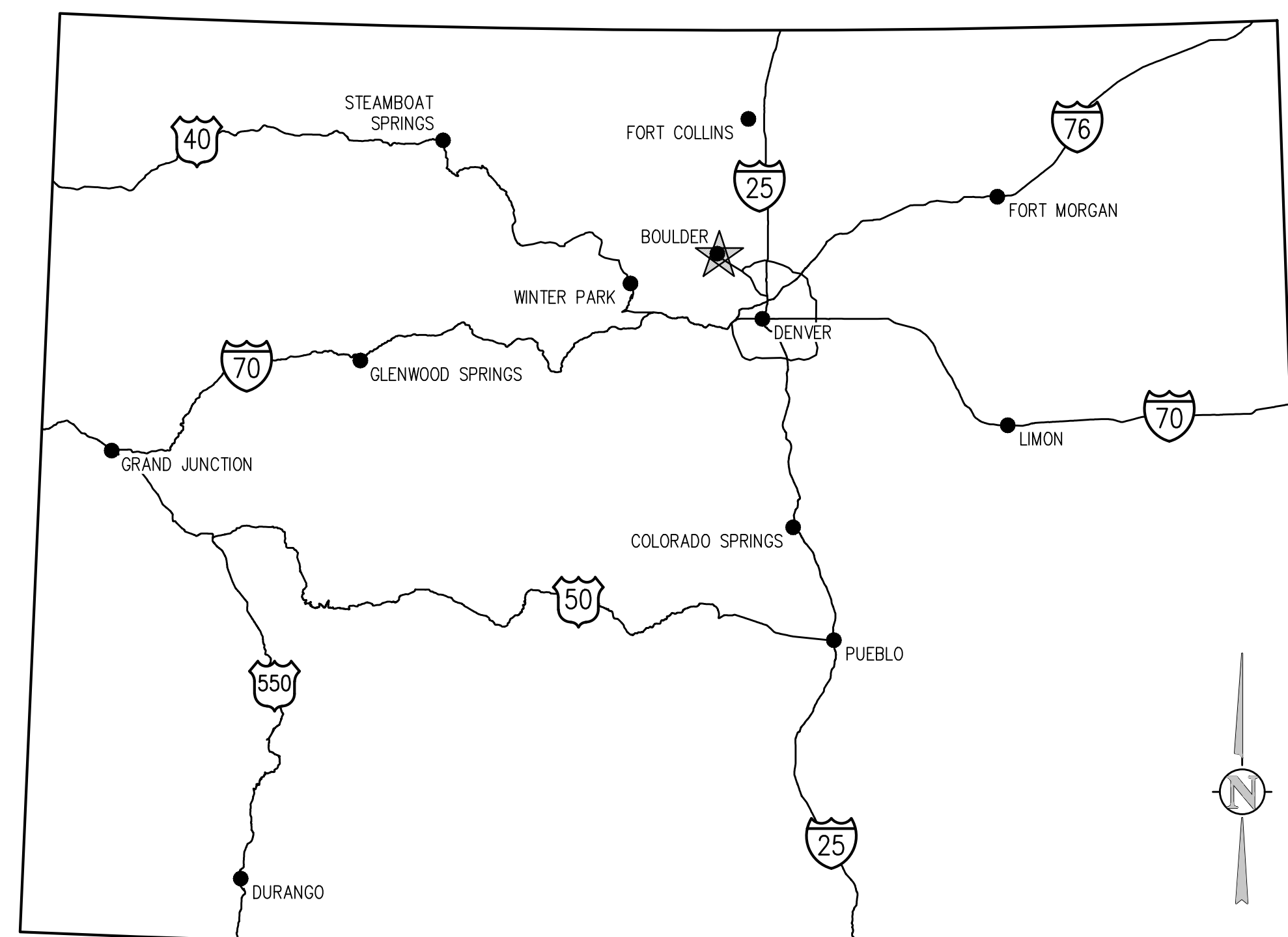
DRAWING INDEX

SHEET NO.	TITLE
G0.0	COVER SHEET
G0.1	DESIGN CRITERIA & GENERAL NOTES
C0.1	DEMOLITION SHEET
C1.0	OWTS SITE PLAN
C2.0	SANITARY SEWER MAIN PLAN & PROFILE
CD1.0	OWTS TREATMENT DETAILS

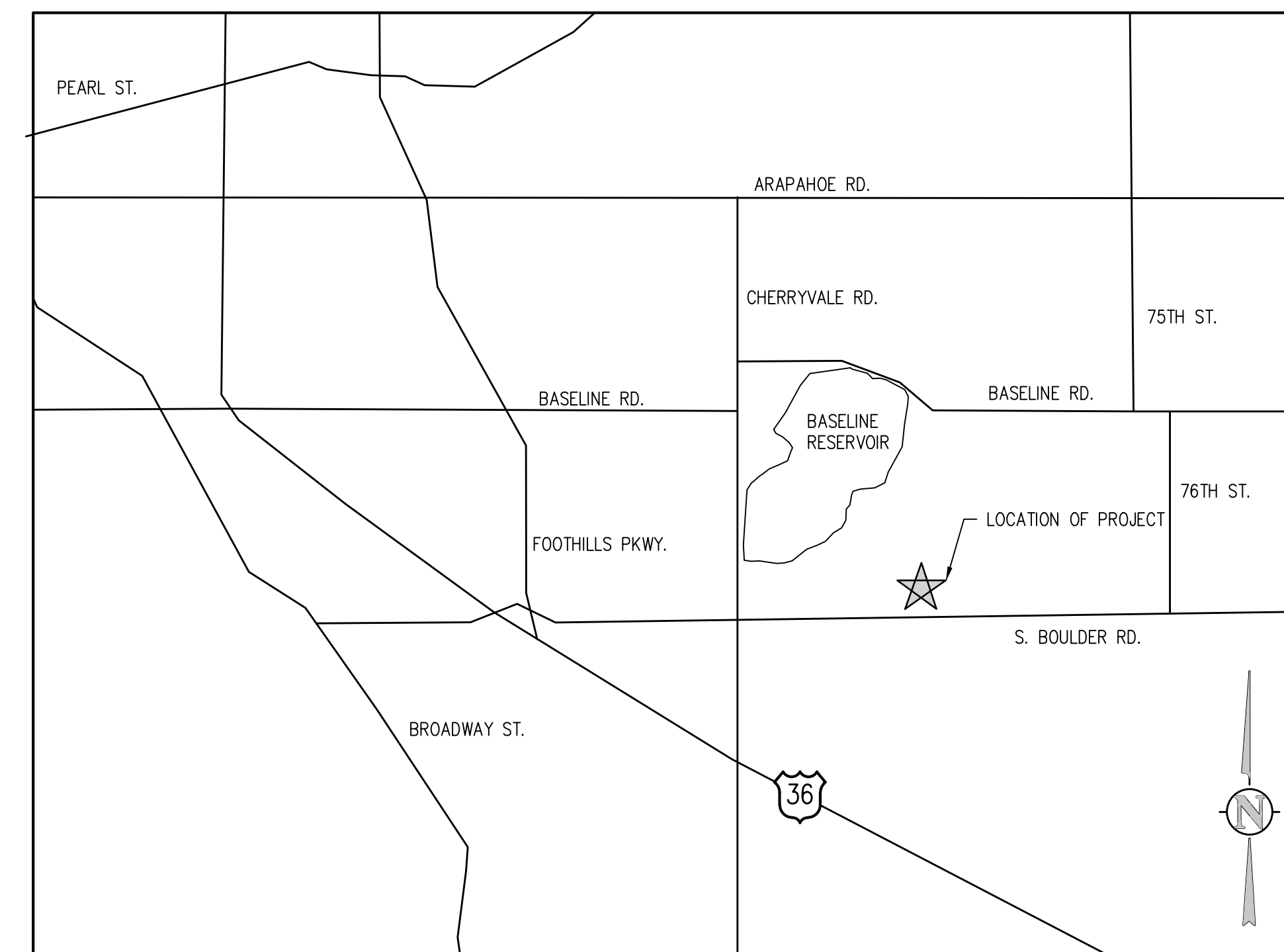
MAY 2020

PREPARED UNDER THE SUPERVISION OF

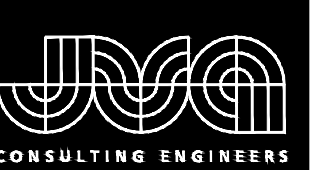
JVA, Inc.



VICINITY MAP
NTS



PROJECT LOCATION MAP
NTS



JVA, Inc. 213 Linden Street, Suite 200
Fort Collins, CO 80524 970.225.9099
www.jvajva.com
Boulder • Fort Collins • Winter Park
Glenwood Springs • Denver

DESIGN LEDGEND

	BENCHMARK		FENCE
	MANHOLE		FLOW LINE OF DITCH OR WASH
	AREA DRAIN		SLOPE ARROW
	COMBINATION INLET		PROPOSED SPOT ELEVATION
	TYPE R INLET		EXIST SPOT ELEVATION
	TYPE 13 FIELD INLET		EXIST INDEX CONTOUR
	FLARED END SECTION W/ RIPRAP		EXIST INTERMEDIATE CONTOUR
	TEE W/ THRUST BLOCK		PROPOSED INDEX CONTOUR
	BEND W/ THRUST BLOCK		PROPOSED INTERMEDIATE CONTOUR
	END CAP W/ THRUST BLOCK		CURB AND GUTTER
	GATE VALVE		SPILL/CATCH CURB TRANSITION
	REDUCER/INCREASER		SIGN W/ POST
	WATER METER		CURB RAMP
	FIRE HYDRANT		SIDEWALK CHASE
	STORM - 12" AND SMALLER		SIDEWALK
	STORM - LARGER THAN 12"		CONCRETE PAVING
	ROOF DRAIN		HEAVY DUTY CONCRETE PAVING
	TRENCH DRAIN		HEAVY DUTY ASPHALT PAVING
	UNDERDRAIN		LIGHT DUTY ASPHALT PAVING
	SANITARY SEWER		GRAVEL
	FORCE MAIN		PROPOSED BUILDING
	WATER		BUILDING ACCESS
	NON POTABLE WATER		RETAINING WALL
	POTABLE WATER		BOULDER/ROCK WALL
	IRRIGATION		LIMITS OF SAWCUT
	IRRIGATION - LARGER THAN 12"		LIMITS OF WORK
	CABLE TV		EASEMENT LINE
	DRAIN		PROPERTY LINE
	ELECTRIC		ADJACENT PROPERTY LINE/ROW
	UNDERGROUND ELECTRIC		MATCHLINE
	OVERHEAD ELECTRIC		
	TELEPHONE		
	FIBER OPTIC		
	FUEL		
	GAS		
	PVC PIPE (MISC)		



Know what's below.
Call before you dig.

OWTS DESIGN CRITERIA:

DESIGN FLOW RATE

PERMITTED DESIGN FLOW (DF): 1,999 GAL/DAY

PRIMARY TREATMENT

REQUIRED VOLUME: 2 DAY DETENTION TIME
1,999 GAL/DAY * 2 DAYS = 3,998 GAL
FRONT RANGE PRECAST OR EQUAL
SEPTIC TANK 1: 2,500 GAL SINGLE COMPARTMENT SEPTIC TANK WITH ANTI-BUOYANCY COLLAR
SEPTIC TANK 2: 2,500 GAL THREE COMPARTMENT SEPTIC TANK WITH ANTI-BUOYANCY COLLAR EFFLUENT FILTER AND DOSING PUMP

EFFLUENT FILTER: ORENCO FT1254-36A
DOSING CHAMBER PUMP: ORENCO MODEL PF 500512

EXIST SOIL TREATMENT AREA (STA)

TYPE: MOUNDED
MATERIAL: ROCK AND PERFORATED PIPE
PERCOLATION RATE: 30 MIN/IN
DESIGN FOOTPRINT OF STA: (42LF X 43.5LF)*2 = 3,654 SF

CONTROL PANEL

MANUFACTURER: SJE RHOMBUS
MODEL: COLORADO SX PANEL (STANDARD TYPE 112 W/ ELAPSE TIME METER AND EVENT COUNTER)

OWTS NOTES:

GENERAL NOTES:

- THE OWTS SHALL BE INSTALLED PER THESE DRAWINGS, THE BOULDER COUNTY ONSITE WASTEWATER TREATMENT REGULATIONS, BOULDER COUNTY REPAIR PERMIT.
- MACKINTOSH IS ULTIMATELY RESPONSIBLE FOR OPERATION AND MAINTENANCE OF THE OWTS.
- THE CONTRACTOR SELECTED TO INSTALL THE OWTS MUST BE A LICENSED OWTS CONTRACTOR IN BOULDER COUNTY WHO HAS SUCCESSFULLY INSTALLED A MINIMUM OF FIVE SIMILAR SYSTEMS IN THE LAST FIVE YEARS.
- JVA PLANS TO CONDUCT AT LEAST THREE SITE VISITS DURING CONSTRUCTION 1) PRECONSTRUCTION MEETING 2) SITE OBSERVATION TO SEE ALL SYSTEM COMPONENTS BEFORE BACKFILL 3) FINAL OBSERVATION AND START-UP.
- FOR THE PRE-CONSTRUCTION MEETING THE PROPOSED OWTS SHOULD BE SURVEYED AND STAKED PRIOR TO THE MEETING. JVA WILL WALK THE SITE WITH CONTRACTOR, PROVIDE ADMINISTRATIVE REQUIREMENTS, AND FINAL OBSERVATION AND START-UP REQUIREMENTS. CONTACT SIMON FARRELL (SFARRELL@JVA.COM) TO SCHEDULE.
- THE CONTRACTOR SHALL PREPARE SUBMITTALS AND PROVIDE THEM TO THE ENGINEER FOR REVIEW PRIOR TO PURCHASING EQUIPMENT AND SUPPLIES.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL OBSERVATIONS WITH THE ENGINEER AND THE BOULDER COUNTY ENVIRONMENTAL HEALTH DEPARTMENT. NO COMPONENTS OF THE SYSTEM MAY BE BACKFILLED WITHOUT OBSERVATION.
- THE CONTRACTOR SHALL SEND, TO THE ENGINEER, ELECTRONIC PHOTOS OF THE OWTS BEFORE, DURING, AND AFTER CONSTRUCTION.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR REMOVING ANY GROUNDWATER ENCOUNTERED DURING THE CONSTRUCTION OF ANY PORTION OF THIS PROJECT. GROUNDWATER SHALL BE PUMPED, PIPED, REMOVED AND DISPOSED OF IN A MANNER WHICH DOES NOT CAUSE FLOODING OF EXISTING STREETS NOR EROSION ON ABUTTING PROPERTIES IN ORDER TO CONSTRUCT THE IMPROVEMENTS SHOWN ON THESE PLANS. GROUNDWATER TO BE PUMPED SHALL BE TESTED, PERMITTED, AND PUMPED PER THE STATE OF COLORADO AND LOCAL GROUNDWATER DISCHARGING PERMIT REQUIREMENTS.
- EXISTING FENCES, TREES, STREETS, SIDEWALKS, CURBS AND GUTTERS, LANDSCAPING, STRUCTURES, AND IMPROVEMENTS DESTROYED, DAMAGED, OR REMOVED DUE TO CONSTRUCTION OF THIS PROJECT SHALL BE REPLACED OR RESTORED IN LIKE KIND AT NO EXPENSE TO THE OWNER, UNLESS INDICATED ON THESE PLANS. UPON COMPLETION OF CONSTRUCTION, THE SITE SHALL BE CLEANED AND RESTORED TO A CONDITION EQUAL TO, OR BETTER THAN, THAT WHICH EXISTED BEFORE CONSTRUCTION.
- THE CONTRACTOR SHALL COORDINATE WITH MACKINTOSH ACADEMY ON SHUTTING OFF WATER TO THE BUILDING DURING CONSTRUCTION. THE BUILDING WILL BE OCCUPIED ON MONDAY, JULY 27TH. ONE WEEK SHUTDOWN PRIOR TO THIS DATE IS ACCEPTABLE.
- ONCE INSTALLATION IS COMPLETE AND PRIOR TO ENGINEER'S FINAL OBSERVATION AND START-UP, A MANUFACTURER'S REPRESENTATIVE OF ORENCO WILL ASSIST WITH START-UP OF THE SYSTEM.
- FOR FINAL OBSERVATION AND START-UP, CONTRACTOR SHALL FURNISH ENGINEER A COMPLETE SET OF CONSTRUCTION AS-BUILTS. THE START-UP LETTER FROM THE ORENCO REPRESENTATIVE SHALL BE PROVIDED. THE CONTROL PANEL SHALL BE OPERATIONAL. ALL TANKS WILL BE INSPECTED FOR EQUIPMENT PROPERLY INSTALLED BY THE DRAWINGS. ANY DISCREPANCIES WILL BE PROVIDED IN A FINAL PUNCH-LIST FOR THE CONTRACTOR TO AMEND PRIOR TO FINAL CLOSEOUT WITH BOULDER COUNTY ENVIRONMENTAL HEALTH.
- ENGINEER WILL PRODUCE FINAL RECORD DRAWINGS AND SUBMIT CLOSEOUT PAPERWORK TO BOULDER COUNTY ENVIRONMENTAL HEALTH.
- SURVEY INFORMATION: SURVEY PROVIDED BY FLATRONS, INC.
CP#1: ONSITE BENCHMARK STAINLESS STEEL ROD ELEV 5338.15' N1238512.83 E3085143.71
CP#2: ONSITE BENCHMARK N1238353.06 E3085178.13

PIPE NOTES:

- PVC PIPE
 - UNLESS NOTED OTHERWISE ON DESIGN PLANS 2" PRESSURE PIPE IS SOLVENT WELDED SCH 40 PVC. 4" AND 6" GRAVITY PIPE IS SDR 35 GASKETED PVC OR GASKETED PIPE EQUAL TO OR THICKER THAN SCH 40 PVC.
 - ALL INSTALLED PIPE MUST BE PROVIDED WITH A COPPER TRACER WIRE AND TEST STATION.
- WATER LINE AND SANITARY SEWER CROSSINGS
 - DOUBLE ENCASE SEWER PIPE WITH MINIMUM SCH 40 RATING PIPE AND SEAL WITH RIGID END CAPS AND SEALANT PER BOULDER COUNTY ENVIRONMENTAL HEALTH REGULATIONS. SEE SITE PLAN FOR LENGTH OF DOUBLE ENCASEMENT

SEPTIC TANK NOTES:

- SLOPE FINISHED GRADE AWAY FROM TANK LIDS A MINIMUM OF 2% FOR 5'.
- COMPACT SUBGRADE PRIOR TO PLACING TANK BEDDING MATERIAL. PLACE MIRAFI FABRIC BETWEEN COMPACTED SUBGRADE AND PEA GRAVEL. A 6" LAYER OF 3/8" PEA GRAVEL MATERIAL SHALL BE PLACED PRIOR TO PLACING TANK.
- TANKS SHALL BE BACKFILLED USING 1" LIFTS. COMPACTION OF NATIVE MATERIAL TO 95% STANDARD PROCTOR DENSITY IS REQUIRED, OR 3/8" PEA GRAVEL MAY BE USED.
- TANK AND LIDS ARE NOT TRAFFIC RATED. DO NOT DRIVE OVER TANKS OR LIDS.
- ALL PRECAST TANKS TO BE PROVIDED WITH ANTI-BUOYANCY COLLARS.

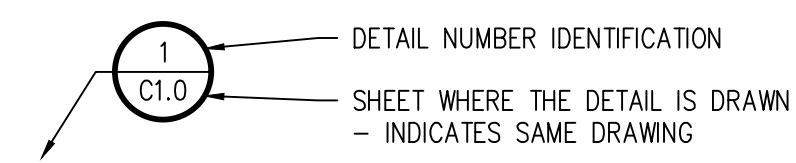
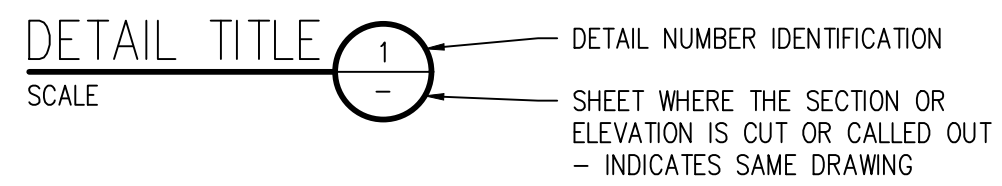
PUMP AND CONTROL PANEL NOTES:

- CONTRACTOR TO CONFIRM POWER (VOLTAGE AND PHASE) AT EXISTING CONTROL PANEL PRIOR TO ORDERING PANEL.
- AN EXTERNAL JUNCTION BOX MUST BE PROVIDED ON THE OUTSIDE OF THE RISER FOR THE EFFLUENT FILTER AND DOSING CHAMBER.
- THE PUMP AND ALARM MUST BE WIRED ON SEPARATE CIRCUITS WITHIN THE SAME CONTROL PANEL.
- CONTROL PANEL SHALL BE EQUIPPED WITH PUMP RUN TIME AND DOSE EVENT COUNTER.
- INSTALL HIGH WATER ALARM FLOAT 4 INCHES ABOVE PUMP ACTIVATION FLOAT.
- PUMP ON FLOAT AND PUMP OFF FLOAT TO BE SET 22.5 INCHES APART TO PROVIDE A 250 GALLON DOSE TO THE SOIL TREATMENT AREA.
- CONTRACTOR TO PROVIDE A SHELF SPARE PUMP.

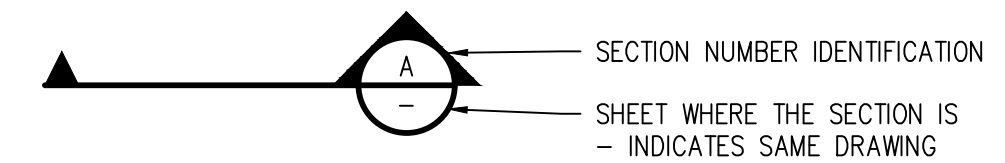
SUGGESTED PHASING PLAN:

- INSTALL NEW TANKS AND PUMP.
- RUN NEW FORCEMAIN. DO NOT CONNECT.
- RUN NEW SANITARY SEWER PIPE THAT DOESN'T CONFLICT WITH EXISTING INFRASTRUCTURE.
- DEMO EXISTING TANKS AND CUT AND CAP EXIST SANITARY SEWER.
- MAKE ALL CONNECTIONS. MACKINTOSH ACADEMY CAN BE OFFLINE FOR ONE WEEK. COORDINATE AS NECESSARY.

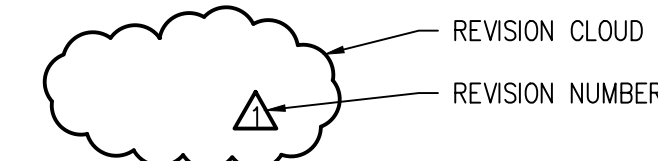
DETAIL TITLE



SECTION CALLOUT



DETAIL MARKER



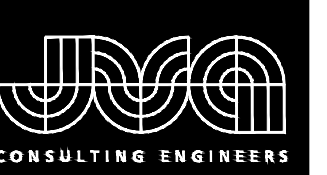
RECORD DRAWINGS	JNG
REVISION DESCRIPTION	DWN
NO.	DATE
1	08/20/20
2	JNG
3	JNG
4	DESJ

DESIGNED BY:	JNG
DRAWN BY:	JRC/JNG
CHECKED BY:	SAF
JOB #:	1093e
DATE:	MAY 2020
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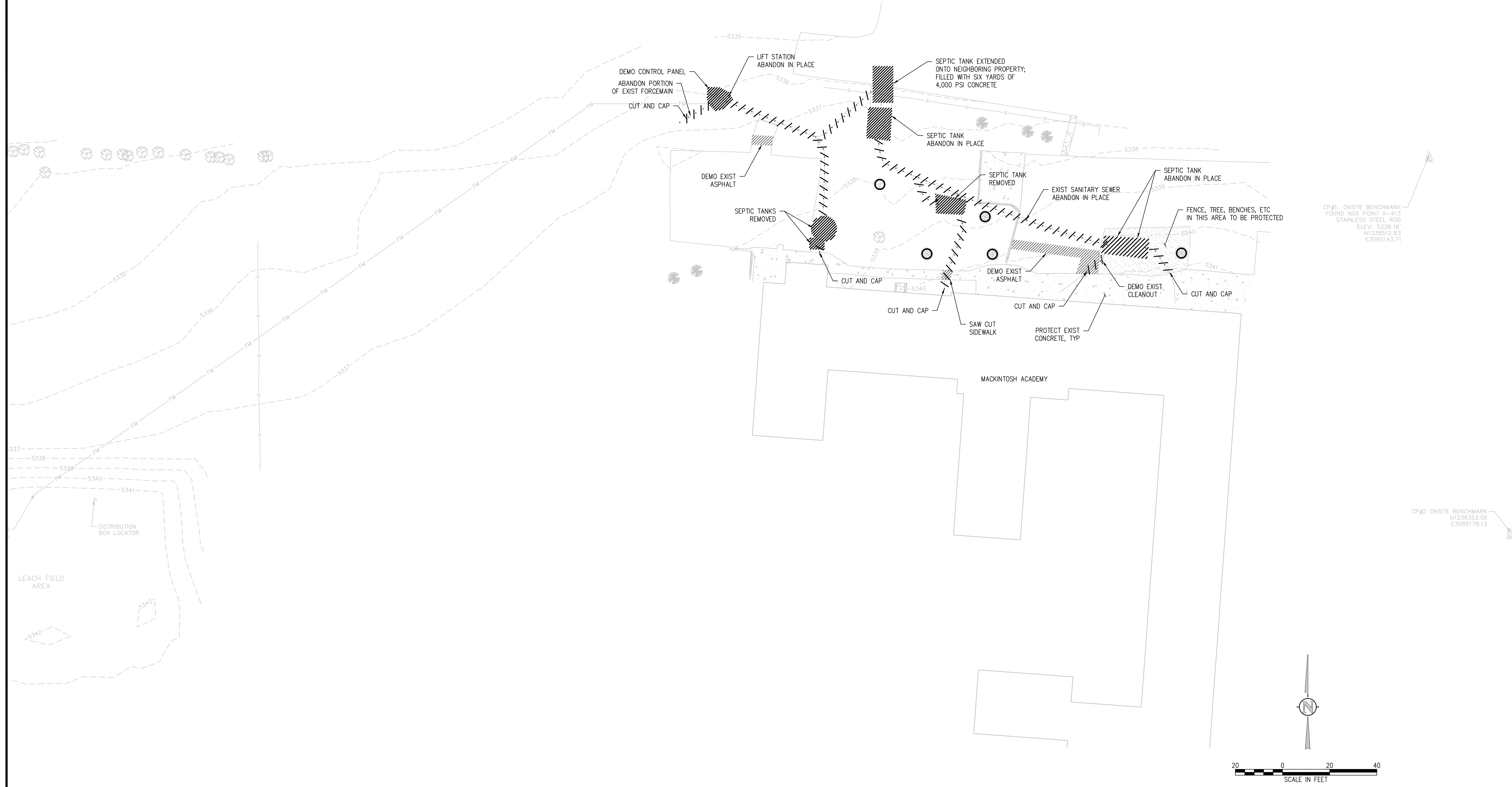
MACKINTOSH ACADEMY
 ONSITE WASTEWATER TREATMENT SYSTEM
 BOULDER, COLORADO
 DESIGN CRITERIA & GENERAL NOTES

SHEET NO.
G0.1

CONFORMED TO CONSTRUCTION RECORD

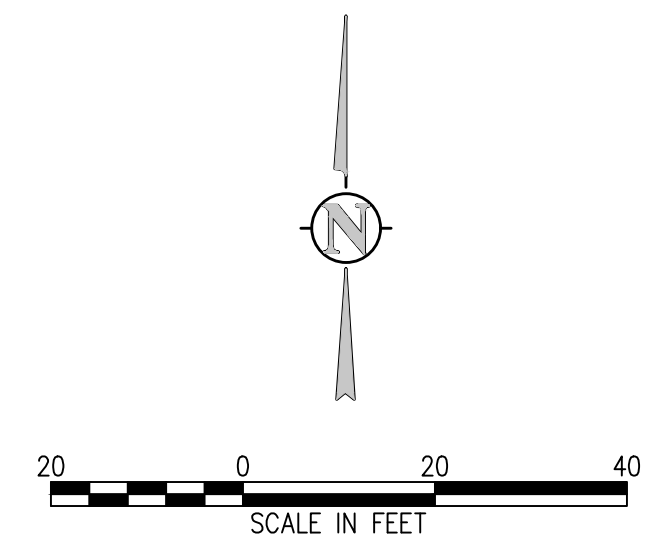


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CP#1: ONSITE BENCHMARK
 FOUND: NGS POINT X-413
 STAINLESS STEEL ROD
 ELEV: 5338.16'
 N1238512.83
 E3085143.71

CP#2 ONSITE BENCHMARK
 N1238353.06
 E3085178.13



DEMOLITION LEGEND

- DEMO SUBSURFACE FEATURE
- DEMO SURFACE FEATURE
- DEMO BUILDING
- ABANDON SUBSURFACE FEATURE
- LIMITS OF SAWCUT
- REMOVE EXISTING TREE
- PROTECT EXISTING TREE

DEMOLITION NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
2. ACTUAL LIMITS MAY VARY, CONTRACTOR IS RESPONSIBLE FOR ADJUSTING LIMITS OF DEMOLITION AND CONSTRUCTION AS NECESSARY. COORDINATE DEMOLITION REQUIREMENTS, LIMITS OF DEMOLITION, SALVAGE ITEMS, PROTECTION OF ITEMS TO REMAIN, TREES, FENCING, ETC. WITH OWNER, ARCHITECT, ENGINEER, AND RELEVANT CONSTRUCTION AND PHASING PLANS.
3. REPLACE EXISTING FLATWORK AT UTILITY TRENCHES AS REQUIRED.
4. ALL SAWCUTTING AND PAVEMENT REMOVAL SHOULD BE TO THE NEAREST JOINT.
5. ALL DRY UTILITY AND ELECTRIC DEMOLITION OR RELOCATION SHOULD BE COORDINATED WITH PROPERTY OWNER, UTILITY OWNER, AND ENGINEER PRIOR TO CONSTRUCTION.
6. ALL NECESSARY EROSION AND SEDIMENTATION CONTROLS MUST BE INSTALLED PRIOR TO CONSTRUCTION.
7. CONTRACTOR TO COMPLY WITH ALL REGULATORY REQUIREMENTS FOR HAZARDOUS MATERIAL REMOVAL AND DISPOSAL.
8. REFER TO GENERAL NOTES FOR TREE PROTECTION. COORDINATE WITH LANDSCAPE ARCHITECT FOR TREE REMOVAL.
9. CONTRACTOR TO MAINTAIN SAFE PEDESTRIAN ACCESS. PROVIDE TEMPORARY ROUTE AND SIGNAGE AS NEEDED.
10. CONTRACTOR TO TAKE NECESSARY PRECAUTIONS TO PROTECT AND MAINTAIN SERVICES DURING CONSTRUCTION.
11. CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING FLATWORK OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
12. THE EXISTING LIFT STATION AND SIX SEPTIC TANKS SHALL BE ABANDONED IN PLACE. ACCORDING TO THE BOULDER COUNTY OWS REGULATIONS, THE TANK MUST BE PUMPED, THE TOP AND SIDES COLLAPSED, AND THE VOID FILLED WITH GRAVEL, SAND OR COMPACTED SOIL. GRADE TO SURROUNDINGS, ALLOWING FOR SETTLING.
13. OWNER MAY ACCESS TO FILL FROM NEIGHBORING PROPERTY. CONTRACTOR TO COORDINATE WITH OWNER.
14. THE EXISTING SANITARY SEWER COLLECTION SYSTEM SHALL BE ABANDONED IN PLACE BY CUTTING AND CAPPING.
15. A PORTION OF THE EXISTING FORCEMAIN SHALL BE CUT AND CAPPED AND ABANDONED IN PLACE. CONTRACTOR TO POTHOLE TIE IN LOCATION AND REPORT INVERT TO ENGINEER.
16. DEMO EXIST CLEANOUTS TO FLUSH WITH GRADE.
17. RETURN EXISTING CONTROL PANEL AND DOSING PUMP TO OWNER.

N:\1993e - Mackintosh Academy OWS\Drawings\093e - 001.dwg, 8/29/2020 - 5:13 PM, JNS

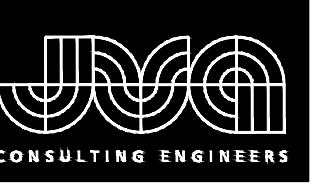
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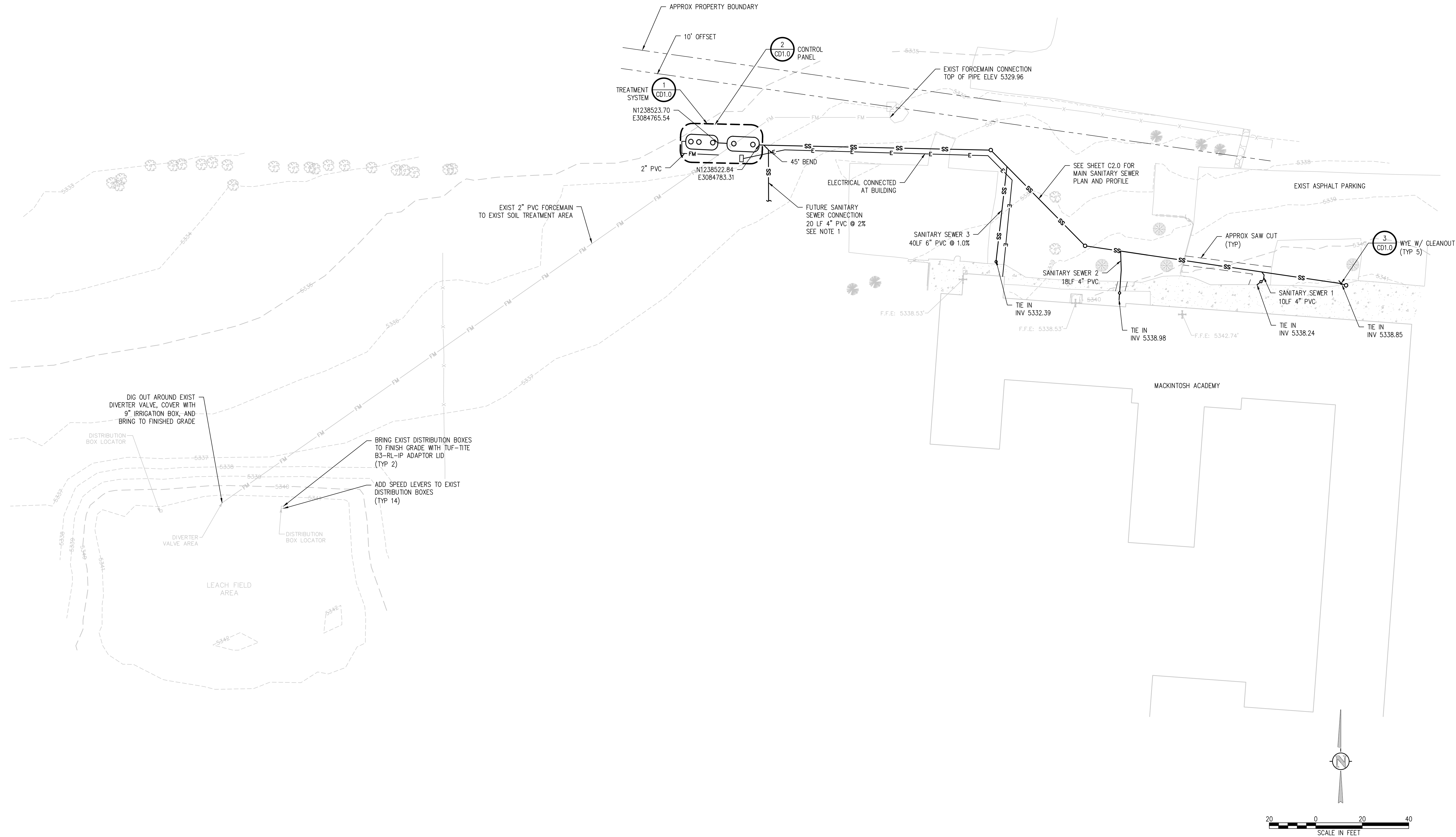
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 DRAWN BY: JRC/JNG
 CHECKED BY: SAF
 JOB #: 1093e
 DATE: MAY 2020
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MACKINTOSH ACADEMY
 ONSITE WASTEWATER TREATMENT SYSTEM
 BOULDER, COLORADO
 DEMOLITION SHEET

SHEET NO.
C0.1



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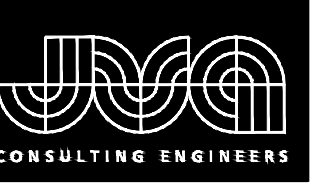
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 JOB #: 1093e
 DATE: MAY 2020
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MACKINTOSH ACADEMY
 ONSITE WASTEWATER TREATMENT SYSTEM
 BOULDER, COLORADO
 OWTS SITE PLAN

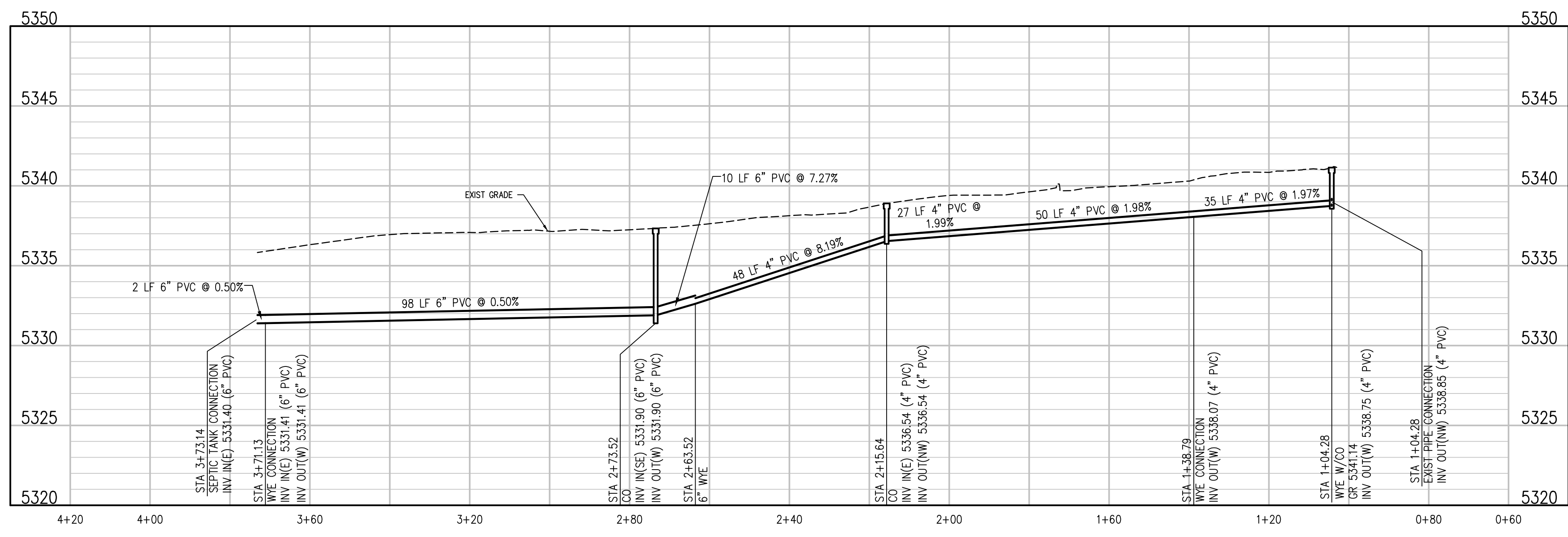
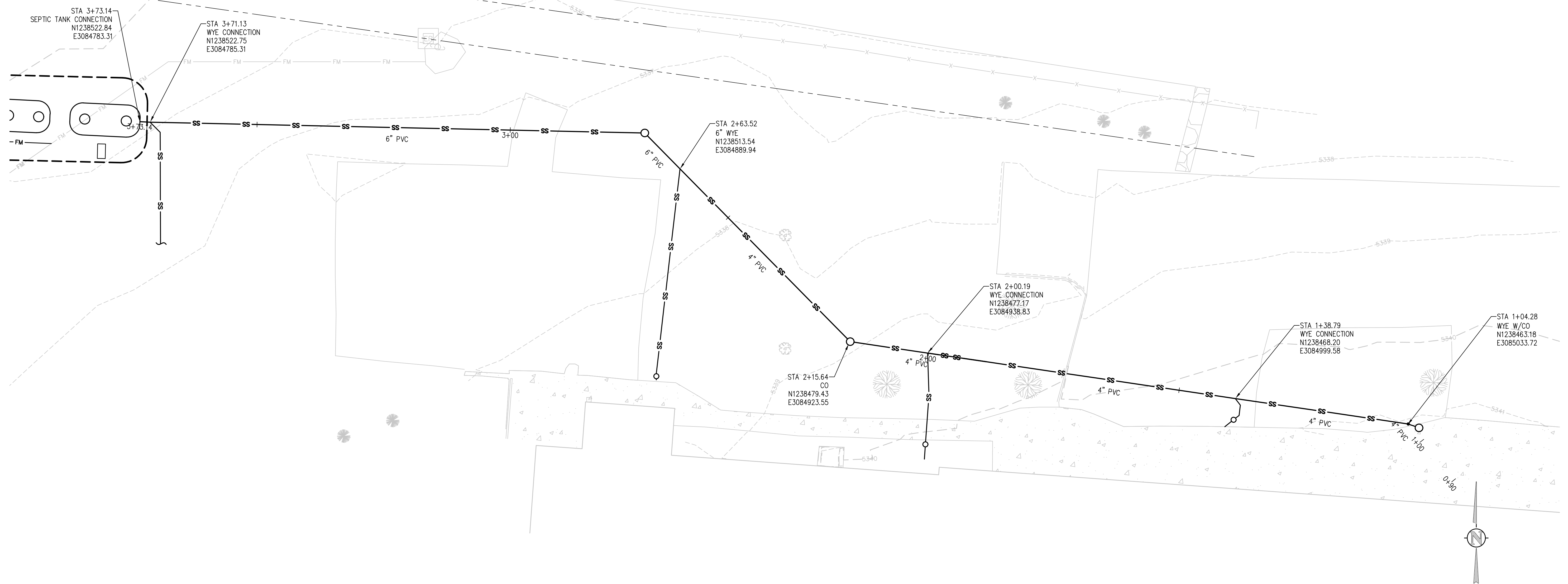
SHEET NO.
C1.0

- UTILITY NOTES:**
1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
 2. CONTRACTOR TO PROVIDE CAP ON FUTURE SANITARY SEWER LINE AND MARK AT GRADE LEVEL TO LOCATE IN THE FUTURE.
 3. CONTRACTOR TO BRING EXIST DISTRIBUTION BOXES AND DIVERTER VALVE TO GRADE.
 4. CONTRACTOR TO ADD SPEED LEVELERS TO EXIST DISTRIBUTION BOXES.

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MAIN SANITARY SEWER PROFILE
 SCALE: 1"=20' HORIZ
 1"=5' VERT

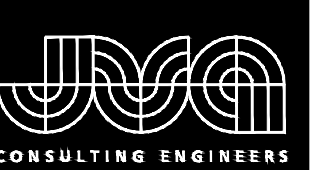
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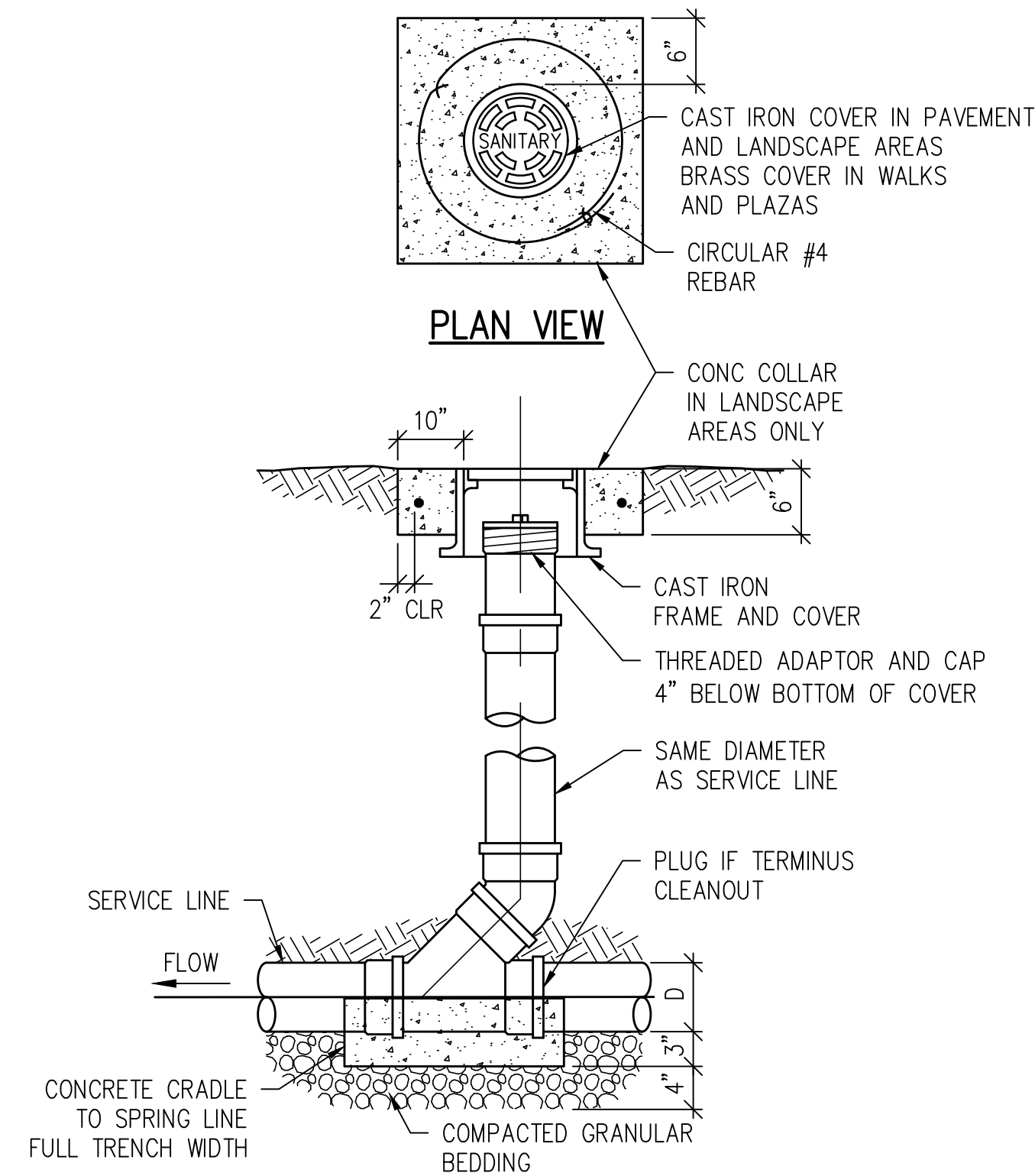
MACKINTOSH ACADEMY
 ONSITE WASTEWATER TREATMENT SYSTEM
 BOULDER, COLORADO
 SANITARY SEWER MAIN
 PLAN & PROFILE

SHEET NO.
C2.0

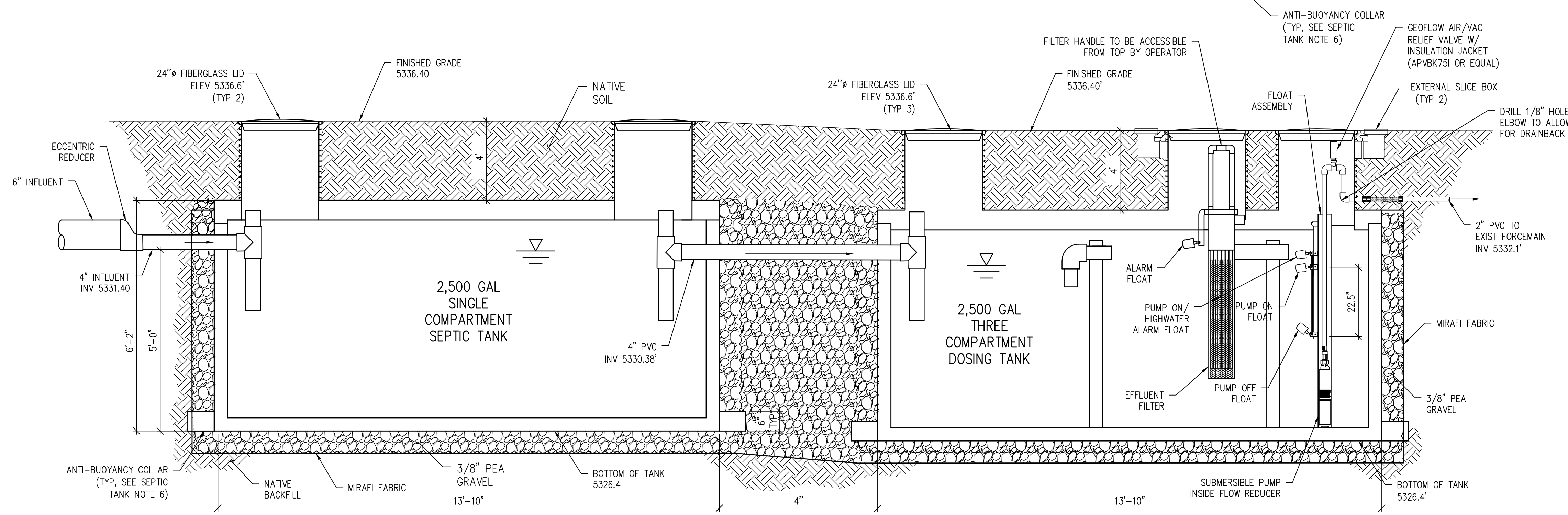
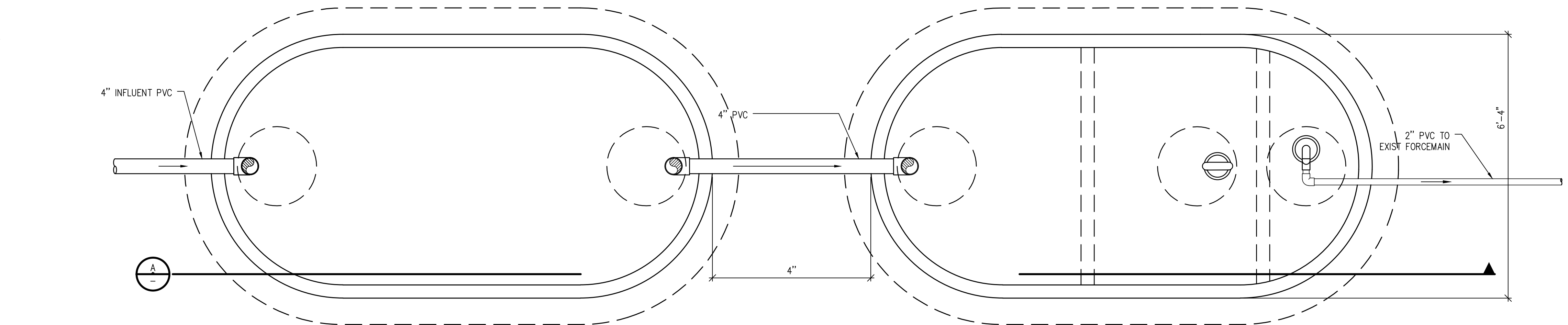
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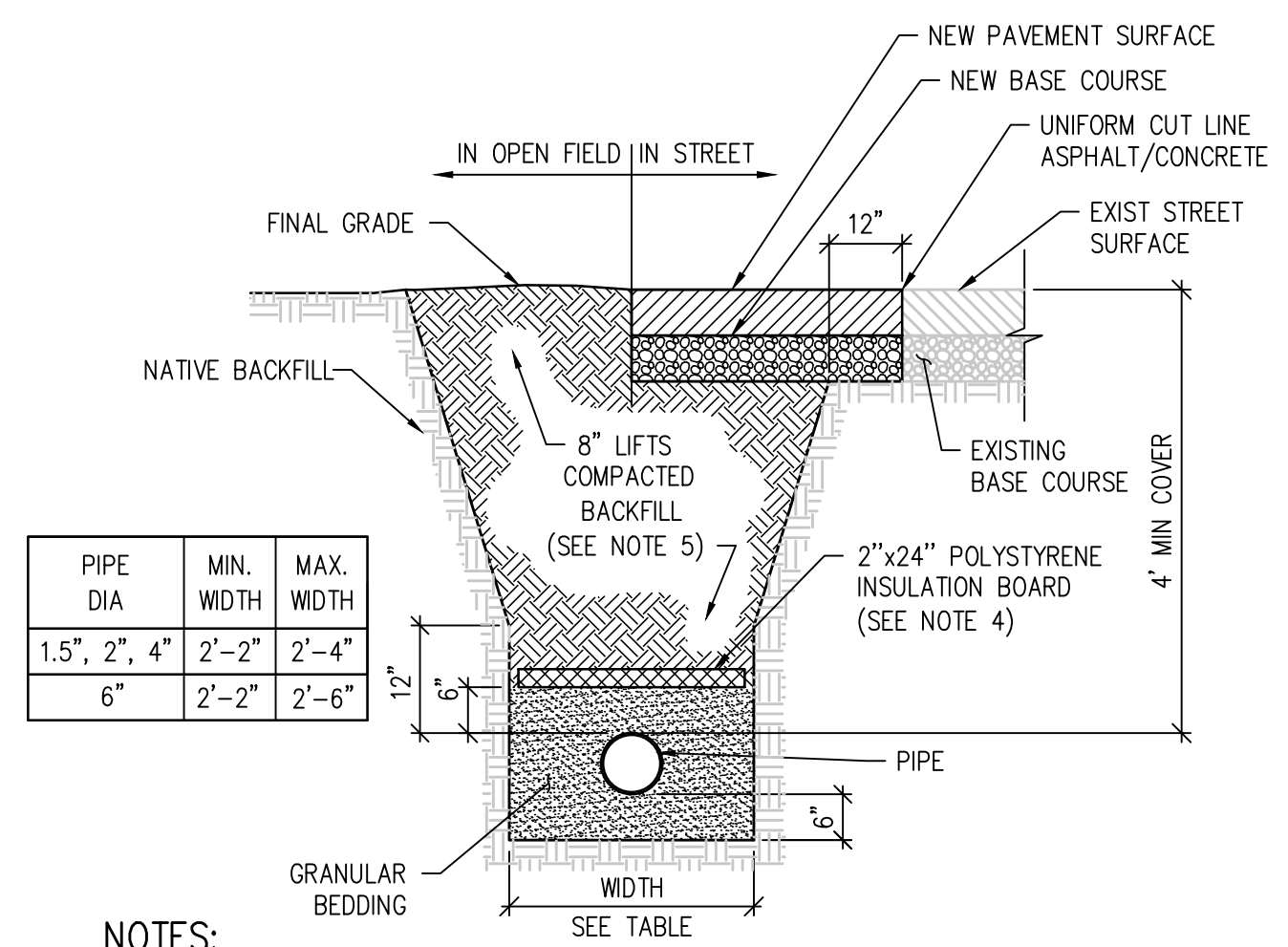


SANITARY CLEANOUT DETAIL 3
 NTS C1.0



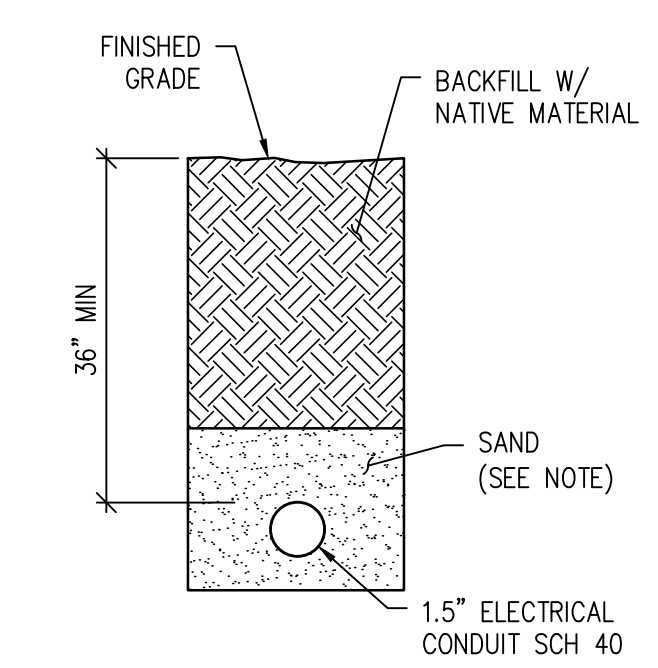
SECTION A
 NTS

TREATMENT SYSTEM PLAN 1
 NTS C1.0



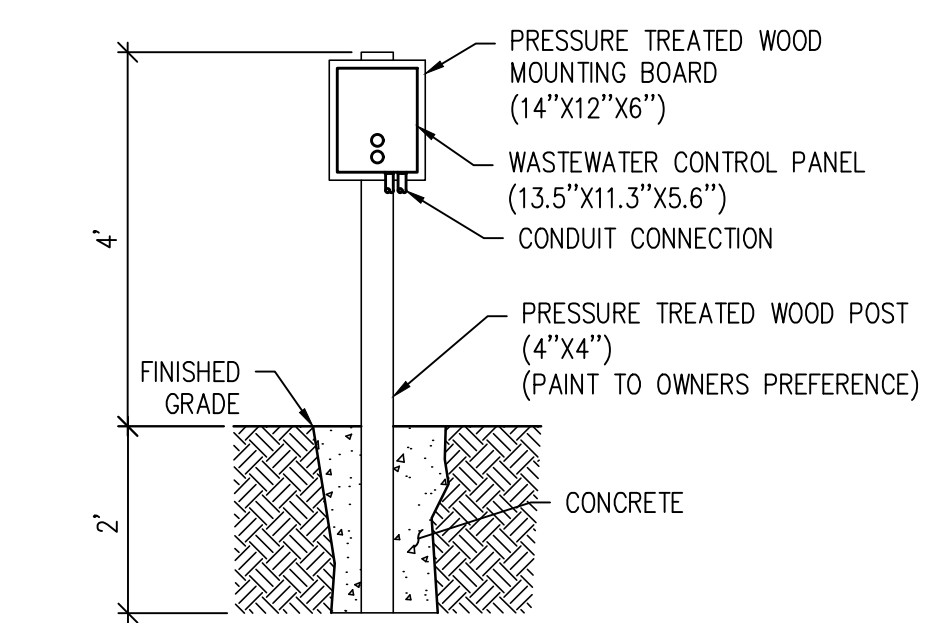
- NOTES:**
- TRENCH TO BE BRACED OR SHEETED AS NECESSARY FOR THE SAFETY OF THE WORKMEN AND THE PROTECTION OF OTHER UTILITIES IN ACCORDANCE WITH LOCAL, STATE, FEDERAL AND OSHA SAFETY REGULATIONS SHOULD THE TRENCH BE EXCAVATED WIDER THAN ALLOWED, A CONCRETE CRADLE SHALL BE PLACED WITH 2500 PSI CONCRETE FROM TRENCH BOTTOM TO PIPE SPRINGLINE
 - MINIMUM COVER TO BE 4' BELOW EXIST GRADE
 - POLYSTYRENE INSULATION BOARD CAN BE USED TO ACHIEVE MINIMUM REQUIRED BURY DEPTH. ONE INCH OF INSULATION BOARD IS EQUIVALENT TO ONE FOOT OF NATIVE SOIL COVER
 - COMPACTED BACKFILL TO 90% STD PROCTOR DENSITY IN NON-DRIVING SURFACES AND 95% UNDER PAVEMENT PAVING SHALL COMPLY WITH LOCAL AUTHORITY JURISDICTION

TYPICAL TRENCH W/ POLYSTYRENE INSULATION BOARD DETAIL 4
 NTS



NOTE:
 CONDUITS SHALL BE EMBEDDED IN C33 CONCRETE SAND. THE SAND SHALL COVER ALL CONDUITS BY AT LEAST 3 INCHES.

ELECTRICAL DUCT BANK DETAIL 6
 NTS C1.0



CONTROL PANEL DETAIL 2
 NTS C1.0

CONFORMED TO CONSTRUCTION RECORD

NO.	DATE	DESIGNED	DRAWN	REVISION DESCRIPTION
1	08/20/20	JNG	JNG	
2		JNG	JNG	
3		SAF	SAF	

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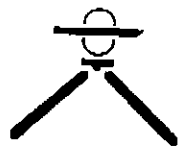
**MACKINTOSH ACADEMY
 ONSITE WASTEWATER TREATMENT SYSTEM
 BOULDER, COLORADO**

OWTS TREATMENT DETAILS

SHEET NO.
CD1.0

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JUN 12 2007
BOULDER COUNTY
E4867.2



Drexel, Barrell & Co.

June 11, 2007

The Bridge School of Boulder
6717 South Boulder Road
Boulder, Colorado 80303

Engineers/Surveyors

Boulder
Colorado Springs
Greeley
Steamboat Springs

1800 38th Street
Boulder, CO 80501-2700
303-442-4338
303-442-4373 FAX

Attn: Jim Sherman
Subject: Water Usage Calculations Relating to the Onsite Wastewater System

Dear Jim:

As requested, Drexel, Barrell & Co. has reviewed our records regarding the existing onsite wastewater system at the Bridge School, and has reviewed water usage records provided by the City of Lafayette. Based upon our analysis, we find that the proposed wastewater loading after the expansion will be within the original design parameters of the permitted system.

We understand that the Bridge School seeks student body expansion to 155 individuals. With this, the school plans on a maximum of 24 full time employees, thus a maximum of 179 individuals daily. After school events are planned to be a maximum of 120 individuals, on a very limited basis (3 maximum per year), with more typical after school events, such as sporting events, having perhaps 30 individuals.

Our water usage analysis of daily and monthly meter records indicates that the average individual uses 6 gallons per day (please refer to the attached calculations). Incorporating the 160% "peaking factor" required in the regulations, the maximum anticipated water usage is 9.6 gallons per person per day. The absorption area provided in the original design is 3,654 ft², which is an area capable of adequately treating 2,566 gallons of wastewater, daily. This is slightly larger than the permitted size and volume of 3,525 ft² and 2,475 gallons, respectively. By increasing the daily users to 179 individuals, using a maximum of 9.6 gallons per person per day, yields a required treatment volume of 1718 gallons. This leaves a 31% surplus volume based upon the permitted volume.

Please contact us with any questions.

need 3399 tanks
have 4560

1566 ÷ 100 =
16 x 8 = 128'
√ 50 + 128 = 178'
to water
OK existing 168'
228' to wells
existing 238'
153' to ditch

Sincerely:
Drexel, Barrell & Co.

Ned West
Project Manager

Reviewed by:
Drexel, Barrell & Co.

Jim Brzostowicz, P.E.
Department Head -
Land Development



cell 303-819-4578

164
179 x 10 x 1.6 =
2864
120 x 5 x 1.6 =
960
3824 gpd

ATTACHMENT A



Drexel, Barrell & Co.

Project The Bridge School

Project No. E 4867.1

Designed N. WEST

Date 06-11-2007

Checked [Signature]

Date 6-11-07

Sheet No. 1

Onsite Wastewater System

Sizing:

Sized for : 2,475 GAL/DAY = Q_{DESIGN} Perc Rate t = 30 min/in

Area Provided: 3,654 FT²

Area Required $A = \frac{1.3 Q \sqrt{t}}{5} = \frac{1.3 (2475) \sqrt{30}}{5} = 3,525 \text{ FT}^2$

IF 3,654 FT² is provided, then Q is calculated as:

$$3654 = \frac{1.3 (Q) (\sqrt{30})}{5}$$

$$Q_{\text{MAX}} = 2,566 \text{ GAL/DAY } \checkmark$$

Therefore the system is sized to treat 2,566 Gallons of wastewater a day.



Drexel, Barrell & Co.

Project The Bridge School

Designed M. WEST

Date 06-11-2007

Checked JN

Date 6-11-07

Project No. E 4867.1

Sheet No. 2

Water Consumption:

Daily Readings:

	<u>Gallons</u>	<u>School Population</u>	<u>Gallons/Person</u>
Mon. 1/22/2007	589	111	
Tues. 1/23/2007	654	113	5.31
Weds. 1/24/2007	683	113	5.79
Thurs. 1/25/2007	673	112	6.04
Fri. 1/26/2007	609	109	6.01
			5.54

Average: 5.74

Monthly Readings:

	<u>Gallons</u>	<u>School Days</u>	<u>Gals/Day</u>	<u>Assume 112 People</u> <u>Gals./Person</u>
11/7/2006 - 12/7/2006	12,000	23	522	4.66
12/7/2006 - 1/7/2007	11,000	23	478	4.27
1/7/2007 - 2/7/2007	20,000	23	870	7.76
2/7/2007 - 3/7/2007	20,000	20	1,000	8.85
3/7/2007 - 4/7/2007	11,000	22	500	4.46

Average: 6.00

Water usage records support using 6.0 Gallons of Water per person, per day, Average Daily Flow.

Boulder County requires that the peak, maximum flow be calculated as 160% of the Average Daily Flow

$$6.0 \text{ GPPD} \times 160\% = 9.60 \text{ GPPD}_{\text{max}}$$

ATTACHMENT A



Drexel, Barrell & Co.

Project The Bridge School

Project No. E4867.1

Designed N.WEST

Date 06-11-2007

Checked SAJ

Date 6-11-07

Sheet No. 3

Use of the Onsite Wastewater System:

System Capacity: 2,566 Gallons per Day, Max. = Q_{max}

Given the water usage, $Q_{INDIVIDUAL\ MAX} = 9.60$

$$2,566 \div 9.6 = 267 \text{ Individuals}$$

Proposed School Usage Changes:

155 Students Proposed

24 Full-Time Employees

179 People Daily

② $9.6 \text{ GPPD} \times 179 = 1718 \text{ Gallons} \checkmark$

With 1718 Gallons Used, Out of the 2,566 Gallon Capacity, then 848 Gallons Surplus Remains for After School Activities; or 33% Surplus Capacity based upon the area provided in the original design.

$$848 \div 5 \div 1.6 = 106 \text{ extra}$$

DESIGN DATA

SCHOOL DAY (W/CAFETERIAS, NO GYM OR SHOWERS)
 75 STUDENTS @ 20 GAL/PERSON/DAY = 1,500 GAL/DAY ✓
 10 INSTRUCTORS @ 15 GAL/PERSON/DAY = 150 GAL/DAY ✓
 $Q_{PEAK} = 150\% (1,650 \text{ GAL/DAY}) = 2,475 \text{ GAL/DAY} ✓$
 PERCOLATION RATE = 30 MIN/IN
 $AREA = 1.3(2,475) \frac{1}{30} = 3,524 \text{ FT}^2 \text{ BS 25'}$
 AREA PROVIDED = $2 \cdot (43.5 \text{ FT} \cdot 42 \text{ FT}) = 3,654 \text{ FT}^2 ✓$

PERC TESTS

- #1 - 30 MIN/IN
- #2 - 20 MIN/IN
- #3 - 15 MIN/IN
- #4 - 24 MIN/IN
- #5 - 20 MIN/IN
- #6 - 17 MIN/IN

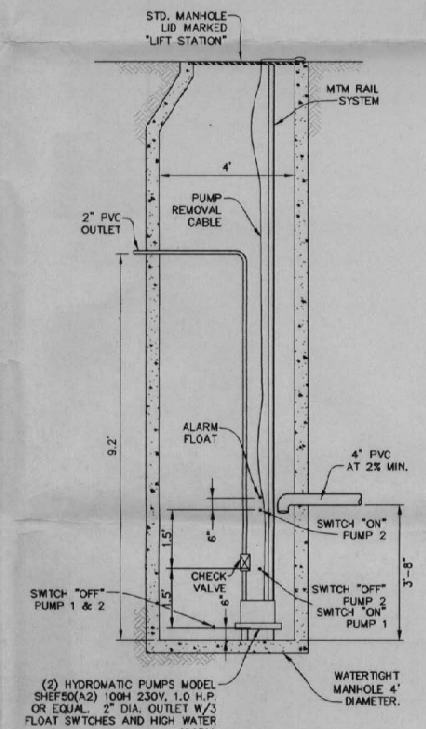
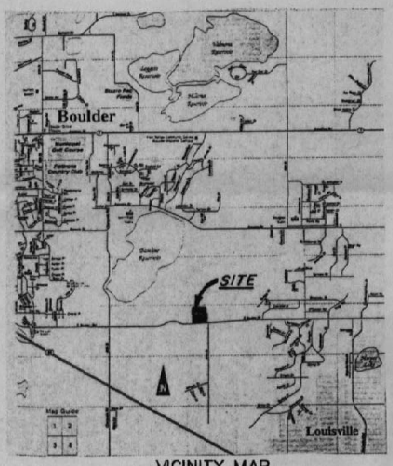
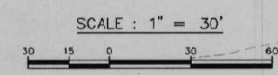
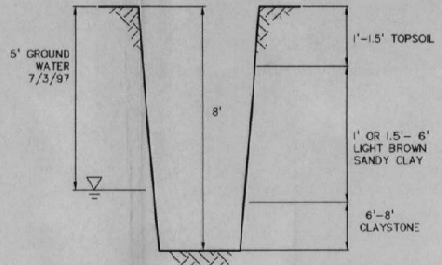
SEPTIC TANKS

MINIMUM REQUIRED VOLUME = 3,200 GALLONS
 ACTUAL VOLUME PROVIDED = 5,000 GALLONS
 THE SEPTIC TANKS ARE PROVIDING THE NECESSARY STORAGE PER THE HISTORIC FLOW PATTERNS WHICH ARE CONSISTENT WITH THE PROPOSED RENOVATION.

NOTES

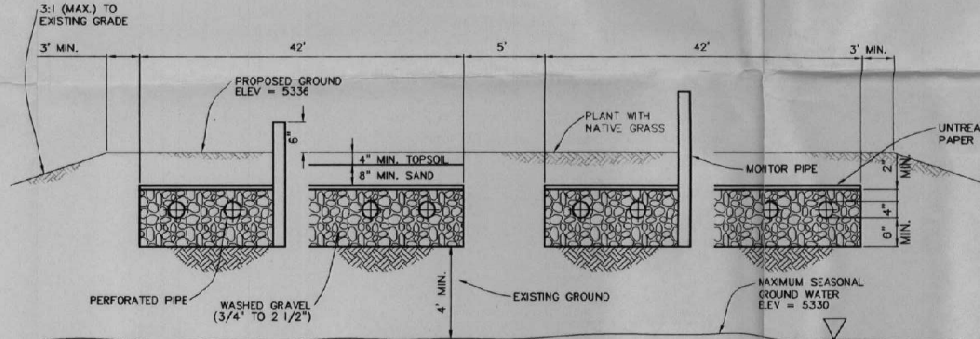
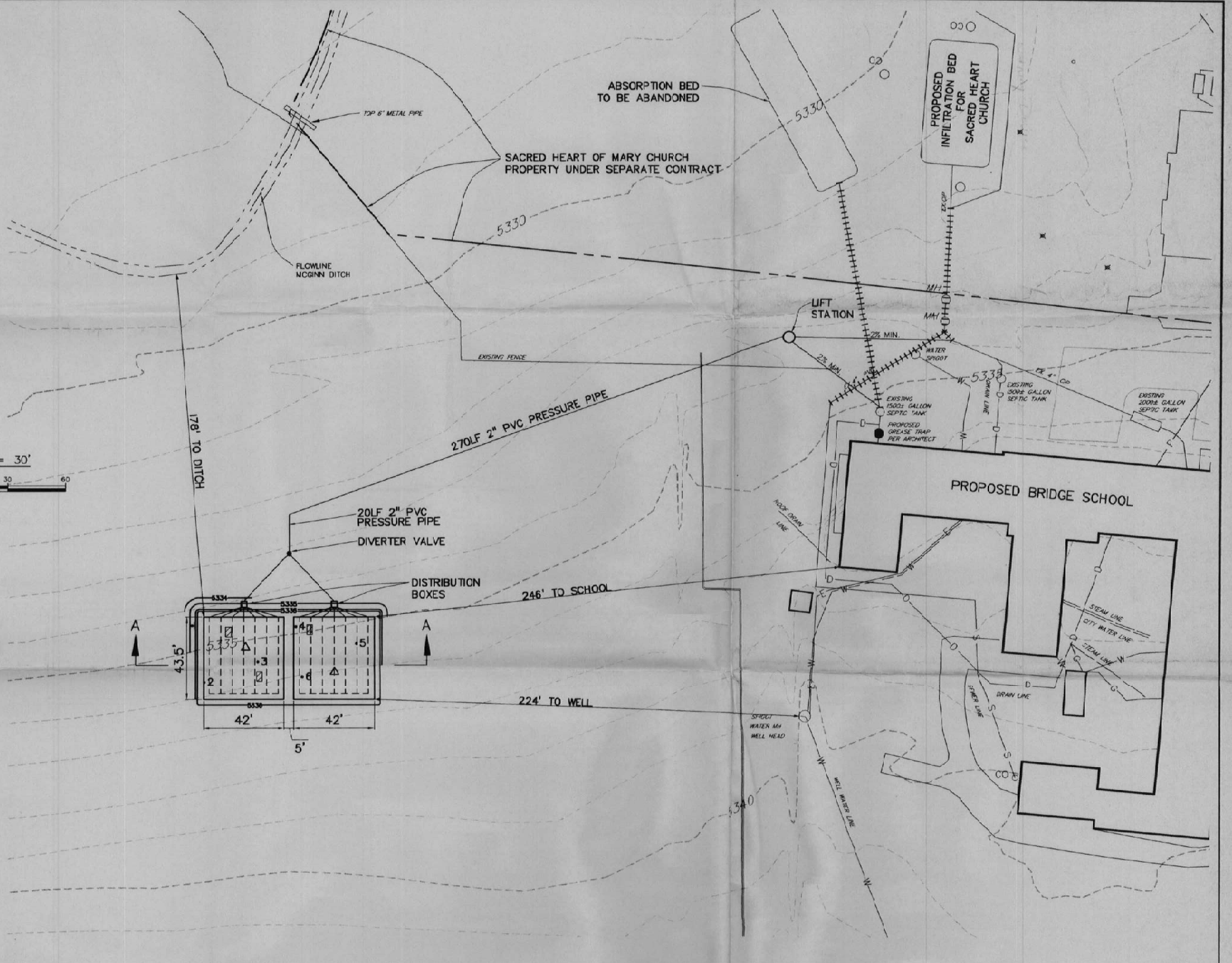
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATIONS AND PROTECTION OF ALL EXISTING UTILITIES SHOWN. ALL EXISTING UTILITIES NOT SHOWN ON THESE PLANS AND ALL PROPOSED UTILITIES. THE EXISTING UTILITIES SHOWN HAVE BEEN PLOTTED FROM AVAILABLE INFORMATION. CONTRACTOR SHALL CONTACT REPRESENTATIVES FROM THE RESPECTIVE UTILITY COMPANIES TO HAVE ALL OF THEIR UTILITIES AND FACILITIES LOCATED PRIOR TO CONSTRUCTION. ALL EXISTING UTILITY LINE LOCATIONS MUST BE VERIFIED BY THE CONTRACTOR. IT IS THE PLANS' INTENT TO SHOW ALL EXISTING UTILITIES, HOWEVER IT SHALL BE THE CONTRACTOR'S RESPONSIBILITY TO SATISFY HIMSELF THAT ALL EXISTING UTILITIES, WHETHER SHOWN ON THESE PLANS OR NOT HAVE BEEN PROPERLY LOCATED.
2. CONTRACTOR SHALL PROTECT ALL ADJACENT IMPROVEMENTS (BUILDINGS, PARKING LOTS, LANDSCAPE AREAS, ETC.) FROM DAMAGE AND EROSION AT THE CONTRACTOR'S EXPENSE. ALL DISTURBED AREAS OFF-SITE SHALL BE RESTORED TO A MINIMUM OF THEIR ORIGINAL CONDITION AT THE CONTRACTOR'S EXPENSE.
3. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS TO COMPLETE THE PROPOSED WORK AND SHALL COMPLY WITH ALL LOCAL, STATE AND FEDERAL REGULATIONS.
4. TIGHT JOINT PIPE USED IN THE LEACHING FIELD SHALL BE PVC. ALL BENDS SHALL BE TIGHT JOINT CONSTRUCTION.
5. ABSORPTION BED SHALL BE 20 FEET MIN. FROM PROPOSED BUILDING.
6. DRAINAGE TO BE DIRECTED AROUND LEACH FIELD.
7. ALL CONSTRUCTION SHALL CONFORM TO BOULDER COUNTY HEALTH DEPARTMENT 1505 REGULATIONS, LATEST REVISIONS THEROF.
8. THE DISTRIBUTION PIPE FOR 5' ON EITHER SIDE OF THE SEPTIC TANK SHALL BE DUCTILE IRON OR SCH. 40 PVC. ALL OTHER PIPE SHALL BE TIGHT JOINT PVC ASTM D3034 WITH SDR 14.
9. THE PUMP SPECIFIED FOR THE LIFT STATION IS A MINIMUM SIZE. USE A PUMP GREATER OR EQUIVALENT TO THIS MODEL.
10. ALL GRAVITY SEWER LINES SHALL HAVE A MINIMUM GRADE OF 2%.
11. THE CONTRACTOR IS RESPONSIBLE FOR CONTACTING DREXEL BARRELL TO COORDINATE INVERTS ON THE EXISTING SEPTIC TANKS WITH THE DESIGN ELEVATIONS FOR THE LIFT STATION.

SOIL PROFILE



- NOTES:**
1. ALL WIRING AND ELECTRICAL CONNECTIONS SHALL BE WATERTIGHT.
 2. INSTALL PUMP "OFF" SWITCH PER MANUFACTURE'S SPECIFICATIONS.
 3. OPERATE PUMPS "ON" SWITCHES AS NECESSARY TO AVOID SHORT

LIFT STATION DETAIL
N.T.S.



SECTION A-A

- LEGEND**
- 2 PERCOLATION TEST HOLE
 - TEST HOLE
 - ABSORPTION TEST HOLE
 - △ MONITORING HOLE
 - TIGHT POINT PIPE
 - - - PERFORATED PIPE
 - ++++ EX. UTILITY LINE TO BE ABANDONED



<p>DESIGNED BY: Drexel Barrell & Co. 4840 PEARL EAST CIRCLE, SUITE 114 BOULDER, COLORADO 80503 1365 CORPORATE DRIVE, COLORADO SPRINGS, COLORADO 80909</p>	<p>ENGINEERS/SURVEYORS (303)442-4338 (719)560-0988</p>	<p>PREPARED FOR: JIM SHERMAN 1020 GALE AVENUE BOULDER, CO 80303</p>	<p>PROJECT INFO: THE BRIDGE SCHOOL BOULDER COUNTY, COLORADO</p>	<p>DESIGNED BY: MJB DRAWN BY: SPL CHECKED BY:</p>	<p>REVISION INFO: 15 JUNE 1997 - HEALTH DEPARTMENT SUBMITTAL 8 JULY 1997 - PERMIT SUBMITTAL</p>	<p>DRAWING NO: PROPOSED SEPTIC SYSTEM</p>	<p>DATE: MARCH 1997 SCALE: 1" = 30' N/A</p>	<p>JOB NO.: E-4867 DRAWING NO.: 4D 904</p>	<p>SHEET: 1 SHEETS: 1</p>
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APPENDIX B – WATER USE DATA

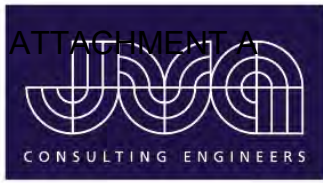


Mackintosh Academy Water Use Data (2015-2017)

Service Start Date	Service End Date	Water Use (gal)	Water Use - 10%	Number of Days	Consumption (gpd)	Occupancy per day	Water Use gpcd
1/15/2015	2/15/2015	10,000	9,000	31	290.32	179	1.62
2/15/2015	3/15/2015	12,000	10,800	28	385.71	179	2.15
3/15/2015	4/15/2015	16,000	14,400	31	464.52	179	2.60
4/15/2015	5/15/2015	25,000	22,500	30	750.00	179	4.19
5/15/2015	6/15/2015	11,000	9,900	31	319.35	179	1.78
6/15/2015	7/15/2015	5,000	4,500	30	150.00	117	1.28
7/15/2015	8/15/2015	4,000	3,600	31	116.13	117	0.99
8/15/2015	9/15/2015	16,000	14,400	31	464.52	179	2.60
9/15/2015	10/15/2015	22,000	19,800	30	660.00	179	3.69
10/15/2015	11/15/2015	20,000	18,000	31	580.65	179	3.24
11/15/2015	12/15/2015	17,000	15,300	30	510.00	179	2.85
12/15/2015	1/15/2016	15,000	13,500	31	435.48	76	5.76
1/15/2016	2/15/2016	25,000	22,500	31	725.81	179	4.05
2/15/2016	3/15/2016	20,000	18,000	29	620.69	179	3.47
3/15/2016	4/15/2016	32,000	28,800	31	929.03	179	5.19
4/15/2016	5/15/2016	34,000	30,600	30	1,020.00	179	5.70
5/15/2016	6/15/2016	58,000	52,200	31	1,683.87	179	9.41
6/15/2016	7/15/2016	34,000	30,600	30	1,020.00	117	8.72
7/15/2016	8/15/2016	23,000	20,700	31	667.74	117	5.71
8/15/2016	9/15/2016	49,000	44,100	31	1,422.58	179	7.95
9/15/2016	10/15/2016	20,000	18,000	30	600.00	179	3.35
10/15/2016	11/15/2016	16,000	14,400	31	464.52	179	2.60
11/15/2016	12/15/2016	11,000	9,900	30	330.00	179	1.84
12/15/2016	1/15/2017	6,000	5,400	31	174.19	76	2.30
1/15/2017	2/15/2017	17,000	15,300	31	493.55	179	2.76
2/15/2017	3/15/2017	10,000	9,000	28	321.43	179	1.80
3/15/2017	4/15/2017	11,000	9,900	31	319.35	179	1.78
4/15/2017	5/15/2017	16,000	14,400	30	480.00	179	2.68
5/15/2017	6/15/2017	20,000	18,000	31	580.65	179	3.24
6/15/2017	7/15/2017	11,000	9,900	30	330.00	117	2.82
7/15/2017	8/15/2017	9,000	8,100	31	261.29	117	2.23
8/15/2017	9/15/2017	29,000	26,100	31	841.94	179	4.70
9/15/2017	10/15/2017	19,000	17,100	30	570.00	179	3.18
10/15/2017	11/15/2017	16,000	14,400	31	464.52	179	2.60
11/15/2017	12/15/2017	13,000	11,700	30	390.00	179	2.18
12/15/2017	1/15/2018	5,000	4,500	31	145.16	76	1.92
Average:			16,925	30.4	555.9	160.1	3.47
Average of School Days:							4.86

*Water Data from Lafayette Water

**Occupancy Data from Mackintosh Academy Pre-App Narrative



PRELIMINARY DRAINAGE REPORT

FOR

MACKINTOSH ACADEMY

AT

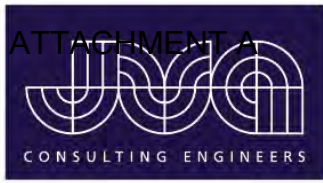
**6717 SOUTH BOULDER RD,
BOULDER, CO 80302**

FOR

HCM ARCHITECTS

hord | coplan | macht

August 8, 2022



August 8, 2022

Ms. Hannah Hippely
Senior Planner
Boulder County Transportation Department
2525 13th Street, Suite 203
Boulder, CO 80304

RE: Preliminary Drainage Report – Mackintosh Academy
6717 South Boulder Road, Boulder, CO 80302
Docket # SU-18-0011: Mackintosh Academy
JVA No. 2863c

Hannah:

The following Preliminary Stormwater Report and attached drainage maps have been prepared for the above referenced project. The Preliminary Stormwater Report and drainage maps have been produced in accordance with the “Boulder County Storm Drainage Criteria Manual” (Revised November 2016).

It is our understanding that the information provided herein meets all requirements of Boulder County. Please contact us if you have any questions regarding this submission.

Sincerely,

JVA, Inc.

Sharon B. Procopio, P.E.
Project Manager



Engineer's Statement

“I hereby certify that this report for the preliminary drainage design of the Mackintosh Academy was prepared by me (or under my direct supervision) in accordance with the provisions of the Boulder County Storm Drainage Criteria Manual (Revised 2016) and the Urban Drainage and Flood Control District Criteria Manual and was designed to comply with the provisions thereof. I understand that Boulder County does not and shall not assume liability for drainage facilities designed by others.”

Cody F. Granly
Registered Professional Engineer
State of Colorado No. 45353

PRELIMINARY DRAINAGE REPORT

FOR

MACKINTOSH ACADEMY

AT

**6717 SOUTH BOULDER RD,
BOULDER, CO 80302**

FOR

HCM ARCHITECTS

1800 WAZEE ST SUITE 450, DENVER CO, 80202

hord | coplan | macht

JVA, Inc.

Consulting Engineers

1319 Spruce Street

Boulder, CO 80302

(303) 444-1951

JVA, Inc. Project No. 2863c

August 8, 2022

PRELIMINARY DRAINAGE REPORT FOR MACKINTOSH ACADEMY

TABLE OF CONTENTS

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3 – DRAINAGE DESIGN CRITERIA.....	3
4 – DRAINAGE FACILITY DESIGN.....	4
5 – CONCLUSIONS	7
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- APPENDIX A – MAPPING AND INFORMATION
- APPENDIX B – CALCULATIONS

PRELIMINARY DRAINAGE REPORT FOR MACKINTOSH ACADEMY

1 – GENERAL LOCATION AND DESCRIPTION

LOCATION

The Mackintosh Academy school is located at 6717 South Boulder Road on Parcel 2 of the Saint Walberga Subdivision, located in the Southwest $\frac{1}{4}$ of Section 2, Township 1 South, Range 70 West of the 6th Prime Meridian, County of Boulder, State of Colorado. The property is bound by Friar Farms (soon to be the Chung Tai Zen Center) and open fields to the west, South Boulder Road to the south, Ed's Way to the east, and Sacred Heart of Mary Church to the north. The site is located north of South Boulder Road and approximately 600 feet west of 68th Street. A vicinity map depicting the location of the property is included in Appendix A.

The proposed project will include a new building, updated site access and parking lot connections, new stormwater lines and water quality and detention areas, and new water and sewer connections to existing systems. Parcel 2 is approximately 22.5 acres and includes 12.62 acres adjacent to South Boulder Road for the school, parking and outdoor spaces and 9.88 acres of conservation easement area. The proposed school addition and campus improvements will be limited to the area south west of the existing Mackintosh Academy school building that currently includes the existing parking and play structures. The area of disturbance is approximately 1.4 acres.

Access to the school from Ed's Way is via a one-way asphalt paved drive with the entrance at the northern access drive and exit at the southern access drive. An existing parking lot is located to the south and east of the existing building. There is an existing City of Lafayette water line east of Ed's Way within a 20' utility easement, and this water line was previously extended through the Mackintosh side to the new Zen Center site located on Parcel 3 to the west. There is an existing fire hydrant for the school located near the south access drive. There is an existing on-site wastewater treatment system (OWTS) located north of the existing building, which was upgraded in 2020, and discussed in an OWTS Technical Memo provided separately from this report.

United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) mapping confirms the presence of Valmont clay loam, Ascalon sandy loam, and Hargreave fine sandy loam that corresponds to Hydrologic Soil Group Type C/D. Type C/D soils have low infiltration rates when thoroughly wetted and consist chiefly of soils with a layer that impedes downward movement of water and soils with moderately fine to fine structure. USDA NRCS mapping for the project area is included in Appendix A.

PROPOSED PROJECT

The proposed building addition and additional site improvements will include new concrete walks, utility infrastructure, drainage and stormwater quality infrastructure, and landscaping. A bioretention rain garden is proposed to accommodate the full spectrum detention and release rates from the site. The outlet structure will control the release of runoff to historic flow rates via storm drain into an existing inlet west of of Ed's Way.

2 – HISTORIC DRAINAGE

MAJOR BASIN DESCRIPTION

The project site is located within the Coal Creek-Boulder Creek Watershed. The site slopes downward from south to the north, and generally flows toward and around the existing building and parking lot towards the McGinn Ditch to the north. The site elevations range from approximately 5,347 feet near South Boulder Road to a low of 5,343 feet near the existing school.

Stormwater flows around the current building to an existing concrete pan connected to an inlet on the east side of the site. This inlet collects runoff from the south and east sides of the building where it is then conveyed northward to an existing drainage ditch along Ed's Way to a damaged storm pipe that crosses under the road.

The site is in an area of minimal flood hazard, Zone X, per the latest FEMA mapping information, included in Appendix A. Floodplain limits have been confirmed on both Boulder County Flood Hazard mapping and Federal Emergency Management Agency (FEMA) mapping, included in Appendix A. The FEMA FIRM panel and County Flood Hazard mapping appear to be consistent with one another.

SUB-BASIN DESCRIPTION

For purposes of historic drainage analysis, the limits of the basin depicted on Figure 1 include only the area of Parcel 2 that is planned to be disturbed during construction.

The 1.4 acre area is depicted as basin H1. The existing site was characterized as 23.6% impervious.

Basin H1 sheet flows north to the McGinn Ditch. The peak runoff rate for the 10-year storm event (Q10) was estimated to be 1.9 cubic feet per second (cfs). The peak runoff rate for the 100-year storm event (Q100) was estimated to be 5.64 cfs. Hydrologic calculations for the historic basin are included in Appendix B and summarized in Table 1 below.

Table 1: Historic Peak Flows

Sub-Basin	Design Point	Area (acre)	5-Year Flow (cfs)	10-Year Flow (cfs)	100-Year Flow (cfs)
H1	1	1.41	1.17	1.91	5.64

3 – DRAINAGE DESIGN CRITERIA

REGULATIONS

The proposed storm drainage facilities for the project are designed to comply with “Boulder County Storm Drainage Criteria Manual” (Revised November 2016) and the Mile High Flood Control District’s Urban Storm Drainage Criteria Manual (USDCM), June 2001 Edition, updated August 2018.

HYDROLOGICAL CRITERIA

Design storm recurrence intervals for this project are consistent with the Boulder County and UDFCD requirements for commercial areas: the minor storm will be the 5-year event and the major storm will be the 100-year event for the storm sewer system and for the detention pond the minor and major storms are the 10-year and 100-year, respectively.

The Rational Method ($Q=CIA$) was used to determine the storm runoff (Q) from the site, with composite runoff coefficients (C) and contributing areas (A) given for design points in sub-basins. Intensities (I) were determined using the Time-Intensity-Frequency Curves per the Boulder County Standards (Table 505, included in Appendix B) and a calculated Time of Concentration (t_c). The one-hour point rainfall for the 5-year event is 1.43 inches and 2.70 inches for the 100-year event. Post-development Time of Concentration calculations for each sub-basin, corresponding rainfall intensities, and composite runoff coefficients for each sub-basin are provided in Appendix B. The calculated flows were routed through the site to determine the total flow at respective design points, which are also included in Appendix B.

Best Management Practices (BMP’s) for stormwater quality, detention and water quality capture volume adhere to the latest methods in the USDCM. The rain garden has been designed to treat the water quality control volume (WQCV). The rain garden was sized using the the UD-Detention Methods from USDCM standards as well as the MHFD detention spreadsheet. Detailed detention basin and outlet calculations are included in Appendix B.

4 – DRAINAGE FACILITY DESIGN

GENERAL CONCEPT

Proposed storm runoff is conveyed overland via grading, and channelized via roof drainage piping, limited curb and gutter around the building, swales, and proposed storm drainage networks. The developed site is characterized as 54% impervious.

The new storm drainage network will convey runoff from the building and parking area to the bioretention rain garden at the east of the parking lot, which will be designed to meet the latest MHFD standards for detention and water quality. The rain garden will reduce the anticipated peak stormwater flows from the site to historic conditions while providing enhanced water quality.

SPECIFIC DETAILS OF THE DRAINAGE DESIGN

Sub-Basins:

As shown on Figure 2 - Proposed Drainage Map, the site was divided into nine sub-basins to characterize the peak runoff rates to various design points on the site (A, B, C, D, E, F, G, OS1 and OS2). Hydrologic and hydraulic analysis including routing of basins are included in Appendix B. Table 2 below presents a summary of the developed stormwater peak flows based on the rational method.

Table 2: Developed Peak Flows

Sub-Basin	Design Point	Area (acre)	5-Year Flow (cfs)	100-Year Flow(cfs)
A	1	0.04	0.06	0.23
B	2	0.13	0.28	0.79
C	3	0.20	0.13	1.01
D	4	0.56	1.35	3.42
E	5	0.11	0.44	0.89
F	6	0.08	0.03	0.30
G	7	0.10	0.38	0.79
OS1	8	0.15	0.31	0.95
OS2	9	0.03	0.13	0.26

ATTACHMENT A

A (0.04 acres) is the grassy seating of the outdoor amphitheater area. Runoff flows to a trench drain at the exterior stage.

B (0.13 acres) is located on the southeast side of the building plaza area, consisting of about equal parts pavement and landscaping. Runoff flows into inlets that release to a detention pond located to the east of the proposed parking lot.

C (0.20 acres) is the south side of the building and is mainly landscape and gravel fire access area. Water flows into an inlet that discharges into the detention pond on the east side of the site.

D (0.56 acres) is comprised of the the proposed paved parking lot. All flow is directed into the detention pond.

E (0.11 acres) is comprised of the north part of the parking lot extents. All flow will route to an inlet to the rain garden.

F (0.08 acres) is comprised of the landscape and detention pond area to the east of the site.

G (0.10 acres) consists of the roof of the proposed building. Runoff flows through roof drains and is picked up by a storm drain system with inlets along the south and east sides of the building.

OS1 (0.15 acres) is the area northwest of the proposed building. Sheet flow matches historic, running northwest.

OS2 (0.03 acres) consists of the north edge of the proposed parking lot. Sheet flow is directed into a drainage ditch along Ed's Way.

Streets and Parking Lots:

The proposed parking lot is located on the south east side of the site. Stormwater will collect in inlets and a concrete pan and flow to a detention pond that releases into an existing inlet west of Ed's Way.

Open Channel Flow:

There is a proposed swale south of the new building that will collect and convey runoff to an inlet to the rain garden, along with a concrete pan in the parking lot.

Storm Sewers:

All site runoff from roof drains, paved streets, parking lots, and landscaped areas will be collected via a storm drain system, that will convey into the bioretention rain garden on the site before being treated for water quality and released at historic rates.

Detention Ponds and Water Quality Outlet Structures:

There is one detention and water quality facility located along the east side of the site. This facility will be designed with outlet structures that provide for a water quality capture volume (WQCV) of 1,132 cubic feet (0.026 acre-feet) and a 100 year detention volume of 2,400 cubic feet (0.55 acre-feet). Detention basin and outlet calculation details are included in Appendix B.

Stormwater Management Plan:

The Stormwater Management Plan (SWMP) will be included in the final engineering plans, with all structural and non-structural Best Management Practices (BMP's) shown as required.

ATTACHMENT A

STRUCTURAL BMP'S

Temporary structural erosion control features will be established during overlot grading and prior to the building construction. All erosion control measures will be maintained until vegetation becomes established. Vehicle tracking control and inlet protection BMP's will be included on the construction plans. Silt fencing, inlet and outlet protections, and sediment control logs will be installed at critical locations on the site with respect to existing and proposed drainage.

NON-STRUCTURAL BMP'S

Non-structural erosion controls, including project schedule, surface roughening and other pollution prevention measures, will be detailed in the construction activities of the SWMP. Permanent, perennial, native seeding will be established onsite in locations specified by the SWMP and Landscape Architect and in coordination with County requirements. The seed mix will be provided in the SWMP reference. A weed management plan will also be included and coordinated with the County.

Irrigation Ditch Impacts:

The McGinn Ditch is north of the proposed project improvements and no impacts or alterations to the ditch are anticipated.

Wetland Impacts:

There are no impacts to nearby wetlands anticipated as part of this project.

5 – CONCLUSIONS

COMPLIANCE WITH STANDARDS

The drainage facilities for the development of the Mackintosh Academy have been designed in accordance with the with the “Boulder County Storm Drainage Criteria Manual” (Revised November 2016) and the latest methods endorsed the by the Urban Drainage and Flood Control District.

The anticipated drainage from the proposed development is designed to improve existing runoff conditions, enhance water quality and prevent adverse conditions on the adjacent properties and surrounding public resources.

DRAINAGE CONCEPT

Overall the proposed drainage concept improves the existing drainage conditions on the site. The drainage patterns will be changed from sheet flow to direct runoff either via storm sewer pipes or open channel swales, with adequate detention provided for the 100-year runoff event and enhanced water quality treatment now provided to runoff before being released from the site.

Storm improvements include an bioretention rain garden with water quality outlets and controlled release to historic rates, eventually conveying flow to the north per historic drainage patterns. Other water quality BMP’s introduced to the site include enhanced landscaping and natural swales.

The referenced drainage map, Figure 2 depicts the drainage design points, developed runoff basins, water quality and drainage pond features, and configuration of the proposed storm drainage systems.

6 – REFERENCES

1. “Boulder County Storm Drainage Criteria Manual” November 2016.
2. “Urban Storm Drainage Criteria Manual,” Urban Drainage and Flood Control District, updated August 2018.
3. Web Soil Survey, Natural Resources Conservation Service, United State Department of Agriculture, Online at <http://websoilsurvey.nrcs.usda.gov>, accessed July 9, 2019
4. FEMA Flood Map Service Center, Online <https://msc.fema.gov/portal>, accessed July 9, 2019.

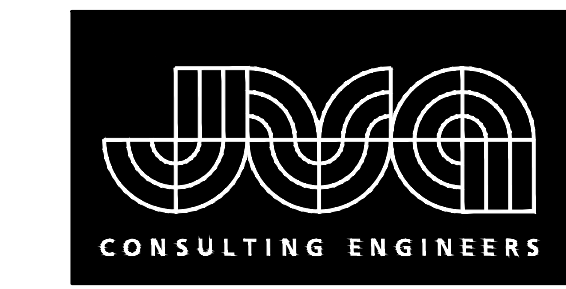


hord | coplan | macht

1331 Nineteenth Street
Denver, CO. 80202

P 303.607.0977
www.hcm2.com

CONSULTANT:



JVA, Inc. 1512 Larimer Street, Suite 710
Denver, CO 80202 303.444.1951
www.jvava.com
Boulder • Fort Collins • Winter Park
Glenwood Springs • Denver

PROJECT:

**MACKINTOSH
ACADEMY**

6717 SOUTH BOULDER ROAD
BOULDER, COLORADO

OWNER:

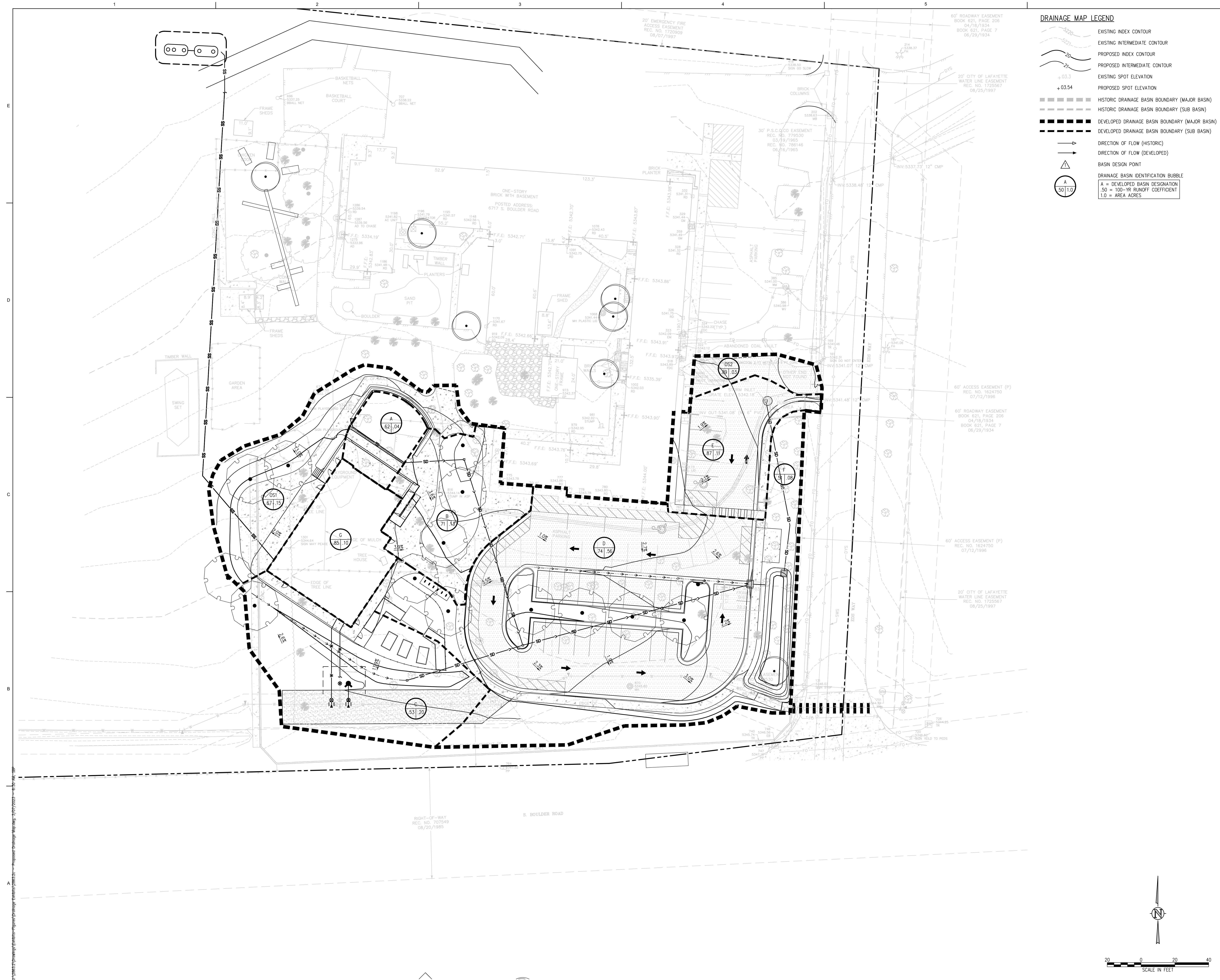
ISSUE:

DRAWING INFORMATION:

PROJECT NO:	2863c
DRAWN BY:	ZAB/DAD
CHECKED BY:	SBP
APPROVED BY:	CFG
SHEET TITLE:	EXISTING DRAINAGE MAP

FIG-1

A:\2023\2863c\Drawings\2863c-1-1.dwg 08/22/2023 11:25 AM DAD



DRAINAGE MAP LEGEND

- EXISTING INDEX CONTOUR
- EXISTING INTERMEDIATE CONTOUR
- PROPOSED INDEX CONTOUR
- PROPOSED INTERMEDIATE CONTOUR
- EXISTING SPOT ELEVATION
- PROPOSED SPOT ELEVATION
- HISTORIC DRAINAGE BASIN BOUNDARY (MAJOR BASIN)
- HISTORIC DRAINAGE BASIN BOUNDARY (SUB BASIN)
- DEVELOPED DRAINAGE BASIN BOUNDARY (MAJOR BASIN)
- DEVELOPED DRAINAGE BASIN BOUNDARY (SUB BASIN)
- DIRECTION OF FLOW (HISTORIC)
- DIRECTION OF FLOW (DEVELOPED)
- BASIN DESIGN POINT
- DRAINAGE BASIN IDENTIFICATION BUBBLE

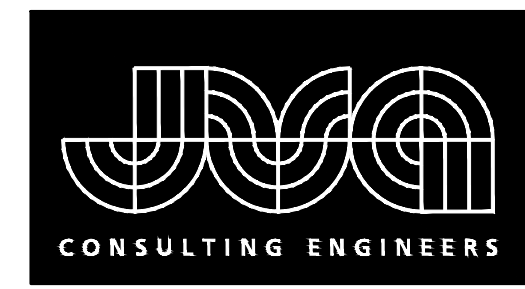
A = DEVELOPED BASIN DESIGNATION
 50 = 100-YR RUNOFF COEFFICIENT
 1.0 = AREA ACRES

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Glenwood Springs • Denver

PROJECT:

**MACKINTOSH
ACADEMY**

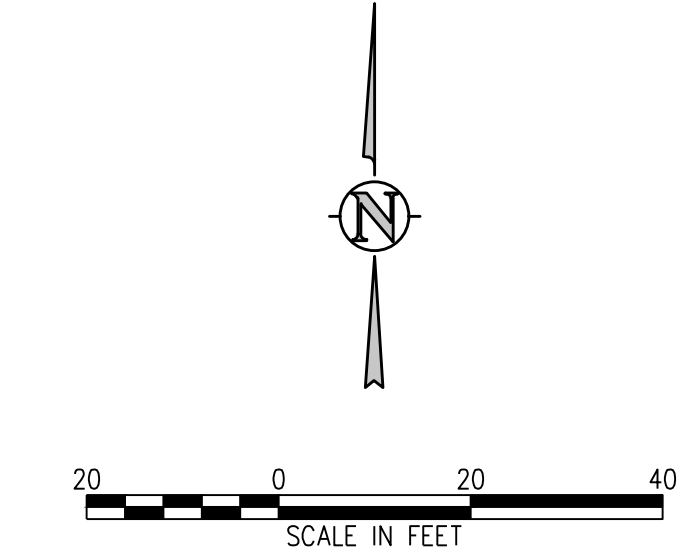
6717 SOUTH BOULDER ROAD
BOULDER, COLORADO

OWNER:

ISSUE:

DRAWING INFORMATION:	
PROJECT NO:	2863c
DRAWN BY:	ZAB/DAD
CHECKED BY:	SBP
APPROVED BY:	CFG
SHEET TITLE: PROPOSED DRAINAGE MAP	

FIG-2



C:\Users\jva\OneDrive\Documents\Projects\2023\2863c\2863c.dwg - Proposed Drainage Map.dwg - 3/17/2023 - 11:58 AM

APPENDIX A – MAPPING AND INFORMATION

ATTACHMENT A

6717 SOUTH BOULDER RD
BOULDER, CO 80303

SECTION 2, TOWNSHIP 1S, RANGE 70



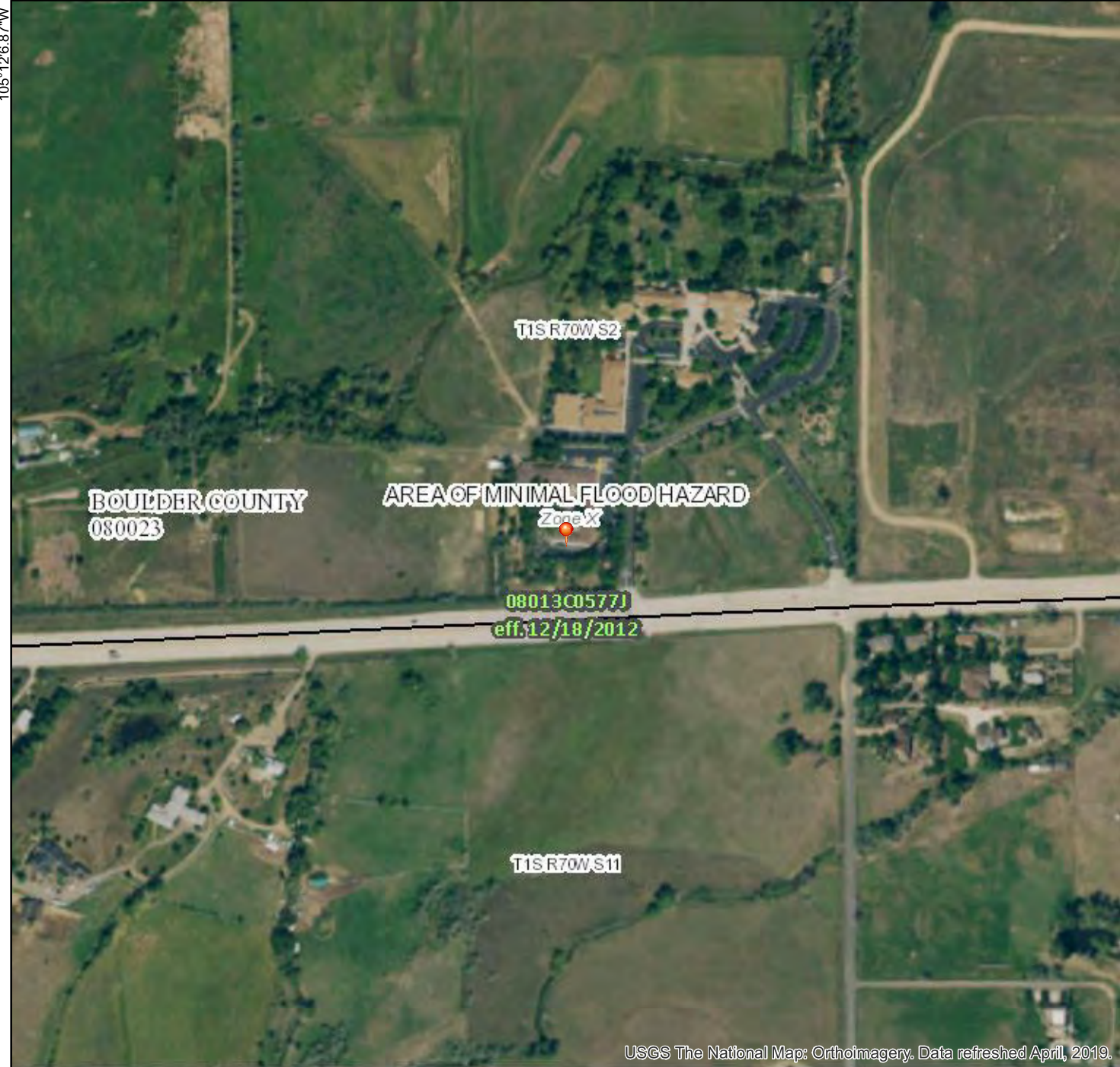
VICINITY MAP

NOT TO SCALE

National Flood Hazard Layer FIRMette



39°59'27.25"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- | | | |
|-----------------------------|--|--|
| SPECIAL FLOOD HAZARD AREAS | | Without Base Flood Elevation (BFE)
<i>Zone A, V, A99</i> |
| | | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i> |
| | | Regulatory Floodway |
| OTHER AREAS OF FLOOD HAZARD | | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
| | | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i> |
| | | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i> |
| | | Area with Flood Risk due to Levee <i>Zone D</i> |
| OTHER AREAS | | Area of Minimal Flood Hazard <i>Zone X</i> |
| | | Effective LOMRs |
| GENERAL STRUCTURES | | Area of Undetermined Flood Hazard <i>Zone D</i> |
| | | Channel, Culvert, or Storm Sewer |
| | | Levee, Dike, or Floodwall |
| OTHER FEATURES | | 20.2 Cross Sections with 1% Annual Chance |
| | | 17.5 Water Surface Elevation |
| | | Coastal Transect |
| | | Base Flood Elevation Line (BFE) |
| | | Limit of Study |
| MAP PANELS | | Jurisdiction Boundary |
| | | Coastal Transect Baseline |
| | | Profile Baseline |
| | | Hydrographic Feature |
| | | Digital Data Available |
| | | No Digital Data Available |
| | | Unmapped |
| | | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location. |

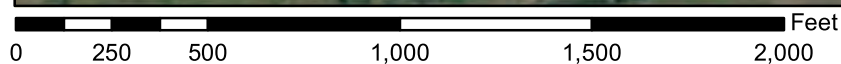


This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 7/9/2019 at 6:14:28 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

USGS The National Map: Orthoimagery. Data refreshed April, 2019.



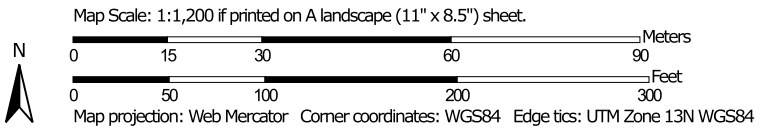
1:6,000 204

39°58'59.68"N

105°11'29.41"W


ATTACHMENT A

Soil Map—Boulder County Area, Colorado (Mackintosh Academy Soils)




MAP LEGEND

Area of Interest (AOI)

 Area of Interest (AOI)




















Soils






 Soil Map Unit Polygons

 Soil Map Unit Lines


 Soil Map Unit Points

Special Point Features






-  Blowout
-  Borrow Pit
-  Clay Spot
-  Closed Depression
-  Gravel Pit
-  Gravelly Spot
-  Landfill
-  Lava Flow
-  Marsh or swamp
-  Mine or Quarry
-  Miscellaneous Water
-  Perennial Water
-  Rock Outcrop
-  Saline Spot
-  Sandy Spot
-  Severely Eroded Spot
-  Sinkhole
-  Slide or Slip
-  Sodic Spot

-  Spoil Area
-  Stony Spot
-  Very Stony Spot
-  Wet Spot
-  Other
-  Special Line Features

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 15, Sep 10, 2018

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.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
AcA	Ascalon sandy loam, 0 to 3 percent slopes	1.1	19.9%
HaD	Hargreave fine sandy loam, 3 to 9 percent slopes	2.6	48.9%
VaB	Valmont clay loam, 1 to 3 percent slopes	1.7	31.2%
Totals for Area of Interest		5.4	100.0%

APPENDIX B – CALCULATIONS

ATTACHMENT A



JVA Incorporated
 1319 Spruce Street
 Boulder, CO 80302
 Ph: (303) 444 1951

Job Name: Mackintosh Academy
 Job Number: 2863.2c
 Date: 8/8/22
 By: DAD

Mackintosh Academy

Historic Runoff Coefficient & Time of Concentration Calculations

Location: Boulder County
 Minor Design Storm: 5
 Major Design Storm: 100
 Soil Type: C/D

Basin Design Data		I (%) =	100%	90%	90%	40%	25%	25%	2%	2%	I (%)	Runoff Coeff's				Initial Overland Time (t _i)			Travel Time (t _t)			t _c Comp	tc Urbanized Check ON	t _c Final					
Basin Name	Design Point	A _{paved streets} (sf)	A _{drives/co nc} (sf)	A _{roof} (sf)	A _{gravel} (sf)	A _{plygnd} (sf)	A _{art. turf} (sf)	A _{lscape (B soil)} (sf)	A _{lscape (C/D soil)} (sf)	A _{Total} (sf)	A _{Total} (ac)	Imp (%)	C2	C5	C10	C100	Upper most Length (ft)	Slope (%)	t _i (min)	Length (ft)	Slope (%)	Type of Land Surface	K	Velocity (fps)	t _t (min)	Time of Conc t _i + t _t = t _c	Total Length (ft)	t _c =(L/180)+10 (min.)	Min t _c
H	1	11,948	1,440	375					47,864	61,627	1.41	23.6%	0.16	0.23	0.31	0.58	170	2.2%	16.0	180	0.8%	Paved areas & shallow paved swales	20	1.7	1.7	17.8	350	11.9	11.9
									0	0.00																	0	10.0	
									0	0.00																	0	10.0	
									0	0.00																	0	10.0	
									0	0.00																	0	10.0	
TOTAL SITE		11,948	1,440	375	0	0	0	0	47,864	61,627	1.41	23.6%	0.16	0.23	0.31	0.58											0	10.0	

Basin Name	Design Point	Time of Conc (t _c)	Runoff Coeff's				Rainfall Intensities (in/hr)				Area		Flow Rates (cfs)			
			C2	C5	C10	C100	2	5	10	100	A _{Total} (sf)	A _{Total} (ac)	Q2	Q5	Q10	Q100
H	1	11.9	0.16	0.23	0.31	0.58	2.57	3.63	4.39	6.86	61,627	1.41	0.60	1.17	1.91	5.64
0	0										0	0.00				
0	0										0	0.00				
0	0										0	0.00				
0	0										0	0.00				
TOTAL SITE											61,627	1.41	0.60	1.17	1.91	5.64

ATTACHMENT A



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Job Name: Mackintosh Academy
 Job Number: 2863.2c
 Date: 8/8/22
 By: DAD

Mackintosh Academy Composite Runoff Coefficient Calculations

Location: Boulder County
 Minor Design Storm: 5
 Major Design Storm: 100
 Soil Type: C/D

CA 100yr = 0.78i + 0.11
 CB 100yr = 0.47i + 0.426
 CC/D 100yr = 0.41i + 0.484

Basin Design Data																
	I (%) =	100%	90%	90%	40%	25%	25%	2%	2%			I (%)	Runoff Coeff's			
Basin Name	Design Point	A _{paved streets} (sf)	A _{drives/c onc} (sf)	A _{roof} (sf)	A _{gravel} (sf)	A _{plygnd} (sf)	A _{art. turf} (sf)	A _{lscape (B soil)} (sf)	A _{lscape (C/D soil)} (sf)	A _{Total} (sf)	A _{Total} (ac)	Imp (%)	C2	C5	C10	C100
A	1		658						1,137	1,795	0.04	34.3%	0.25	0.32	0.39	0.62
B	2		3,277						2,208	5,485	0.13	54.6%	0.42	0.48	0.54	0.71
C	3		505		891				7,442	8,838	0.20	10.9%	0.07	0.12	0.21	0.53
D	4	13,422	2,062						8,866	24,350	0.56	63.5%	0.50	0.56	0.60	0.74
E	5	3,790	722						244	4,756	0.11	93.4%	0.77	0.80	0.82	0.87
F	6		197						3,337	3,534	0.08	6.9%	0.04	0.09	0.18	0.51
G	7			4,307						4,307	0.10	90.0%	0.74	0.77	0.80	0.85
OS1	8		3,339						3,367	6,706	0.15	45.8%	0.35	0.41	0.47	0.67
OS2	9	1,353								1,353	0.03	100.0%	0.83	0.86	0.87	0.89

ATTACHMENT A



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Job Name: Mackintosh Academy
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 Date: 8/8/22
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Mackintosh Academy

Time of Concentration Calculations

Location: Boulder County
 Minor Design Storm: 5
 Major Design Storm: 100
 Soil Type: C/D

Sub-Basin Data				Initial Overland Time (t _i)			Travel Time (t _t) t _t =Length/(Velocity x 60)						t _c Comp	t _c Urbanized Check ON		t _c Final
Basin Name	Design Point	A _{Total} (ac)	C5	Upper most Length (ft)	Slope (%)	t _i (min)	Length (ft)	Slope (%)	Type of Land Surface	C _v	Velocity (fps)	t _t (min)	Time of Conc t _i + t _t = t _c	Total Length (ft)	t _c =(L/180)+10 (min)	Min t _c
A	1	0.04	0.32	30.26	2.0%	6.3			Paved areas & shallow paved swales	20	0.0	0.0	6.3	30.26	10.2	6.3
B	2	0.13	0.48	84.31	4.4%	6.3			Paved areas & shallow paved swales	20	0.0	0.0	6.3	84.31	10.5	6.3
C	3	0.20	0.12	15.23	7.7%	3.5	105	1.0%	Grassed waterway	15	1.5	1.2	4.7	120.23	10.7	5.0
D	4	0.56	0.56	54	2.0%	5.8	242	1.0%	Paved areas & shallow paved swales	20	2.0	2.0	7.8	296	11.6	7.8
E	5	0.11	0.80	46.2	1.5%	3.3	32	1.0%	Paved areas & shallow paved swales	20	2.0	0.3	3.5	78.2	10.4	5.0
F	6	0.08	0.09	85	2.0%	13.5			Paved areas & shallow paved swales	20	0.0	0.0	13.5	85	10.5	10.5
G	7	0.10	0.77	15	10.0%	1.1			Paved areas & shallow paved swales	20	0.0	0.0	1.1	15	10.1	5.0
OS1	8	0.15	0.41	57.28	5.2%	5.5			Paved areas & shallow paved swales	20	0.0	0.0	5.5	57.28	10.3	5.5
OS2	9	0.03	0.86	20	1.5%	1.8			Paved areas & shallow paved swales	20	0.0	0.0	1.8	20	10.1	5.0

ATTACHMENT A



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Job Name: Mackintosh Academy
 Job Number: 2863.2c
 Date: 8/8/22
 By: DAD

Mackintosh Academy

Developed Storm Runoff Calculations

Design Storm : **100 Year**

Point Hour Rainfall (P₁) : **2.70**

Basin Name	Design Point	Direct Runoff						Total Runoff				Inlets				Pipe				Pipe/Swale Travel Time			Notes		
		Area (ac)	Runoff Coeff	t _c (min)	C*A (ac)	I (in/hr)	Q (cfs)	Total t _c (min)	ΣC*A (ac)	I (in/hr)	Q (cfs)	Inlet Type	Q intercepted	Q carryover	Q bypass	Pipe Size (in) or equivalent	Pipe Material	Slope (%)	Pipe Flow (cfs)	Max Pipe Capacity (cfs)	Length (ft)	Velocity (fps)		t _t (min)	Total Time (min)
A	1	0.04	0.62	6.30	0.03	8.85	0.23	6.30	0.03	8.85	0.23	Trench Drain	0.23	0.00	0.00	6 in	PVC	1.0%	0.2	0.8	34	3.2	0.18	6.48	
B	2	0.13	0.71	6.30	0.09	8.85	0.79	6.30	0.09	8.85	0.79	Area Inlet	0.79	0.00	0.00	8 in	PVC	1.0%	0.8	1.7	115	4.4	0.44	6.74	
C	3	0.20	0.53	5.00	0.11	9.40	1.01	5.00	0.11	9.40	1.01	Area Inlet	1.01	0.00	0.00	8 in	PVC	1.0%	1.0	1.7	71	4.7	0.25	5.25	
D	4	0.56	0.74	7.80	0.42	8.22	3.42	7.80	0.42	8.22	3.42	Combination Inlet	3.42	0.00	0.00	12 in	PVC	1.0%	3.4	5.0	10	6.4	0.03	7.83	
E	5	0.11	0.87	5.00	0.09	9.40	0.89	5.00	0.09	9.40	0.89	Combination Inlet	0.89	0.00	0.00	8 in	PVC	1.0%	0.9	1.7	105	4.6	0.38	5.38	
F	6	0.08	0.51	10.50	0.04	7.18	0.30	10.50	0.04	7.18	0.30	Outlet Structure	0.30	0.00	0.00	18 in	PVC	1.0%	0.3	14.7	130	3.1	0.70	11.20	
G	7	0.10	0.85	5.00	0.08	9.40	0.79	5.00	0.08	9.40	0.79	Roof Drain	0.79	0.00	0.00	6 in	PVC	1.0%	0.8	0.8	100	3.7	0.45	5.45	
OS1	8	0.15	0.67	5.50	0.10	9.19	0.95	5.50	0.10	9.19	0.95	N/A	0.95	0.00	0.00										
OS2	9	0.03	0.89	5.00	0.03	9.40	0.26	5.00	0.03	9.40	0.26	N/A	0.26	0.00	0.00										

ATTACHMENT A



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Job Name: Mackintosh Academy
 Job Number: 2863.2c
 Date: 8/8/22
 By: DAD

Mackintosh Academy

Developed Storm Runoff Calculations

Design Storm : **5 Year**

Point Hour Rainfall (P₁) : **1.43**

Basin Name	Design Point	Direct Runoff						Total Runoff				Inlets				Pipe				Pipe/Swale Travel Time			Notes		
		Area (ac)	Runoff Coeff	t _c (min)	C*A (ac)	I (in/hr)	Q (cfs)	Total t _c (min)	ΣC*A (ac)	I (in/hr)	Q (cfs)	Inlet Type	Q intercepted	Q carryover	Q bypass	Pipe Size (in) or equivalent	Pipe Material	Slope (%)	Pipe Flow (cfs)	Max Pipe Capacity (cfs)	Length (ft)	Velocity (fps)		t _t (min)	Total Time (min)
A	1	0.04	0.32	6.30	0.01	4.69	0.06	6.30	0.01	4.69	0.06	Trench Drain	0.06	0.00	0.00	6 in	PVC	1.0%	0.1	0.8	34	2.2	0.26	6.56	
B	2	0.13	0.48	6.30	0.06	4.69	0.28	6.30	0.06	4.69	0.28	Area Inlet	0.28	0.00	0.00	8 in	PVC	1.0%	0.3	1.7	115	3.4	0.57	6.87	
C	3	0.20	0.12	5.00	0.03	4.98	0.13	5.00	0.03	4.98	0.13	Area Inlet	0.13	0.00	0.00	8 in	PVC	1.0%	0.1	1.7	71	2.6	0.46	5.46	
D	4	0.56	0.56	7.80	0.31	4.35	1.35	7.80	0.31	4.35	1.35	Combination Inlet	1.35	0.00	0.00	12 in	PVC	1.0%	1.4	5.0	10	5.0	0.03	7.83	
E	5	0.11	0.80	5.00	0.09	4.98	0.44	5.00	0.09	4.98	0.44	Combination Inlet	0.44	0.00	0.00	8 in	PVC	1.0%	0.4	1.7	105	3.8	0.46	5.46	
F	6	0.08	0.09	10.50	0.01	3.80	0.03	10.50	0.01	3.80	0.03	Outlet Structure	0.03	0.00	0.00	18 in	PVC	1.0%	0.0	14.7	130	2.5	0.88	11.38	
G	7	0.10	0.77	5.00	0.08	4.98	0.38	5.00	0.08	4.98	0.38	Roof Drain	0.38	0.00	0.00	6 in	PVC	1.0%	0.4	0.8	100	3.7	0.45	5.45	
OS1	8	0.15	0.41	5.50	0.06	4.87	0.31	5.50	0.06	4.87	0.31	N/A	0.31	0.00	0.00										
OS2	9	0.03	0.86	5.00	0.03	4.98	0.13	5.00	0.03	4.98	0.13	N/A	0.13	0.00	0.00										



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Job Name: Mackintosh Academy
 Job Number: 2863.2c
 Date: 8/8/22
 By: DAD

Mackintosh Academy Detention Pond Volume Calculations: FAA Procedure

Based on FAA Procedure, per Federal Aviation Agency "Airport Drainage" Manual

Drainage Basin A,B,C,D,E,F,G
 Design Storm 5 year
 Composite "C" Factor 0.48
 Basin Size 1.41

Release Rate Calculations

Allowable Release Rate for Site 1.17 cfs (Historic Flows for Basin H1)
 Less Undetained Offsite Flows - 0.44 cfs (From Basin X)

 Allowable Release Rate for Pond 0.73 cfs

Rainfall Intensity Calculations

Point Hour Rainfall (P₁): 1.43
 Rainfall Intensity: BoulderCountyIDF

Volume Calculations

Inflow Volume = C * I * A * time (sec)
 Outflow Volume = Allowable Release Rate * time (sec)
 Storage Volume = Inflow Volume - Outflow Volume

Detention Storage Calculations					
Time t (min)	Time t (sec)	Intensity I (in/hr)	Inflow V _{in} (ft ³)	Outflow V _{out} (ft ³)	Storage V _{stor} (ft ³)
5.0	300	4.98	1,008	220	788
10.0	600	3.86	1,562	440	1,122
15.0	900	3.26	1,979	660	1,319
20.0	1,200	2.93	2,369	881	1,488
25.0	1,500	2.59	2,624	1,101	1,523
30.0	1,800	2.26	2,744	1,321	1,423
35.0	2,100	2.12	3,009	1,541	1,468
40.0	2,400	1.99	3,215	1,761	1,454
45.0	2,700	1.85	3,365	1,981	1,384
50.0	3,000	1.71	3,459	2,201	1,258
55.0	3,300	1.57	3,497	2,422	1,075
60.0	3,600	1.43	3,472	2,642	831

Maximum Volume (ft³) 1,523

	100%	WQCV	958	ft ³
Required 5-yr Volume +	100%	WQCV	2,481	ft³



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Job Name: Mackintosh Academy
 Job Number: 2863.2c
 Date: 8/8/22
 By: DAD

Mackintosh Academy Detention Pond Volume Calculations: FAA Procedure

Based on FAA Procedure, per Federal Aviation Agency "Airport Drainage" Manual

Drainage Basin A,B,C,D,E,F,G
 Design Storm **100 year**
 Composite "C" Factor **0.70**
 Basin Size **1.41**

Release Rate Calculations

Allowable Release Rate for Site **5.64 cfs** (Historic Flows for Basin H1)
 Less Undetained Offsite Flows - **1.21 cfs** (From Basin X)

 Allowable Release Rate for Pond **4.43 cfs**

Rainfall Intensity Calculations

Point Hour Rainfall (P₁): **2.70**
 Rainfall Intensity: BoulderCountyIDF

Volume Calculations

Inflow Volume = C * I * A * time (sec)
 Outflow Volume = Allowable Release Rate * time (sec)
 Storage Volume = Inflow Volume - Outflow Volume

Detention Storage Calculations					
Time t (min)	Time t (sec)	Intensity I (in/hr)	Inflow Vin (ft ³)	Outflow Vout (ft ³)	Storage Vstor (ft ³)
5.0	300	9.40	2,812	1,328	1,485
10.0	600	7.29	4,362	2,655	1,707
15.0	900	6.16	5,529	3,983	1,546
20.0	1,200	5.53	6,618	5,310	1,308
25.0	1,500	4.90	7,330	6,638	692
30.0	1,800	4.27	7,665	7,965	-300
35.0	2,100	4.01	8,405	9,293	-887
40.0	2,400	3.75	8,980	10,620	-1,640
45.0	2,700	3.49	9,398	11,948	-2,550
50.0	3,000	3.23	9,659	13,275	-3,616
55.0	3,300	2.97	9,764	14,603	-4,839
60.0	3,600	2.70	9,693	15,930	-6,237

Maximum Volume (ft³) 1,707

	50%	WQCV	479	ft ³
Required 100-yr Volume +	50%	WQCV	2,186	ft³

Design Procedure Form: BMP Selection Tool

UD-BMP (Version 3.07, March 2018)

Sheet 1 of 1

Designer: Dylan A Dunn
Company: Jva Inc
Date: August 8, 2022
Project: Mackintosh Academy
Location: _____

1. To identify potential BMPs, what best describes the type of site?	<div style="border: 1px solid black; padding: 5px;"> Choose One _____ <input checked="" type="radio"/> Conventional Site <input type="radio"/> Highly Urbanized Site <input type="radio"/> Linear Construction in Urbanized Area </div> <div style="text-align: right; color: red; font-weight: bold;">SKIP # 2</div>
2. Does the typical section include a parking lane, shoulder, median, or otherwise allow for surface BMPs?	<div style="border: 1px solid black; padding: 5px;"> Choose One _____ <input type="radio"/> YES <input type="radio"/> NO </div>
3. Is the site comprised of Hydrologic Soil Group A or B soils?	<div style="border: 1px solid black; padding: 5px;"> Choose One _____ <input type="radio"/> YES <input checked="" type="radio"/> NO </div>
4. Is the tributary impervious area ¹ greater than 1 acre?	<div style="border: 1px solid black; padding: 5px;"> Choose One _____ <input type="radio"/> YES <input checked="" type="radio"/> NO </div> <div style="text-align: right; color: red; font-weight: bold;">SKIP #6-10</div>
5. Is the depth of bedrock greater than 5 feet?	<div style="border: 1px solid black; padding: 5px;"> Choose One _____ <input checked="" type="radio"/> YES <input type="radio"/> NO </div>
6. Is the tributary impervious area ¹ greater than 5 acres?	<div style="border: 1px solid black; padding: 5px;"> Choose One _____ <input type="radio"/> YES <input type="radio"/> NO </div>
7. Is a water source available for use? (baseflow or groundwater)	<div style="border: 1px solid black; padding: 5px;"> Choose One _____ <input type="radio"/> YES <input type="radio"/> NO </div>
8. Is the BMP in a developing watershed?	<div style="border: 1px solid black; padding: 5px;"> Choose One _____ <input type="radio"/> YES <input type="radio"/> NO </div>
9. Are BMPs allowed in the right-of-way?	<div style="border: 1px solid black; padding: 5px;"> Choose One _____ <input type="radio"/> YES <input type="radio"/> NO </div>
10. Does the community have an established Fee in Lieu Program in place?	<div style="border: 1px solid black; padding: 5px;"> Choose One _____ <input type="radio"/> YES <input type="radio"/> NO </div>
11. Step 1 of Four Step Process: MDCIA / Volume Reduction (Not WQCV) BMPs	<div style="border: 1px solid black; padding: 5px;"> Grass Buffer Grass Swale Permeable Pavement- No or Partial Infiltration (5) Green Roof (3) </div>
12. Step 2 of Four Step Process: WQCV BMPs	<div style="border: 1px solid black; padding: 5px;"> Permeable Pavement- No or Partial Infiltration (5) Bioretention- No or Partial Infiltration (5) Sand Filter Extended Detention Basin- No or Partial Infiltration (5) Green Roof (3) Regional Water Quality Treatment (4) </div>

Notes:

1. 'Tributary impervious area' refers to the impervious area draining to the BMP, not the total area of the project site.

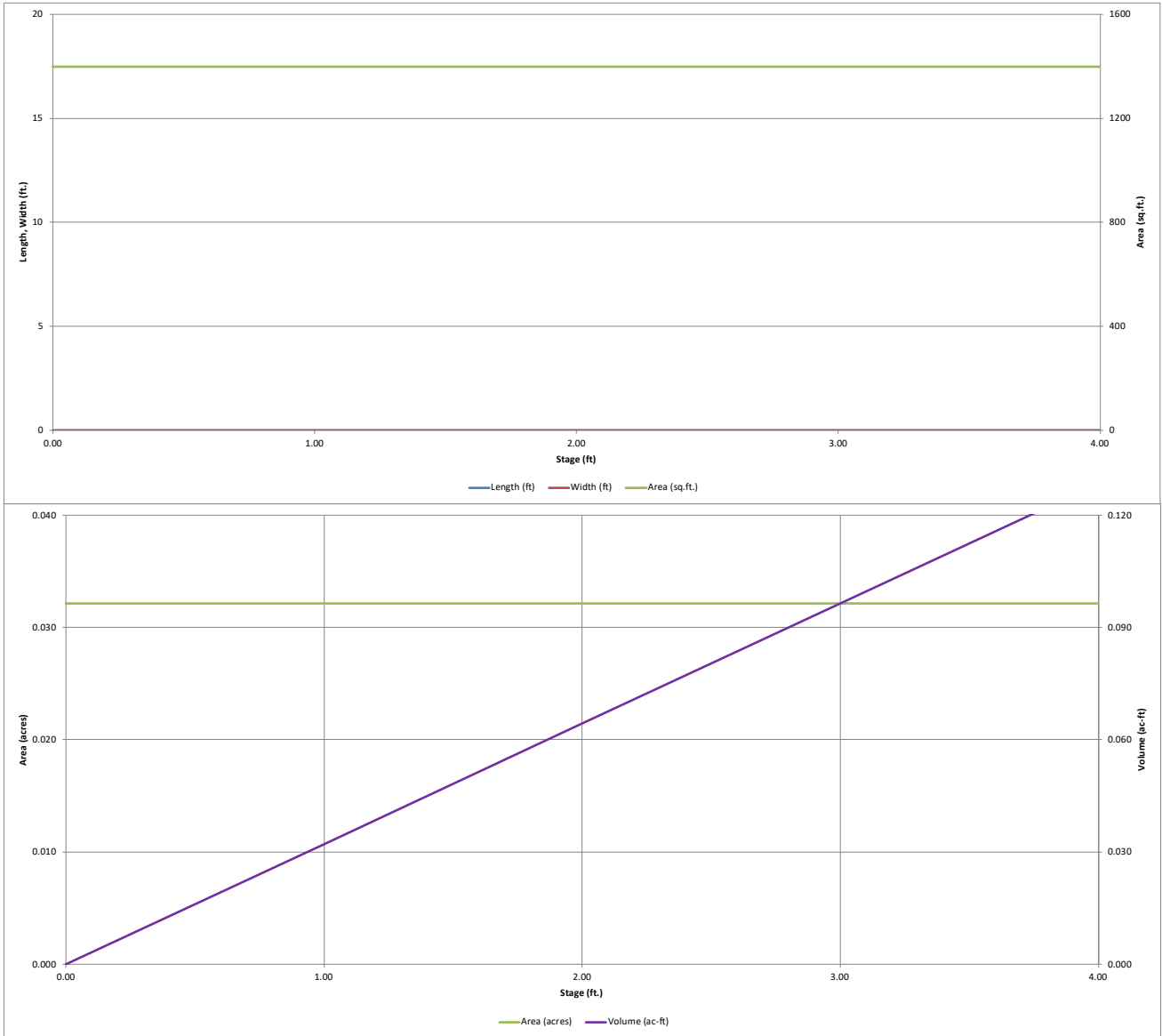
2. For a successful wetland channel or basin, a water source (groundwater or baseflow) will be required.

3. In the Front Range of Colorado, irrigation, at least periodically in dry times, will be required to sustain a green roof.

4. If a regional facility will be used to provide the WQCV, some degree of onsite treatment/MDCIA will still likely be required.

5. No Infiltration= underdrain and liner, Partial Infiltration= underdrain and no liner, Full Infiltration= no underdrain and no liner.

6. Consider this BMP for a portion of your site. It's best suited for impervious tributary areas of approximately one acre or less.

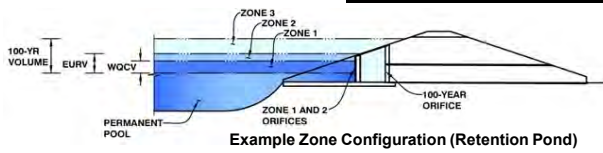


DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.06 (July 2022)

Project: **Mackintosh Academy**

Basin ID: **all**



	Estimated Stage (ft)	Estimated Volume (ac-ft)	Outlet Type
Zone 1 (WQCV)	0.64	0.020	Filtration Media
Zone 2 (EURV)	2.26	0.052	Rectangular Orifice
Zone 3 (100-year)	#VALUE!	0.072	Weir&Pipe (Restrict)
Total (all zones)		0.144	

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

Underdrain Orifice Invert Depth =	2.50	ft (distance below the filtration media surface)
Underdrain Orifice Diameter =	0.67	inches

Calculated Parameters for Underdrain	
Underdrain Orifice Area =	0.0 ft ²
Underdrain Orifice Centroid =	0.03 feet

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)

Centroid of Lowest Orifice =	N/A	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Orifice Plate =	N/A	ft (relative to basin bottom at Stage = 0 ft)
Orifice Plate: Orifice Vertical Spacing =	N/A	inches
Orifice Plate: Orifice Area per Row =	N/A	sq. inches

Calculated Parameters for Plate	
WQ Orifice Area per Row =	N/A ft ²
Elliptical Half-Width =	N/A feet
Elliptical Slot Centroid =	N/A feet
Elliptical Slot Area =	N/A ft ²

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)

	Zone 2 Rectangular	Not Selected	
Invert of Vertical Orifice =	0.64	N/A	ft (relative to basin bottom at Stage = 0 ft)
Depth at top of Zone using Vertical Orifice =	2.26	N/A	ft (relative to basin bottom at Stage = 0 ft)
Vertical Orifice Height =	2.00	N/A	inches
Vertical Orifice Width =	4.00		inches

Calculated Parameters for Vertical Orif	
Zone 2 Rectangular	Not Selected
Vertical Orifice Area =	0.06
Vertical Orifice Centroid =	0.08

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

	Zone 3 Weir	Not Selected	
Overflow Weir Front Edge Height, Ho =	2.70	N/A	ft (relative to basin bottom at Stage = 0 ft)
Overflow Weir Front Edge Length =	3.30	N/A	feet
Overflow Weir Gate Slope =	0.00	N/A	H:V
Horiz. Length of Weir Sides =	3.30	N/A	feet
Overflow Gate Type =	Type C Gate	N/A	
Debris Clogging % =	50%	N/A	%

Calculated Parameters for Overflow Weir	
Zone 3 Weir	Not Selected
Height of Gate Upper Edge, H _t =	2.70
Overflow Weir Slope Length =	3.30
Gate Open Area / 100-yr Orifice Area =	55.83
Overflow Gate Open Area w/o Debris =	7.58
Overflow Gate Open Area w/ Debris =	3.79

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

	Zone 3 Restrictor	Not Selected	
Depth to Invert of Outlet Pipe =	2.75	N/A	ft (distance below basin bottom at Stage = 0 ft)
Outlet Pipe Diameter =	12.00	N/A	inches
Restrictor Plate Height Above Pipe Invert =	2.75		inches

Calculated Parameters for Outlet Pipe w/ Flow Restriction Plate	
Zone 3 Restrictor	Not Selected
Outlet Orifice Area =	0.14
Outlet Orifice Centroid =	0.14
Half-Central Angle of Restrictor Plate on Pipe =	1.00

User Input: Emergency Spillway (Rectangular or Trapezoidal)

Spillway Invert Stage =	4.00	ft (relative to basin bottom at Stage = 0 ft)
Spillway Crest Length =	10.00	feet
Spillway End Slopes =	0.00	H:V
Freeboard above Max Water Surface =	0.00	feet

Calculated Parameters for Spillway	
Spillway Design Flow Depth =	0.29
Stage at Top of Freeboard =	4.29
Basin Area at Top of Freeboard =	0.03
Basin Volume at Top of Freeboard =	0.13

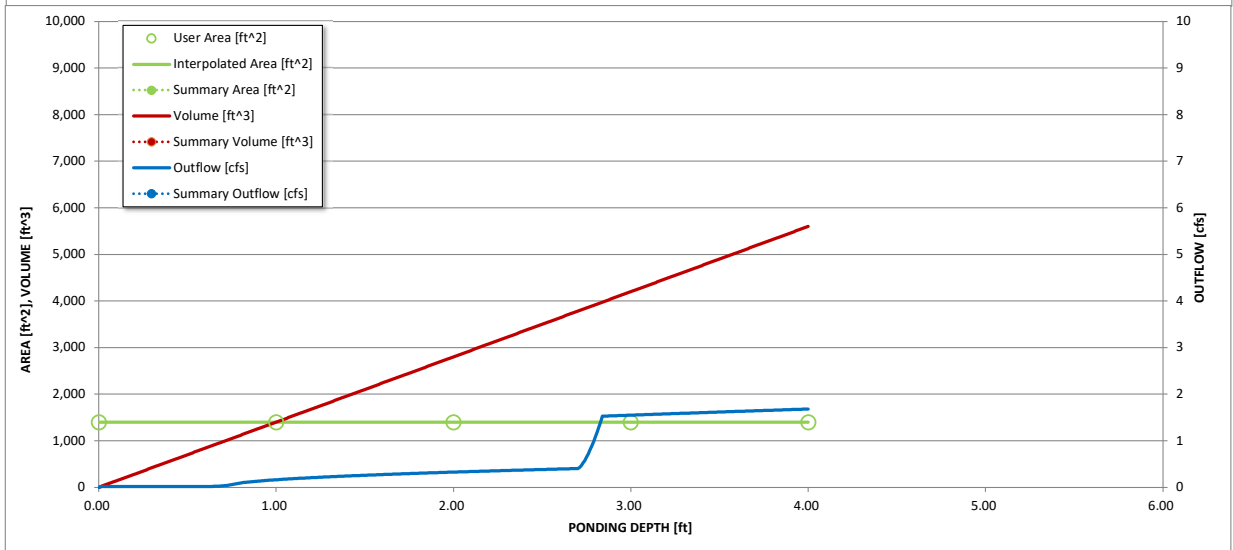
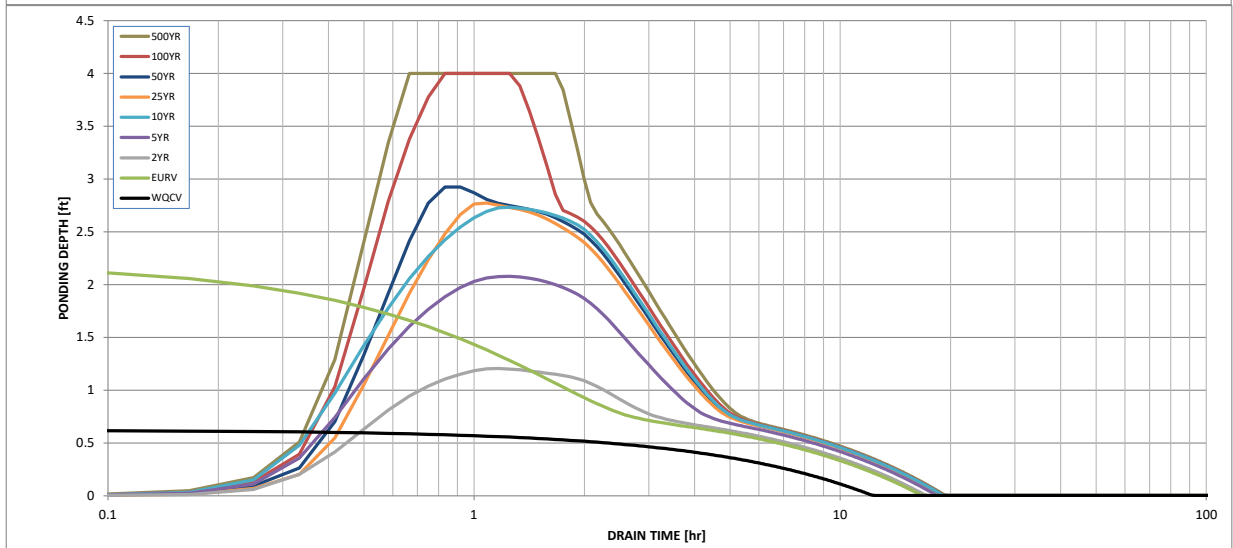
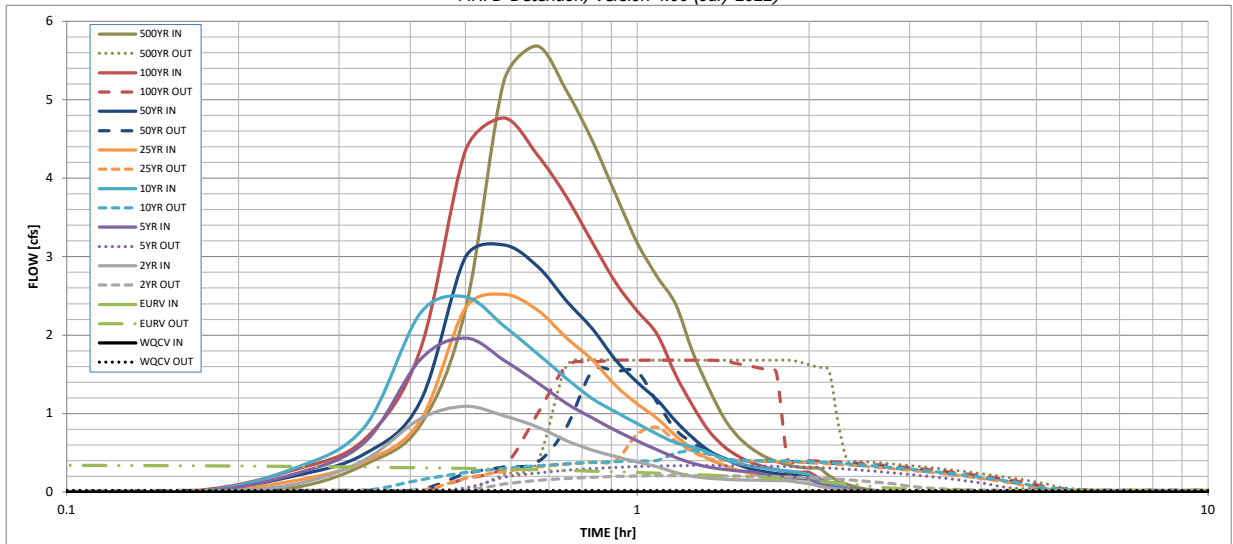
Routed Hydrograph Results

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

	WQCV	EURV	2 Year	5 Year	10 Year	25 Year	50 Year	100 Year
Design Storm Return Period =								
One-Hour Rainfall Depth (in) =	N/A	N/A	1.01	1.43	1.73	1.69	1.99	2.70
CUHP Runoff Volume (acre-ft) =	0.020	0.072	0.060	0.102	0.135	0.134	0.168	0.254
Inflow Hydrograph Volume (acre-ft) =	N/A	N/A	0.060	0.102	0.135	0.134	0.168	0.254
CUHP Predevelopment Peak Q (cfs) =	N/A	N/A	0.1	0.6	0.9	1.1	1.5	2.5
OPTIONAL Override Predevelopment Peak Q (cfs) =	N/A	N/A						
Predevelopment Unit Peak Flow, q (cfs/acre) =	N/A	N/A	0.07	0.44	0.67	0.77	1.06	1.79
Peak Inflow Q (cfs) =	N/A	N/A	1.1	2.0	2.5	2.5	3.1	4.8
Peak Outflow Q (cfs) =	0.0	0.4	0.2	0.3	0.5	0.8	1.5	1.7
Ratio Peak Outflow to Predevelopment Q =	N/A	N/A	N/A	0.5	0.6	0.8	1.0	0.7
Structure Controlling Flow =	Filtration Media	Vertical Orifice 1	Vertical Orifice 1	Vertical Orifice 1	Overflow Weir 1	Overflow Weir 1	Outlet Plate 1	N/A
Max Velocity through Gate 1 (fps) =	N/A	N/A	N/A	N/A	0.0	0.1	0.1	0.2
Max Velocity through Gate 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	15	16	17	17	16	16	14
Time to Drain 99% of Inflow Volume (hours) =	12	16	17	18	18	18	18	18
Maximum Ponding Depth (ft) =	0.63	2.25	1.20	2.08	2.73	2.77	2.92	4.00
Area at Maximum Ponding Depth (acres) =	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
Maximum Volume Stored (acre-ft) =	0.020	0.072	0.039	0.067	0.088	0.089	0.094	0.129

DETENTION BASIN OUTLET STRUCTURE DESIGN

MHFD-Detention, Version 4.06 (July 2022)



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

ATTACHMENT A

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.

Time Interval	SOURCE	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP	CUHP
	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	0.00	0.02	0.06
	0:15:00	0.00	0.00	0.10	0.23	0.30	0.14	0.20	0.28	0.35
	0:20:00	0.00	0.00	0.41	0.64	0.83	0.39	0.49	0.68	0.85
	0:25:00	0.00	0.00	0.93	1.69	2.28	0.91	1.15	1.82	2.33
	0:30:00	0.00	0.00	1.09	1.96	2.49	2.35	2.99	4.35	5.23
	0:35:00	0.00	0.00	0.97	1.68	2.12	2.52	3.15	4.77	5.69
	0:40:00	0.00	0.00	0.83	1.40	1.77	2.32	2.88	4.31	5.13
	0:45:00	0.00	0.00	0.66	1.13	1.45	1.97	2.44	3.77	4.48
	0:50:00	0.00	0.00	0.53	0.94	1.19	1.68	2.08	3.19	3.79
	0:55:00	0.00	0.00	0.45	0.78	1.02	1.35	1.68	2.67	3.17
	1:00:00	0.00	0.00	0.38	0.65	0.87	1.12	1.40	2.31	2.75
	1:05:00	0.00	0.00	0.32	0.54	0.74	0.94	1.17	2.01	2.39
	1:10:00	0.00	0.00	0.25	0.44	0.63	0.72	0.90	1.49	1.79
	1:15:00	0.00	0.00	0.20	0.37	0.58	0.55	0.69	1.10	1.33
	1:20:00	0.00	0.00	0.18	0.32	0.50	0.42	0.53	0.78	0.95
	1:25:00	0.00	0.00	0.16	0.29	0.42	0.34	0.43	0.58	0.71
	1:30:00	0.00	0.00	0.15	0.27	0.37	0.28	0.35	0.46	0.56
	1:35:00	0.00	0.00	0.15	0.26	0.33	0.24	0.29	0.38	0.46
	1:40:00	0.00	0.00	0.15	0.22	0.30	0.21	0.26	0.32	0.39
	1:45:00	0.00	0.00	0.14	0.20	0.28	0.19	0.24	0.28	0.34
	1:50:00	0.00	0.00	0.14	0.18	0.27	0.18	0.22	0.26	0.32
	1:55:00	0.00	0.00	0.12	0.17	0.25	0.17	0.21	0.25	0.31
	2:00:00	0.00	0.00	0.11	0.16	0.22	0.17	0.21	0.25	0.30
	2:05:00	0.00	0.00	0.07	0.11	0.15	0.12	0.14	0.17	0.21
	2:10:00	0.00	0.00	0.05	0.07	0.10	0.08	0.10	0.12	0.14
	2:15:00	0.00	0.00	0.03	0.05	0.07	0.06	0.07	0.08	0.10
	2:20:00	0.00	0.00	0.02	0.03	0.05	0.04	0.04	0.05	0.06
	2:25:00	0.00	0.00	0.01	0.02	0.03	0.02	0.03	0.03	0.04
	2:30:00	0.00	0.00	0.01	0.01	0.02	0.01	0.02	0.02	0.02
	2:35:00	0.00	0.00	0.00	0.01	0.01	0.01	0.01	0.01	0.01
	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: Extended Detention Basin (EDB)

UD-BMP (Version 3.07, March 2018)

Sheet 1 of 3

Designer: _____
 Company: _____
 Date: **August 8, 2022**
 Project: _____
 Location: _____

<p>1. Basin Storage Volume</p> <p>A) Effective Imperviousness of Tributary Area, I_a</p> <p>B) Tributary Area's Imperviousness Ratio ($i = I_a / 100$)</p> <p>C) Contributing Watershed Area</p> <p>D) For Watersheds Outside of the Denver Region, Depth of Average Runoff Producing Storm</p> <p>E) Design Concept (Select EURV when also designing for flood control)</p> <p>F) Design Volume (WQCV) Based on 40-hour Drain Time ($V_{DESIGN} = (1.0 * (0.91 * i^3 - 1.19 * i^2 + 0.78 * i) / 12 * Area)$)</p> <p>G) For Watersheds Outside of the Denver Region, Water Quality Capture Volume (WQCV) Design Volume ($V_{WQCV\ OTHER} = (d_6 * (V_{DESIGN} / 0.43))$)</p> <p>H) User Input of Water Quality Capture Volume (WQCV) Design Volume (Only if a different WQCV Design Volume is desired)</p> <p>I) NRCS Hydrologic Soil Groups of Tributary Watershed i) Percentage of Watershed consisting of Type A Soils ii) Percentage of Watershed consisting of Type B Soils iii) Percentage of Watershed consisting of Type C/D Soils</p> <p>J) Excess Urban Runoff Volume (EURV) Design Volume For HSG A: $EURV_A = 1.68 * i^{1.28}$ For HSG B: $EURV_B = 1.36 * i^{1.08}$ For HSG C/D: $EURV_{C/D} = 1.20 * i^{1.08}$</p> <p>K) User Input of Excess Urban Runoff Volume (EURV) Design Volume (Only if a different EURV Design Volume is desired)</p>	<p>$I_a =$ <input type="text" value="54.1"/> %</p> <p>$i =$ <input type="text" value="0.541"/></p> <p>Area = <input type="text" value="1.410"/> ac</p> <p>$d_6 =$ <input type="text" value=""/></p> <p>Choose One</p> <p><input checked="" type="radio"/> Water Quality Capture Volume (WQCV)</p> <p><input type="radio"/> Excess Urban Runoff Volume (EURV)</p> <p>$V_{DESIGN} =$ <input type="text" value="0.026"/> ac-ft</p> <p>$V_{DESIGN\ OTHER} =$ <input type="text" value=""/></p> <p>$V_{DESIGN\ USER} =$ <input type="text" value=""/></p> <p>HSG _A = <input type="text" value=""/> %</p> <p>HSG _B = <input type="text" value=""/> %</p> <p>HSG _{C/D} = <input type="text" value=""/> %</p> <p>EURV_{DESIGN} = <input type="text" value=""/> ac-ft</p> <p>EURV_{DESIGN\ USER} = <input type="text" value=""/> ac-ft</p>
<p>2. Basin Shape: Length to Width Ratio (A basin length to width ratio of at least 2:1 will improve TSS reduction.)</p>	<p>L : W = <input type="text" value="6.0"/> : 1</p>
<p>3. Basin Side Slopes</p> <p>A) Basin Maximum Side Slopes (Horizontal distance per unit vertical, 4:1 or flatter preferred)</p>	<p>Z = <input type="text" value="3.00"/> ft / ft</p> <p>DIFFICULT TO MAINTAIN, INCREASE WHERE POSSIBLE</p>
<p>4. Inlet</p> <p>A) Describe means of providing energy dissipation at concentrated inflow locations:</p>	<p>_____</p> <p>_____</p> <p>_____</p>
<p>5. Forebay</p> <p>A) Minimum Forebay Volume ($V_{MIN} =$ _____ of the WQCV)</p> <p>B) Actual Forebay Volume</p> <p>C) Forebay Depth ($D_F =$ _____ inch maximum)</p> <p>D) Forebay Discharge</p> <p>i) Undetained 100-year Peak Discharge</p> <p>ii) Forebay Discharge Design Flow ($Q_F = 0.02 * Q_{100}$)</p> <p>E) Forebay Discharge Design</p> <p>F) Discharge Pipe Size (minimum 8-inches)</p> <p>G) Rectangular Notch Width</p>	<p>$V_{MIN} =$ <input type="text" value=""/> ac-ft</p> <p>$V_F =$ <input type="text" value=""/> ac-ft</p> <p>$D_F =$ <input type="text" value=""/> in</p> <p>$Q_{100} =$ <input type="text" value=""/> cfs</p> <p>$Q_F =$ <input type="text" value=""/> cfs</p> <p>Choose One</p> <p><input type="radio"/> Berm With Pipe</p> <p><input type="radio"/> Wall with Rect. Notch</p> <p><input type="radio"/> Wall with V-Notch Weir</p> <p>Flow too small for berm w/ pipe</p> <p>Calculated $D_P =$ <input type="text" value=""/> in</p> <p>Calculated $W_N =$ <input type="text" value=""/> in</p>

ATTACHMENT A

Grading Calculation

Cut and fill calculations are necessary to evaluate the disturbance of a project and to verify whether or not a Limited Impact Special Use Review (LISR) is required. A Limited Impact Special Use Review is required when grading for a project involves more than 500 cubic yards (minus normal cut/fill and backfill contained within the foundation footprint).

If grading totals are close to the 500 yard trigger, additional information may be required, such as a grading plan stamped by a Colorado Registered Professional Engineer.

Earth Work and Grading

This worksheet is to help you accurately determine the amount of grading for the property in accordance with the Boulder County Land Use Code. Please fill in all applicable boxes.

Note: Applicant(s) must fill in the shaded boxes even though foundation work does not contribute toward the 500 cubic yard trigger requiring Limited Impact Special Use Review. Also, all areas of earthwork must be represented on the site plan.

Earth Work and Grading Worksheet:

	Cut	Fill	Subtotal
Driveway and Parking Areas	-738	+10	-728
Berm(s)	0	0	0
Other Grading	-64	+578	+511
Subtotal	-802	+588	-217

Box 1

* If the total in Box 1 is greater than 500 cubic yards, then a Limited Impact Special Review is required.

	Cut	Fill	Total
Foundation	0	+235	+235
Material cut from foundation excavation that will be removed from the property			0

Excess Material will be Transported to the Following Location:

Excess Materials Transport Location:
There will be no excess material to export from the property, all material will be utilized on site

Is Your Property Gated and Locked? No

Note: If county personnel cannot access the property, it could cause delays in reviewing your application.

Certification

I certify that the information submitted is complete and correct. I agree to clearly identify the property (if not already addressed) and stake the location of the improvements on the site within four days of submitting this application. I understand that the intent of the Site Plan Review process is to address the impacts of location and type of structures, and that modifications may be required. Site work will not be done prior to issuance of a Grading or Building Permit.

Signature	Sharon B. Procopio 	Date	8/5/2022
-----------	--	------	-----------------

ATTACHMENT A

Boulder County Community Planning and Permitting Division
PO Box 471
2045 13th Street
Boulder, CO 80306

Re-referral SU-18-0011 6717 South boulder Road Mackintosh Academy new building

March 9, 2023

Mountain View has reviewed the Site Plan with updated drawings for emergency access date 3/6/23. The designed emergency access as shown will meet required emergency access. Emergency water supply is available and pending final building design sprinkler requirements will be evaluated. We have no further comments during site plan review.

Regards,
Michelle Kelly
Deputy Fire Marshal

ATTACHMENT A

From: [Sharon B. Procopio](#)
To: [Hippely, Hannah](#)
Subject: [EXTERNAL] FW: Mackintosh SUR Submittal Action Items for Owners team
Date: Thursday, March 9, 2023 9:22:27 AM
Attachments: [image001.png](#)
[image002.png](#)

FYI from OSMP, it is in progress as noted.



SHARON B. PROCOPIO, P.E. | Project Manager
she/her/hers

JVA, Incorporated
1319 Spruce Street, Boulder, CO 80302
Direct: [303.565.4932](tel:303.565.4932) | Office: 303.444.1951
www.jvajva.com | [LinkedIn](#) | [Twitter](#)

Boulder | Fort Collins | Winter Park | Glenwood Springs | Denver

JVA has a new website! Check it out: www.jvajva.com

From: Cassidy, Jacob <CassidyJ@bouldercolorado.gov>
Sent: Wednesday, March 8, 2023 2:50 PM
To: Sharon B. Procopio <sprocopio@jvajva.com>
Cc: Katie Christensen <kchristensen@mackboulder.com>; Danica Powell <danica@trestlestrategy.com>; Jess Dauchy <jdauchy@mackboulder.com>
Subject: RE: Mackintosh SUR Submittal Action Items for Owners team

Hi Sharon,

Thanks for reaching out. We will draft a quit claim deed and send it over to be signed. Once we do that our team will email the county planners and let them know that our comments have been addressed. I'll get going on that document in the next few days and hope to have something to your team in the next week or two. Does that work for you?

Thanks,

Jake Cassidy
Property Agent
Real Estate Services
(pronouns: he/him/his) [What's This?](#)



City of Boulder
Open Space & Mountain Parks

303-518-6431
cassidyj@bouldercolorado.gov

2520 55th Street | Boulder, CO 80301
[Office Hours and Directions](#)
www.osmp.org

ATTACHMENT A

From: Sharon B. Procopio <sprocopio@jvajva.com>
Sent: Tuesday, March 7, 2023 6:59 PM
To: Cassidy, Jacob <CassidyJ@bouldercolorado.gov>
Cc: Katie Christensen <kchristensen@mackboulder.com>; Danica Powell <danica@trestlestrategy.com>; Jess Dauchy <jdauchy@mackboulder.com>
Subject: FW: Mackintosh SUR Submittal Action Items for Owners team
Importance: High

External Sender

Hi Jake,

See attached reference comments you provided for the Mackintosh property as part of a referral process, and an acknowledgement from the Head of School below. What are the next steps for this process? And how can we get a letter from you indicating for the county that your comments have been addressed or are in progress?

Please let me know, and thanks.



SHARON B. PROCOPIO, P.E. | Project Manager
she/her/hers

JVA, Incorporated
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Direct: [303.565.4932](tel:303.565.4932) | Office: 303.444.1951
www.jvajva.com | [LinkedIn](#) | [Twitter](#)

Boulder | Fort Collins | Winter Park | Glenwood Springs | Denver

JVA has a new website! Check it out: www.jvajva.com

From: Katie Christensen <kchristensen@mackboulder.com>
Sent: Saturday, March 4, 2023 12:27 PM
To: Sharon B. Procopio <sprocopio@jvajva.com>
Cc: Danica Powell <danica@trestlestrategy.com>; Lyn Eller <LEller@hcm2.com>; Robyn Bartling <RBartling@hcm2.com>; Carlin Bartlett <cbartlett@hcm2.com>; Jess Dauchy <jdauchy@mackboulder.com>; jphilp@mackboulder.com
Subject: Re: Mackintosh SUR Submittal Action Items for Owners team

Hello,

I acknowledge the OSMP request to quit claim any and all mineral rights and will initiate that process. I have attached a copy of the OSMP memorandum with my initials indicating such.

Please let me know if you need any additional information.

ATTACHMENT A

Best,

Katie Christensen
Interim Head of School
Mackintosh Academy Boulder



Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

March 9, 2023

Boulder County Community Planning and Permitting
PO Box 471
Boulder, CO 80306

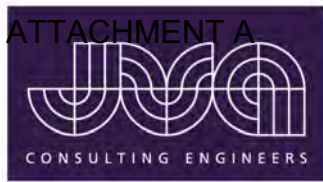
Attn: Hannah Hippely

**RE: * AMENDED RESPONSE *
Mackintosh Academy, Case # SU-18-0011**

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk acknowledges the relocation of the proposed storm pipe out of the PSCo easement for **Mackintosh Academy**.

The property owner/developer/contractor is reminded to complete the application process for any new natural gas or electric service, or modification to existing facilities via xcelenergy.com/InstallAndConnect as necessary; and to contact 811 for utility locates prior to construction.

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



JVA, Incorporated
1319 Spruce Street
Boulder, CO 80302
303.444.1951
info@jvajva.com

March 6, 2023

Melanie Asquith
Water Resources Manager and Principal Utilities Engineer
City of Lafayette | Public Works Department
Office 303-661-1279

www.jvajva.com

RE: SU-18-0011: Mackintosh Academy, 6717 S. Boulder Road

Dear Melanie,

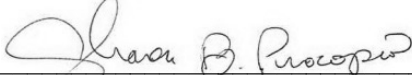
The City of Lafayette provided the following comments which we have discussed and resolved as noted below in red:

- Lafayette requests Boulder County defer approval until City of Lafayette comments have been addressed. **Noted, please follow up to clarify for the County which comments below must be met for SUR versus items that will be part of Construction Documents later.**
- A City of Lafayette Right-of-Way permit is required. **Noted, please confirm this is not needed until after Construction Documents are approved and NOT tied to SUR.**
- An Out-of-City Utility Application must be submitted to request the additional service. **Noted, city staff has noted they will provide this, please confirm this is not needed as part of SUR approval.**
- A separate submittal of detailed water service routing and associated details will be required for City of Lafayette review. **Noted, these will be provided. Please clarify this is not needed ahead of release from SUR. As discussed, we are proposing a 1" copper domestic service (shown on the SUR plans) to the structure connected to the water main installed in a new easement as part of the Zen Center project in 2020.**
- A separate water tap/meter and associated fees/dedications are required for the proposed building. **Noted, as discussed there will just be the addition of a domestic 1" tap and meter (size will be confirmed during water review submittal to City of Lafayette).**
- Property owner must petition to Northern Water Conservancy District for inclusion into the service District. **Paperwork has been signed and payment is pending some additional correspondence with the district, which is in progress as of the writing of this memo. Is this sufficient to release the project from SUR?**
- The new meter pit must be located in an accessible location within a utility easement. **Per review and discussion with City staff, the location of the meter will be place close to the fire lane and hydrant within a utility easement, now shown on the SUR plans.**
- The proposed hydrant must be located adjacent to the parking lot to be accessed by the fire department. **Per discussions with staff and fire, the location shown on the SUR plans was the preferred location, mid point on the fire lane roughly.**

The County has requested that City of Lafayette provide a updated memo noting that we are conditionally able to be released from referral for SUR so the county can provide their review and comments as a next step. Thank you again for your time and assistance. Please contact me if you have any questions

Sincerely,

JVA, INCORPORATED

By: 
Sharon Procopio
Project Manager



January 20, 2023

Hannah Hippely
Boulder County Community Planning & Permitting
PO Box 471
Boulder, CO 80306

Sent via email: hhippely@bouldercounty.org

Re: SU-18-0011: Mackintosh Academy, 6717 S. Boulder Road

Dear Ms. Hippely:

Thank you for the opportunity to review the above-referenced referral.

The City of Lafayette provides the following comments:

- **Lafayette requests Boulder County defer approval until City of Lafayette comments have been addressed.**
- A City of Lafayette Right-of-Way permit is required.
- An Out-of-City Utility Application must be submitted to request the additional service.
- A separate submittal of detailed water service routing and associated details will be required for City of Lafayette review.
- A separate water tap/meter and associated fees/dedications are required for the proposed building.
- Property owner must petition to Northern Water Conservancy District for inclusion into the service District.
- The new meter pit must be located in an accessible location within a utility easement.
- The proposed hydrant must be located adjacent to the parking lot to be accessed by the fire department.

Please contact me if you have any questions.

Sincerely,

Jana Easley
Planning Manager

cc: Jeff Brasel, Planning and Building Director
Jeff Arthur, Public Works Director
Melanie Asquith, Water Resources Manager and Principal Utilities Engineer

ATTACHMENT A

Sent via email: March 8, 2023

Hannah Hippely hhippely@bouldercounty.org
Boulder County Community Planning & Permitting
PO Box 471
Boulder, CO 80306

Re: SU-18-0011: Mackintosh Academy, 6717 S. Boulder Road

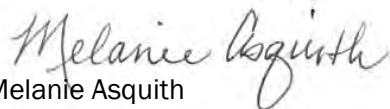
Dear Ms. Hippely:

We have received the attached comment letter for the above-referenced referral.

The City of Lafayette does not have any more comments. We will continue to work with the applicant on the final details prior to providing water service to the project.

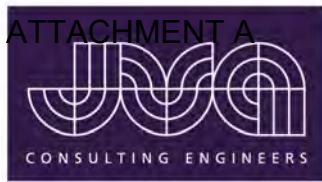
Please contact me if you have any questions.

Sincerely,



Melanie Asquith
Water Resources Manager and Principal Utilities Engineer

cc: Jeff Brasel, Planning and Building Director
Jeff Arthur, Public Works Director
Jana Easley, Planning Manager
Sharon Procopio, JVA, Incorporated



JVA, Incorporated
1319 Spruce Street
Boulder, CO 80302
303.444.1951
info@jvajva.com

March 6, 2023

Melanie Asquith
Water Resources Manager and Principal Utilities Engineer
City of Lafayette | Public Works Department
Office 303-661-1279

www.jvajva.com

RE: SU-18-0011: Mackintosh Academy, 6717 S. Boulder Road

Dear Melanie,

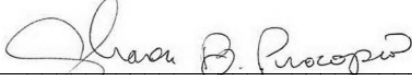
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- A City of Lafayette Right-of-Way permit is required. **Noted, please confirm this is not needed until after Construction Documents are approved and NOT tied to SUR.**
- An Out-of-City Utility Application must be submitted to request the additional service. **Noted, city staff has noted they will provide this, please confirm this is not needed as part of SUR approval.**
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- The proposed hydrant must be located adjacent to the parking lot to be accessed by the fire department. **Per discussions with staff and fire, the location shown on the SUR plans was the preferred location, mid point on the fire lane roughly.**

The County has requested that City of Lafayette provide a updated memo noting that we are conditionally able to be released from referral for SUR so the county can provide their review and comments as a next step. Thank you again for your time and assistance. Please contact me if you have any questions

Sincerely,

JVA, INCORPORATED

By: 
Sharon Procopio
Project Manager



January 20, 2023

Hannah Hippely
Boulder County Community Planning & Permitting
PO Box 471
Boulder, CO 80306

Sent via email: hhippely@bouldercounty.org

Re: SU-18-0011: Mackintosh Academy, 6717 S. Boulder Road

Dear Ms. Hippely:

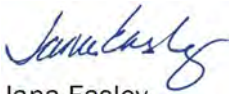
Thank you for the opportunity to review the above-referenced referral.

The City of Lafayette provides the following comments:

- **Lafayette requests Boulder County defer approval until City of Lafayette comments have been addressed.**
- A City of Lafayette Right-of-Way permit is required.
- An Out-of-City Utility Application must be submitted to request the additional service.
- A separate submittal of detailed water service routing and associated details will be required for City of Lafayette review.
- A separate water tap/meter and associated fees/dedications are required for the proposed building.
- Property owner must petition to Northern Water Conservancy District for inclusion into the service District.
- The new meter pit must be located in an accessible location within a utility easement.
- The proposed hydrant must be located adjacent to the parking lot to be accessed by the fire department.

Please contact me if you have any questions.

Sincerely,



Jana Easley
Planning Manager

cc: Jeff Brasel, Planning and Building Director
Jeff Arthur, Public Works Director
Melanie Asquith, Water Resources Manager and Principal Utilities Engineer

RESOLUTION 96-90

A RESOLUTION CONDITIONALLY APPROVING BOULDER COUNTY LAND USE DOCKET #SU-95-23/SE-95-39 ("SACRED HEART OF MARY PARISH & ABBEY SPECIAL USE"): A SPECIAL USE REQUEST, WITH ASSOCIATED SITE SPECIFIC DEVELOPMENT PLAN, AND ASSOCIATED SUBDIVISION EXEMPTION REQUEST FOR A COMMUNITY FACILITY LOT SPLIT, AND ASSOCIATED LIMITED IMPACT SPECIAL USE REQUEST FOR GRADING IN EXCESS OF 500 CUBIC YARDS, TO ALLOW THE EXPANSION OF AN EXISTING CHURCH WITH AN OCCUPANT LOAD GREATER THAN 100 PERSONS (SACRED HEART OF MARY PARISH AND ABBEY), AND THE ESTABLISHMENT OF A PRIVATE EDUCATIONAL FACILITY (THE BRIDGE SCHOOL), IN CONJUNCTION WITH CERTAIN PURCHASES OF OPEN SPACE BY THE CITY OF BOULDER, ON APPROXIMATELY 154 ACRES OF PROPERTY OWNED BY THE SACRED HEART OF MARY PARISH AND THE ABBEY OF ST. WALBURGA, LOCATED AT 6739 SOUTH BOULDER ROAD, NEAR THE INTERSECTION WITH S. 68TH STREET, EAST OF BOULDER, IN SECTION 2, T1S, R70W.

WHEREAS, the Sacred Heart of Mary Parish ("Applicant") has requested approval for a special use permit, with associated site specific development plan; subdivision exemption for certain community facility lot splits; and limited impact special use permit for grading in excess of 500 cubic yards, to allow the expansion of the Sacred Heart of Mary Parish, and the establishment of a private school (the Bridge School), as well as the creation of separate parcels for these two uses in conjunction with the City of Boulder's purchase of certain property for open space, all on the 154 acres of property which are owned by the Applicant (7+- acres) and the Abbey of St. Walburga (147+- acres) and are located as described in the caption to this Resolution, above ("the Subject Property"), in the Estate Residential Zoning District in unincorporated Boulder County; and

WHEREAS, from the Subject Property the Applicant proposes to create or have created a 27.12-acre parcel for the Sacred Heart of Mary Parish (currently on a 7+- acre parcel); a 22.5-acre parcel adjacent to the Applicant's parcel and including the present Abbey site for a private educational facility (the Bridge School); a 35-acre parcel for the existing facility known as Accent Gardens (which parcel, since it is not less than 35 acres, does not require County approval for its creation); and a 70-acre parcel to be acquired by the City of Boulder for open space; and

WHEREAS, in addition to its fee purchase of 70 acres, the City of Boulder proposes to acquire certain conservation easements over other portions of the Subject Property; and

WHEREAS, the Applicant proposes to expand the existing Sacred Heart of Mary church building to the east by about 5,350 square feet, including increasing the current seating capacity from 240 to about 340, and also to construct a new multi-purpose building directly east of the church which will be 9,500 square feet with a 2,500-square foot basement area, and to construct a 4,600-square

foot recreation building on the west end of the Parish Hall buildings; and

WHEREAS, the Bridge School is proposed for a maximum of 75 students in grades 6 through 12, with 10 staff, and will be housed in the existing Abbey building with some internal reconfiguration of the building being required; and

WHEREAS, the above-described request was processed and reviewed as Boulder County Land Use Docket #SU-95-23/SE-95-39 ("the Docket"), all as further described in the Boulder County Land Use Department Planning Staff's Memorandum and written recommendation to the Boulder County Board of County Commissioners ("the Board") dated June 13, 1996, with its attachments ("the Staff Recommendation"); and

WHEREAS, on April 17, 1996, the Boulder County Planning Commission ("the Planning Commission") held a duly-noticed public hearing on the Docket, and recommended conditional approval of the Docket to the Board; and

WHEREAS, on June 13, 1996, as continued on June 20, 1996, the Board held a duly-noticed public hearing on the Docket ("the Public Hearing"), at which time the Board considered the Staff Recommendation and the recommendation of the Planning Commission, and also considered the documents and testimony presented by the County Land Use Department Planning Staff, the Applicant's planning consultant, numerous other representatives and supporters of the Applicant, as well as other members of the public as reflected on the record of the Public Hearing; and

WHEREAS, based on the Public Hearing, the Board finds that the Docket meets the criteria for special use approval and limited impact special use approval set forth in Article 4 of the Boulder County Land Use Code ("the Land Use Code"), and can be approved, subject to the conditions stated below, and, further, that the Docket, with the submission of the standard development agreement, meets the criteria in the Land Use Code for a site-specific development plan set forth in Article 4 of the Land Use Code, subject to the conditions stated below; and

WHEREAS, based on the Public Hearing, the Board also finds that the subdivision exemption request portion of the Docket meets the criteria for an exemption to recognize the community facility lots splits proposed in the Docket, as set forth in Article 9 of the Land Use Code, subject to the Applicant's compliance with all applicable post-approval requirements of Article 9 and subject to the conditions stated below.

NOW, THEREFORE, BE IT RESOLVED that the Docket is hereby approved, on the basis set forth in this Resolution, above, and subject to the following conditions:

1. The proposed two modular classroom units needed by the Bridge School for the 1996-97 school year shall be removed no later than the beginning of the 1997 academic school year. The Applicant shall post a bond, or some other acceptable method, to guarantee the removal of both modulars within the required time frame.
2. The Applicant shall be responsible for the construction of a westbound deceleration lane on S. Boulder Road at S. 68th Street, construction of a westbound deceleration lane on S. Boulder Road into S. 68th Street, construction of a continuous acceleration/deceleration lane on S. Boulder Road between S. 68th Street and Ed's Way, and construction of an acceleration lane on S. Boulder Road from Ed's Way. The Applicant shall also contribute to a signal at S. 68th Street when warranted.
3. The Applicant shall provide a revised landscape plan, to be reviewed and approved by the Land Use Staff, to include berming and trees along the west side of the new recreation building. The new recreation building shall be painted a color similar to the existing Abbey building. All other new structures shall be painted the same colors as the existing church.
4. The Applicant shall provide final engineering plans, stamped by a Professional Engineer, for access improvements, water line improvements, and grading and parking areas, prior to recording the Development Agreement.
5. The Applicant shall apply for and receive approval for ISDS permits from the County Health Department prior to the construction of new buildings.
6. The Applicant shall submit final plans and receive final approval from the City of Lafayette for the replacement of the water pipeline and taps prior to recording the Development Agreement.
7. The Applicant shall receive final approval from the Cherryvale Fire Protection District for fire hydrants, sprinkler systems and fire alarms, and clear/unobstructed access to all sides of the school and three sides of all other buildings for fire access prior to recording the Development Agreement. The Agreement between the Applicant and the Fire Protection District dated May 24, 1996, shall be incorporated as the fire protection plan for this proposal. Sprinkler and smoke alarms shall be monitored by an outside agency.
8. The Applicant shall be subject to the six recommendations by the County Historic Preservation Advisory Board dated February 1, 1996, as clarified in the Staff Recommendation.

9. The Bridge School shall be limited to a maximum of 75 students.
10. This approval constitutes the maximum appropriate development on the proposed Bridge School and Sacred Heart of Mary Church parcels under the County's zoning regulations and special use criteria (Article 4 of the Land Use Code). In the Board's assessment, any further structural development on these parcels would constitute new urban development contrary to the Comprehensive Plan and would be an overintensive use of land violating the special use criteria. Therefore, the areas of the reconfigured Church and School parcels which are not to be encumbered by a conservation easement granted to the City of Boulder, and which are not covered by the development (parking areas, drives, and buildings) approved in this Docket, shall be designated as no-build areas which will be devoted to open agricultural uses. No structures will be allowed in these no-build areas, except structures accessory to open agricultural uses subject to review and approval under the site plan review process of Article 4 of the Land Use Code. These areas will be identified on a revised site plan to be attached to and recorded with the Development Agreement. The site plan and this restriction shall also be referenced on the face of the deeds to be executed and recorded for the reconfigured parcels.
11. The Applicant shall submit a Development Agreement for review and approval by the County Land Use and County Attorney's staffs prior to recordation.
12. The Applicant shall be subject to the terms, conditions, and commitments of record and in the file for the Docket.

A motion to approve the Docket, as stated above, was made by Commissioner Mendez, seconded by Commissioner Danish, and passed by a 3-0 vote.

ADOPTED this 25th day of June, 1996, nunc pro tunc the 20th day of June, 1996.



BOARD OF COUNTY COMMISSIONERS OF BOULDER COUNTY:

Ronald K Stewart

 Ronald K. Stewart, Chair

Jana L. Mendez

 Jana L. Mendez, Vice Chair

Paul D. Danish

 Paul D. Danish, Commissioner

ATTEST:

Dianne M. Ashcraft

 Clerk to the Board



0

**AMENDED DEVELOPMENT AGREEMENT
RELATING TO THE DEVELOPER'S OBLIGATIONS FOR
THE BRIDGE SCHOOL OF BOULDER LIMITED PARTNERSHIP AS SET FORTH IN
BOULDER COUNTY LAND USE DOCKET #SU-00-12
("BRIDGE SCHOOL SPECIAL USE AMENDMENT)**

THIS AGREEMENT is made on this ___ day of November, 2001, by and between the Board of the County Commissioners of Boulder County, Colorado, hereinafter referred to as the "County" and The Bridge School of Boulder L.P., a Colorado Limited Partnership, hereinafter referred to as the "Developer."

WHEREAS, the County approved a Special Use Review permit for The Bridge School to operate as set forth in Docket #SU-95-23/SE-95-39 in Resolution 96-90 approving that docket, and in the associated Development Agreement dated September 2, 1997, and recorded at Reception No. 1728702 in the records of the Boulder County Clerk and Recorder ("the original Bridge School Approval"); and

WHEREAS, Developer has applied to the County to amend the Original Bridge School Approval, to expand the number of students allowed to attend the school and to construct a school building addition, as requested in Docket #SU-00-12 ("the Amendment Request"); and

WHEREAS, the County has approved the Amendment Request in part ("the Development"), as set forth in Resolution 2001-15, a copy of which is attached to and incorporated into this Agreement as Exhibit A; and

WHEREAS, the County has fully considered the Development and the requirements to be imposed upon the land and properties by reason of the Development; and

WHEREAS, the County is willing to approve the Development upon the agreement of the Developer to the matters herein described: and

WHEREAS, the County has determined that this Agreement is consistent with the Boulder County Comprehensive Plan and applicable County regulations.

NOW, THEREFORE, in consideration of the premises, the mutual covenants herein contained and the approval of the Development, it is agreed as follows:

1. Development. No new additions to the existing building shall be allowed. Enrollment shall be limited as further set forth below.

2. Enrollment Limits and Special Events. The Bridge School is limited to a total enrollment of a maximum of 105 students on the property which is subject to Docket #SU-00-12 (the "Property") per day for grades 6-12. Applicant-sponsored sporting events after school shall be limited to 10 soccer games and 10 baseball games per year, and shall be limited to a maximum of 50 non-student participants at each event. A maximum of 3 major School-sponsored parent events (such as Welcome Back Night, Back-to-School Night, Silent Auction) may be allowed per year with a



maximum of 80 non-student participants at each event. A maximum of 15 school-sponsored student events (such as drama, music, art, science) may be allowed per year with a maximum of 50 non-student participants at each event. Other than these special events, no other special events may be allowed either on the School's part, or on the part of other educational institutions or potential users of the School facilities, except as expressly allowed herein.

3. Biannual Reports. To allow for proper monitoring of the limitations in Paragraph #2, above, the Developer shall provide a detailed enrollment and special events report to the County Land Use Department two times per year.

4. CUSD. The Colorado Science Discovery (CUSD) program shall also be limited to a maximum of 105 total students on the Property per day during the summer season.

5. Church Usage. The Columbine Unity Church may continue to meet at the Bridge School on Sundays, and on major religious holidays which may not occur on Sundays (Good Friday, Christmas Eve and Christmas Day) as a temporary church facility pending the Church's relocation to a permanent site, provided that the County, in its discretion, enacts amendments to its Land Use Code which allow for such a temporary use, and provided further that use of the site is for worship only, is in conformity with such Land Use Code amendments allowing the temporary use, and does not exceed an occupancy limit on the Property of 99 persons. Subsequent to the County's approval of the Development, the County passed Resolution 2001-41 (effective April 5, 2001) allowing for such a use subject to Special Use approval. The Church must comply with these regulations to be considered a legal use on the Property.

6. Transportation. The Developer has provided to the County Transportation Department a plan to minimize student, parent and faculty travel on South Boulder Road during peak hours (as defined by the County Transportation Department in consultation with the Developer). The school hours shall be: start - 8:00a.m., end - 3:30p.m.. As required by the Boulder County in Resolution 2001-15, Developer has provided a pedestrian crosswalk along South Boulder Road at Ed's Way to warn drivers of the crossing potential.

7. Denial of Alternate Access. The Developer has provided evidence that it has inquired about obtaining access through the Sacred Heart of Mary Church property to the intersection with south 68th Street, and it has been denied use of such access.

8. Contribution to Traffic Signal. The Developer shall contribute financially to its fair share, with the Sacred Heart of Mary Church, for a traffic signal at S. 68th Street when warranted, if an access easement is obtained.

9. Vested Rights. The statutory vested right granted for the Development through Docket #SU-00-12 shall apply to a school with the enrollment limitations imposed herein, and shall run for a period of three (3) years beginning on the date of adoption of Exhibit A hereto (March 27, 2001).

10. Agreement Subject to Prior Approvals. The Developer shall be subject to the terms, conditions and commitments of record for the Original Bridge School Approval, which shall remain



in full force and effect except as expressly amended herein.

11. Recordation. The Developer shall record this Development Agreement with the Boulder County Clerk and Recorder following its approval by the Board of County Commissioners.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals this _____ day of November, 2001.

OWNER-DEVELOPER:
BRIDGE SCHOOL OF BOULDER, LP,
By: James M. Sherman
General Partner

BOULDER COUNTY
Jana L. Mendez
Chair, Boulder County Board of
County Commissioners

ATTEST:

Edward R. Byrne
Edward R. Byrne

Mike Ryder
Mike Ryder
Deputy Clerk
CLERK OF
BOULDER COUNTY
BOULDER COUNTY, COLORADO



RESOLUTION 2001-15

A RESOLUTION CONDITIONALLY APPROVING DOCKET #SU-00-12 ("BRIDGE SCHOOL SPECIAL USE AMENDMENT"): A REQUEST FOR A SPECIAL USE REVIEW /SITE SPECIFIC DEVELOPMENT PLAN AMENDMENT TO DOCKET #SU-95-23, INCLUDING AN INCREASE IN ENROLLMENT FROM 75 STUDENTS TO 160 STUDENTS, AND A 5,544 SQUARE-FOOT ADDITION TO THE EXISTING 17,900 SQUARE-FOOT SCHOOL BUILDING, ON PROPERTY LOCATED AT 6717 SOUTH BOULDER ROAD, WEST OF S. 68TH STREET, IN SECTION 2, T1S, R70W

WHEREAS, in Docket #SU-95-23, at the request of the Bridge School of Boulder ("Applicant"), the Board of County Commissioners ("the Board") conditionally approved a special use permit allowing, among other authorizations, the use of an existing building for a private school limited to 75 students in grades 6-12, with 10 full-time-equivalent staff, on the property which is located as described in the caption to this Resolution, above, in the Estate Residential Zoning District in unincorporated Boulder County; and

WHEREAS, in this proposed amendment to the special use permit approved in Docket #SU-95-23, the Applicant seeks to increase the private school enrollment to 160 students (subsequently revised to request a maximum enrollment of 144 students and 20 full-time-equivalent staff), and to construct a 5,544 square-foot addition to the existing 17,900 square-foot school building; and

WHEREAS, the Applicant currently has an enrollment of 105 students, in violation of its existing special use permit, and also allows the University of Colorado Science Discovery Program to use its facilities in the summer, and the Columbine Unity Church to use its facilities for worship on Sundays, neither of which use the existing special use permit authorized; and

WHEREAS, the above-described special use amendment request was processed and reviewed as Docket #SU-00-12 ("the Docket"), all as further described in the memorandum and recommendation of the Boulder County Land Use Department dated January 11, 2001, with its attachments ("the Staff Recommendation"); and

WHEREAS, on August 16, October 18, and November 15, 2000, the Boulder County Planning Commission ("the Planning Commission") held a duly-noticed public hearing on the Docket, and split evenly for and against a vote to recommend conditional approval of the Docket to the Board, at a limit of 105 students; and

WHEREAS, on January 11, 2001, as continued to January 30, 2001, the Board held a duly noticed public hearing to consider the Docket ("the Public Hearing"), at which time the Board considered the recommendation of the Planning Commission, the Staff Recommendation, and the documents and testimony presented by the



County Land Use Department Planning Staff, representatives of the Applicant, and members of the public speaking both for and against the Docket; and

WHEREAS, based on the Public Hearing, the Board finds that the Docket meets the criteria for a special use permit amendment set forth in Article 4-600 of the Boulder County Land Use Code ("the Land Use Code"), and meets the Land Use Code's criteria for a site-specific development plan amendment subject to the execution of the County's standard development agreement, and can be approved, subject to the conditions stated below.

NOW, THEREFORE, BE IT RESOLVED that the Docket is approved, subject to the following conditions:

1. No new additions to the existing building shall be allowed.
2. The Applicant/School may increase its total enrollment to a maximum of 105 students total per day for grades 6-12. Applicant-sponsored sporting events after school shall be limited to 10 soccer games and 10 baseball games per year, with a maximum of 50 non-student participants at each event. In addition, a maximum of three (3) major, School-sponsored parent events (such as Welcome Back Night, Back-to-School Night, and Silent Auction) may be allowed, with a maximum of 80 non-student participants at each event. A maximum of 15 School-sponsored student events (such as drama, music, art, science) may be allowed, with a maximum of 50 non-student participants at each event. Other than these special events no other special events may be allowed either on the School's part, or on the part of other educational institutions or potential users of the School facilities, except as expressly allowed herein.
3. To allow for proper monitoring of the limitations in Condition #2, above, the Applicant/School shall provide a detailed enrollment and special events report to the County Land Use Department two times per year.
4. Except for the 2001 summer season, the Colorado Science Discovery program shall also be limited to a maximum of 105 students total per day. For the 2001 summer season only, the Colorado Science Discovery program may enroll a maximum of 160 students per day, with no more than 75 students to be present at the School at any one time.
5. The Columbine Unity Church may continue to meet at the School on Sundays, and on major religious holidays which may not occur on Sundays (Good Friday, Christmas Eve and Christmas Day), as a temporary church facility pending the Church's relocation to a permanent site, provided that the County, in its discretion, enacts amendments to its Land Use Code which allow for such a temporary



use, and provided further that use of the site is for worship only, is in conformity with such Land Use Code amendments allowing the temporary use, and does not exceed an occupancy limit of 99 persons.

6. Prior to recordation, the Applicant shall provide to the County Transportation Department a plan to minimize the use of South Boulder Road during peak travel hours (as defined by the County Transportation Department), which may include adjusting school hours, and shall also provide a pedestrian crosswalk along South Boulder Road at Ed's Way to warn drivers of the crossing potential.

7. The Applicant shall provide evidence that it has inquired about obtaining access through the Sacred Heart of Mary Church property to the intersection with S. 68th Street, and has been denied use of this access. The Applicant shall also contribute financially to its fair share, with the Sacred Heart of Mary Church, for a traffic signal at S. 68th Street when warranted, if an access easement is obtained.

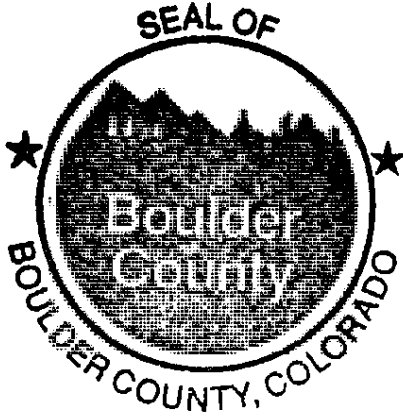
8. The Applicant shall provide a Development Agreement, to be reviewed and approved by County staff, prior to recordation. The statutory vested right granted through this special use amendment process shall apply to a school with the enrollment limitations imposed herein, and shall run for a period of three (3) years beginning on the date of adoption of this Resolution, as stated below.

9. The Applicant shall be subject to the terms, conditions and commitments of record and in the file for Docket #SU-95-23, which shall remain in full force and effect except as expressly amended in this approval.

A motion to approve the Docket, as set forth above, was made by Commissioner Stewart, seconded by Commissioner Danish, and passed by a 3-0 vote of the Board.



ADOPTED this 27th day of MARCH, 2001, nunc pro tunc
the 30th day of January, 2001.



BOARD OF COUNTY COMMISSIONERS
OF BOULDER COUNTY:

Jana L. Mendez
Jana L. Mendez, Chair

Paul D. Danish
Paul D. Danish, Vice Chair

Ronald K. Stewart
Ronald K. Stewart, Commissioner

ATTEST:

Mike Ryder
Deputy Clerk to the Board

RECORDER'S NOTE:
PORTION OF DOCUMENT IS A
PHOTOCOPY.

3



RESOLUTION 2001-41

A RESOLUTION APPROVING BOULDER COUNTY LAND USE DOCKET #DC-01-01: PROPOSED TEXT AMENDMENTS TO ARTICLE 4 OF THE BOULDER COUNTY LAND USE CODE, TO ADD SECTION 4-516(B) PROVIDING FOR AN ACCESSORY USE KNOWN AS "TEMPORARY ACCESSORY COMMUNITY MEETING FACILITIES"

WHEREAS, pursuant to C.R.S. Sections 30-28-112 and -116, as amended, the Board of County Commissioners of Boulder County ("the Board") is authorized to amend the text of County's Zoning Regulations in accordance with the procedures set forth in those provisions and the applicable County regulations; and

WHEREAS, pursuant to C.R.S. Section 30-28-133, as amended, the Board is authorized to amend the text of the County's Subdivision Regulations in accordance with the procedures set forth in those provisions and the applicable County regulations; and

WHEREAS, pursuant to other statutory authority, the Board is empowered to adopt additional regulations which are related to the control of land use, including but not limited to Article 65.1 of Title 24 (Areas and Activities of State Interest); Articles 67 and 68 of Title 24 (Planned Unit Developments and Vested Rights, respectively); Article 20 of Title 29 (Local Land Use Enabling Act); Articles 11 and 15 of Title 30 (County Powers and Police Power, respectively); Article 1 of Title 32 (Special District Control); and Article 2 of Title 43 (County Highways), C.R.S.; and

WHEREAS, pursuant to the above-referenced authority, by Resolution 94-185 adopted October 18, 1994, effective October 19, 1994, the Board approved a unified Boulder County Land Use Code ("the Land Use Code"), which the Board first amended by Resolution 95-27 effective March 9, 1995, and has amended on subsequent occasions thereafter; and

WHEREAS, in Docket #DC-01-01 ("the Docket"), the Boulder County Land Use Department proposed certain additional text amendments to Article 4 of the Land Use Code, specifically to add Section 4-516(B) to allow for a new type of accessory use in existing educational facilities (schools), known as "temporary accessory community meeting facilities," all as further set forth in the memorandum and recommendation of the Boulder County Land Use Department dated April 3, 2001 ("the Proposed Amendments"); and

WHEREAS, at a duly-noticed public hearing on October 17, 2000, the Boulder County Planning Commission ("the Planning Commission") directed the County Land Use Department to prepare the Proposed Amendments, and subsequently held two duly-noticed public hearings on the Proposed Amendments, and recommended approval of the Proposed Amendments and certified the Docket for action to the Board; and



WHEREAS, on April 3, 2001, the Board held a duly noticed public hearing on the Docket as certified to it by the Planning Commission ("the Public Hearing"), at which time the Board considered the documents and testimony presented by the County Land Use Department Director, Assistant County Attorney, and several members of the public; and

WHEREAS, based on the Public Hearing, the Board finds that the Proposed Amendments, specifically in the form set forth in Exhibit A hereto, meet the criteria for text amendments contained in Article 16 of the Land Use Code, in that the existing text is in need of amendment; the Amendments are not contrary to the intent and purpose of the Land Use Code; and the Amendments are in accordance with the Boulder County Comprehensive Plan, all as set forth in and supported by the record of the Public Hearing; and

WHEREAS, the Board thus determines that the Proposed Amendments, as set forth in Exhibit A hereto, should be approved for incorporation into the Land Use Code.

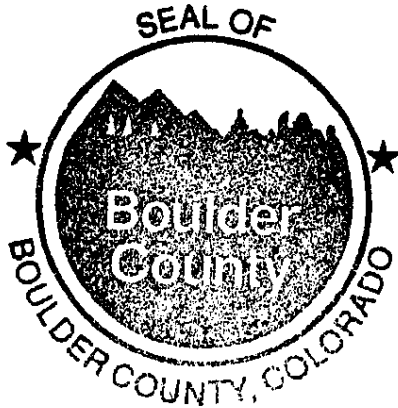
NOW, THEREFORE, BE IT RESOLVED that the Proposed Amendments, specifically in the form of Exhibit A attached hereto and incorporated herein by this reference, are hereby approved for incorporation into the Land Use Code, to be effective beginning on the date of adoption of this Resolution, as set forth below.

A motion to approve the Proposed Amendments, as set forth above, was made at the Public Hearing by Commissioner Danish, seconded by Commissioner Stewart, and passed by a 3-0 vote.



ADOPTED on this 5th day of April, 2001.

BOARD OF COUNTY COMMISSIONERS
OF BOULDER COUNTY:



Jana L. Mendez

Jana L. Mendez, Chair

Paul D. Danish

Paul D. Danish, Vice Chair

Ronald K. Stewart

Ronald K. Stewart, Commissioner

ATTEST:

Deputy
Mike Ryder

Clerk to the Board



4-516 Accessory Uses

B. Temporary Accessory Community Meeting Facility

1. Definition: An accessory community meeting facility is the use of a legally existing Educational Facility, including its accessory structures, for meetings of community groups including, but not limited to, homeowners associations, civic groups, religious groups, philanthropic organizations and other similar groups, provided that the accessory use:
 - a. does not result in noise, vibration, light, odor, dust, smoke, or other air pollution causing a substantial negative impact on surrounding land uses and/or public use of public facilities in the area,
 - b. is clearly subordinate to the use of the lot for its principal Educational Facility use and does not change the character of the lot, including, but not limited to, possible limits on hours of use, and is otherwise subject to all restrictions applicable to the principal use except as provided herein,
 - c. does not include the outside storage of goods, materials, or equipment,
 - d. has signage limited to a nonilluminated identification sign two square feet or less in size,
 - e. does not produce traffic volumes exceeding that approved for the principal use, and
 - f. does not occur during the principal hours of operation of the principal use
2. Districts Permitted: By special review in all districts in which Educational Facilities are permitted
3. Parking Requirements: Same as that required for the corresponding principal use
4. Loading Requirements: Same as that required for the corresponding principal use
5. Additional Provisions:
 - a. The use is limited to no more than a one year's existence on the property from the date of establishment on that property, except that the Land Use Director shall have the authority to extend this term for successive one-year terms after giving notice to property owners within 1,500 feet of the property and provided no significant opposition to continuing the use is received (and if it is, the use shall cease unless re-approved through special review).
 - b. Annually, the principal use shall submit a report to the Boulder County Land Use Department advising them of the groups who are permitted to use the property

4-416 B would be changed to C, C to D, etc. through the list of accessory uses.





**AMENDED DEVELOPMENT AGREEMENT
RELATING TO THE DEVELOPER'S OBLIGATIONS FOR
THE BRIDGE SCHOOL OF BOULDER LIMITED PARTNERSHIP
AS SET FORTH IN BOULDER COUNTY LAND USE
DOCKET #SU-06-015**

THIS AGREEMENT is made on this 2nd day of February, 2008, by and between the Board of County Commissioners of Boulder County (the "County"), and the Bridge School of Boulder Limited Partnership, a Colorado limited partnership (the "Developer").

WHEREAS, the County approved a Special Use Review permit for the Bridge School to operate on a 22.5 acre parcel of property located at 6717 S. Boulder Road, unincorporated Boulder County (the "Property"), as set forth in Docket #SU-95-23/SE-95-39 approved in Resolution 96-90 (the "1996 Approval"), and in the associated Development Agreement dated September 2, 1997, and recorded at Reception No. 1728702 of the Boulder County, Colorado real property records (the "1997 Development Agreement"); and

WHEREAS, the County approved an amended Special Use Review permit for the Bridge School to operate as set forth in Docket #SU-00-12 approved in Resolution 2001-15 (the "2001 Approval"), and in the associated Development Agreement recorded on November 27, 2001 at Reception No. 2223598 of the Boulder County, Colorado real property records (the "2001 Development Agreement"); and

WHEREAS, in 2006 the Developer applied to the County to amend the 1996 Approval and the 2001 Approval to (1) allow the educational facility special use recognized on the Property to be conducted by the Hillside School and potentially other educational facilities in addition to the Bridge School; (2) expand the recognized special use to allow up to a combined total of one hundred fifty-five (155) students in grades K – 12 and twenty-four (24) staff; and (3) modify the limits on school athletic and special events imposed in the 2001 Approval, all as requested in Boulder County Land Use Docket #SU-06-015 (the "Docket"); and

WHEREAS, the County approved the Docket as set forth in Resolution 2007-73, which is attached hereto as Exhibit A, as subsequently clarified and modified in Resolution 2007-117, which is attached hereto as Exhibit B (collectively, the "2007 Approval"); and

WHEREAS, the County has granted the 2007 Approval upon the agreement of the Developer to the matters herein described; and

WHEREAS, the County has determined that this Agreement is consistent with the Boulder County Comprehensive Plan and applicable County regulations.

NOW, THEREFORE, in consideration of the premises, the mutual covenants



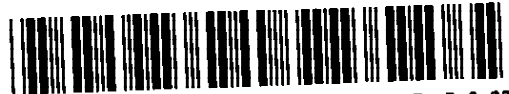
herein contained and the 2007 Approval of the Docket, the County and the Developer agree as follows:

1. 1997 Development Agreement. The 1997 Development Agreement is amended to remove the provisions of Paragraph 10 therein limiting the approved educational facility use to a maximum of 75 students in grades 6 through 12 and 10 staff.

2. 2001 Development Agreement. The 2001 Development Agreement is amended to remove Paragraph 2, Paragraph 4, and Paragraph 5 in their entirety, and to remove the second sentence of Paragraph 1.

3. Development Allowed in 2007 Approval. The following development is recognized in the 2007 Approval and allowed under this Agreement:

- a. The Property is approved for an educational facility with a maximum of 155 students in grades K-12 and 24 full time staff. The 2007 Approval recognizes that the institutions currently operating on the Property within this combined total student attendance/staffing limit are the Bridge School and the Hillside Learning Center (a/k/a Hillside School).
- b. The use of the Property for sporting, parent, and student events and for summer programs related to the approved educational facility use is limited as follows:
 1. SPORTING EVENTS (involving sports such as soccer and baseball, for which student athletes and parents attend the events): 80 people allowed on the Property for 21 such events each year.
 2. PARENT EVENTS (involving only parents, such as Back to School night): 106 people allowed on the Property for 5 such events each year.
 3. STUDENT EVENTS (involving students, such as drama productions, art shows and science fairs, for which students and parents attend the events): 141 people allowed on the Property for 20 such events each year.
 4. SUMMER PROGRAMS: The Colorado Science Discovery program and Bits, Bytes and Bots program or any similar summer school program or combination of programs shall be limited to a maximum of 105 students per day, with no more than 75 students to be present at any



one time during the summer session.

- c. Pursuant to Paragraph 3 of the 2001 Development Agreement, the Developer shall continue to provide a detailed enrollment and special events report to the County Land Use Department two times per year to allow for proper monitoring of the limitations set forth in Subparagraphs a.-b. above.

4. Educational Facilities. Notwithstanding the references to the Bridge School and/or the Hillside Learning Center (a/k/a the Hillside School) in the 1996 Approval, the 2001 Approval, the 2007 Approval and their associated Development Agreements (collectively, "the Bridge School Special Use Approvals"), the foregoing Approvals control the use of the Property as an educational facility and do not limit the individual user(s) of the Property, so long as such user(s) complies with the terms and conditions of the Bridge School Special Use Approvals. A different educational facility may replace or be added to the Bridge School and/or Hillside Learning Center so long as the County determines that a different school(s) does not substantially change the terms of or impacts associated with the Bridge School Special Use Approvals.

5. No Further Expansion Requests from the Developer. The Developer agrees that for so long as it owns the Property it shall not make any further requests for expansion of structures or usage/attendance for the educational facility use on the Property as recognized in the Bridge School Special Use Approvals.

6. County Understanding on Maximum Use. It is the understanding and assessment of the current Board of County Commissioners, as stated in Exhibit B, that the Bridge School Special Use Approvals constitute the maximum appropriate intensity of use of the Property as an educational facility, beyond which the use would not be compatible with the rural character of the surrounding area and would constitute new urban development contrary to the Boulder Valley Comprehensive Plan.

7. Drive and Parking Improvements. The Developer has made all required drive and parking improvements reflected on Exhibit C (approved driveway and parking improvement plan) attached hereto. The Developer shall notify the County Land Use Department and provide a parking plan to be reviewed and approved by the County in the event the Sacred Heart of Mary Church cancels the current Parking Agreement with the Developer, pursuant to the further provisions of Paragraph 5 of Exhibit A.

8. Travel Demand Management Plan. The Developer shall be subject to the proposed Travel Demand Management Plan dated June 27, 2007, attached hereto as Exhibit D. As further required in Condition #4 of Exhibit A, the Applicant has provided the County staff with a copy of its agreement with RTD for the issuance of Eco-Passes to the students of Bridge School, and a copy of the publication promoting car-pooling that is provided to parents at school registration.



9. Wastewater Flows Monitoring. The Developer shall comply with all applicable requirements of Boulder County Public Health and Condition #6 of Exhibit A.

10. Pond Area Management Plan. The Developer has submitted a management plan for the 1.5-acre cottonwood/ditch/pond area, which has been approved by the County and is attached hereto as Exhibit E.

11. Signs. The Developer has removed all signs not in compliance with Article 13 of the Boulder County Land Use Code (see Condition #8 of Exhibit A), and County staff has confirmed this compliance.

12. Ratification. Except as previously amended or amended herein, the provisions of the Bridge School Special Use Approvals shall remain in full force and effect.

13. Vested Rights. The statutory vested right granted for the Property pursuant to the Docket, which specifically is for the increased enrollment allowances recognized in Condition #11 of Exhibit A, shall run for a period of three (3) years beginning on the date of adoption of Exhibit A. The Developer may request an extension of the vested right approved herein in accordance with the County Land Use Code and applicable State law.

14. Amendment/Waiver. This Agreement may be canceled or amended with the mutual consent of the parties or to bring the Property into conformance with federal or state law. The County shall have the right to waive its rights to enforce this Agreement, without obtaining the consent of any other entity or person, provided that any waiver shall be made in writing to be effective. However, any cancellation, amendment, or waiver which represents a material modification of the 2007 Approval of the Docket shall require a public hearing and approval according to applicable County land use regulations.

15. Enforcement. The County may conduct a periodic review of the Property as necessary to assure compliance with this Agreement. This right includes the right to enter upon the Property at any time, with reasonable prior notice, to inspect for compliance with the terms of this Agreement. The County or any purchaser of any land subject to the requirements of this Agreement shall have the authority to bring an action in the Boulder County District Court to compel the enforcement of this Agreement and the restrictions and requirements herein provided for, and to seek other relief as may be authorized by law.

16. Transfer. This Agreement is intended to provide for the orderly development of the Property in accordance with the terms hereof. Those owners of the Property or any portion of the Property who obtain title subsequent to the date of this Agreement, or persons holding under Developer or subsequent owners, shall be entitled



to use the Property as set forth herein by complying with the terms hereof, and shall also be bound by all applicable terms and obligations of this Agreement, with the exception of Paragraph 5 above which is applicable to the Developer only, and not its successors or assigns.

17. Recordation. The Developer shall record this Agreement in the real property records of Boulder County, Colorado following its execution by the County.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals as of the date set forth above.

DEVELOPER:

BRIDGE SCHOOL OF BOULDER
LIMITED PARTNERSHIP, a Colorado
limited partnership

By: [Signature]
James Sherman, General Partner

STATE OF COLORADO }
 }ss.
COUNTY OF BOULDER }

5th The above and foregoing instrument was acknowledge before me personally this February, 2008, by James Sherman, General Partner of Bridge School of Boulder Limited Partnership, a Colorado limited partnership, on behalf of the partnership.

Witness my hand and official seal.

[Signature]
Notary Public



My commission expires: 1/12/2009

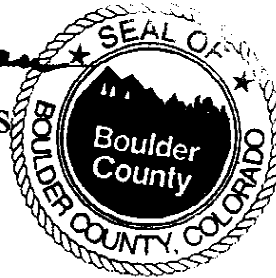


COUNTY:

BOULDER COUNTY

Ben Pearlman

CHAIR, BOULDER COUNTY
BOARD OF COUNTY COMMISSIONERS



ATTEST:

Jana Pet
CLERK TO THE BOARD

EXHIBIT A

RESOLUTION 2007-73

A RESOLUTION CONDITIONALLY APPROVING BOULDER COUNTY LAND USE DOCKET #SU-06-015 ("BRIDGE SCHOOL OF BOULDER SPECIAL USE AMENDMENT"): A REQUEST FOR A SPECIAL USE REVIEW/SITE SPECIFIC DEVELOPMENT PLAN AMENDMENT TO DOCKETS #SU-95-23 AND #SU-00-12, INCLUDING AN INCREASE IN ENROLLMENT FROM 105 STUDENTS TO 155 STUDENTS IN GRADES K-12, AUTHORIZATION FOR THE HILLSIDE LEARNING CENTER TO OPERATE ALONG WITH THE BRIDGE SCHOOL SUBJECT TO OVERALL APPROVED STUDENT AND STAFF LIMITS, AND CERTAIN MODIFICATIONS TO THE IMPOSED LIMITS ON SCHOOL ATHLETIC AND SPECIAL EVENTS, ON PROPERTY LOCATED AT 6717 SOUTH BOULDER ROAD, WEST OF S. 68TH STREET, IN SECTION 2, T1S, R70W, UNINCORPORATED BOULDER COUNTY

WHEREAS, in Docket #SU-95-23 (Resolution 96-90), at the request of the Bridge School of Boulder ("Applicant"), the Board of County Commissioners of the County of Boulder ("the Board") conditionally approved a special use permit allowing, among other authorizations, the use of an existing building for a private school limited to 75 students in grades 6-12, with 10 full-time-equivalent staff, on the property which is located as described in the caption to this Resolution, above, in the Estate Residential Zoning District in unincorporated Boulder County ("the Subject Property"); and

WHEREAS, in Docket #SU-00-12 (Resolution 2001-15), the Board approved an amendment to the special use permit granted for the Bridge School in Docket #SU-95-23, increasing the school's allowed enrollment to 105 students in grades 6-12, imposing certain limits on school athletic and special events, and allowing the Colorado Science Discovery program to occur on the Subject Property during the summer months; and

WHEREAS, the Applicant now wishes to increase its enrollment to a total of 155 students in grades K through 12 (no longer confined to grades 6-12), to obtain express permission to run the Hillside Learning Center along with the Bridge School on the Subject Property, and to relax the limits on school athletic and special events imposed in Resolution 2001-15; and



WHEREAS, the above-described special use amendment request was processed and reviewed as Docket #SU-06-015 ("the Docket"), all as further described in the memoranda and recommendation of the Boulder County Land Use Department dated June 12, 2007 and July 10, 2007, with their attachments (collectively, "the Staff Recommendation"); and

WHEREAS, on May 16, 2007, the Boulder County Planning Commission ("the Planning Commission") held a duly-noticed public hearing on the Docket, and voted to recommend denial of the Docket to the Board; and

WHEREAS, on June 12, 2007, as continued to July 10, 2007, the Board held a duly noticed public hearing on the Docket ("the Public Hearing"), at which time the Board considered the recommendation of the Planning Commission, the Staff Recommendation, and the documents and testimony presented by the County Land Use Department Planning Staff and County Public Health staff, representatives of the Applicant, and members of the public speaking both for and against the Docket; and

WHEREAS, based on the Public Hearing, the Board finds that the Docket meets the criteria for a special use permit amendment set forth in Article 4-600 of the Boulder County Land Use Code ("the Land Use Code"), and meets the Land Use Code's criteria for a site-specific development plan amendment, subject to the execution of the County's standard development agreement, and subject specifically to the conditions and limitations imposed below, and therefore concludes that the Docket can be approved as expressly permitted and limited below; and

WHEREAS, the Board in particular finds that the conditions of approval imposed in this Docket below, are designed specifically to assure that adequate parking for the increased numbers of students/staff and other school attendees is adequate; that the on-site wastewater disposal system can handle the increased numbers of students/staff and attendees; and that the rural character of the Subject Property and surrounding area and neighborhood, as protected through the County's zoning and Comprehensive Plan, is further maintained and preserved through the Applicant's voluntary commitment to grant a conservation easement assuring no further expansion of the approved school structures or use on the Subject



Property.

NOW, THEREFORE, BE IT RESOLVED that the Docket is approved, subject to the following conditions:

1. Conditions #2 and #4 of Resolution 2001-15 are superseded by the following provisions: The Applicant shall be limited to a maximum of 155 students in grades K-12, and 24 full-time staff, including students and staff for both the Bridge School and the Hillside Learning Center. The Applicant shall also be limited to the maximum number of people on site at any one time for school-related Sporting, Parent, and Student Events, as follows:

SPORTING EVENTS (involving sports like soccer and baseball, for which students and parents attend the events): 80 people allowed on site per event, for 21 events each year.

PARENT EVENTS (such as Back to School night, for which only parents attend the events): 106 people allowed on site per event, for 5 events each year.

STUDENT EVENTS (involving students, such as drama productions, art shows and science fairs, for which students and parents attend the events): 141 people allowed on site per event, for 20 events each year.

In addition, the Colorado Science Discovery program and Bits, Bytes and Bots program, or any similar summer school program or combination of programs, shall be limited to a total maximum of 105 students per day, with no more than 75 students to be present at any one time during the summer season.

No other events or usage of the School are authorized except as expressly provided herein.



2. The Applicant shall provide a Development Agreement that shall be approved and recorded by County staff no later than September 4, 2007. In addition, with the Development Agreement, the Applicant shall have approved and recorded a conservation easement encumbering the Subject Property, reflecting the Applicant's express commitment made in the Docket that no further expansion of structures or usage/attendance will be requested or will occur in the future.
3. The Applicant shall submit a plan for the required drive and parking improvements for review and approval by County staff prior to recording the Development Agreement, including but not limited to, directional and parking signage and parking area expansions. In addition, all parking spaces that are created will be required to meet all road standards and specifications, as described in Section 4.10.6 and Figure 4-9 of the Boulder County Road Standards and Specifications, as amended. The Applicant shall complete all required drive and parking improvements prior to the earlier of any increase in the enrollment beyond the 105 students or any increase in events beyond those currently allowed, and no later than the beginning of the 2007-2008 school year, whichever occurs first.
4. The Applicant shall be subject to its proposed Travel Demand Management Plan dated June 27, 2007, which is part of the official Docket file. In addition, prior to recording the Development Agreement, the Applicant shall provide County staff a copy of the agreement with Regional Transportation District (RTD) for the issuance of Eco-Passes to the students of Bridge School, and a copy of the publication that promotes car-pooling that is provided to parents at school registration.
5. Should the Sacred Heart of Mary Church cancel the current Parking Agreement, the Applicant shall immediately notify the County Land Use Department and provide a parking plan to be reviewed and approved by Boulder County. If County staff determines that adequate parking for the approved use is not available, County staff may establish reasonable limits on the number of people (events/attendance) that may be allowed



- on site at any one time.
6. The Applicant shall comply with all applicable requirements of County Public Health. In addition, the Applicant shall install flow meters to measure actual wastewater flows, which shall be monitored on a daily basis and correlated with actual numbers of students, staff and after-school guests. The Applicant shall retain a registered professional engineer to provide a report to County Public Health based on this monitoring, estimating and determining the maximum daily wastewater flows and the adequacy of the existing system to handle an increase in flows. This monitoring shall begin at the beginning of the 2007-2008 school year with reports to be submitted to County Public Health on a monthly basis thereafter. The Applicant shall be required to upgrade the system as may be required by County Public Health based on this monitoring. If the Applicant does not assure an adequate wastewater system over time, Boulder County retains the discretion to establish reasonable limits on the number of people (events/attendance) that may be allowed on site at any one time.
 7. The Applicant shall submit a management plan for the 1.5-acre cottonwood/ditch/pond area adjacent to the soccer field on the north, for review and approval by County staff prior to recording the Development Agreement.
 8. The Applicant shall remove all signs that do not comply with Article 13 of the Land Use Code prior to recording the Development Agreement.
 9. Due to the relocation of the Columbine Unity Church, Condition #5 of Resolution 2001-15 is eliminated.
 10. The Applicant shall be subject to all other terms, conditions and commitments of record (Resolution 2001-15 and Resolution 96-90, with their associated Development Agreements), and in the file for the current Docket.



11. The statutory vested right granted through this special use amendment process, which shall apply to the increased enrollment allowances permitted in the current Docket, shall run for a period of three (3) years beginning on the date of adoption of this Resolution, as stated below.

A motion to approve the Docket, as set forth above, was made by Commissioner Pearlman, seconded by Commissioner Toor, and passed by a 2-0 vote of the Board, with Commissioner Domenico being excused.

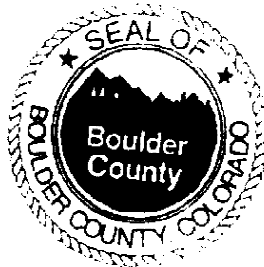
ADOPTED this 12th day of July, 2007, nunc pro tunc the 10th day of July, 2007.

BOARD OF COUNTY COMMISSIONERS
OF BOULDER COUNTY:

Ben Pearlman, Chair

Will Toor, Vice Chair

Cindy Domenico, Commissioner



ATTEST:

Clerk to the Board

EXHIBIT B

RESOLUTION 2007-117

A RESOLUTION AMENDING CONDITION #2 OF RESOLUTION 2007-73 CONDITIONALLY APPROVING BOULDER COUNTY LAND USE DOCKET #SU-06-015 ("BRIDGE SCHOOL OF BOULDER SPECIAL USE AMENDMENT"): A REQUEST FOR A SPECIAL USE REVIEW/SITE SPECIFIC DEVELOPMENT PLAN AMENDMENT TO DOCKETS #SU-95-23 AND #SU-00-12, INCLUDING AN INCREASE IN ENROLLMENT FROM 105 STUDENTS TO 155 STUDENTS IN GRADES K-12, AUTHORIZATION FOR THE HILLSIDE LEARNING CENTER TO OPERATE ALONG WITH THE BRIDGE SCHOOL SUBJECT TO OVERALL APPROVED STUDENT AND STAFF LIMITS, AND CERTAIN MODIFICATIONS TO THE IMPOSED LIMITS ON SCHOOL ATHLETIC AND SPECIAL EVENTS, ON PROPERTY LOCATED AT 6717 SOUTH BOULDER ROAD, WEST OF S. 68TH STREET, IN SECTION 2, T1S, R70W, UNINCORPORATED BOULDER COUNTY

WHEREAS, in Resolution 2007-73, duly adopted following a public hearing held on June 12 and July 10, 2007, the Board of County Commissioners of the County of Boulder ("the Board") conditionally approved Boulder County Land Use Docket #SU-06-015 ("the Docket"), a proposed amendment to the special use permit previously granted to the Bridge School of Boulder Limited Partnership ("Applicant") on the approximately 22.5-acre property located as described in the caption to this Resolution, above ("the Subject Property"); and

WHEREAS, the amendment approved in the Docket allowed the enrollment at the Bridge School to increase to a total of 155 students in grades K through 12 (no longer confined to grades 6-12), allowed the Hillside Learning Center to operate on the Subject Property along with the Bridge School so long as total enrollment does not exceed 155 students, and expanded the limits on sporting, parent, and student events on the Subject Property, all as further set forth in Resolution 2007-73; and

WHEREAS, Condition #2 of Resolution 2007-73 provided as follows:

2. The Applicant shall provide a Development Agreement that shall be approved and recorded by County staff no later than September 4, 2007. In addition, with the Development Agreement, the Applicant shall have approved and recorded a conservation easement encumbering the Subject Property,



reflecting the Applicant's express commitment made in the Docket that no further expansion of structures or usage/attendance will be requested or will occur in the future;

and

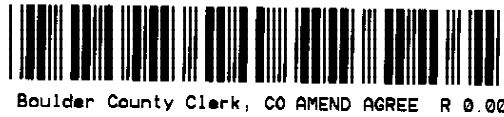
WHEREAS, subsequent to the Board's adoption of Resolution 2007-73, the Applicant consulted with its mortgage company and received letters from the company stating that the Applicant's grant of a conservation easement would violate the negative covenants of the Deed of Trust encumbering the Subject Property and would cause the Applicant's note with the company to be in default; and

WHEREAS, as a result of the mortgage company informing the Applicant that the Applicant could not satisfy the requirements of the second sentence of Condition #2 of Resolution 2007-73 without causing a default on the Subject Property's loan, the Applicant immediately requested that the Board reconsider and remove the conservation easement requirement of Condition #2, and allow the Applicant to memorialize the Applicant's commitment to no further expansion of the school use on the Subject Property through the Docket's recorded development agreement; and

WHEREAS, as part of its request for reconsideration of the second sentence of Condition #2 of Resolution 2007-73, the Applicant asked the Board to recognize that the Applicant's commitment regarding no future expansion of the approved school use on the Subject Property was confined to the Applicant itself making no future requests for expansion; and

WHEREAS, the Applicant stated that it would not record the Development Agreement for the Docket until its reconsideration request was heard and resolved; and

WHEREAS, on October 23, 2007, the Board held a duly noticed public hearing on the Applicant's request for reconsideration of the second sentence of Condition #2 of Resolution 2007-73 ("the Public Hearing"), at which time the Board considered the materials presented by the County Land Use Department with its Staff Planner's memorandum dated October 23, 2007, as well as the testimony of the Land Use Department Planning Staff, the Applicant



and its legal counsel, and numerous supporters of the Bridge School and Hillside School Learning Center, all as reflected on the official record of the Public Hearing; and

WHEREAS, based on the Public Hearing, the Board finds that the conservation easement requirement in Condition #2 of Resolution 2007-73 was offered by the Applicant as a commitment of record at the July 10, 2007 Public Hearing on the Docket, and that the Applicant subsequently discovered that it could not reasonably fulfill that commitment, and that it is appropriate to rescind the conservation easement requirement in Condition #2 as a result; and

WHEREAS, the Board further finds that it is reasonable and appropriate to memorialize and enforce the Applicant's commitment to no future expansion of the school use on the Subject Property through the recorded development agreement, as opposed to a conservation easement; and

WHEREAS, the Board recognizes that it cannot bind future boards of county commissioners regarding future expansion requests on the Subject Property that may be submitted by successors in interest to the Applicant, and that therefore it is appropriate to recognize the Applicant's commitment regarding limitations on future expansion of the school use as being confined to requests for future expansion that may be submitted by the Applicant itself; and

WHEREAS, notwithstanding the immediately preceding finding, the Board expresses its understanding and assessment, based on the Docket and its prior special use history as reflected in the official County records, that the amended school use as approved in the Docket constitutes the maximum appropriate intensity of school use on the Subject Property, beyond which the use would not be compatible with the rural character of the surrounding area and would constitute new urban development contrary to the Boulder Valley Comprehensive Plan; and

WHEREAS, in light of the Board's decision to not require a conservation easement as part of Condition #2, it is appropriate to extend the September 4, 2007 deadline for the Applicant to have approved and record the Development Agreement as stated in the first sentence of Condition #2, to allow the Applicant a reasonable period of time after the Public Hearing to finalize the Development



Agreement; and

WHEREAS, finally, in response to the Applicant's expressed concern that Condition #1 of Resolution 2007-73 inappropriately limits the amended special use permit to just the Bridge School and Hillside Learning Center, the Board clarifies that the approved special use permit controls the school use and not the individual user, and that another school may replace the named schools or operate on the Subject Property so long as the County determines that a different school(s) does not substantially change the terms of or impacts associated with the Bridge School's amended special use permit. (See Article 4-603.A. of the Boulder County Land Use Code governing modifications of special review approvals).

NOW, THEREFORE, BE IT RESOLVED that Condition #2 of Resolution is amended to read as follows:

2. The Applicant shall provide a Development Agreement that shall be approved and recorded by County staff within a reasonable time after the Public Hearing date (October 23, 2007). The Development Agreement shall reflect the Applicant's express commitment to make no future requests for expansion of structures or usage/attendance for the school use beyond that approved in the Docket. The Development Agreement shall also reflect this Board's understanding and assessment, based on the Docket and its prior special use history as reflected in the official County records, that the amended school use as approved in the Docket constitutes the maximum appropriate intensity of use on the Subject Property, beyond which the use would not be compatible with the rural character of the surrounding area and would constitute new urban development contrary to the Boulder Valley Comprehensive Plan.

BE IT FURTHER RESOLVED that the Board clarifies Condition #1 of Resolution 2007-73 to the effect that the approved special use permit controls the school use and not the individual user, and, therefore, another school may replace the Bridge School and/or Hillside Learning Center so long as the County determines that a different school(s) does not substantially change the terms of or impacts associated with the Bridge School's amended special use permit. (See Article 4-603.A. of the Boulder County Land Use Code governing modifications of special review approvals)



BE IT FURTHER RESOLVED that all other terms and conditions of record for the approved Bridge School special use permit (Resolution 2007-73, Resolution 2001-15, and Resolution 96-90, with their associated Development Agreements), remain in full force and effect as stated therein.

A motion to approve the Docket, as set forth above, was made by Commissioner Pearlman, seconded by Commissioner Toor, and passed by a 2-0 vote of the Board, with Commissioner Domenico being excused.

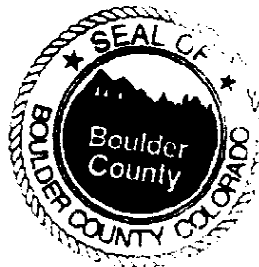
ADOPTED this 1ST day of November 2007, nunc pro tunc the 23rd day of October, 2007.

BOARD OF COUNTY COMMISSIONERS
OF BOULDER COUNTY:

Ben Pearlman, Chair

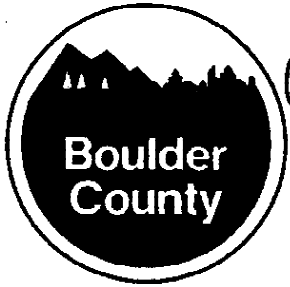
Will Toor, Vice Chair

Cindy Domenico, Commissioner



ATTEST:

Clerk to the Board



Transportation Department

2045 13th Street • Boulder, Colorado 80302 • (303) 441-3900 • Fax (303) 441-4594 • www.co.boulder.co.us

August 29, 2007

Bridge School of Boulder,
Limited Partnership
6717 South Boulder Road
Boulder, CO 80303
Attn: Jim Sherman

COPY

Re: Docket # SU-06-015

Dear Mr. Sherman:

The Transportation Department has reviewed the response letter, dated August 20, 2007, the parking plan, no date provided, and the RTD flyers. Staff finds that four (4) of the parking spaces will not be considered in the total number of spaces because of the traffic conflicts created by their use. Along the Northern drive, the first parallel parking space does not provide the required width at the entrance if utilized. Similarly, the last parallel parking space in this row inhibits proper backing movements of the vehicles parked nearby. Also, the two (2) ~~eastern~~ ^{western} most spaces along the northern parking area shall not be considered because this area provides a back-around area for the adjacent spaces (please see section 4.10.6.e of the Boulder County Road Standards and Specifications).

The four (4) spaces that are crossed out on the parking plan appear to provide adequate area for parking and proper movements within the parking lot, and therefore, may be considered and counted towards the total available spaces on site. Please refer to the attached plan for more information concerning acceptable spaces.

Please note that staff finds the parking plan adequate to address the requirements, at this time. Future submittals shall include legible plans, drafted utilizing standard civil engineering drafting conventions. Information provided on the plans shall include, but not be limited to, accurate dimensioning, plan drawings and details of all proposed site features. The applicant, or the applicant's engineer, should contact the Transportation Department at the time of a future application for more information concerning the types of plans that will be required at that time.

RECORDER'S NOTE:
SCANNED AS RECEIVED.
IMAGE REFLECTS QUALITY
OF RECORDED DOCUMENT



This concludes our comments at this time. If you have any further questions or comments, please feel free to contact our office.

Sincerely,

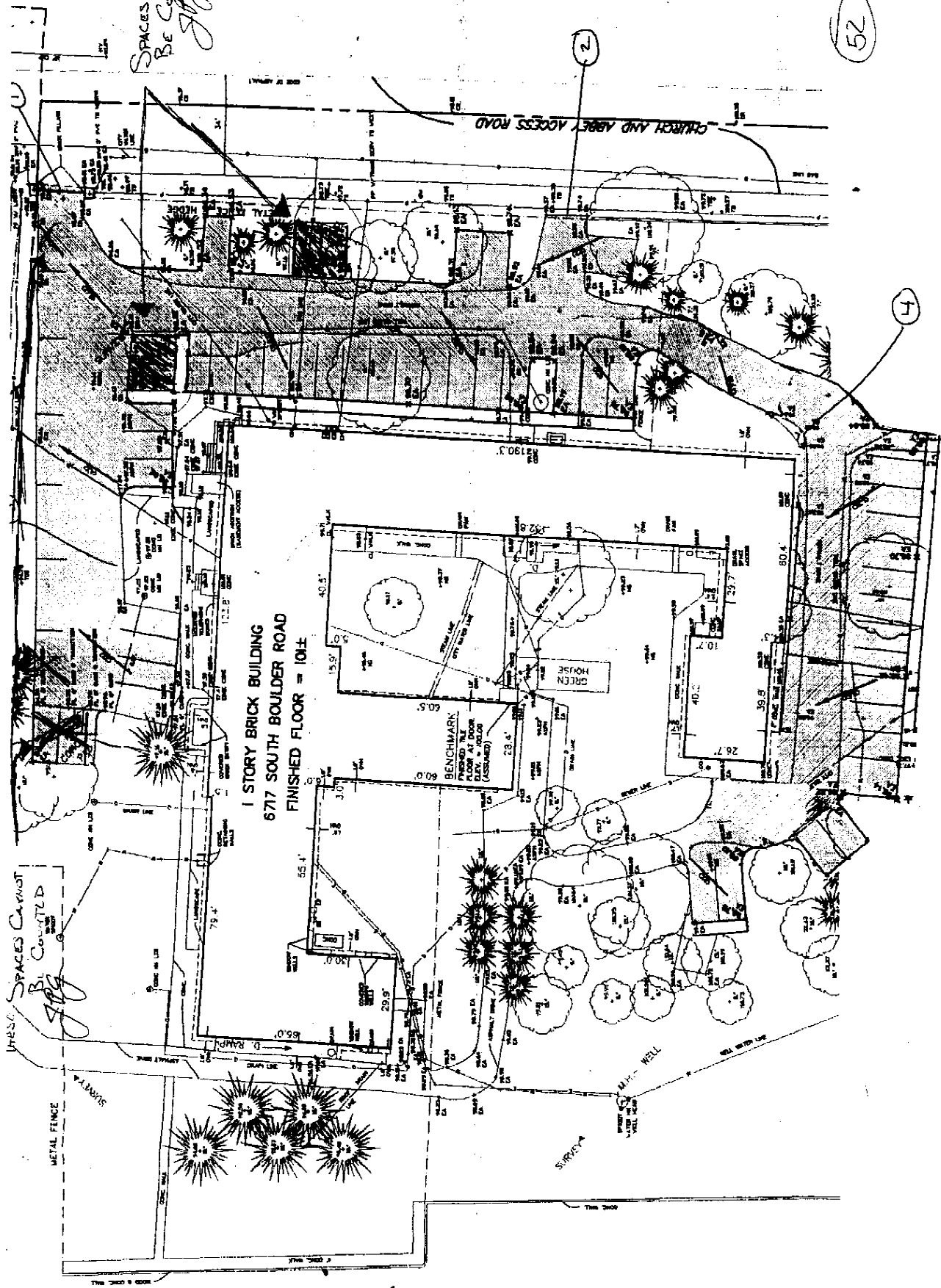
A handwritten signature in black ink, appearing to read "Justin Gindlesperger". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

Justin Gindlesperger,
Development Review Planner

cc: Greg Oxenfeld
file

SPACES MAY BE COUNTED
JRG

52



1 STORY BRICK BUILDING
6717 SOUTH BOULDER ROAD
FINISHED FLOOR = 1011.4

BENCHMARK
FINISHED FLOOR AT DOOR
ELEV. = 1011.4
(ASSUMED)

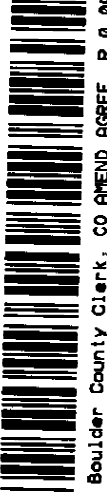
WELL WITH LINE
WELL WITH LINE
WELL WITH LINE

SCALE:
1" = 30.0'

SIGNAGE:

- (1) ENTRANCE - NO EXIT
- (2) EXIT
- (3) NO PARKING
- (4) STOP/CAUTION

D20



2916551
Page: 20 of 32
03/14/2008 12:32P
D 0.00

Boulder County Clerk, CO AMEND AGREE R 0.00



BSOB LIMITED PARTNERSHIP

AT THE ***ABBEY***

6717 S. Boulder Road
Boulder, CO 80303
(303) 437-1998
BoulderVELO@aol.com

1. Parking Management Plan

Based on a meeting with Anita Riley from Boulder County Transportation Department, the following Plan has been implemented:

- a. Entrance and Exit signs clearly marked;
 - b. "No Parking" sign installed where parking is not advisable;
 - c. 9 feet of space added to south parking area to meet the 25 foot requirement for those parking spaces;
 - d. Formal Parking Agreement with the Church has been signed for potential overflow during special events;
- A total of 52 spaces are available for normal school events.



FORMAL AGREEMENT BETWEEN THE SACRED HEART OF MARY CATHOLIC CHURCH ("Church"), AND BRIDGE SCHOOL OF BOULDER LP ("School")

On this date of May 30, 2007 the Church and the School hereby agree to share parking for special events in which overflow parking can occur.

WHEREAS, the Church has adequate parking for its usual events; and,

WHEREAS, the School has adequate parking for its usual events; and,

WHEREAS, the Church and the School agree to offer use of their parking spaces on special occasions when there is not a scheduling conflict to the other Party upon terms of this Agreement.

THEREFORE, the following conditions are acceptable to both Parties:

1. The School invites the Church to overflow into its parking spaces on Sundays and evenings when Church services and special events require additional parking and there is no conflict with a School event;
2. The Church invites the School to overflow into its parking spaces for special events for which the Church is notified in advance by the School and for which there is no conflict with a Church event.
3. Either Party may cancel this Agreement at any time in the event that this Agreement does not meet the goals of the Party, or for any other reason.

Agreed to on this date of May 30, 2007 by:

Father Michael Gass

Father Michael Gass for
Sacred Heart of Mary Catholic Church

Jim Sherman

Jim Sherman for
Bridge School of Boulder LP



EXHIBIT D

BRIDGE SCHOOL Limited PartnershipAT THE **ABBEY**

6717 S. Boulder Road
Boulder, CO 80303
(303) 437-1998
(303) 494-7558 (FAX)
BoulderVELO@aol.com

June 27, 2007

**RE: Docket SU-06-015: Bridge School of Boulder Special Use / Site Specific
Development Plan.**

The Bridge School Partnership is responding to the request by the Boulder County Commissioners regarding the analysis of traffic and ISDS numbers presented at the Hearing on June 12th, and the request for Management Plans for Signage, Parking, 1.45 acre riparian area and Travel Demand.

Regarding the proposed modifications to the Special Use, based on the discussions by the County Commissioners and subsequent meeting with Land Use, I would request that the Special Use permit be simplified to read:

“The site is approved for educational institutions for students in grades K - 12 for up to 179 full time students and staff, and up to 106 attendees at after school events.”

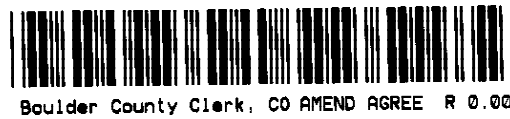
This simplification would ensure that the property would never be used beyond its capability to safely accommodate the parents and students attending the schools.

Should the Commissioners want to limit the number of sporting events, science fairs and drama presentations requested by the educators at the schools, I have provided Greg Oxenfeld with estimates of the current usage on the site, although the future needs can never be known in advance.

1. ISDS capacity as determined by Drexel Barrell professional engineers

The study by Drexel Barrell presented on June 12th concluded the following numbers are within the design capacity of the Bridge School site ISDS:

179 full time students/faculty on site per day
106 additional people for after-school events per day



These numbers are based on actual water flows as provided by Lafayette City, the supplier of water to the site, and the Drexel Barrell analysis includes a 160% “peaking factor”, so even if every one of the 106 people attending after school events used the toilets 3 times each in the 2 hours they were attending events, there would still be the 60% “peaking factor” safety margin for the ISDS.

ATTACHMENT #1: Drexel Barrell engineering study on the ISDS signed by Colorado Licensed Professional Engineer

ATTACHMENT #2: Boulder County Health Department’s Iris Sherman-Boemker’s letter concurring with the Drexel Barrell analysis.

2. Traffic analysis as determined by TransPlan professional engineers in 2000 and Fox +Higgins professional transportation group in 2007

The study of the S. Boulder Road network and Bridge School driveways and parking areas was completed by Fox + Higgins and compared to a similar study done by TransPlan in the year 2000. The results for the proposed additions for the site conclude that “...*the adjacent street network will continue to operate within the County’s threshold criteria in both the short term and long term 20 year scenarios.*” Therefore, the same numbers apply for the application:

179 full time students/faculty on site per day
 106 additional people for after-school events

ATTACHMENT #1: Fox + Higgins transportation group 2007 study of S. Boulder Road and the Bridge School driveways.

ATTACHMENT #2: Transplan Associates consulting engineers 2000 study of S. Boulder Road and the Bridge School driveways.

ATTACHMENT #3: Formal parking agreement between the Bridge School of Boulder Limited Partnership and the Sacred Heart of Mary Church.

*** 3. Travel Demand Management Plan - Eco Pass and Car Pooling**

Bridge School parents were instrumental in getting the bus stops on the East bound and West bound lanes of S. Boulder Road directly opposite the School, so that students and parents could safely utilize public bus transportation to access the school property. Bridge School currently makes Eco Passes available to its students who can use the bus throughout the school year, and will aggressively promote car pooling for the remaining parents and students at registration at the beginning of each school year and through communications throughout the year



by the Parent Organization. This Plan calls for continuing emphasis during the school year on the economic and ecological value of using alternative transportation methods for all students, parents and staff.

Car pooling lists will be made available to all parents and students, to encourage car pooling where it is possible. As an historical note, both parents and students want to car pool if at all possible, but for different reasons – the parents want to car pool to conserve time and money, and the students want to car pool for social interaction reasons, both of which achieve the goal.

Elements of the Travel Demand Management Plan include:

- a. Provide Eco Passes to students;
- b. Promote Eco Pass at school Registration;
- c. Promote Car Pooling at school Registration;
- d. Parent Organization will publicize the benefits of car pooling and use of public transportation in its regular publications during the school year.

4. Signage Management Plan

Based on the Boulder County materials sent by Greg Oxenfeld, **13-600 Sign Regulations Governing Specific Zoning Districts**, the Partnership has removed the signage that exceeded the dimensions specified in the document and is in compliance with the Regulations, and will continue to stay in compliance.

5. Parking Management Plan

Based on a meeting with Anita Riley from Boulder County Transportation Department, the following Plan has been implemented:

- a. Entrance and Exit signs clearly marked;
- b. “No Parking” sign installed where parking is not advisable;
- c. 9 feet of space added to south parking area to meet the 25 foot requirement for those parking spaces;
- d. Formal Parking Agreement with the Church has been signed for potential overflow during special events;
- e. A total of 52 spaces are available for normal school events.

6. 1.5 Acre Riparian Area Management Plan



The Partnership and the Schools have managed this 1.5 acre parcel since obtaining the property in 1996. The area continues to thrive under our stewardship.

This pond and surrounding trees were created by the Nuns (who previously lived on the property) as a swimming pond when S. Boulder Road was being expanded from 2 lanes to 4 lanes. The Nuns had excavated material from the road trucked over to the current pond location to make a privacy berm so that they could swim in the pond without being observed. Over time, Cottonwood trees and Russian Olive trees populated the berm and now are growing there. The pond is filled via ditch water seepage from the McGinn Ditch that runs adjacent to the pond from April to October every year.

There are 2 elements to the Management Plan:

- a. A fence separates the sports field area from the Ditch and pond, and signage has been placed on the fence to remind people not to trespass into the Ditch and pond area;
- b. Students and parents are instructed about the sensitive nature of the area at registration, and students are always accompanied by a teacher when observing or studying the area. Science classes use the Ditch and pond for studies of plant and animal life, and microscopic bugs, but no animals are ever harmed in these studies.

Finally, the Commissioners requested assurance that the Partnership would not be approaching them again with another request for expansion. The Bridge School of Boulder Limited Partnership agrees that this Application request fulfills the current needs of the Schools and the Partnership agrees not to file any further applications for expansion of the site.

Sincerely,

Jim Sherman, General Partner
Bridge School of Boulder Limited Partnership

DATE



Order No: 9315

Month/Year 05/07

Account Number: 32489
Bridge School
Main Office
6717 S Boulder Rd
Boulder, CO 80303

I acknowledge receipt of the above described transit passes and understand that all unsold passes must be returned to the Regional Transportation District monthly upon their expiration or upon receipt by undersigned of the next month's passes. I/We understand that all passes not returned will be considered sold and monies for such must be remitted to the Accounting Department, Regional Transportation District, P.O. Box 9769, Denver, Colorado 80209.

I/We hereby undertake to keep them with the same degree of care as I/We keep my/our own monies and valuable effects and hereby assume all risks of loss and damage to te property arising out of my/our carelessness or negligence.

Authorized Agent	Date
_____ on _____	_____
Authorized Agent	Date
_____	_____
received unused passes for delivery to RTD. Verification of unused pass count will be done by the RTD Accounting Office.	
Revenue Received - For RTD Use Only	
Cash _____	Check # _____
Checks _____	Deposit Date _____
Total _____	Invoice # _____
	Invoice Amt _____

Standard Corporate Monthly Sales Report

Pass Type	Qty Issued	Serial Numbers
LHS-AB	15	5003027 - 5003041
Total	15	

Passes Ret'd	Serial Numbers
7	3055-3041





RTD
TEEN PASS

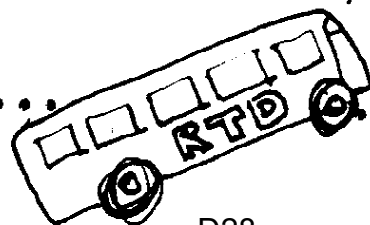
Public Address Announcement Script

Announcer:

“Fire your chauffer!
You don't need to rely on your
parents to chauffeur you around
anymore when you get your
own RTD Teen Pass!

It's only 19 bucks a month and
it gives you unlimited Local bus and
Light Rail rides. You can take any of
RTD's 66 Local routes where you want
and on your schedule. Hey, get your
own ride with RTD Teen Pass!

On sale at the main office.”





Regional Transportation District

1600 Blake Street
Denver, Colorado 80202-1399
303.628.9000
RTD-Denver.com



July 11, 2005

Dear School Administrator,

Thanks for your continued enrollment in RTD's Teen Pass program for the 2005-06 school-year!

RTD's Teen Pass program is a win-win transit solution for more than 120 elementary, middle, and high schools in the Denver Metro area! Teen Pass provides a \$4 savings to every student each month and is valid for unlimited rides on all RTD Local buses and light rail.

This packet includes the following materials you can use to promote Teen Pass to students:

- A sheet detailing the steps for administering the RTD Teen Pass, these instructions can be posted in the area of your school where the passes are sold
- A "Teen Pass Sold Here" sign to place near the Teen Pass sales location
- A script to be read during student announcements
- Flyers for you to distribute to parents – it may be helpful to send the flyers home with students or include them in school newsletters or registration packets.

Teen Pass posters that you can hang in the school will be sent to you in a separate mailing in the next few days. If you would like specific route schedules and/or display racks please call me at 303.299.2123. Again, thank you for partnering with RTD in the Teen Pass program.

Sincerely,

Georgann Fisher
RTD Student Pass Administrator





RTD TEEN PASS

RTD Teen Pass Sales Steps

An RTD courier delivers your passes (minimum of 25) on or after the 15th of each month, September through May. When the courier delivers passes for the upcoming month, simply verify the quantity of passes and their serial numbers and sign the report form. This form confirms receipt. Passes are coded with sequential numbers, so they are easy to count. Keep the bottom two copies for your records of pass sales. It is important to keep track of passes as you will be billed \$19 for each pass not returned.

- Any student may purchase the passes for \$19 each; the same amount RTD will bill you. Personal checks received should be made payable to your school. RTD will invoice you and accept only one check from the school. Passes are valid for unlimited rides on RTD Local buses and Light Rail during that calendar month. Passes also provide students a \$.60 discount on higher-fare trips, such as Express and Regional routes.

Each month when the courier delivers your passes, the previous month's unsold passes and the report form will be retrieved. Please complete the report form on the 15th before the courier arrives by entering the quantity of passes you are returning.

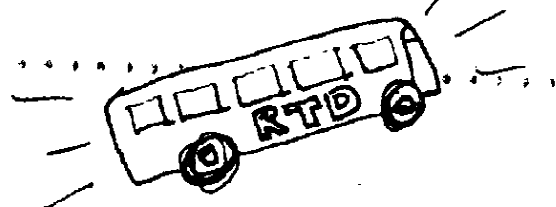
- RTD will invoice your school monthly; do not pay the courier.

Please Note

If a pass or any of the pass is removed from carrier/stub it is considered invalid and will appear on your invoice.

- Due to the volume of participants you will not be notified in advance of your monthly delivery/pickup time; so please have back-up staff who can handle this in your absence.
- If you anticipate running short of passes or would like to change your monthly order, contact RTD's Accounting Department three to five days before the pass supply is depleted by calling 303.299.6464, voice command option #5. The Passes will be sent to you via courier or certified mail.

For additional questions, contact Georgann Fisher,
 RTD student pass administrator,
 at 303.299.2123 or e-mail to
georgann.fisher@rtd-denver.com.





GET OUT!



¡Sal de la casa!

¡Sal a visitar a tus amigos!

¡Sal a la escuela o al trabajo!

¡Compra "Teen Pass", el pase de RTD para adolescentes, y explora la ciudad!

Get out of the house!

Get out and see your friends!

Get out to school or work!

Get the RTD TeenPass and explore your city!

Wherever you want to go, the new RTD TeenPass just made getting around town a whole lot cheaper. And easier. And with families going in all different directions these days, the TeenPass makes it easier on your parents, too. Now they can get where they need to go, and so can you. Less stress. More fun.

The RTD TeenPass is your ticket to Get Out there.

- \$15 for a monthly bus pass (save \$6.00 bucks!!)
- Unlimited rides on all local buses and local Light Rail. Ride on!!
- Take the bus to school, work or anywhere.
- The ride time gives you more time to study or just snooze.
- Get your RTD TeenPass today. It's as close as your school office.
- To sign up, just bring your student ID and \$15 to the office.

Where do you want to go?

For route and schedule information call **303.299.6000** or visit our website at **www.RTD-Denver.com**

Unlimited local monthly RTD bus pass: \$15.00

TeenPass
Program

Con el nuevo "TeenPass" de RTD podrás ir a cualquier sitio de la ciudad por mucho menos dinero y con mayor facilidad. Además, como en las familias de hoy todos van a un sitio distinto, el "TeenPass" simplifica las cosas para tus padres también. Así ellos pueden ir adonde deseen y tú también. Menos problemas y más diversión.

El "TeenPass" de RTD es tu boleto para moverte.

- El pase mensual para el autobús cuesta \$15 (¡ahorrarás \$6.00!)
- Viajes ilimitados en todos los autobuses locales y Light Rail (Tren Ligero) local. Súbete!!
- Sube al autobús para ir a la escuela, al trabajo o a cualquier otro sitio.
- El viaje en autobús te da más tiempo para estudiar o dormir una siestita.
- Compra el "TeenPass" de RTD hoy mismo con sólo presentarte a la oficina del director de tu escuela.
- Trae la tarjeta de identificación de estudiante y \$15 a la oficina.

¿A dónde quieres ir?

Si deseas información sobre las rutas y horarios, llama al **303.299.6000** o visita nuestra página de Internet en **www.RTD-Denver.com**

Pase ilimitado mensual para autobuses locales de RTD: \$15.00

RTD

EXHIBIT E**BSOB LIMITED PARTNERSHIP**AT THE **ABBEY**6717 S. Boulder Road
Boulder, CO 80303
(303) 437-1998
BoulderVELO@aol.com**1. 1.5 Acre Riparian Area Management Plan**

The Partnership and the Schools have managed this 1.5 acre parcel since obtaining the property in 1996. The area continues to thrive under our stewardship.

This pond and surrounding trees were created by the Nuns (who previously lived on the property) as a swimming pond when S. Boulder Road was being expanded from 2 lanes to 4 lanes. The Nuns had excavated material from the road trucked over to the current pond location to make a privacy berm so that they could swim in the pond without being observed. Over time, Cottonwood trees and Russian Olive trees populated the berm and now are growing there. The pond is filled via ditch water seepage from the McGinn Ditch that runs adjacent to the pond from April to October every year.

There are 2 elements to the Management Plan:

- a. A fence separates the sports field area from the Ditch and pond, and signage has been placed on the fence to remind people not to trespass into the Ditch and pond area;
- b. Students and parents are instructed about the sensitive nature of the area at registration, and students are always accompanied by a teacher when observing or studying the area. Science classes use the Ditch and pond for studies of plant and animal life, and microscopic bugs, but no animals are ever harmed in these studies.



Public Health
Environmental Health Division

April 12, 2023

TO: Staff Planner, Land Use Department
FROM: Christopher Wallis, Environmental Health Specialist
SUBJECT: SU-18-0011
OWNER: Mackintosh Academy

PROPERTY ADDRESS: 6717 South Boulder Road
SEC-TOWN-RANGE: 2 1S 70

The Boulder County Public Health (BCPH) – Environmental Health division has reviewed the submittals for the above referenced docket and has the following comments.

OWTS:

1. BCPH issued a repair permit to connect new sewer lines, lift stations and septic tanks to the existing OWTS. The permit was issued for an onsite wastewater treatment system (OWTS) adequate for a school with 240 daytime people. BCPH approved the installation of the OWTS on 09/03/2020. The permit number is MAJP-2020-0036.
2. Occasional and limited special events are permitted. If special events occur on a regular or continuous basis, a Change of Use Permit from BCPH may be required.

Child Health Promotion Program:

Childcare for children under kindergarten age is included in this proposal. **It is required that the applicants submit a Boulder County Child Care Plan Review Packet to the Child Health Promotion Program before a building permit can be obtained.** For more information, contact Kara Kaiser at 303-413-7550.

Consumer Protection:

The new cafeteria will require a Plan Review from BCPH before a building permit may be obtained.

For more information, go to:

<https://assets.bouldercounty.org/wp-content/uploads/2017/02/retail-food-facility-plan-review-packet.pdf>

A retail food establishment license will also be required prior to operation of the cafeteria. For more Boulder County Public Health Retail Food Establishment License information, go to:

<http://www.bouldercounty.org/records/licenses/pages/foodrulesandregs.aspx>

This concludes comments from the Public Health – Environmental Health division at this time. For additional information on the OWTS application process and regulations, refer to the following website: www.SepticSmart.org. If you have additional questions about OWTS, please do not hesitate to contact healthows@bouldercounty.org.

ATTACHMENT E

Cc: OWTS file, owner, Land Use Department



Public Health

Environmental Health Division

April 12, 2023

TO: Staff Planner, Land Use Department

FROM: Christopher Wallis, Environmental Health Specialist

SUBJECT: SU-18-0011

OWNER: Mackintosh Academy

PROPERTY ADDRESS: 6717 South Boulder Road

SEC-TOWN-RANGE: 2 1S 70

The Boulder County Public Health (BCPH) – Environmental Health division has reviewed the submittals for the above referenced docket and has the following comments.

OWTS:

1. BCPH issued a repair permit to connect new sewer lines, lift stations and septic tanks to the existing OWTS. The permit was issued for an onsite wastewater treatment system (OWTS) adequate for a school with 240 daytime people. BCPH approved the installation of the OWTS on 09/03/2020. The permit number is MAJP-2020-0036.
2. Occasional and limited special events are permitted. If special events occur on a regular or continuous basis, a Change of Use Permit from BCPH may be required.

Child Health Promotion Program:

Childcare for children under kindergarten age is included in this proposal. **It is required that the applicants submit a Boulder County Child Care Plan Review Packet to the Child Health Promotion Program before a building permit can be obtained.** For more information, contact Kara Kaiser at 303-413-7550.

Consumer Protection:

The new cafeteria will require a Plan Review from BCPH before a building permit may be obtained.

For more information, go to:

<https://assets.bouldercounty.org/wp-content/uploads/2017/02/retail-food-facility-plan-review-packet.pdf>

A retail food establishment license will also be required prior to operation of the cafeteria. For more Boulder County Public Health Retail Food Establishment License information, go to:

<http://www.bouldercounty.org/records/licenses/pages/foodrulesandregs.aspx>

This concludes comments from the Public Health – Environmental Health division at this time. For additional information on the OWTS application process and regulations, refer to the following website: www.SepticSmart.org. If you have additional questions about OWTS, please do not hesitate to contact healthows@bouldercounty.org.

ATTACHMENT E

Cc: OWTS file, owner, Land Use Department

ATTACHMENT E

April 11, 2023

TO: Hannah Hippely, Long Range Planning Manager; Community Planning & Permitting, Development Review Team - Zoning

FROM: Anita Riley, Principal Planner; Community Planning & Permitting, Development Review Team – Access & Engineering

SUBJECT: Docket # SU-18-0011: Mackintosh Academy Re-Referral
5114 Niwot Road

The Development Review Team – Access & Engineering staff has reviewed the additional materials provided for the above referenced docket. In addition to the comments previously submitted, staff has the following comments:

1. Staff supports the installation of a crosswalk at Ed's Way. The applicant's must work with the Boulder County Traffic Operations Engineer to determine what, if any, signs related to the crosswalk should be provided at Ed's Way and South Boulder Road.

Prior to execution of the development agreement, the signing plan must be agreed to or approved. The plan must be implemented prior to increase in student population or within a timeframe agreed to within the development agreement.

2. Due to the traffic volume and speeds on South Boulder Road, regular use of the east bound RTD bus stop by students is an unrealistic component of the transportation demand management plan. The applicants must work with Public Works Department staff to identify appropriate mitigation measures to facilitate safe crossing of South Boulder Road for staff and students. Mitigation measures may include the installation of Rapid Rectangular Flashing Beacons (RRFB) and/or other measures.

Prior to execution of the development agreement, the mitigation plan must be approved by the Public Works Department and included in the development agreement. The plan must be implemented prior to increase in student population or within a timeframe agreed to within the development agreement.

3. The proposal indicates the four bikes racks will be installed. However five bike racks are required.

Prior to execution of the development agreement, a revised plan showing the required number of bike racks must be provided. The bike racks must be installed when the parking lot is expanded.

4. The proposal indicates two electric vehicle charging stations will be installed. Section 4-156.W of the Boulder County Land Use Code requires the installation of either two Level 2 or one Level 3 charging stations.

At the time of building permit, the applicant must provide plans that include type, number, and location of electric vehicle charging stations to demonstrate how this requirement is being met.

ATTACHMENT E

5. The proposal will exceed one acre of land disturbance and will, therefore require a Boulder County Stormwater Quality Permit (SWQP).

At building permit, the applicants must work with the Public Works Department to obtain a Stormwater Quality Permit (SWQP) is required

6. An updated drainage report was submitted and reviewed by a third-party engineer. Major comments from the review include:
 - a. It appears that the detention volumes used for design were determined using the FAA procedure. This method is no longer recommended by MHFD. Please use MHFD-Detention for sizing bioretention full spectrum detention (FSD) facility.
 - b. More details on bioretention FSD needed in next submittal, including:
 - i. Type of facility (partial, full, or no infiltration section)
 - ii. Discussion of infiltration rates of subgrade if partial or full infiltration section used
 - iii. Information on design of underdrain if partial or no infiltration section used
 - iv. Depth to seasonally high groundwater from bottom of bioretention facility
 - v. Media specification
 - vi. Outlet structure detail
 - vii. Planting plan
 - viii. Spillway sized for fully developed undetained 100-year inflow
 - c. Other comments provided throughout report and on calculation and plan sheets.

As a condition of approval, the Drainage Plan shall be implemented along with construction of the expanded parking lot and new building. The Final Drainage Plan shall be reviewed and approved prior to the issuance of building or grading permits for the new building or parking lot improvements and address the comments above.

This concludes our comments at this time.



January 20, 2023

Hannah Hippely
Boulder County Community Planning & Permitting
PO Box 471
Boulder, CO 80306

Sent via email: hhippely@bouldercounty.org

Re: SU-18-0011: Mackintosh Academy, 6717 S. Boulder Road

Dear Ms. Hippely:

Thank you for the opportunity to review the above-referenced referral.

The City of Lafayette provides the following comments:

- **Lafayette requests Boulder County defer approval until City of Lafayette comments have been addressed.**
- A City of Lafayette Right-of-Way permit is required.
- An Out-of-City Utility Application must be submitted to request the additional service.
- A separate submittal of detailed water service routing and associated details will be required for City of Lafayette review.
- A separate water tap/meter and associated fees/dedications are required for the proposed building.
- Property owner must petition to Northern Water Conservancy District for inclusion into the service District.
- The new meter pit must be located in an accessible location within a utility easement.
- The proposed hydrant must be located adjacent to the parking lot to be accessed by the fire department.

Please contact me if you have any questions.

Sincerely,

A handwritten signature in blue ink that reads "Jana Easley".

Jana Easley
Planning Manager

cc: Jeff Brasel, Planning and Building Director
Jeff Arthur, Public Works Director
Melanie Asquith, Water Resources Manager and Principal Utilities Engineer

ATTACHMENT E

MEMO TO: Referral Agencies
FROM: Hannah Hippely, Long Range Planning Manager
DATE: December 21, 2022
RE: Re-Referral for Docket SU-18-0011

This docket is being re-noticed because updated information has been provided.

Docket SU-18-0011: Mackintosh Academy

Request: Special Use and Site Specific Development Plan review amendment for an Educational Facility including: allowing an expanded use of the property through the reduction of the no build area, the construction of a new 4,355 -square-foot building (resulting in a maximum 25,000 sq. ft.) and site improvements, an increase in the number of students from 155 to 190 maximum all of which will be Kindergarten through 8th grade (removing the High School element of previous approvals), the removal of the restriction on staff numbers.

Location: 6717 S. Boulder Road, on the northwest corner of the intersection of S. Boulder Road and EDS Way (a private road), in Section 2, Township 1S, Range 70W.

Zoning: Estate Residential (ER)

Applicant/Property Owner: Jessica Dauchy, Mackintosh Academy

Agent: Danica Powell

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 Land Use staff, Planning Commission, and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter. Late responses will be reviewed as the process permits; 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 review the entire file at the Land Use Department, 13th and Spruce, Boulder. If you have any questions regarding this application, please contact the Land Use Department office at 720-564-2298 or via email at hhippely@bouldercounty.org.

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

Please return responses to the above address by **January 25, 2023**.

_____ We have reviewed the proposal and have no conflicts.

ATTACHMENT E

 X Letter is enclosed.

Signed *Doug Saba*

PRINTED Name Doug Saba

Agency or Address 3561 N. StageCoach Road

Please note that all Land Use 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 a "property owner," or if the mailing address used is incorrect, please contact the County Assessor's Office at (303) 441-3530.

I have reviewed the proposed site modification and need to have the following Items Addressed.

- The proposed site does not meet the access requirements for emergency access. The turning radius for apparatus has not been meet by the plans submitted.
- Water lines for the required fire sprinklers have not been addressed in the submittal.
- The plans show trees planted in the parking area which block and obstruct all access for emergency apparatus.
- The Fire access lane shall be supplied for access not less than 150 feet to any point of the exterior of the proposed Building.

Doug Saba
Deputy Fire Marshal
Life Safety Division
Mountain View Fire Rescue
3561 N. Stagecoach Road, Longmont, CO 80504
303-772-0710 | dsaba@mvfpd.org | www.mvfpd.org

ATTACHMENT E

MEMO TO: Referral Agencies
FROM: Hannah Hippely, Long Range Planning Manager
DATE: December 21, 2022
RE: Re-Referral for Docket SU-18-0011

This docket is being re-noticed because updated information has been provided.

Docket SU-18-0011: Mackintosh Academy

Request: Special Use and Site Specific Development Plan review amendment for an Educational Facility including: allowing an expanded use of the property through the reduction of the no build area, the construction of a new 4,355 -square-foot building (resulting in a maximum 25,000 sq. ft.) and site improvements, an increase in the number of students from 155 to 190 maximum all of which will be Kindergarten through 8th grade (removing the High School element of previous approvals), the removal of the restriction on staff numbers.

Location: 6717 S. Boulder Road, on the northwest corner of the intersection of S. Boulder Road and EDS Way (a private road), in Section 2, Township 1S, Range 70W.

Zoning: Estate Residential (ER)

Applicant/Property Owner: Jessica Dauchy, Mackintosh Academy

Agent: Danica Powell

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 Land Use staff, Planning Commission, and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter. Late responses will be reviewed as the process permits; 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 review the entire file at the Land Use Department, 13th and Spruce, Boulder. If you have any questions regarding this application, please contact the Land Use Department office at 720-564-2298 or via email at hhippely@bouldercounty.org.

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

Please return responses to the above address by **January 25, 2023**.

_____ We have reviewed the proposal and have no conflicts.

ATTACHMENT E

 ^x Letter is enclosed.

Signed *Jacob Cassidy* PRINTED
Name Jacob Cassidy

Agency or Address City of Boulder Open Space and Mountain Parks

Please note that all Land Use 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 a "property owner," or if the mailing address used is incorrect, please contact the County Assessor's Office at (303) 441-3530.



City of Boulder Open Space & Mountain Parks

2520 55th St. | Boulder, CO 80301; 303-441-3440

<http://www.osmp.org>

MEMORANDUM

To: Hannah Hippely, Long Range Planning Manager, Boulder County Community Planning and Permitting

From: Jake Cassidy, Property Agent, City of Boulder Open Space and Mountain Parks

Date: January 25, 2023

Re: Docket SU-18-0011
Mackintosh Academy Project at 6717 S. Boulder Road Re-Referral

Thank you for the opportunity to review the application referenced above. OSMP has had the opportunity to provide comments in the past, most recently on July 13, 2021. Those comments are still applicable to this re-referral. OSMP would like to specifically reiterate the comments below.

Conservation Easement

The City of Boulder OSMP Department owns a conservation easement over this property which contains restrictions on development and use of the property. Should county staff recommend approval of the special use and site specific development plan review, **OSMP requests that the following be included as a condition of approval: Landowners shall quit claim any and all mineral rights to the City of Boulder, including sand, gravel, coal, and oil and gas, on the property in fulfillment of the terms of Conservation Easement recorded at reception #01624747 (section B.14.).**

Open Space Adjacent

The applicant has proposed connecting their campus to Open Space trails/property, but all open space fences and boundaries must be respected at all times. No gates or other access points will be allowed from the subject property onto city owned open space lands without approval of OSMP.

No dumping of trash, tree limbs, lawn clippings, or other debris is allowed on city-owned open space land. Trimming or removal of existing vegetation from OSMP property, or planting vegetation on OSMP property is prohibited.

Construction access across city owned open space lands, storage of construction material or dumping of construction debris on city owned open space lands are not allowed.

Please feel free to contact me if you have any questions or comments about this response.



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 25, 2023

Boulder County Land Use
PO Box 471
Boulder, CO 80306

Attn: Hannah Hippely

RE: Mackintosh Academy, Case # SU-18-0011

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has determined there is a **conflict** with **Mackintosh Academy**. Please be aware PSCo owns and operates existing natural gas and electric distribution facilities within the easterly area of the property in the area of the proposed 18-inch CMP storm pipe. Please note that wet utilities are not allowed in a PSCo easement (Rec. No. 786146 Film 537, June 16, 1965).

Should the project require any new natural gas or electric service or modification to existing facilities, the property owner/developer/contractor must complete the application process via xcelenergy.com/InstallAndConnect.

Comment response requested.

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

ATTACHMENT E

-----Original Message-----

From: Ask A Planner <no-reply@wufoo.com>

Sent: Wednesday, January 25, 2023 2:40 PM

To: LU Land Use Planner <planner@bouldercounty.org>

Subject: [EXTERNAL] Ask a Planner - Carol Komhyr - SU-18-0011 - 6717 S Boulder Rd

Boulder County Property Address : 6717 S Boulder Rd If your comments are regarding a specific Docket, please enter the Docket number: SU-18-0011

Name: Carol Komhyr

Email Address: cckomhyr@aol.com

Phone Number: (303) 494-2469

Please enter your question or comment: When property at Macintosh School was purchased, the applicant was aware of the limitations on the maximum number of students had been set by Commissioners at 155 and the number of staff was limited. The site could not be increased in the number of students, staff, or new buildings. These rules should not change for the very reasons they were put in place.

I live within 1500 feet of Macintosh School on a similar 20+ acres in the ER zone. I am limited to one residence, and I had a couple of barns that burned in the Marshall Fire. It is a challenge to meet the Boulder County restrictions to even be allowed to rebuild them.

The environmental impact or services, the neighborhood, additional cars adding more pollution is not what this area can handle.

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.

ATTACHMENT E

July 19, 2021

TO: Hannah Hippely, Long Range Planning Manager; Community Planning & Permitting, Development Review Team - Zoning

FROM: Jennifer Severson, Principal Planner; Community Planning & Permitting, Development Review Team – Access & Engineering

SUBJECT: Docket # SU-18-0011: Mackintosh Academy – ADDENDUM #2
6717 S. Boulder Road

The Development Review Team – Access & Engineering staff has reviewed the revised application materials dated June 8, 2021 for the above referenced docket and has the following comments:

1. The volume totals identified on the grading fact represent ‘net’ earthwork, not ‘gross’. Based on the numbers provided, there will be a total of 1, 640 cubic yards for driveway and parking areas and 150 cubic yards for detention/ WQ, for a total of 1,790 cubic yards of non-foundational earthwork. The total foundation earthwork is 800 cubic yards. A revised fact sheet, signed and stamped by a Colorado registered Professional Engineer, Landscape Architect, or Architect, must be submitted as part of the building permit application.
2. As stated in the previous Access & Engineering (formerly Transportation) referral dated October 29, 2019, staff supports the concept of a designated pedestrian connection between the bus stop on the south side of South Boulder Road and the school. As proposed, a crosswalk will be installed near the intersection of Ed’s Way and South Boulder Road that will connect pedestrians across Ed’s Way to a pathway that will enter the school grounds at the southeast corner of the property. The pathway must be a minimum of 6 feet in width to provide adequate space for students to walk in groups.
3. Staff is concerned about potential conflicts between pedestrians using the crosswalk and vehicles turning onto Ed’s Way from South Boulder Road. Staff recommends the applicant work with the Archdiocese of Denver, which owns the parcel on the east side of Ed’s Way, to install a walking path along the Diocese-owned parcel on the east side of Ed’s Way and shift the crosswalk further north and away from the S. Boulder Road intersection.
4. At time of permit application, a detailed parking plan must be submitted that shows delineated parking spaces compliant with ADA parking requirements and the Standards, including, without limitation:
 - a. MMTS Section 5.6.2 – Parking Lot Design Standards
 - b. MMTS Section 5.6.4 – Accessible Parking
 - c. ADA parking spaces must be labelled on the parking plan and must reflect the appropriate van spaces for the number of total parking spaces for the site. The ADA space(s) must be sited to provide convenient access to the school building.

ATTACHMENT E

- d. MMTS Section 5.6.5 – Bicycle Parking; the number of bicycle parking spaces shall be ten percent of the total number of 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.
- e. The number of parking spaces must comply with the Boulder County Land Use Code [Section 4-504.E.3](#) for an Educational Facility.
- f. Electric Vehicle Service Equipment (EVSE) parking is required to comply with Land Use Code [Section 4-516.W.5.c](#)

This concludes our comments at this time.

COMMENTS 1, 2, 4 and 5 FROM THE REFERRAL LETTER DATED JULY 10, 2018 and COMMENTS 1, 4 and 5 FROM THE REFERRAL LETTER DATED OCTOBER 29, 2019 (BOTH ATTACHED) STILL APPLY.

ATTACHMENT E

July 10, 2018

TO: Jennifer Severson, Senior Planner; Land Use Department
FROM: H el ene Levaufre, Senior Planner
SUBJECT: Docket # SU-18-0011: Mackintosh Academy

The Transportation Department has reviewed the above referenced docket and has the following comments:

1. The subject property is adjacent to Ed’s Way, a paved private road. Ed’s Way is accessed from South Boulder Road, a County – owned and maintained right-of-way (ROW) with a Functional Classification of Principal Arterial. Legal access through Ed’s way has been demonstrated via a 60’ wide access easement shown in the Saint Walburga Subdivision Exemption Plat (Rec. No 1623876).
2. Based on staff’s analysis of this project, this proposal will result in approximately 2 acres of land disturbance. Given that this is in excess of one acre or more, an application for a Boulder County Stormwater Quality Permit (SWQP) will be required with the building permit application.
3. ~~The drainage plan shows two proposed detention ponds on the property. The applicant shall submit more information on the proposed drainage on site including :~~
 - a. ~~Grading and drainage plan with existing and proposed grading, drainage and flow lines. The plan must show how the proposed drainage features will connect with the existing, including the necessary regrading of the ditch along Ed’s Way and the replacement of the pipe.~~
 - b. ~~Drainage report for the design and sizing of the pipes, ditches and detention ponds.~~
4. The existing accesses shall be improved to meet the specifications of the [Boulder County Multimodal Transportation Standards](#) (hereafter referred to as “the Standards”), including without limitation:
 - a. Section 5.5 – Parcel Access Design Standards
 - b. Standard Drawing 11 – One-Lane Private Access Section
 - c. Standard Drawing 14 – Access With Roadside Ditch
 - d. Standard Drawing 15 – Access Profiles Detail
 - e. Standard Drawing 16 – Access Grade and Clearance
5. The Transportation Department agrees with the conclusions of the submitted Transportation System Impact Review :

ATTACHMENT E

- a. The proposed addition will not result in the need for vehicle capacity improvements to the intersections in the area.
 - b. Necessity to improve pedestrian access from the bus stops on S.Boulder Road.
- ~~6. The proposal addresses pedestrian access from the North bus stop, with a proposed pedestrian path going across the subject property. However, there is no safe access from the South bus stop. The applicant shall submit a proposal for a pedestrian path ensuring safe access from the crosswalk from the bus stop on the south side of South Boulder Road to the subject parcel.~~
 - ~~7. The applicant shall submit a plan showing delineated parking spaces, compliant with ADA parking requirements and Boulder County Bicycle parking requirements.~~

This concludes our comments at this time.

ATTACHMENT E

October 29, 2019

TO: Summer Frederick, Principal Planner; Land Use Department
FROM: Jennifer Severson, Development Review Coordinator
SUBJECT: Docket # SU-18-0011: Mackintosh Academy ADDENDUM #1

The Transportation Department has reviewed the revised application materials for the above-referenced docket that were referred to us for review on September 16, 2019; we have the following additional comments:

1. The Preliminary Drainage Report dated August 7, 2019 adequately addresses drainage questions including the following: how the proposed drainage features will connect with the existing, regrading of the ditch along Ed's Way, the replacement of the pipe, and flow lines. The report also confirms the proposed pipes, ditches and detention ponds are sized appropriately for the site.
2. ~~Staff supports the general concept shown in the revised application materials for the proposed pedestrian access between the bus stop on the south side of South Boulder Road and the subject parcel. However, design details for the proposed pedestrian access connection must be included in plans submitted for permitting.~~
3. ~~A stand-alone, dimensioned parking plan that demonstrates compliance with the [Boulder County Multimodal Transportation Standards](#) (hereafter referred to as "the Standards") must be included in plans submitted for permitting. The parking plan must show details for *all existing and proposed parking for the school*, including bicycle parking. Parking must comply with the Standards, including without limitation:
 - a. ~~Section 5.6.2 Parking Lot Design Standards~~
 - b. ~~Section 5.6.4 Accessible Parking~~
 - c. ~~Section 5.6.5 Bicycle Parking~~~~
4. There is no evidence of an existing Access Permit. An Access Permit will be issued at the time of building permit review. No special application procedure is necessary, the Access Permit will be issued concurrently with the Building Permit.
5. At Building Permit review, an Access Improvement and Maintenance Agreement (AIMA) shall be issued for Ed's Way. The AIMA will be completed by the Transportation Department and approved as part of the Building Permit process.

This concludes our comments at this time.



Parks & Open Space ATTACHMENT E

5201 St. Vrain Road • Longmont, CO 80503
303-678-6200 • POSinfo@bouldercounty.org
www.BoulderCountyOpenSpace.org

TO: Summer Frederick, Community Planning & Permitting Department
FROM: Ron West, Natural Resource Planner
DATE: June 22, 2021
SUBJECT: Docket SU-18-0011, Mackintosh Acad., 6717 S. Boulder Road, third referral

Staff has reviewed the newly submitted materials, and concludes that all of the original concerns -- from a POS referral memo dated August 2, 2018 -- have been addressed. Staff concurs with the application that visual concerns from S. Boulder Road will be adequately mitigated by existing conditions and planned actions. Both the viewshed analysis and landscape plan are well-done and sufficient.

The Farm Plan also appears well-done, yet aspirational. It's stated that this plan will be finalized at the building permit stage. Staff has two questions:

Page 3 of the Response to County Comments states that the Farm Plan will be "reviewed annual[ly] with the county expert on agricultural manage[ment]..." On-the-ground agricultural activities regularly change year-to-year depending on a multitude of factors. Such an annual county review is possibly unnecessary, unless a condition of approval is tied to this Plan. If so, then the county agricultural expert should be identified, e.g., someone in POS agriculture?; or at CSU Extension?; or Boulder OSMP? (for the conservation easement aspect).

Also, the Farm Plan states that, "Allowed structures within the conservation easement are limited to one barn up to 16 feet in height and a maximum of 1,000 square feet." Will such a structure be proposed and if so where?

ATTACHMENT E

TO: Summer Frederick, AICP, Planning Division Manager
FROM: Molly Marcucilli, Long Range Division
RE: Re-Referral for Docket SU-18-0011
DATE: July 13, 2021

The Boulder County Long Range Team has reviewed the provided referral materials and has the following comments:

1. The application indicates that pursuant to Article 4-602.C.2 of the Boulder County Land Use Code, the maximum development for the site could be 25,000 square feet, and that the site would be allowed 30,000 square feet of total square footage if the project is shown to be in compliance with the impact mitigation requirements for Boulder County Density Transfers and if approved by the County. Staff notes that the parcel is approximately 12.7 acres and would therefore be subject to the maximum total square footage for parcels between 10 and 19.9 acres, which is 20,000 square feet, and could be allowed up to 25,000 square feet under Section 6-602.C.3.
2. Section 6-602.C.3 is intended to allow development in excess of that which is considered appropriate under the Comprehensive Plan as spelled out in the limits set in Article 4-602.C.2 by balancing the additional development with additional mitigation through the implementation of specific measures which further specific goals of the Comprehensive Plan or address the specific impacts of the development (both existing and new).
 - a. There are several Boulder County Comprehensive Plan designations that cover the parcel, including Significant Agricultural Lands, Riparian Area, Wetlands, High Biodiversity Area, and a View Protection Corridor associated with South Boulder Road. These should be considered in the evaluation of the application in general but also in developing strategies which may permit the existing use to expand over the maximum development allowed.

This concludes the Department of Community Planning & Permitting comments at this time. We look forward to continuing to provide feedback and input throughout this process.



ATTACHMENT E

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

MEMO TO: Referral Agencies
FROM: Summer Frederick, AICP, Planning Division Manager
DATE: June 8, 2021
RE: Re-Referral for Docket SU-18-0011

THIS IS A RE-REFERRAL FOR THE DOCKET LISTED BELOW

This docket is being re-noticed because the applicant has provided revised and additional application materials.

Docket SU-18-0011: Mackintosh Academy

Request: Special Use and Site Specific Development Plan review to amend an existing Special Use approval (SU-06-015) to allow an expanded use of the property, and to construct a new 9,109-square-foot building and new parking facilities, on a 22.5 acre parcel.

Location: 6717 S. Boulder Road, on the northwest corner of the intersection of S. Boulder Road and EDS Way (a private road), in Section 2, Township 1S, Range 70W.

Zoning: Estate Residential (ER)

Applicant/Property Owner: JJ Morrow, Mackintosh Academy

Agent: Danica Powell

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 720-564-2603 or sfrederick@bouldercounty.org.

Please return responses to the above address by **July 13, 2021**.

(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.

ATTACHMENT E

Signed Matt Ashley PRINTED Name Matt Ashley, Property Agent
Agency or Address City of Boulder Open Space and Mountain Parks

Please note that all Land Use 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 a "property owner," or if the mailing address used is incorrect, please contact the County Assessor's Office at (303) 441-3530.



City of Boulder Open Space & Mountain Parks

2520 55th St. | Boulder, CO 80301; 303-441-3440

<http://www.osmp.org>

MEMORANDUM

To: Summer Frederick, AICP, Planning Division Manager, Boulder County Community Planning and Permitting

From: Matt Ashley, Property Agent, City of Boulder Open Space and Mountain Parks

Date: July 13, 2021

Re: Docket SU-18-0011
Mackintosh Academy Special Use and Site-Specific Development Plan Re-Referral

Thank you for the opportunity to review the application referenced above. The property's northern boundary is adjacent to City of Boulder Open Space and Mountain Parks (OSMP) land, is in the vicinity of multiple other OSMP properties, and OSMP holds a conservation easement on the northern portion of the subject property. Please consider the following comments regarding this development application.

Conservation Easement

The City of Boulder OSMP Department owns a conservation easement over this property which contains restrictions on development and use of the property. Should county staff recommend approval of the special use and site specific development plan review, **OSMP requests that the following be included as a condition of approval: Landowners shall quit claim any and all mineral rights to the City of Boulder, including sand, gravel, coal, and oil and gas, on the property in fulfillment of the terms of Conservation Easement recorded at reception #01624747 (section B.14).**

Open Space Adjacent

All open space fences and boundaries must be respected at all times. No gates or other access points will be allowed from the subject property onto city owned open space lands without approval of OSMP.

No dumping of trash, tree limbs, lawn clippings, or other debris is allowed on city-owned open space land. Trimming or removal of existing vegetation from OSMP property, or planting vegetation on OSMP property is prohibited.

Construction access across city owned open space lands, storage of construction material or dumping of construction debris on city owned open space lands are not allowed.

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Ditch Considerations

The McGinn Ditch, which serves adjacent OSMP properties and other OSMP lands in the ditch's service area, bisects the property and cannot be interrupted or interfered with. The applicant and County staff should consult with the ditch company as a referral agency (contact Amy Willhite, Ditch Contact, at (720) 591-5037) regarding construction activities or land use within or near their easement and any anticipated crossing agreements.

Native Plants

Use of native plant materials for revegetation and landscaping should be recommended. Non-native plant materials should not be planted, particularly Mediterranean sage, myrtle spurge, purple loosestrife, Russian olive, or any other State of Colorado listed noxious weed species. The grading and landscape plans should include a section on weed management.

Following are some sources of information about the use of local native plants in landscaping:

https://conps.org/wp-content/uploads/2015/05/Suggested-Native-Plants_0408.pdf

<https://conps.org/gardening-with-native-plants/>

<https://bouldercolorado.gov/osmp/tips-for-growing-native-plants>

Visual Impact

Exterior lighting should be directed downward to minimize glare and the illumination of adjacent/nearby OSMP lands, conservation easements, or other undeveloped property. Exterior colors should be muted to blend into the natural surroundings, to reduce the visual impact to adjacent and nearby OSMP lands.

Agricultural Operation

The applicant should be informed that the adjacent open space property is currently leased as an agricultural operation. The applicants should expect the operation of machinery, spreading of manure and other fertilizers, the feeding and pasturing of livestock, and the application of herbicides, insecticides, or application of irrigation water.

Additional comments related to the Boulder Valley Comprehensive Plan have been submitted separately from Phil Kleisler, Senior Planner, with the City of Boulder's Planning, Housing and Sustainability department.

Please feel free to contact me if you have any questions or comments about this response.



ATTACHMENT E

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

MEMO TO: Referral Agencies
FROM: Summer Frederick, AICP, Planning Division Manager
DATE: June 8, 2021
RE: Re-Referral for Docket SU-18-0011

THIS IS A RE-REFERRAL FOR THE DOCKET LISTED BELOW

This docket is being re-noticed because the applicant has provided revised and additional application materials.

Docket SU-18-0011: Mackintosh Academy

Request: Special Use and Site Specific Development Plan review to amend an existing Special Use approval (SU-06-015) to allow an expanded use of the property, and to construct a new 9,109-square-foot building and new parking facilities, on a 22.5 acre parcel.

Location: 6717 S. Boulder Road, on the northwest corner of the intersection of S. Boulder Road and EDS Way (a private road), in Section 2, Township 1S, Range 70W.

Zoning: Estate Residential (ER)

Applicant/Property Owner: JJ Morrow, Mackintosh Academy

Agent: Danica Powell

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 720-564-2603 or sfrederick@bouldercounty.org.

Please return responses to the above address by **July 13, 2021**.
(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.

Matt Jones County Commissioner

Claire Levy County Commissioner

Marta Loachamin County Commissioner

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Signed Michelle Kelly PRINTED Name Michelle Kelly
Agency or Address Mountain View Fire

Please note that all Land Use 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 a "property owner," or if the mailing address used is incorrect, please contact the County Assessor's Office at (303) 441-3530.

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MOUNTAIN VIEW FIRE RESCUE

3561 N. Stagecoach Road • Longmont, CO 80504

(303) 772-0710

www.mvfpd.org



Boulder County Community Planning and Permitting

2045 13th Street

Boulder, CO 80302

Re: SU-18-0011 6717 South Boulder Road

June 9, 2021

Mountain View Fire has reviewed the special use and site specific development plan for 6717 South Boulder Road. Our only comment is the site design will need to ensure building access requirements meet fire code for access to all exterior portions of the building within 150' of a fire truck. The placement of the new building and its access will need to account for any access changes to the existing building.

Regards,

Michelle Kelly

Deputy Fire Marshal



Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571.3284
donna.l.george@xcelenergy.com

Boulder County Land Use
PO Box 471
Boulder, CO 80306

Attn: Summer Frederick

RE: Mackintosh Academy – 2nd Re-Referral, Case # SU-18-0011

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has determined **there is a conflict** with the above captioned project. Please be aware PSCo owns and operates existing natural gas and electric distribution facilities within the easterly area of the property in the area of the proposed 18-inch CMP storm pipe. Please note that wet utilities are not allowed in a PSCo easement (Rec. No. 786146 Film 537, June 16, 1965).

Should the project require any new natural gas or electric service or modification to existing facilities, the property owner/developer/contractor must complete the application process via xcelenergy.com/InstallAndConnect.

Comment response requested.

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

ATTACHMENT E

From: [cckomhyr](#)
To: [LU Land Use Planner](#)
Subject: [EXTERNAL] Docket #: SU-18-0011
Date: Tuesday, July 13, 2021 1:39:40 PM

Do not amend the Special Use approval (SU-06-015).

The property at 6717 South Boulder Road that was previously approved by County Commissioners is at its maximum use, including the number of allowed students. Mackintosh purchasers were well aware of these limitations when they purchased this property. The proposal to build a 9,109 square-foot building should not be allowed. The current buildings used for classrooms, labs, arts, and more, would serve no practical use if the new building is permitted. The proposed, new building would house all their classrooms and other activities.

My husband and I live on 22 acres very near the site, in a 4,000 square-foot house. Imagine if we were to request a 9,000 square-foot building to teach students, build a church, or more.

I think the Commissioners know the history of the entire property, including the divided portion now called Mackintosh. Do not allow the destruction and over-use of this piece of property. Also, why include an over-sized new parking lot? That causes more traffic on South Boulder Road which is already a problem.

This proposal should not be approved.

Carol Komhyr
200 S 68th St
Boulder, CO 80303.
Sent from my iPad

ATTACHMENT E

To: Summer Frederick
Email: planner@bouldercounty.org
Subject: Docket # SU-18-0011

Dear Summer,

We have lived on S. 68th St for 39 years. When we moved here S. Boulder Rd was a two-lane country road. Nuns quietly farmed their land which is now a huge Buddhist Temple and paved parking lot. The Nuns living quarters became Bridge Private School. The Catholic Church has enlarged their church and built another huge building. S. Boulder Rd is now a very busy Rd. Making a left turn from S. 68th St is very difficult at busy times of the day. It is very dangerous for people to try and cross S. Boulder Rd at rush hour. Cars are often going 50-60 mph. I never see anyone at the bus stop, either from Macintosh School or Sacred Heart of Mary Church. This is not a place for small children like pre-school or elementary students. The Buddhist building has not yet opened, and the traffic is out of control.

Macintosh School also wants an outdoor facility. The noise from this outdoor area will spread to our area all hours of the day and evening. The noise will also disrupt the nesting wildlife at the Baseline reservoir. The land being built on is the migration route for deer, bear, mountain lion, bobcats, coyote, fox, duck and other birds as they nest and raise their young. This wildlife sanctuary is being destroyed by the over development around it. This open space is a critical area for wildlife between Boulder and Louisville. The proposed summer camp will further disrupt the wildlife nesting around the lake.

More paved areas will allow more runoff. Please protect Baseline reservoir which is part of the Lafayette water supply which provides water to our neighborhood. Mackintosh School does not have a sewer line, so all of the septic sewage is leached into the ground near the reservoir and becomes our drinking water.

Macintosh knew the limits on the Nuns property when they bought it. The only way to control their continued development is to stop the construction of more buildings and the outdoor arena. This is not the city of Boulder. The School belongs in the city not in an agriculture area. Mackintosh is a private for-profit business as was Bridge School. Bridge was not allowed to expand, and Mackintosh should also not be allowed to expand.

Thank you for your consideration,
Florence M. Merlini; 545 S. 68th St; Boulder, CO. 80303

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ATTACHMENT E
Parks and Open Space

5201 St. Vrain Road • Longmont, Colorado 80503
303.678.6200 • Fax: 303.678.6177 • www.bouldercounty.org

TO: Summer Frederick, Land Use Department
FROM: Ron West, Natural Resource Planner
DATE: October 25, 2019
SUBJECT: Docket SU-18-0011, Mackintosh Academy, re-referral

Staff has reviewed the additional submitted materials, and has no further comments beyond those from the earlier POS referral, dated August 2, 2018. Staff's earlier question about the resource management plan, required in an earlier resolution, has been resolved and is no longer an issue.

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October 29, 2019

TO: Summer Frederick, Principal Planner; Land Use Department
FROM: Jennifer Severson, Development Review Coordinator
SUBJECT: Docket # SU-18-0011: Mackintosh Academy ADDENDUM #1

The Transportation Department has reviewed the revised application materials for the above-referenced docket that were referred to us for review on September 16, 2019; we have the following additional comments:

1. The Preliminary Drainage Report dated August 7, 2019 adequately addresses drainage questions including the following: how the proposed drainage features will connect with the existing, regrading of the ditch along Ed's Way, the replacement of the pipe, and flow lines. The report also confirms the proposed pipes, ditches and detention ponds are sized appropriately for the site.
2. Staff supports the general concept shown in the revised application materials for the proposed pedestrian access between the bus stop on the south side of South Boulder Road and the subject parcel. However, design details for the proposed pedestrian access connection must be included in plans submitted for permitting.
3. A stand-alone, dimensioned parking plan that demonstrates compliance with the [Boulder County Multimodal Transportation Standards](#) (hereafter referred to as "the Standards") must be included in plans submitted for permitting. The parking plan must show details for *all existing and proposed parking for the school*, including bicycle parking. Parking must comply with the Standards, including without limitation:
 - a. Section 5.6.2 – Parking Lot Design Standards
 - b. Section 5.6.4 – Accessible Parking
 - c. Section 5.6.5 – Bicycle Parking
4. There is no evidence of an existing Access Permit. An Access Permit will be issued at the time of building permit review. No special application procedure is necessary, the Access Permit will be issued concurrently with the Building Permit.
5. At Building Permit review, an Access Improvement and Maintenance Agreement (AIMA) shall be issued for Ed's Way. The AIMA will be completed by the Transportation Department and approved as part of the Building Permit process.

This concludes our comments at this time.

ATTACHMENT E

July 10, 2018

TO: Jennifer Severson, Senior Planner; Land Use Department
FROM: H el ene Levaufre, Senior Planner
SUBJECT: Docket # SU-18-0011: Mackintosh Academy

The Transportation Department has reviewed the above referenced docket and has the following comments:

1. The subject property is adjacent to Ed’s Way, a paved private road. Ed’s Way is accessed from South Boulder Road, a County – owned and maintained right-of-way (ROW) with a Functional Classification of Principal Arterial. Legal access through Ed’s way has been demonstrated via a 60’ wide access easement shown in the Saint Walburga Subdivision Exemption Plat (Rec. No 1623876).
2. Based on staff’s analysis of this project, this proposal will result in approximately 2 acres of land disturbance. Given that this is in excess of one acre or more, an application for a Boulder County Stormwater Quality Permit (SWQP) will be required with the building permit application.
3. The drainage plan shows two proposed detention ponds on the property. The applicant shall submit more information on the proposed drainage on site including :
 - a. Grading and drainage plan with existing and proposed grading, drainage and flow lines. The plan must show how the proposed drainage features will connect with the existing, including the necessary regrading of the ditch along Ed’s Way and the replacement of the pipe.
 - b. Drainage report for the design and sizing of the pipes, ditches and detention ponds.
4. The existing accesses shall be improved to meet the specifications of the [Boulder County Multimodal Transportation Standards](#) (hereafter referred to as “the Standards”), including without limitation:
 - a. Section 5.5 – Parcel Access Design Standards
 - b. Standard Drawing 11 – One-Lane Private Access Section
 - c. Standard Drawing 14 – Access With Roadside Ditch
 - d. Standard Drawing 15 – Access Profiles Detail
 - e. Standard Drawing 16 – Access Grade and Clearance
5. The Transportation Department agrees with the conclusions of the submitted Transportation System Impact Review :

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- a. The proposed addition will not result in the need for vehicle capacity improvements to the intersections in the area.
 - b. Necessity to improve pedestrian access from the bus stops on S.Boulder Road.
6. The proposal addresses pedestrian access from the North bus stop, with a proposed pedestrian path going across the subject property. However, there is no safe access from the South bus stop. The applicant shall submit a proposal for a pedestrian path ensuring safe access from the crosswalk from the bus stop on the south side of South Boulder Road to the subject parcel.
 7. The applicant shall submit a plan showing delineated parking spaces, compliant with ADA parking requirements and Boulder County Bicycle parking requirements.

This concludes our comments at this time.



Public Health

Environmental Health Division

August 7, 2018

TO: Staff Planner, Land Use Department

FROM: Jessica Epstein, Environmental Health Specialist

SUBJECT: SU-18-0011: Mackintosh Academy project

OWNER: Mackintosh Academy

PROPERTY ADDRESS: 6717 South Boulder Road

SEC-TOWN-RANGE: 2 1S 70

The Boulder County Public Health (BCPH) – Environmental Health division has reviewed the submittals for the above referenced docket and has the following comments.

OWTS not adequately sized:

1. BCPH issued a repair permit for the installation of an absorption bed system on 7/11/97. The permit was issued for an onsite wastewater treatment system (OWTS) adequate for a school with 85 daytime people. BCPH approved the installation of the OWTS on 10/20/99. The permit number is ON0033328.
2. The owner or their agent (e.g., contractor) must apply for an OWTS change of use/major repair permit for the proposed activities and increased population using the system. **The OWTS permit must be issued prior to any required component installation and before a building permit can be obtained.** The OWTS must be installed, inspected and approved before a Certificate of Occupancy or Final Building Inspection approval will be issued by Land Use.

Property Transfer Regulation:

1. The property sold on 3/9/12 without a Property Transfer Certificate. The Property Transfer Regulation has been in place since 2008 and requires either a certificate of operation or a conditional certificate of operation before the sale. **The current owner must apply for a Conditional Property Transfer Certificate before a building permit may be obtained.** A Property Transfer Inspection will not be required because the OWTS will be upgraded via a major repair permit for this proposal.

Avoid Damage to OWTS:

1. Heavy equipment should be restricted from the surface of the absorption field during construction to avoid soil compaction, which could cause premature absorption field malfunction. Caution should be used in conducting trenching and excavation activities so that sewer lines and other OWTS components are not damaged.

Child Health Promotion Program:

Childcare for children under kindergarten age is included in this proposal. **It is required that the applicants submit a Boulder County Child Care Plan Review Packet to the Child Health**

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Promotion Program before a building permit can be obtained. For more information, contact Kara Kaiser at 303-413-7550.

Consumer Protection:

The new cafeteria will require a Plan Review from BCPH before a building permit may be obtained.

For more information, go to:

<https://assets.bouldercounty.org/wp-content/uploads/2017/02/retail-food-facility-plan-review-packet.pdf>

A retail food establishment license will also be required prior to operation of the cafeteria. For more Boulder County Public Health Retail Food Establishment License information, go to: <http://www.bouldercounty.org/records/licenses/pages/foodrulesandregs.aspx>

This concludes comments from the Public Health – Environmental Health division at this time. For additional information on the OWTS application process and regulations, refer to the following website: www.SepticSmart.org. If you have additional questions about OWTS, please do not hesitate to contact Jessica Epstein at (303) 441-1138.

Cc: OWTS file, owner, Land Use Department

Land Use

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

MEMO

TO: Jennifer Severson, Senior Planner
FROM: Michelle Huebner, Plans Examiner Supervisor
DATE: July 24, 2018

RE: Referral Response, Docket SU-18-0011: Mackintosh Academy. Special Use and Site Specific Development Plan review to amend an existing Special Use approval (SU-06-015) to allow an expanded use of the property, and to construct a new 9,109-square-foot building and new parking facilities, at 6717 S. Boulder Road.

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 new Certificate of Occupancy (“C.O.”) are required for the new building, indoor/outdoor stage amphitheater, playground, deconstruction and any alterations, remodeling, and any electrical, mechanical or plumbing work, etc. also required separate building permits.

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:

<http://www.bouldercounty.org/dept/landuse/pages/default.aspx>

The Commercial Plan Submittal Checklist:

<http://www.bouldercounty.org/doc/landuse/b70commercialplanchecklist.pdf>

2. **2015 International Green Construction Code (“IGCC”).** Boulder County’s adoptions of the 2015 editions of the International Codes include the IGCC as applying to buildings or complexes of buildings on the same property with 25,000 sq. ft. or more of floor area. Thus, the provisions of the IGCC will apply to all new construction involved in the proposal.
3. **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.
4. **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.

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5. **Design Wind and Snow Loads.** The design wind and ground snow loads for the property are 155 mph (Vult) and 40 psf, respectively.
6. **Fire Department.** It appears that the site is served by Rocky Mountain 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.
7. **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.

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_official@bouldercounty.org.

MBH:mbh

Land Use

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Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

Wildfire Mitigation Team

MEMO

TO: Jennifer Severson, Senior Planner
FROM: Benjamin Yellin, Wildfire Mitigation Specialist
DATE: August 28, 2018
RE: Docket SU-18-0011: Mackintosh Academy

Thank you for the referral. We have the following comments for the applicants:

A review of wildfire risk and mitigation typically only occurs for planning dockets east of highways 36 and 93; however, wildfire mitigation review was triggered for this specific docket due to the identification of possible wildfire risk by another referral agency. The area is mostly comprised of light herbaceous fuels in relatively flat terrain, typically resulting in easier suppression in average fire conditions. However, high winds and dry conditions can promote dangerous and fast moving fire that can be compounded with improper landscaping installed near development.

It is the finding of the wildfire review team that the proposed development is at risk to loss of life and property from a wildfire. Additionally, the proposed development will serve a high concentration of vulnerable individuals; therefore, it is recommended to be required that wildfire mitigation best practices be implemented for the proposed development.

Site Location

Site location has been reviewed by a Boulder County Wildfire Mitigation Specialist as part of the Site Plan Review process and no conflicts have been identified.

Ignition-Resistant Materials and Construction

Since the proposed development is located within a potentially hazardous area, all exterior building materials (including any proposed decking) must be ignition-resistant construction, or better. For additional ignition-resistant construction information, please contact the Building Safety & Inspection Services Team at 303-441-3926. For specific requirements, refer to the Boulder County publication: [Building with Ignition Resistant Materials](#). All exterior materials must be clearly noted on the building plans and must be reviewed and approved as "ignition resistant" by the Building Safety & Inspection Services Team.

Defensible Space

Adequate defensible space is recommended to be required around the structure to prevent the spread of fire to and from the building. This would include:

- Installing non-combustible material and removing any vegetation in Zone 1A (0-5 ft. from the base of the walls) for the proposed building;
- Keeping dead, dry or curing grasses mowed to less than 6 inches within 30 feet of the proposed structure;
- Removing coniferous screening trees within 30 feet of the proposed building;

ATTACHMENT E

- Following the Colorado State University [FireWise Plant Materials – 6.305](#), [Fire-Resistant Landscaping – 6.303](#), and Colorado State Forest Service [Protecting Your Home from Wildfire: Creating Wildfire-Defensible Zones – 2012 Quick Guide](#) publications when choosing plants and designing revegetation and landscaping.

Timeline

Prior to issuance of any permits, a Wildfire Partners or Regulatory Wildfire Mitigation assessment and defensible space marking shall be completed. Based upon the compliance path selected, either a Wildfire Partners Assessment report or a Wildfire Mitigation Plan will be created which will describe the wildfire mitigation requirements.

Before scheduling rough framing inspections, the defensible space portion of the plan must be implemented and inspected by the Land Use Department. All trees marked for removal must be cut and all slash, cuttings, and debris must be removed and/or properly disposed.

At the time of final inspection, all remaining required items in the Wildfire Partners Assessment report or the Wildfire Mitigation Plan are to be fully implemented and inspected. Ground surfaces within three feet of both existing and new structures, and at least 2 feet beyond the driplines of decks, bay windows, and other eaves and overhangs, must be covered with an allowable non-combustible ground cover over a weed barrier material. The driveway vertical and horizontal vegetation clearance must be in place and conform to the Parcel Access Design Standards in the [Boulder County Multimodal Transportation Standards](#).

If the applicants should have questions or need additional information, we'd be happy to work with them toward solutions that meet minimum land use and building code requirements. I can be reached at 720-564-2641 or via e-mail at byellin@bouldercounty.org.



Parks and Open Space

ATTACHMENT E

5201 St. Vrain Road • Longmont, Colorado 80503
303.678.6200 • Fax: 303.678.6177 • www.bouldercounty.org

TO: Jennifer Severson, Land Use Department
FROM: Ron West, Natural Resource Planner
DATE: August 2, 2018
SUBJECT: Docket SU-18-0011, Mackintosh Academy

Site Conditions

Staff has reviewed the submitted materials, and has visited the parcel several times in the past.

County Comprehensive Plan Designations

The parcel has the following designations in the Boulder County Comprehensive Plan, or from other resource inventories.

- Riparian Area
- Wetlands
- Conservation Easement – the northern portion of the parcel, held by Boulder OSMP
- High Biodiversity Area (HBA) – S. Boulder Creek, ranked “B2,” of very high significance
- View Protection Corridor
- Major Agricultural Ditch -- McGinn
- Significant Agricultural Lands – of national, statewide and local importance

Discussion

Staff has only two concerns with the proposal. The only directly impacted resource of concern (as listed above) is the view corridor associated with S. Boulder Road. The area between the new structure and the road is currently heavily vegetated and includes a substantial fence/wall. This is not intended to be disturbed. Given this, the structure would likely only be visible from further west on S. Boulder road, and only to east-bound travelers.

The parcel’s entire southern boundary also includes nearly mature, evergreen juniper trees. This row of trees actually extends much further to the west, far beyond the subject parcel’s western boundary. These trees are fairly dense and are about 15 feet in height; there are occasional gaps in the row. Through these gaps, east-bound travelers can see some of the larger buildings of the neighboring facility, including the main chapel. The “end” of the proposed structure, at 35 feet in height, would likely be intermittently visible to east-bound travelers. This structure, though, would be closer to the larger and denser trees in the row. Staff recommends that a site visit be completed, using a height pole to get a better sense of potential visual impacts.

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Staff's only other concern is the status of "Ecosystem Management and Preservation of natural resources. Land stewardship," as cited in the application. Staff is unclear if a "management plan" for the 1.5-acre cottonwood/ditch/pond area was submitted by the previous landowner, as per the 2007 resolution. This should be examined.

Neither Wetlands nor Riparian Areas would be impacted. The proposed development is on the very edge of the HBA, and is clustered in an area of existing developed. Agricultural Lands of Statewide Importance would not be significantly impacted, and the McGinn Ditch not disturbed. All trees to be removed are non-native, horticultural varieties.

Recommendations

- A site visit should be completed, using a height pole to get a better sense of potential visual impacts.
- The status of the called-for management plan should be examined.
- A Revegetation Plan is required that includes: grass species to be used, an explanation of the treatment of excavated topsoil, mapped delineation of all disturbance areas (this includes construction staging and soil stockpiling areas, driveways, utility lines, and septic system), and locations of silt fences or erosion control logs, if necessary. All horticultural species to be planted should be reviewed by the county, and could emphasize xeriscaping principles.

ATTACHMENT E

Severson, Jennifer

Subject: FW: Referral packet for SU-18-0011, Mackintosh Academy project at 6717 South Boulder Road
Attachments: Mackintosh Academy Water Service.pdf

From: Aaron Asquith [<mailto:aaron.asquith@cityoflafayette.com>]
Sent: Tuesday, August 21, 2018 10:42 AM
To: Severson, Jennifer
Subject: RE: Referral packet for SU-18-0011, Mackintosh Academy project at 6717 South Boulder Road

Jennifer,

As the water service provider for the Mackintosh School we have reviewed the Preliminary Utility Plan for the project. In addition, we have met with JVA, the site Civil Engineer for the Project. It is our understanding that the layout of water service components will likely change from the Preliminary Layout; however, the comments we are providing are somewhat based on the layout provided, but also include some general comments that will be applicable to any utility layout. Our comments are as follow:

1. It is our preference that the fire hydrant run is as straight as possible without unnecessary bends. We will need an easement through the fire hydrant as it allows City maintenance and replacement.
2. The fire hydrant line and fire service line shall be PVC pipe.
3. It is unclear if the fire sprinkler system will use domestic water or if a dedicated fire line will be needed. If a dedicated fire line is needed, it will need to be a separate pipe from the fire hydrant run.
4. The additional building will require an additional water meter and service line from the main. An easement through the water meter will be needed as well. The service line shall be copper up to 2-1/2" diameter and PVC if the line will be larger than 2-1/2". It is unclear what size is being proposed.
5. In order to complete installation of the water service, the applicant will need to fill out a Utility Service Application and pay fees accordingly.
6. Water service (up to the meter), the fire hydrant run and the fire line will need to be inspected by our City Inspection Staff during construction.

That' all I have for now, thank you for sending the referral.

Aaron

Aaron K. Asquith, P.E.
City Engineer
City of Lafayette
(303) 661-1275



GRADING AND DRAINAGE NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
2. REFER TO HORIZONTAL CONTROL PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.
3. CONTRACTOR IS RESPONSIBLE FOR RESTORING ALL DISTURBED AREAS TO THEIR ORIGINAL CONDITIONS.
4. ALL SPOT ELEVATIONS ARE TO FINISHED GRADE OR FLOWLINE UNLESS OTHERWISE SPECIFIED.
5. IF WALL IS SHOWN, 'M' DENOTES THE FINISHED GRADE ADJACENT TO THE HIGH SIDE OF THE WALL. 'B' DENOTES THE FINISHED GRADE ADJACENT TO THE LOW SIDE OF THE WALL. REFER TO ARCH PLANS/DETAILS FOR WALL ELEVATIONS BEYOND THE ADJACENT FINISHED GRADES (EXPOSED WALL CAP/FOOTER, ETC.)

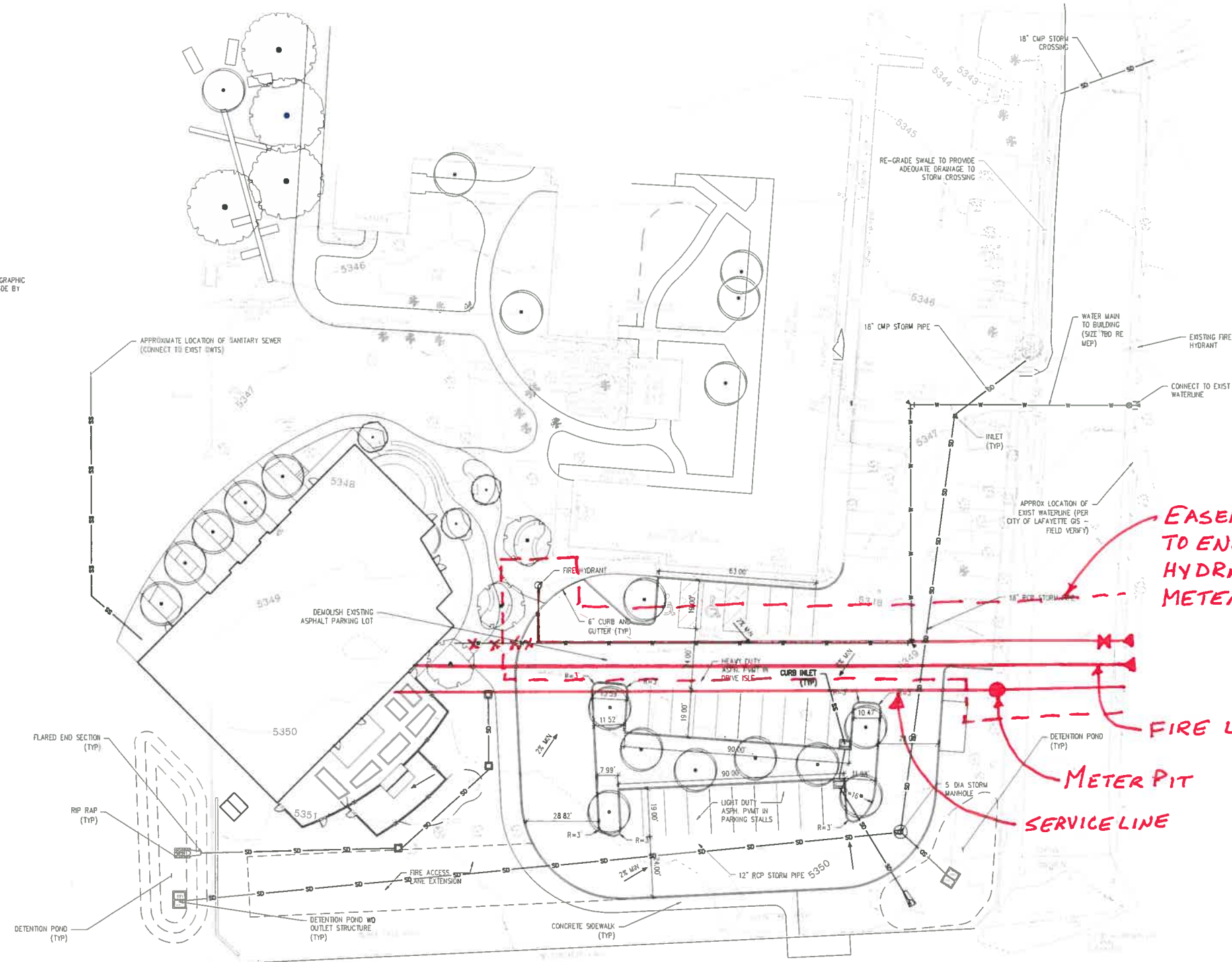
UTILITY NOTES:

1. CONTRACTOR TO FIELD VERIFY ALL EXISTING UNDERGROUND UTILITIES PRIOR TO CONSTRUCTION. REFER TO GENERAL NOTES FOR UTILITY LOCATION AND PROTECTION.
2. ALL DIRT UTILITY AND ELECTRIC SERVICES ARE PROVIDED BY OTHERS AND SHOWN FOR REFERENCE ONLY. SEE MEP PLANS AND SPECIFICATIONS AND COORDINATE WITH ALL UTILITY OWNERS AS NEEDED.
3. CONTRACTOR TO MARK ALL UTILITY STUBS WITH MARKERS.

HORIZONTAL CONTROL NOTES:

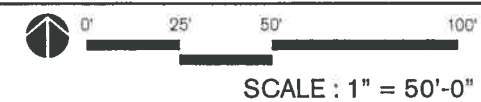
1. ALL DIMENSIONS AND RAOH ARE TO FACE OF CURB, FACE OF BUILDING AND EDGE OF WALK UNLESS OTHERWISE NOTED.
2. CONTRACTOR TO REPAIR/REPLACE ALL DAMAGE TO EXISTING PAVEMENT OR SITE FEATURES NOT INTENDED FOR DEMOLITION.
3. REFER TO GRADING AND DRAINAGE PLAN FOR FURTHER INFORMATION PERTAINING TO CURB & GUTTER, CHASES, AND DRAINAGE PANS.

NOTE: THIS PLAN IS SCHEMATIC AND NOT FOR CONSTRUCTION. EXISTING SITE AND TOPOGRAPHIC INFORMATION IS BASED UPON A COMBINATION OF SURVEY AND RECORD DRAWINGS PROVIDED BY THE OWNER. SUCH IMPROVEMENTS MAY NOT REFLECT CURRENT CONDITIONS. AN UPDATED SURVEY SHOULD BE COMPLETED PRIOR TO FINAL DESIGN.



**MACKINTOSH ACADEMY
BOULDER CAMPUS**

PRELIMINARY SITE, GRADING AND DRAINAGE PLAN



REVISED 05.25.2018

SPECIAL USE
REVIEW

04.06.2018



CITY OF BOULDER
Planning, Housing & Sustainability

1739 Broadway, Third Floor • P.O. Box 791, Boulder, Colorado 80306-0791
 phone 303-441-1880 • email planning@bouldercolorado.gov

Referral Docket SU-18-0011
Mackintosh Academy Special Use and Site Development Plan
July 24, 2018

Thank you for the opportunity to comment on this application. The proposed expansion of the Mackintosh Academy (6417 S. Boulder Road) is located within the Planning Area of the Boulder Valley Comprehensive Plan (BVCP), a jointly adopted plan by the City and County. This property is located within Area III – Rural Preservation of the plan, which is “where the city and county intend to preserve existing rural land uses and character” (BVCP Policy 1.12).

City planning staff supports several aspects of the application, particularly around the topics of community space, dining space, and sustainable food production and agricultural practices. However, based on the materials received, the city does consider the requested addition to be inconsistent with the Boulder Valley Comprehensive Plan policies. Most notably, the city finds that the request to construct a new 9,109-square-foot building, increase the maximum number of teachers/staff and students, and necessary parking facilities is inconsistent with the following BVCP policy:

1. 1.15 - Over-Intensive Rural Development

The Area III-Rural Preservation Area is that portion of Area III where rural land uses and character are to be maintained and preserved. A variety of land use activities are permitted by county zoning pursuant to examination through one or more of the review processes enumerated in the Boulder County Land Use Code. A preliminary analysis may conclude that an otherwise permitted land use proposal would have an impact of urban intensity and thus be considered an over-intensive rural development. Criteria to be examined in making an over-intensive determination may include, but are not limited to, traffic, structure size, number of users, hours of operation, outside lighting, water needs and wastewater flows, impacts extending outside of the property boundaries, compatibility with surrounding land uses and the availability or lack of other more appropriate sites for the proposed activity. Any application for a land use that triggers an over-intensive rural development analysis will be referred to the City of Boulder for comment.

City Staff Comments:

- The city considers that the expansion of currently permitted uses would be over-intensive rural development. A primary purpose of the Boulder Valley Comprehensive Plan is to maintain and focus urban land uses and development into urban areas. By contrast, this site is far removed from the urban area of the city where such uses are currently provided. Adding such uses outside of the city in an area defined to remain rural in use is inconsistent with the purpose, policies and goals of the BVCP. The City of Boulder Comprehensive Planning Division also opposed previous requests for expanded facilities and additional enrollment due to these concerns.
- This request appears to be in conflict with the County’s condition of approval of the site (Docket #SU-06-015):

“County Understanding on Maximum Use. It is the understanding and assessment of the current Board of County Commissioners...that the Bridge School Special Use Approvals



CITY OF BOULDER
Planning, Housing & Sustainability

1739 Broadway, Third Floor • P.O. Box 791, Boulder, Colorado 80306-0791
phone 303-441-1880 • email planning@bouldercolorado.gov

constitute the maximum appropriate intensity of the use of the Property as an educational facility, beyond which the use would not be compatible with the rural character of the surrounding area and would constitute new urban development contrary to the Boulder Valley Comprehensive Plan.”

Thank you for the referral, and opportunity to comment on the application. Please feel free to contact me with any questions or comments.

Respectively,

Phil Kleisler
Planner II, Comprehensive Planning
(303) 441-4497
kleislerp@bouldercolorado.gov



Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: **303.571.3306**
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

July 24, 2018

Boulder County Land Use
PO Box 471
Boulder, CO 80306

Attn: Jennifer Severson

Re: Mackintosh Academy, Case # SU-18-0011

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has reviewed the documentation for **Mackintosh Academy**. Please be aware PSCo owns and operates existing natural gas and electric distribution facilities along Ed's Way and requests that they are shown on the plans.

As a safety precaution, PSCo would like to remind the developer to call the **Utility Notification Center** at 1-800-922-1987 to have all utilities located prior to any construction.

Should the project require any new natural gas or electric service or modification to existing facilities, the property owner/developer/contractor must complete the **application process** via FastApp-Fax-Email-USPS (go to: https://www.xcelenergy.com/start_stop_transfer/new_construction_service_activation_for_builders). 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.

If there are any questions with this referral response, please contact me at 303-571-3306.

Donna George
Right of Way and Permits
Public Service Company of Colorado



Land Use

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

MEMO TO: Referral Agencies
FROM: Jennifer Severson, Senior Planner
DATE: June 19, 2018
RE: Docket SU-18-0011

Docket SU-18-0011: Mackintosh Academy

Request: Special Use and Site Specific Development Plan review to amend an existing Special Use approval (SU-06-015) to allow an expanded use of the property, and to construct a new 9,109-square-foot building and new parking facilities, on a 22.5 acre parcel.

Location: At 6717 S. Boulder Road, on the northwest corner of the intersection of S. Boulder Road and EDS Way (a private road), in Section 2, Township 1S, Range 70W.

Zoning: Estate Residential (ER)

Applicant/Property Owner: JJ Morrow, Mackintosh Academy

Agent: Danica Powell

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 Land Use staff, Planning Commission, and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter. Late responses will be reviewed as the process permits; 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 review the entire file at the Land Use Department, 13th and Spruce, Boulder. If you have any questions regarding this application, please contact the Land Use Department office at (303) 441-1735 or via email at jseverson@bouldercounty.org.

Please return responses to the above address by **July 24, 2018**.

We have reviewed the proposal and have no conflicts.
 Letter is enclosed.

Signed Juliet Bonnell PRINTED Name Juliet Bonnell
Agency or Address City of Boulder open space and Maintain Parks department

Please note that all Land Use 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 a "property owner," or if the mailing address used is incorrect, please contact the County Assessor's Office at (303) 441-3530.



City of Boulder
Open Space and Mountain Parks

P.O. Box 791, Boulder, CO 80306; 303-441-3440

MEMORANDUM

To: Jennifer Severson, Senior Planner, Boulder County Land Use Department

From: Juliet Bonnell, Associate Planner, City of Boulder Open Space and Mountain Parks

Date: 7/23/2018

Re: Docket SU-18-0011
Mackintosh Academy Special Use and Site Specific Development Plan Review

Thank you for the opportunity to review the application referenced above. The City of Boulder Open Space and Mountain Parks department owns adjacent agricultural open space and holds a conservation easement on the northern portion of the subject property. Please consider the following comments regarding this development application.

All open space fences and boundaries must be respected at all times. No gates or other access points will be allowed from the subject property onto city owned open space lands without approval of the Open Space Board of Trustees and in accordance with the gate policy of this department.

No dumping of trash, tree limbs, lawn clippings, or other debris is allowed on city-owned open space land. Trimming or removal of existing vegetation from Open Space Mountain Parks property, or planting vegetation on Open Space Mountain Parks property is prohibited.

The City of Boulder Open Space and Mountain Parks Department owns a conservation easement over this property which contains restrictions on development and use of the property. Should county staff recommend approval of the special use and site specific development plan review, OSMP requests that the following be included as a condition of approval: Landowners shall quit claim any and all mineral rights to the City of Boulder, including sand, gravel, coal, and oil and gas, on the property in fulfillment of the terms of Conservation Easement recorded at reception #01624747 (section B.14.).

There shall be no interruption or interference with the McGinn Ditch and/or the ditch easement, including but not limited to landscaping, tree planting or fencing within the ditch easement. Applicant must obtain permission from the ditch company for any proposed ditch crossings. No activities will be allowed which block the flow of water in irrigation ditches or that would weaken the ditch banks. No buildings, fences, trails, trees, or other objects that may block access

ATTACHMENT E

to or along the ditch may be constructed, placed, or planted without prior approval of the ditch company.

Use of native plant materials for revegetation and landscaping should be recommended. Non-native plant materials should not be planted, particularly Mediterranean sage, myrtle spurge, purple loosestrife, Russian olive, or any other State of Colorado listed noxious weed species.

Following are some sources of information about the use of local native plants in landscaping:
https://conps.org/wp-content/uploads/2015/05/Suggested-Native-Plants_0408.pdf

<https://conps.org/gardening-with-native-plants/>

<https://bouldercolorado.gov/osmp/tips-for-growing-native-plants>

The grading and landscape plans should include a section on weed management.

Exterior lighting should be directed downward to minimize glare and the illumination of adjacent/nearby OSMP lands, conservations easement, or other undeveloped property.

The applicant should be informed that the adjacent open space property is currently leased as an agricultural operation. The applicants should expect the operation of machinery, spreading of manure and other fertilizers, the feeding and pasturing of livestock, and the application of herbicides, insecticides, or application of irrigation water.

Construction access across city owned open space lands, storage of construction material or dumping of construction debris on city owned open space lands are not allowed.

Additional comments related to the Boulder Valley Comprehensive Plan will be submitted separately from Phil Kleisler, Planner II with the City of Boulder's Planning, Housing and Sustainability department.

Please feel free to contact me if you have any questions or comments about this response.

ATTACHMENT E

Severson, Jennifer

From: Gunnell, Anthony
Sent: Tuesday, June 19, 2018 4:22 PM
To: Severson, Jennifer
Cc: Arnold, Melissa
Subject: RE: Referral packet for SU-18-0011, Mackintosh Academy project at 6717 South Boulder Road

Greetings,

The CE Program at Parks and Open Space does not have a comment on SU-18-0011 because the project should not impact the nearby conservation easement held by Boulder County.

Thanks for the opportunity to comment.

Anthony Gunnell | Conservation Easement Stewardship Specialist
Boulder County Parks & Open Space
5201 St. Vrain Road
Longmont, CO 80503
(303) 678-6253 (office)
agunnell@bouldercounty.org
BoulderCountyOpenSpace.org

From: Milner, Anna
Sent: Tuesday, June 19, 2018 10:52 AM
To: #CEreferral; #Historic; Wobus, Nicole; Flax, Ron; Donna.L.George@xcelenergy.com; pineviewllc@comcast.net; boblj21@aol.com; Kelly, Michelle; frenchk@bouldercolorado.gov; submittals@udfcd.org; Bonnell, Juliet; Carson Hatcher, Mindy; Cecil, Olivia; Collazzi, Charlene; Frederick, Summer; HealthWaterQuality-EnvironmentalBP LU; James, Brian; Katz, Harry; Sanchez, Kimberly; Transportation Development Review
Cc: Severson, Jennifer
Subject: Referral packet for SU-18-0011, Mackintosh Academy project at 6717 South Boulder Road

Please click [here](#) to access the electronic Referral packet for *SU-18-0011, Mackintosh Academy* project at *6717 South Boulder Road*.

Please return responses and direct any questions to [Jennifer Severson](#) by *July 24, 2018*. (Boulder County internal departments and agencies: Please attach the referral comments in Accela.)

Best Regards,
Anna

Anna Milner
Admin. Lead Tech. | Planning Division
Boulder County Land Use Dept. | PO Box 471 | Boulder, CO 80306
(720) 564-2638 (Direct) | (303) 441-4856 (Fax)
amilner@bouldercounty.org
www.bouldercounty.org



Boulder County
Colorado



Land Use

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

MEMO TO: Referral Agencies
FROM: Jennifer Severson, Senior Planner
DATE: June 19, 2018
RE: Docket SU-18-0011

Docket SU-18-0011: Mackintosh Academy

Request: Special Use and Site Specific Development Plan review to amend an existing Special Use approval (SU-06-015) to allow an expanded use of the property, and to construct a new 9,109-square-foot building and new parking facilities, on a 22.5 acre parcel.

Location: At 6717 S. Boulder Road, on the northwest corner of the intersection of S. Boulder Road and EDS Way (a private road), in Section 2, Township 1S, Range 70W.

Zoning: Estate Residential (ER)

Applicant/Property Owner: JJ Morrow, Mackintosh Academy

Agent: Danica Powell

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 Land Use staff, Planning Commission, and County Commissioners value comments from individuals and referral agencies. Please check the appropriate response below or send a letter. Late responses will be reviewed as the process permits; 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 review the entire file at the Land Use Department, 13th and Spruce, Boulder. If you have any questions regarding this application, please contact the Land Use Department office at (303) 441-1735 or via email at jseverson@bouldercounty.org.

Please return responses to the above address by **July 24, 2018**.

We have reviewed the proposal and have no conflicts.
 Letter is enclosed.

Signed  PRINTED Name Jessica Farick
Agency or Address Land Use Historic Review

Please note that all Land Use 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 a "property owner," or if the mailing address used is incorrect, please contact the County Assessor's Office at (303) 441-3530.

ATTACHMENT E

Severson, Jennifer

From: Jim Watt <jwatt@udfcd.org>
Sent: Thursday, June 21, 2018 4:15 PM
To: Severson, Jennifer
Cc: Jim Watt
Subject: SU-18-0011, Mackintosh Academy - UDFCD Comments

Jennifer,

UDFCD has reviewed the Mackintosh Academy (SU-18-0011) project documents presented to us by Boulder County. We have no comments on this project as it does not meet the requirements for UDFCD maintenance eligibility. The site is not in a mapped floodplain and does not include any proposed UDFCD master plan improvements. We do not need to review future submittals.

Please feel free to contact me with any questions or concerns.

Thank you,

Jim Watt, P.E., CFM

Project Manager | Watershed Services

URBAN DRAINAGE AND FLOOD CONTROL DISTRICT

2480 W. 26TH Ave. Suite 156-B | Denver, CO 80211

Office: 303.455.6277 | **Direct:** 303.749.5455 | www.udfcd.org

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ROCKY MOUNTAIN FIRE DISTRICT

4390 Eldorado Springs Drive Boulder, CO 80303

Boulder County Land Use
2045 13th Street
Boulder, CO 80302

SU-18-0011 Mackintosh Academy 6717 South Boulder Road

July 25, 2018

I have reviewed the proposed addition of a building and increase in number of students to the Mackintosh Academy and have no concerns provided all construction meets current 2012 IFC code requirements.

Thanks,
Michelle Kelly
Division Chief
Rocky Mountain Fire District

ATTACHMENT E

Severson, Jennifer

From: Dan Aweida <dan@aweida.com>
Sent: Friday, August 10, 2018 10:01 AM
To: #LandUsePlanner
Subject: Docket SU-18-0012

Dear Boulder County Planners,

Please do NOT approve this request. This request seems to be very aggressive to try to install another 25,000 sq. feet of buildings with the existing St. Mary's church and Macintosh school already in that area.

This will have a heavy impact of traffic on south Boulder road which already does at peak times with the St Mary's church and Macintosh schools in the area. If the land seller wants to help the monastery, that is fine she can sell the land at fair market value to a future homeowner and donate the money to the monastery to help find a much more suitable location elsewhere.

Thanks for our consideration to not let this be approved.

Sincerely,
Dan Aweida
560 S. 68th Street
Boulder

ATTACHMENT E

Severson, Jennifer

Subject: FW: Ask a Planner - Web inquiry from Monika Dinges - SU-18-0011

From: Monika Dinges [mailto:monika.dinges@gmail.com]
Sent: Tuesday, July 24, 2018 8:57 AM
To: Severson, Jennifer
Subject: Re: Ask a Planner - Web inquiry from Monika Dinges - SU-18-0011

Jennifer,

I am greatly opposed to any project that tries to change current “protected” zoning for this beautifully farm and habitat land to allow further private (for profit) sprawling development.

I would like to further submit my comments in regards to the proposed expansion of Mackintosh Academy, a very expensive private school, that is being proposed across the street from my neighborhood. The proposed expansion of this school on the existing 22 acre lot is not compatible with the actual Boulder County zoning of the lot. The lot has been historically zoned as “Estate Residential”, which limits the lot to ONE single family home and requires the rest of the land to be undeveloped farmland/pasture. No school or school campus is allowed on this lot! No shopping malls. No gas stations. No anything but a single family home in a rural farm setting.

The impacts of developing a ginormous school campus on a lot that is zoned for a single family home lot is tremendous. It is extremely irresponsible of Boulder County to even consider this! This will set a very bad example that it’s ok to rezone “at will” for what ever use anyone asks! Now, every large parcel will be at risk of being rezoned. What’s next? Large condos in protected agricultural pasture lands? Or more shopping centers? Or more apartments? condos?

Impacts include and are not limited to:

1. Future sprawl and Boulder County approving more sprawl in protected highly valued farmland. Boulder County Land Use Dept is changing zoning rules in favor of private sprawling development on valued farm land adjacent to highly valued open space. This sets a bad precedence that will trigger more development of precious farmland into sprawling private housing developments and condos, gas stations, shopping centers,etc. Where does it stop?
2. Traffic nightmare. The area is zoned for a single family home for a reason. The entrance to Mackintosh & church is already extremely busy in the mornings and afternoons. S Boulder Road is a traffic nightmare. There is no safe way to exit & enter S 68th Street during morning and evening rush hour traffic. A traffic light would be needed. The traffic light would add another ugly visual structure to a beautifully area, and add more light pollution and greatly devalue the values of the adjacent homes. This not an area where “extra traffic” can easily be absorbed.
3. Unsafe school crossing across S Boulder Rd.
S Boulder Rd is UNSAFE to cross any time of day. The road is so busy that an unattended child can not safely cross it alone! Currently there is NO SAFE way for any child to cross S Boulder Road to get to the school.
4. Visual impacts. The unsightly school building, constant traffic, will decrease the scenic value of this rural neighborhood that Boulder County worked so hard to create and preserve for future generations. Blocking pastoral views that have been there for centuries. S Boulder Rd is a gate away into Boulder. There are NO large sprawling developments in unincorporated Boulder County from McCaslin until you get to the US 36 intersection in the City limits of Boulder because this land is protected pastural land. Boulder County needs to honor their own zoning laws!

ATTACHMENT E

5. Protected farmland and habitat area. The open space near Cherryvale Rd is contiguous with the conservation easement on the land just west of S 68th St, which was recently developed with a single family home. To the north of S Boulder Rd, there is prime open space near Baseline Reservoir which is contiguous with the property in question. All of these protected open space areas and farmland provide critical habitat area for many bird species, and all sorts of animals. Bald eagles, raptors, etc. this area is so close to South Boulder Creek, Baseline reservoir riparian areas that it should be protected more from developed. And it appears that it was “protected” by the zoning designation that allowed only one small single family home, but now the county is considering a “multi building private campus”! Why not let Google develop its campus here? Same impact!

6. Preservation of land for all children and future generations not just private interests. Several summer camp classes are run out of the current building. Keeping summer programs and camps opened to all children within the county and surrounding area regardless of income would be beneficial. However, I do not agree with exclusively using this land for one private school and running a for profit business on protected farmland. The public schools in Boulder are already top notch, and there is SO much traffic generated by nearby Platt Middle school and Douglass Elementary plus the rush hour traffic into Boulder on S Boulder Rd.

5. Future expansion of school. The school will never be happy being “small”. They will expand more and more each year. More growth will occur in an area that is not zoned for this. The school should be moved further east to Lafayette or further where an appropriately zoned parcel of land can be found.

Monika & Martin Dinges
Residents of S 68th Street Subdivision

From: Severson, Jennifer
Sent: Sunday, July 15, 2018 6:36 PM
To: monika.dinges@gmail.com; #LandUsePlanner
Subject: RE: Ask a Planner - Web inquiry from Monika Dinges - SU-18-0011

Hi Monika,

You can view the application on our website [here](#). It's a large file so you may need to give it minute to open, once you've selected the link.

If you wish to submit a comment to be included with the public record for the docket, you are welcome to email me back directly at jseverson@bouldercounty.org. Please remember to include your name with your comment.

Please let me know if you have any questions.

Best,

Jennifer Severson, AICP
Flood Recovery Planner | Boulder County Land Use
FRPIC- Flood Rebuilding and Permit Information Center
[1301 Spruce Street | Boulder, CO 80513](http://1301SpruceStreet.com)
Phone: 303.441.1705
www.bouldercountyflood.org

July 23, 2018

HAND CARRIED

Jennifer Severson, Senior Planner
Boulder County Land Use Dept.

RECEIVED

JUL 23 2018

Boulder County
Land Use Department

From: Carol and Walter Komhyr
200 S. 68th. St.
Boulder, CO 80303

Re: Docket No. SU-18-0011, Mackintosh Academy, 6717 S. Boulder Rd.

Dear Jennifer :

After more than 50 years of the nuns farming the Abbey land, the Archdiocese of Denver divided the property and sold 22 acres of the land and buildings, including the nuns living quarters with a huge commercial kitchen and a separate chapel, that became the Bridge School. County Commissioners approved a maximum of 75 students along with several limitations on its use of the property. Later, that owner asked for an additional school, Hillside, and an increase in students to 105. Ultimately, County Commissioners approved 160 students at Bridge School, and then it was sold to Eastern Sun Academy.

When Ron Stewart was a County Commissioner, he reluctantly approved an increase in students at Bridge. In fact, on 1/30/01, Mr. Stewart did not find that any additional building should be allowed based on the Original Special Use Conditions. He also stated there was a "no-build" restriction on the property. (It may not be so now.). Jana Mendez wanted to preserve the rural character of the area.

Once again, the Mackintosh Academy is asking for an increase in the number of students, plus the addition of a 9,109 square foot building, over 34 feet tall, as well as a new outdoor amphitheater.

The applicant states that Mackintosh Academy already includes a fully equipped science lab, a design equipped lab, a library and a state-of-the-art performing/music space and visual arts. The applicant further states the focus of the new building is for food, science - performing arts and indoor recreation.

When they leave their present building, other uses will "back-fill" in the current building. No uses are specified.

Additional teachers, community meetings, summer camps, performances, as well as potential pre-schoolers, plus the proposed new parking lot to accommodate more vehicles will lead to more traffic and noise, not to mention the proximity of the proposed building to South Boulder Road. The church also has a number of large week day gatherings for celebrations, funerals, meetings, etc. It is already difficult to make a left turn from South 68th Street going past the entrance to Mackintosh. The bus stops on the north and south sides of the school are seldom used, which is good, because of the heavy traffic. Why would the applicant want to knock down part of the south wall on South Boulder Road to make a path to the busy highway and the bus stops?

The application to once again increase the maximum number of students, add a new pre-school as well as building an enormous building should be denied. This piece of history can never be replaced. The use is not compatible with the surrounding area. It would be an extensive over use of the area.

Carol and Walter Komhyr.

ATTACHMENT E

To: Jennifer Severson, Staff Planner
Boulder County Land Use Department

Re: Docket No. SU-18-0011: Mackintosh Academy, 6717 South Boulder Rd & Eds Way.

Dear Jennifer,

I strongly oppose any changes to the existing farm land and original homestead of St. Walburga Abbey. It was established in 1935 by three brave German Nuns. When I moved to our home on 68th St, I remember watching the nuns on their tractor plowing the field, irrigating the corn and growing vegetables and fruit for their meals. They milked the cows, fed the chickens and cut the hay. This land is a symbol of the heritage of farming in our area. The home of these nuns should be preserved as other historical places in Boulder County. The movie "Lilies of the Field" is about the St. Walburga Abbey. It was the second Benedictine Abbey in the United States and was visited by the Nobel Peace Prize Winner, Mother Teresa.

You do not need to buy this land to protect the heritage of this historical agricultural area between Boulder and Louisville. You only need to deny this Special Use Development Plan and stop another parking lot and 9000+ sq ft building in Boulder County which would destroy the character of the original Abbey.



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JUL 20 2018

Boulder County
Land Use Department

The Sunday Camera Magazine



Seasons of grace

A photographic portrait
of life at St. Walburga's abbey

Photographs by Valari Jack

—
Text by Laura Caruso

Seasons of grace

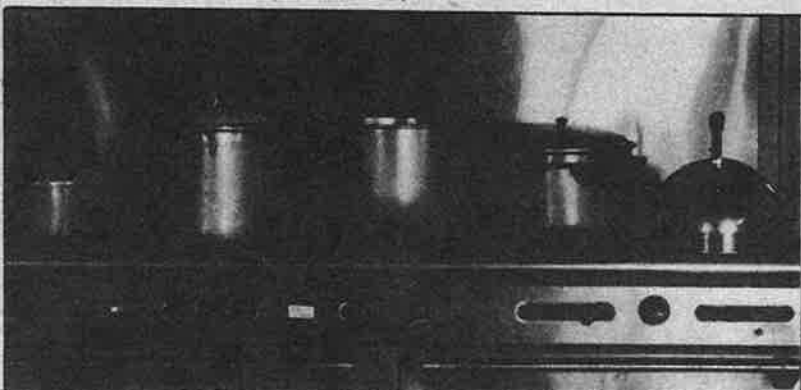
A photographic portrait
of life at St. Walburga's abbey



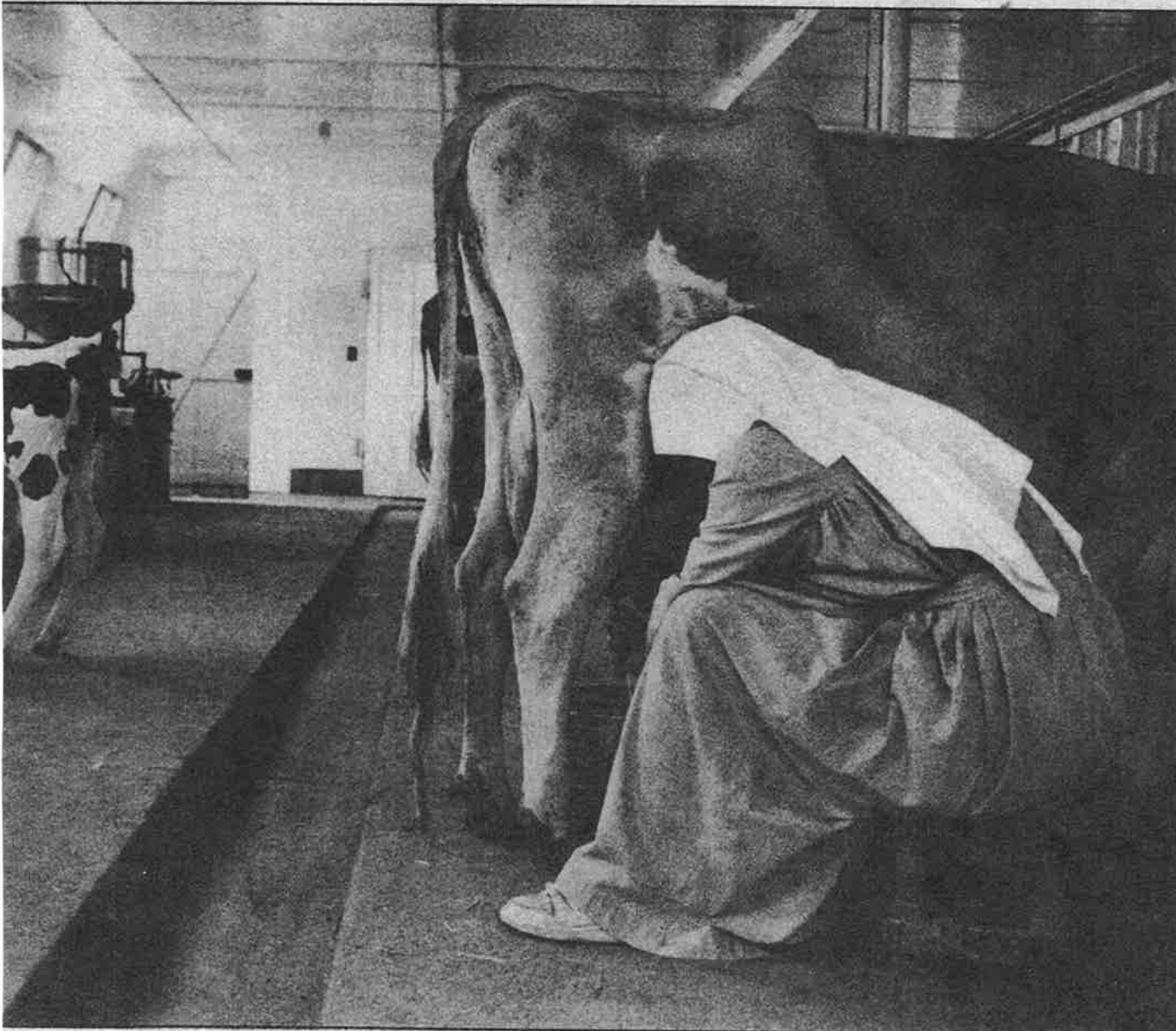
In 1935, three German nuns established the convent of St. Walburga on South Boulder Road. Since its earliest days, St. Walburga's tranquillity and odd beauty have attracted writers and photographers, but perhaps no one has been so caught by the place as Valari Jack, who recently completed a year-long photodocumentary of life at St. Walburga's

This past year was one of great change for the 18 nuns at St. Walburga's. Mother Gertrude Braun, former prioress, died; Nobel Peace Prize winner Mother Teresa visited; and the Vatican elevated the convent to the status of abbey. But Jack's photographs, presented here, provide a record of love, laughter, duty and devotion — the things that do not change.

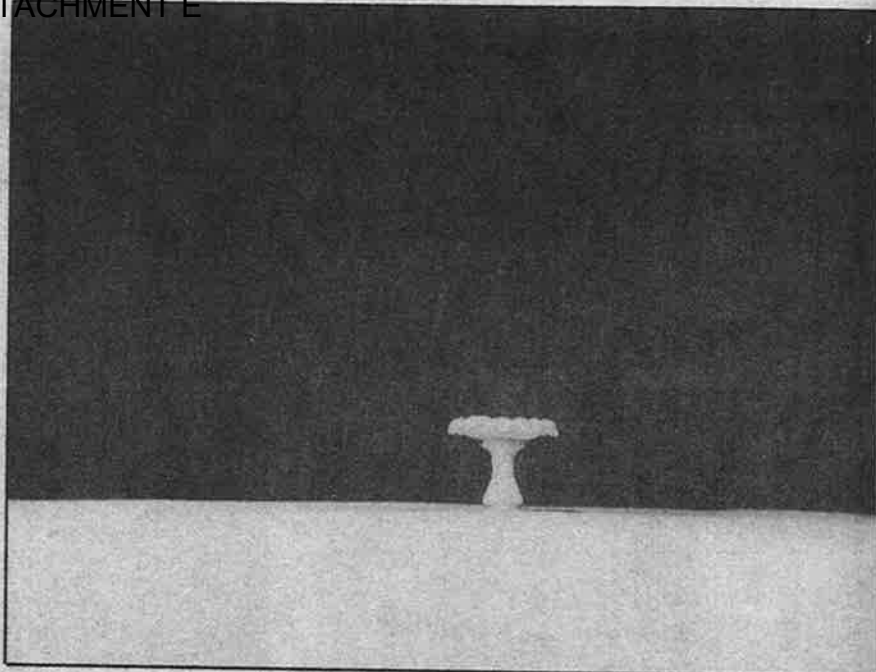
Photographs by Valari Jack • Text by Laura Caruso



... strawberries to be rinsed and hulled for lunch, chickens and llamas to be fed, a cornfield to be irrigated ...



*. the nuns retreat to their rooms,
read or pray.*



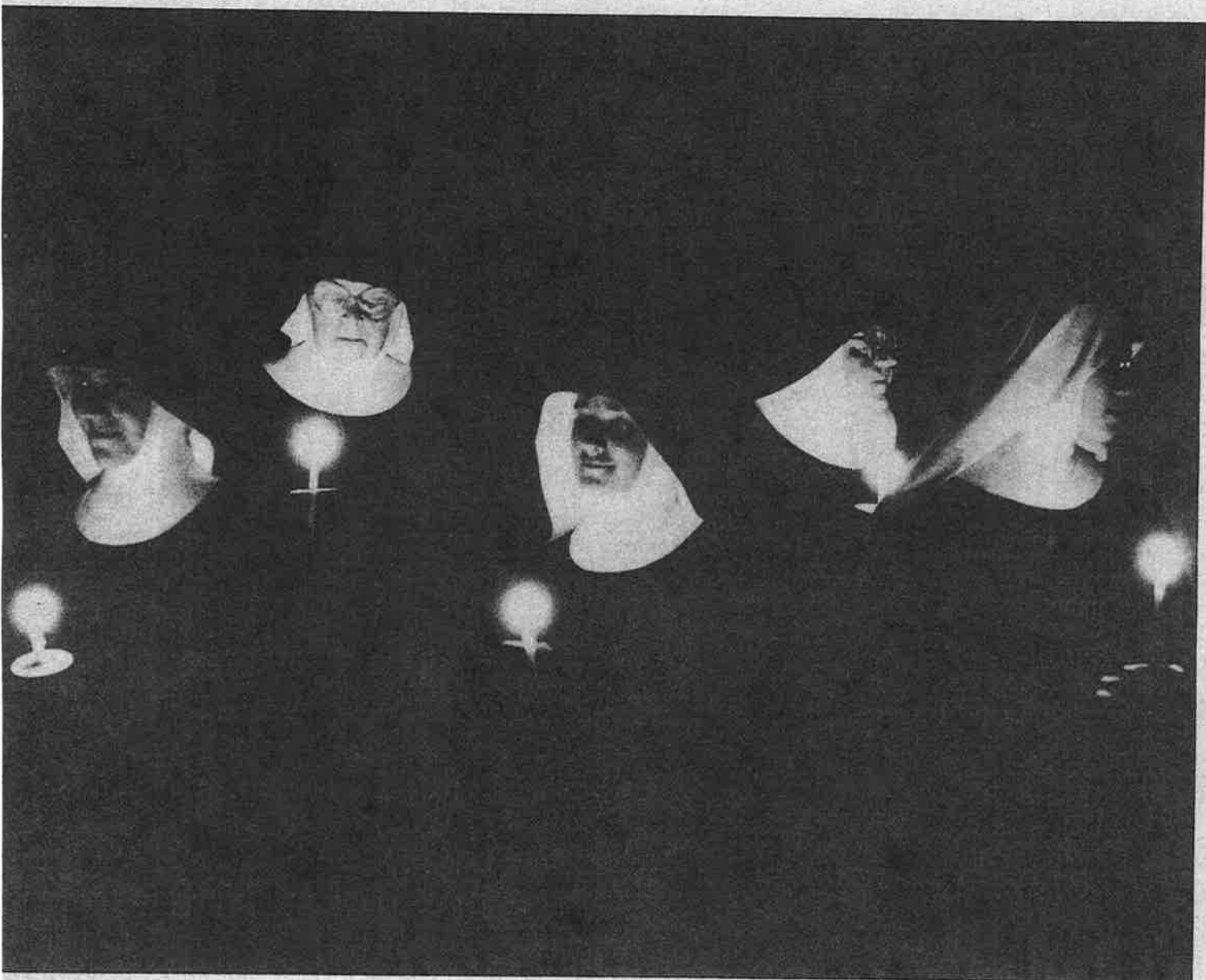
As the day wanes, the sheep are brought back to the barn, the cattle and cats fed. The nuns, according to the Rule of St. Benedict, strive to work without sloth or haste. A task to do is a gift given.

Afternoon ebbs into evening, Advent and Lent culminate in the joy of Christmas and Easter. Planting is followed by harvesting; a postulant's hair is cut, she is given a novice's white veil and

a new name, then a black veil as she recites her final vows. Every day without fail, none follows sext follows terce. Each week the cycle of psalms and hymns begins anew.

After the candlelit office of compline, the nuns retreat to their rooms, to read or pray. Observing what is called the "great silence," they do not speak until Mass the next morning.

Only the owl calls in the darkness.



At 3 p.m. today, Mother Mary Thomas Beil will be blessed as Abbess of St. Walburga's, in a ceremony attended by hundreds of Roman Catholic church dignitaries from around the world. St Walburga's became the second Benedictine abbey in the United States earlier this spring, elevated from its previous status as convent. The ceremony, which is by invitation only, is at Immaculate Heart of Mary Church in Northglenn.

