



Community Planning & Permitting

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**BOULDER COUNTY PLANNING COMMISSION
PUBLIC HEARING**

August 16, 2023 at 1:30 p.m.

**Boulder County Courthouse, 3rd Floor,
1325 Pearl Street, Boulder
Virtual and in-person**

STAFF RECOMMENDATION

STAFF PLANNER: Pete L'Orange, Planner II

DATE ISSUED: August 9, 2023

Docket SU-22-0002: ALEXANDER DAWSON SCHOOL SU/SSDP

Request: Special Use Review request to modify a previous Special Use / Site Specific Development Plan approval (SU-13-0002) for an Educational Facility to increase the number of students allowed from 540 students to 700 students and remove previously applied conditions of approval

Location: 10455 Dawson Drive (parcel number 146510000049), west of Highway 287 and approximately 1.5 miles south of Lookout Road, in Section 10, T1N, R69W.

Zoning: Agricultural (A)

Applicants: Alexander Dawson School, LLC c/o George Moore, Head of School

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SUMMARY

The applicant requests to modify a previous Special Use/Site Specific Development Plan approval (SU-13-0002) to allow the Alexander Dawson School to increase the number of allowed students from a maximum of 540 students to a maximum of 700 students and to remove previous conditions of approval related to limits on electricity, gas, and water usage and traffic limits; the applicant does not propose any additional floor area development for the school campus.

Staff reviewed the modification request under Article 4-603 of the Boulder County Land Use Code (the Code) and determined that, as the request is to modify explicit conditions and limitations of a previous Special Use approval, the request is a substantial modification. As such, the request requires a Special Use amendment through the Special Review process.

Based on staff analysis of the proposal, the Comprehensive Plan, and the Land Use Code, staff finds the request does not meet the Special Review Criteria in Article 4-601 of the Code and recommends the Planning Commission recommend denial of the application to the Board of County Commissioners.

PREVIOUS DOCKETS

The Alexander Dawson School (the “School”) was established in 1970 on a property which was approximately 140 acres. In 1971, a Special Use application was submitted for review and approval for the water supply and sewage disposal for a school for up to 300 students (SU-71-0574). At this time, an Educational Facility was considered a use by right. After the adoption of the Boulder County Comprehensive Plan, the county zoning regulations were amended in 1984 to implement goals of the Comprehensive Plan and an Educational Facility became a use which require special use review and approval. The School has submitted multiple applications for modification. Staff reviewed the various special use applications the school has made over time, these are summarized and listed in Table 1 below.

Docket SU-88-10 (1988)

In 1988, the School submitted a Special Use application (Docket SU-88-10) with a request for on-site residency with a capacity of 133 students, and to recognize the existing Educational Facility. The 1988 Special Use application described the school as a campus consisting of 126 acres and designed with a capacity for 300 students in grades 7 through 12. This application was approved, including conditions that the applicant install a flow measurement device at the sewage treatment plant and that the applicant submit an amendment to the Special Use application when/if the actual use of the plant is 80% of design capacity or 16,000 gallons per day.

Docket SU-95-12 (1995)

The School submitted a Special Use application (Docket SU-95-12) in 1995 requesting approval to construct a new gymnasium, renovate the old gym into an arts center, construct a new elementary school consisting of 19,000 square feet that would allow up to 100 elementary students, and increase the number of students in grades 6-12 to 320 students with 85 staff and faculty. The application also included expansion of the wastewater treatment facility.

The staff recommendation for Docket SU-95-12 to the County Commissioners included an analysis of the applicable criteria. Under Criterion 4 (as existed in the Special Use criteria in 1995) the staff recommendation stated, “The Applicant has acknowledged that the proposed expansions will bring the school to the anticipated maximum level of operation proposed in their mission statement. The Applicant is aware that this proposal severely limits any future expansion.” Additionally, under the Planning Commission summary, the staff recommendation stated, “The Applicants further indicated that any future expansion beyond this proposal would be unlikely, that dense landscaping buffers will be implemented, and that low-glare lighting will be used.” The Board of County Commissioners approved the request through Resolution 96-26.

Docket SU-97-02 (1997)

In 1997, the School submitted a Special Use application (Docket SU-97-02) requesting to retain two existing buildings (consisting of 5,000 square feet), reduce the elementary school building by 2,000 square feet and remove the 9,000 square feet that was previously approved for the upper campus buildings. The resulting total floor area would be 212,373 square feet. This application was approved, including a continued enrollment limit of 420 students.

Docket SU-07-015 (2007/2008)

In 2007, the School submitted a Special Use application (Docket SU-07-015) requesting to add 42,910 square feet of floor area, as well as increase the number of allowed students from 420 to 620. On April 16, 2008, the Boulder County Planning Commission held a public hearing on the expansion proposal, and recommended denial of the Docket to the Board of County Commissioners by a vote of 4-2.

The Board of County Commissioners held a series of public hearings regarding the docket and made a final decision on December 4, 2008, to deny the application by a 2-1 vote. The Board acknowledged the school's right to apply for additional expansions. However, the findings in Resolution 2008-152 included the following grounds for denial:

- The proposal crossed the line between a rural and urban use, and caused the school to no longer be an appropriate use in harmony with the neighborhood;
- The proposed expansion would constitute 255,283 square feet of development on 95 acres, which is a fundamentally urban and intensive development violating the goals, policies, and rural land designations of the Comprehensive Plan;
- The proposed expansion (with a proposed 20% increase in floor area and nearly 50% increase in student enrollment) went beyond the maximum development appropriate for a rural property, and would have been an over-intensive use of rural land designated as Agricultural Lands of National and Statewide Importance, which also contain significant open corridor and environmental resource attributes;
- Because the proposed school expansion was over-intensive for these fundamental reasons, the school's size and enrollment increase impacts were not adequately mitigated through the school's proposed energy and water savings measures, transportation demand programs, and building landscape/screening plans.

SU-09-0007 (2009)

The School submitted an application in 2009 (SU-09-0007) requesting fewer students and less square footage than proposed in Docket SU-07-015. The proposal included an increase to the student cap from 420 students to 540 students (an increase of 120 students) and construction of an additional 27,288 square feet in buildings.

The Land Use Department did not find that the core grounds for denial of the 2007 Special Use, as spelled out in detail in Resolution 2008-152, had been overcome by the 2009 application and recommended denial of the application. The Board of County Commissioners approved only an increase in students from 420 to 460. The resolution of approval (Resolution 2010-10) and Development Agreement included a condition that the approved enrollment increase was conditional upon the school not exceeding 1,552 Average Daily Trips (ADT) on an annual basis, based on three traffic counting episodes per year (a rate of 3.4 ADT per student). ADTs were limited in part to keep the traffic numbers under a threshold which would have required a Colorado Department of Transportation (CDOT) access review and the potential signalization of the intersection of Highway 287 and Dawson Drive.

DC-09-0005 (2009)

At the time of the partial approval of docket SU-09-0007, the Board of County Commissioners directed staff to evaluate the direction and constraints the current Comprehensive Plan and Land Use Code's Special Use process and criteria had on existing, established uses in the unincorporated county that do not clearly fit into the category of a rural activity or land use (and which, by default, are therefore considered "urban," or at least not "rural"). This project (DC-09-0005) sought to establish some clear direction in the Land Use Code related to the appropriate size of Community uses in the county, and floor area limits for new and existing Community uses were developed. Existing larger

community uses, such as the Alexander Dawson School, were provided a path whereby they could expand with clear limitations. These regulations, adopted into the Land Use Code on November 4, 2010, place a firm limit on the potential expansion and require an expansion request to be evaluated by a set of additional criteria.

SU-13-0002 (2013)

The School submitted a new special use review in 2013 to increase the number of students approved in 2009 from 460 students to 540 and to increase the approved floor area from 212,373 square feet, approved in 1997, to 243,085 square feet. The School proposed removing the cap on the number of faculty and approval of extra activities to occur on the campus, predominately outside normal school hours. These uses included summer enrichment activities for local children, an academic and leadership program for middle school students, and rental of the athletic facilities to local club athletic teams and other organizations.

The Board of County Commissioners approved the request, which also included changes to the on-site transportation facilities which updated the traffic flow, parking, and imposed a traffic count cap which was designed to encourage alternative modes of transportation in and out of the school and to help prevent a traffic light being installed on Highway 287. In addition to the approval of the transportation facilities, energy consumption caps were imposed to encourage further conformance with the goals of the Comprehensive Plan and to address previous concerns regarding the urban nature of the use. The specific limits on electricity, gas, and water usage were established by determining the levels of usage at that time, and using that as a baseline over which the School would not exceed. The following specific annual limits established:

- Electricity usage: 1,727,331 kilowatts (kW)/year
- Gas usage: 9,164 dekatherms (Dth)/year
- Water usage: 2,831,000 gallons/year
- Traffic: 1,674 average daily trips (ADTs)

These limits were necessary to mitigate the significant additional impacts of the proposed floor area increase and increase in student enrollment

MD-16-0020 (2016)

In 2016 the school requested a modification (MD-16-0020) which altered the gas consumption cap, the traffic flow around the school, and revised some floor area. Specifically, the modification updated the gas energy consumption numbers from 7,755 thermal units to 9,164 dekatherms. The School demonstrated that the originally approved 7,755 thermal units was inaccurate and the number was revised to reflect the average of three years of gas consumption records. The “deka” unit was added to correct the unit of measurement since thermal units was found to be inconsistent with the unit of measurement described on the School’s energy bills. The 20,730-square foot MS (Middle School) Annex building was proposed to be replaced with a 14,886-square-foot Dining Commons building (currently under construction), and the Gym had two small additions proposed along with the dugouts for the baseball fields. Overall, the proposed changes to the total floor area approved in 2013 decreased from 243,085 square feet to 228,271 square feet, which the applicant could not exceed without a Special Use Review. Staff found this modification to be minor and approved it with conditions.

SU-17-0004 (2017/2018)

In 2017, the School submitted a Special Use application (Docket SU-17-0004) proposing changes to the master plan of the campus approved in 2013 and 2016. The application proposed rearranging floor area to accommodate the educational needs of the school, as well as increasing the total square footage to a maximum of 239,055 square feet. The number of students did not increase and remained

at a maximum of 540 students. This docket was approved by the Board of County Commissioners with the limits in energy usage remaining in effect.

Docket	# of Students	Increase over Previous (%)	Total Increase since 1988 (%)	Net Sq. Ft. Allowed
SU-88-10	300	—	—	190,490
SU-95-12	420	40%	140%	206,373
SU-97-02	420	—	—	212,373
<i>SU-07-015 (Denied)</i>	<i>620</i>	<i>47.6%</i>	<i>206.6%</i>	<i>255,283</i>
SU-09-0007	460	9.5%	153.3%	212,373
SU-13-0002	540	17%	180%	243,085
MD-16-0020	540	—	—	228,271
SU-17-0004	540	—	—	239,055
SU-22-0002	700	29.6%	233.3%	239,055

Table 1. Previous Dockets with numbers of students and floor area approved.

DISCUSSION

The subject property is located at 10455 Dawson Drive, west of Highway 287, and is comprised of three parcels: 146510000055, 146510000036, and 146510000049 (see Figure 1 below). The three parcels are approximately 94 acres, although the campus buildings are all located on the 59-acre parcel 146510000036; the other two parcels are either undeveloped or are used for sports fields. The property is accessed via a driveway from Highway 287.



Figure 1. Subject property, with the three parcels identified.

The applicant has requested a Special Review to modify the previously approved Special Use/Site Specific Development Plan. The proposed changes to the master plan of the campus include increasing the maximum of students allowed from 540 students to 700 students, and removing the previously imposed caps on energy, gas, water, and traffic (conditions of approval for SU-13-0002 as outlined above). The current application does not propose to increase any floor area over that which has previously been approved, stating that the total square footage as approved is capable of meeting the needs of the proposed 700-student cap.¹

The applicant does not anticipate that the enrollment of students will increase to 700 immediately. Rather, the number of students will likely increase by approximately ten additional students each year. The applicant is requesting the increase in enrollment cap at this time because they are approaching the current cap of 540 students and want to “eliminate the need for further special use reviews for many years.”

The applicant has also requested the elimination of the previously imposed caps on energy, gas, water, and traffic, stating that those are all proportional to the number of students and staff on-site. The applicant has stated that they could attempt to estimate the increases anticipated for each year, based on the anticipated increase in attendance annually; however, they have requested the removal of the caps stating, “we can assume that yes, there will be modest increase in these areas, yet within a range that is reasonable relative both to County expectations and the marginal impact on the surrounding community.” Per the application materials, the school has taken measures to reduce the use of energy, gas, and water by constructing new buildings to LEED Gold specifications and working to bring existing buildings up to current standards.

The application materials state that the School has made some internal traffic modifications to improve traffic flow on campus, with an eye toward traffic safety on campus. The applicant also cites their existing Greenride bussing program as mitigation for potential traffic impacts. Per the application materials, approximately 44% of students take the bus most days, with an additional almost 5% taking it occasionally. Approximately 30% of the upper school students (grades 9 – 12) take the bus; this is also where the applicant expects most of the enrollment increase.

The Boulder County Comprehensive Plan indicates the subject property is located in Agricultural Lands of both Statewide and National Importance (see Figure 2 below). There is also a small section of the northern most parcel which is within the White Rock/Gunbarrel Hill Environmental Conservation Area (ECA). The Boulder and White Rock Ditch and the Leggett Ditch both cut through the property. Finally, the section of Highway 287 adjacent to the subject property has a Viewshed Protection score of 1.75 out of 5.

The southeast parcel and a portion of the main (central) parcel are encumbered by county-held conservation easements. There is also designated County Open Space properties north, east, and south of the subject property (see Figure 3 below).

As detailed in the criteria review below, staff finds that the proposed increase in student enrollment and removal of the limits and restrictions on electricity, gas, water, and traffic does not meet all of the Special Review Criteria in Article 4-601 of the Code. As such, staff recommends denial of this application.

¹ Per the application materials, two of four new buildings approved through SU-17-0004 have not been constructed and are not currently scheduled for construction; per the application, these structures would not increase the school’s enrollment capacity, but would make the maximum enrollment “more comfortable.”



Figure 2. Comprehensive Plan map

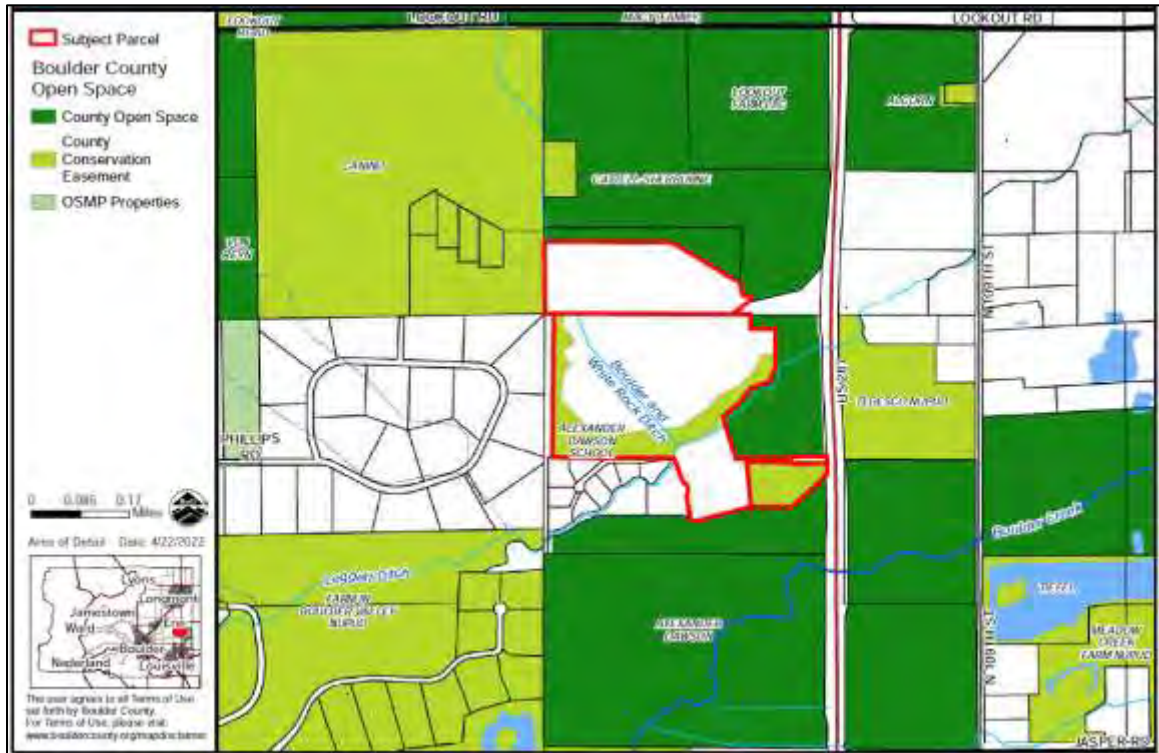


Figure 3. Conservation Easements and County Open Space map.

REFERRALS

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

Boulder County Long Range Planning Team: This team reviewed the proposal and noted that a large part of the reason for adoption of the original Boulder County Comprehensive Plan in 1978 was as a response to the urban development occurring in the unincorporated areas of the county. One primary purpose of the Boulder County Land Use Code is “to implement the goals and policies of the Boulder County Comprehensive Plan” (Article 1-300.A). When the Code criteria cannot be met or conditions of approval cannot be implemented which allow a use to meet Code criteria, the use is counter to Boulder County Comprehensive Plan and cannot be considered in accordance with the Plan. They also note that the repeated requests for expansion have resulted in numerous and complex conditions of approval that were implemented in order for the special use approval criteria to be met. They found that the request to have these conditions removed has not been accompanied by any reductions in floor area or student numbers to a level which would allow the use to meet the criteria for approval without the need for these conditions. Finally, this team stated that if the conditions of approval for the current levels of use cannot be effectively implemented by the school, then the current level of use approved by the county should be reconsidered.

Boulder County Development Review Team – Access & Engineering: This team reviewed the application materials and found legal access to the subject property has been demonstrated via US Highway 287. In June 2022, the Access & Engineering team placed a hold on the application, requiring that the applicant provide a new Transportation System Impact Study (TSIS) to accurately determine how the current and proposed number of students will impact the surrounding transportation network. The applicant submitted the new TSIS in March 2023. The Access & Engineering Team recommended that the previously imposed limit of 1,674 average daily trips (ADTs) remain in place and noted that the ADT requirements could continue to be met by continuing to improve the traffic demand management program. They stated that continuing to limit the ADTs would help to continue to achieve transportation related goals and policies of the Comprehensive Plan. They also noted that the applicant will need to continue to monitor and report on traffic numbers, per previous approvals.

Boulder County Parks & Open Space – Natural Resources Planner: The Natural Resources Planner reviewed the application materials and stated that they do not support the proposal. They noted that this is the sixth request to increase enrollment since 1988. They also stated that they found the existing facility to be in conflict with the Boulder County Comprehensive Plan as it states that urban development should be located within or adjacent to the incorporated municipalities; the Plan also states that land uses within the Plains Planning Area (the portion of the county east of Foothills Highway, north of the City of Boulder, and east of Highway 93, south of the City of Boulder) should continue to be related to agricultural uses and uses consistent with the rural character of the area. They expressed concerns with requested elimination of the energy, gas, water, and traffic, noting that if enrollment continues to increase the consumption of those resources will increase as well. Finally, they noted that the applicant has acknowledged as far back as 1996 that future expansions would likely not be approved.

Boulder County Conservation Easement Team: This team reviewed the application materials and stated that, while portions of the subject property are encumbered by county-held conservation easements, they found that the proposal did not include any activities which would conflict with or materially impact those easements. As such, they did not have any conflicts with the docket.

United Power, Inc.: This agency responded that they did not have any conflicts with the proposal, provided their ability to maintain all existing rights, facilities/equipment, and existing easements. They did note that they have electrical distribution in the area that may or may not need to be upgraded depending on the requirements of the site.

Adjacent Property Owners: Notices were sent to the 47 property owners within 1,500 feet of the subject property; staff have not received any public comments to date.

Agencies that responded with no conflict: Boulder County Building Safety & Inspection Services; Boulder County Historic Preservation; Boulder County Public Health; Left Hand Water District; Mountain View Fire Protection District; Goose Haven Homeowners Association; and Xcel Energy.

Agencies that did not respond: Boulder County Assessor; Boulder County Floodplain; City of Boulder; Town of Erie; City of Lafayette; City of Lafayette; Weld County; Boulder Valley and Longmont Conservation District; Granja Este; Farm in Boulder Valley Homeowners Association; Northern Colorado Water Conservancy; Colorado Department of Transportation; Lumen/CenturyLink; Boulder & White Rock Ditch Company; and Leggett Ditch Company.

SPECIAL REVIEW CRITERIA

The Community Planning & Permitting staff has reviewed the standards for Special Review approval to modify the previously approved Special Use/Site Specific Development Plan to increase the maximum of students allowed from 540 students to 700 students, and to remove the previously imposed caps on energy, gas, water, and traffic (condition of approval for SU-13-0002) 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,***

The subject property is located in the Agricultural Zoning District. Educational Facilities are a defined Community Use under Article 4-504.E of the Code and are allowed in the Agricultural district through the Special Review process. As discussed above, the existing school has been approved through the Special Review process and has gone through the required modification and amendment reviews. Additionally, all of the existing structures comply with the required setbacks in the Agricultural district.

Except as related to parking and floor area, the Code does not address the issue of the number of students and staff in relation to educational facilities. Per Article 4-504.E.3, Educational Facilities are required to provide three parking spaces for each kindergarten through middle school classroom, and 10 spaces for each high school classroom. Per the staff report for SU-13-0002, the School has 25 kindergarten through middle school classrooms, requiring 75 parking spaces, and 21 other classrooms, requiring 210 parking spaces, for a total requirement of 285 parking spaces. As part of the SU-13-0002 review, the School proposed providing 286 parking spaces; these spaces have been constructed meaning this requirement has been met. No changes in the number of classrooms or the provided parking has changed since that time. As such, staff finds this requirement is met.

In addition to the standard zoning requirements, the proposal is also subject to the provisions for existing Community Uses per Article 4-602.C of the Code (discussed in more detail below under Additional Criteria Analysis). The School has been permitted to exceed the floor area limitations under Article 4-602.C through several previous dockets: SU-13-0002, MD-16-0020; and SU-17-0004. All three of these dockets have included conditions of approval related to the proposal's ability to meet the special use criteria. Specifically, the school is subject to the following limits and restrictions:

- Electricity usage: 1,727,331 kilowatts (kW)/year
- Gas usage: 9,164 dekatherms (Dth)/year
- Water usage: 2,831,000 gallons/year
- Traffic: 1,674 average daily trips (ADTs)

The applicant has proposed the removal of these requirements, stating that “there are diminishing returns to these restrictions as more of [their] existing buildings are brought to current standards and as [they] add students and staff.” Staff finds that the removal of these requirements, as requested by the applicant, would be counter to, and in conflict with, the previous approvals and with the requirements under Article 4-602.C.3. As such, staff recommends that the existing limits and restrictions on electricity, gas, and water usage remain in place. Additionally, staff has determined that the school is not currently in compliance with limits on gas usage; this is discussed in more detail in Criterion 4 below. As the school is not in compliance with the previous approval, staff finds it does not meet the “comply with all other applicable requirements” section of this criterion.

Therefore, staff finds this criterion has not been met.

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

The area surrounding the subject property consists of single-family residential lots to the west and southwest (Granja Este Subdivision and Southern Exposure Subdivision), and open space and agricultural uses to the south and east. There are also four residential lots located to the north of the subject property.

The application does not propose any new construction. As such, staff finds the proposal will not impact the visual character of the area.

While the current proposal does not seek to add any additional floor area over that which has already been approved, the increase in students would result in an increase in the intensity of the use. As discussed in Criterion 1 above and Criterion 7 below, staff finds that removal of the limits and restrictions on electricity, gas, water, and traffic would be counter to the previous approvals and would remove significant mitigation measures.

As discussed above, the applicant has requested to modify the previous Special Use/Site Specific Development approvals to increase the maximum number of students from the current limit of 540 students to a new maximum of 700 students, an increase of just over 30%. Per the materials submitted by the applicant, it is not anticipated that the actual enrollment of students would increase to 700 immediately. Rather, based on the reported enrollment figures from the applicant, the number of students would likely increase by approximately ten additional students each year. The applicant has stated that they are approaching the current cap of 540 students. The applicant has requested the enrollment cap be set to 700 students to “eliminate the need for further special use reviews for many years.”

However, in past applications which have requested an increase in student enrollment, staff have determined that the intensity of the use (e.g., the number of students) was not

compatible with the rest of the area. Staff have cited the fact that the subject property is located in a rural portion of the county which is largely agricultural in nature, and they would not be able to support the proposed intensity of use for any other property in the agricultural zoning district.

Most notably, in docket SU-07-0015, which proposed to increase to the total enrollment from 420 students to 640 students, planning staff, the Planning Commission, and the Board of County Commissioners all found that the neighborhood and the area surrounding the school is single-family residential development, undeveloped open space, and agricultural land uses. The School, in contrast, was found to be a large institutional development with multiple structures, associated paving, parking lots, and tennis courts/athletic fields. The Board of County Commissioners Resolution (2008-152) states:

*“The Board's review process for the School's last expansion proposed between 1995 and 1997, indicated that **the School as approved at that time was likely the limit of institutional development which could occur on this property without the School becoming an urban use** incompatible with the surrounding area/neighborhood and the open land preservation purposes of the Agricultural Zoning District. Even though the School has made commendable efforts to reduce the size and impact of its original proposal in this Docket, the addition of 42,910 more square feet of school buildings to this already densely developed campus, as well as a **nearly 50% enrollment increase resulting in 620 total students (and a corresponding number of additional staff beyond the currently approved 85 staff members)**, crosses the line between a rural and urban use, and causes the School to no longer be an appropriate use in harmony with the neighborhood and the Agricultural Zoning District. **Simply stated, the Proposed School Expansion does not equate to a rural facility: it would be an urban one.**” [emphasis added]*

Staff finds the current proposal, which would allow for an increase in enrollment beyond that which was denied in SU-07-0015, would similarly result in a use which is, in practice, an urban facility.

While the Board of County Commissioners requested Land Use Code amendments in 2009 to allow for reasonable expansions to existing Community Uses (DC-09-0005, Resolution 2010-130, effective 11/4/10), staff finds the current proposal to increase enrollment to 700 students does not meet the requirements for expansion under Article 4-602.C.3. The Code provisions under Article 4-602.C.3 recognize that existing sites have established impacts and, by closely controlling the additional impacts, some expansion may be permissible. As discussed in more detail below under the Additional Criteria Analysis, staff finds the current proposal does not sufficiently mitigate the additional impacts from the increased enrollment.

Therefore, staff finds this criterion is not met.

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

As discussed above, the subject property is located in Agricultural Lands of both Statewide and National Importance (see Figure 2 above). There is also a small section of the northern most parcel which is within the White Rock/Gunbarrel Hill Environmental Conservation Area (ECA). The Boulder and White Rock Ditch and the Leggett Ditch both cut through the property. Finally, the section of Highway 287 adjacent to the subject property has a Viewshed Protection score of 1.75 out of 5. As the School already exists, and as no new construction is

proposed as part of this application, staff finds that there will be no new impacts to these resources.

The Comprehensive Plan seeks to strike a balance between the desires of individual property owners and the community as a whole. In reviewing the application materials, staff have identified several specific goals or policies in the Comprehensive Plan which are particularly relevant to this docket.

The Countywide Goals Section of the Comprehensive Plan, Design of the Region, Goal 1 Cluster Development states: “*Future urban development should be located within or adjacent to existing urban areas in order to eliminate sprawl and strip development, to assure the provision of adequate urban services, to preserve agriculture, forestry and open space land uses, and to maximize the utility of funds invested in public facilities and services.*”

Additionally, Agricultural Element, Goal 1 Cluster Development states: “*Future urban development should be located within or adjacent to existing urban areas in order to eliminate sprawl and strip development, to assure the provision of adequate urban services, to preserve agriculture, forestry and open space land uses, and to maximize the utility of funds invested in public facilities and services.*”

A main tenant of the Comprehensive Plan has been to direct urban uses to urban areas where a full range of urban services can be provided and to protect the rural nature and activities in the county and to ensure these uses do not have an undue burden on local infrastructure and services. Consistent with staff analysis for previous dockets related to the subject property and the school located there, staff finds that the proposed enrollment increase would be in conflict with this policy as the school is of a size and level of intensity that would be more appropriate in an urban area or, at the very least, a Community Service Area (CSA).² Of particular note is the fact that, in 2008, the then Board of County Commissioners found that the school’s request in docket SU-07-0015 to increase their enrollment from 420 students to 620 students was “beyond the maximum development appropriate for this rural property, and is an over-intensive use of rural land designated as Agricultural Lands of National and Statewide Importance” (Resolution 2008-152). The current application proposes to increase the maximum enrollment to a level above and beyond that which was previously denied (docket SU-07-0015). For the same reasons, staff find the proposal is in conflict with this policy.

Agricultural Element, Policy AG 1.03 Agricultural Land of Importance states: “*It is the policy of Boulder County to encourage the preservation and utilization of those lands identified in the Agricultural Element as Agricultural Lands of National, Statewide, or Local Importance and other agricultural lands for agricultural or rural uses.*”

As noted above, the subject property is located within areas identified as Agricultural Lands of both state and national importance. The subject property has been used as a school since 1970, however, and has not been used for agriculture since that time; the property is already well developed. Additionally, this application does not propose any new development, and staff finds that the proposed increase in enrollment would

² Per Article 18-126 of the Code, Community Service Areas (CSA) are defined as “A boundary line drawn around a municipality within which a city expects to accommodate future urban growth. Community Service Area plans provide, when jointly adopted by both municipal and county governments, a mutually binding comprehensive plan for county lands adjacent to each municipality. It is expected that land within municipal Community Service Areas will be developed in an urban pattern, urban services will be provided by the municipalities, and the area will eventually be annexed.”

not have any impacts on existing agricultural lands in the area. As such, staff finds that the proposal is not in conflict with this policy

Environmental Resources Element, Policy ER 2.01 Air, Soil, Water, Noise and Light Pollution states: *“Boulder County shall seek to protect overall public and environmental health by enforcing regulations concerning air, soil, water, noise and light pollution at the local level in accordance with applicable law.”*

As the school is located in a rural area, and as its student body comes from around the county, rather than from immediately adjacent residential areas, staff finds that an increase in the number of students would necessitate an increase in vehicle traffic to and from the property, which would increase greenhouse gas emissions. Transportation is a leading cause of such emissions. The applicant has requested that the limits and restrictions of vehicular average daily trips (ADTs) imposed as part of SU-13-0002 be removed as part of this application. As discussed above in Criterion 1, staff finds that removal of these limits and restrictions is in conflict with the previous approval and would be in conflict with this policy.

Additionally, an increase in the number of students on the subject property could foreseeably result in an increase in noise, especially in the morning and afternoon when students are arriving and leaving, and during any outdoor activities (e.g. – recess, sports, et cetera).

Environmental Resources Element, Policy ER 3.03 Development Inside ECAs states: *“Development within ECAs shall be located and designed to minimize the cumulative impacts on the environmental resource values of ECAs.”*

A small portion of the subject property is located within the White Rock/Gunbarrel Hill Environmental Conservation Area (ECA); specifically, the northwestern portion of the northern parcel for the school (see Figure 2 above). The Boulder County Comprehensive Plan definition for Environmental Conservation Areas says, in part, *“ECAs are a planning tool developed by the county and its agency partners for analyzing land use and land management decisions in the context of the **cumulative effects of development, roads, trails and increased human presence at a landscape scale** on these large and complex ecosystems”* [emphasis added].³ The portion of the subject property located within an existing ECA is currently used for athletic fields. Ensuring uses do not negatively impact ECAs through increased human presence is an essential element of this goal. The schools’ current request for additional student is likely to do just that.

Sustainability Element, Goal 1 Promote Outcomes Consistent with the Principles of Sustainability states: *“The county recognizes and accepts that weighing individual wants and needs with those of the larger public and society is a complex but essential responsibility of government. Implementing the Comprehensive Plan involves the need to balance competing goals and policies in cases where they cannot be harmonized. With that understanding in mind, Boulder County’s land use management tools and practices should be designed to promote decisions and actions supporting outcomes that are consistent with the principles of sustainability.”*

As discussed above, the limits and restrictions on electricity, gas, and water usage that were conditions of approval for SU-13-0002 were put in place to mitigate and

³ Boulder County Comprehensive Plan, July 2020, page ER-2.

offset the increased floor area and student enrollment requested at that time. They were intended to help ensure that the expansion of the school was balanced by increased level of sustainable operations. As such, staff finds that the current request to remove those limits and restrictions would be in direct conflict with this goal.

Transportation Element, Policy TR 4.01 Reduce Single-Occupant-Vehicle Travel states: *“Reduce single-occupant-vehicle (SOV) travel and shift SOV travel to off-peak periods through a variety of programs and techniques, including Transportation Demand Management (TDM).”*

While the school encourages the use of bus and carpooling options, there is no requirement for families to do so. An increase in students and removal of traffic limitations would result in an increase in single-occupancy-vehicle travel. Based on the numbers reported by the applicant, they have generally been able to meet the average daily trips (ADTs) limit established through the SU-13-0002 approval. Removal of that limit, as requested by the applicant, would not be consistent with the policy to work to reduce SOV travel. As such, staff finds the following: removal of the ADTs limit would be in conflict with this policy; keeping the ADTs limit or requiring further reductions to offset the impact of additional student would be consistent with this policy.

Transportation Element, Policy TR 5.01 Reduce Vehicle Miles Traveled states: *“Set goals for vehicle miles traveled (VMT) per capita reductions for 2015, 2020 and 2030. Encourage incorporated areas inside the county to adopt similar goals.”*

Due to the school being located in a rural area, getting to and from the campus requires driving a significant distance. While the school’s policy to encourage the use of bus and carpooling options helps to reduce the cumulative number of vehicle miles traveled (VMT), it is not a requirement. The TSIS indicates that an increase in enrollment would result in increased VMT if no further changes are made to the transportation demand management program.

Finally, the Comprehensive Plan includes a series of Geographic-Focused Elements. The subject property is located within the Plains Planning Area, and staff has identified several Plains Planning Area polices which are relevant.

Plains Planning Area Policy PPA 1.01 Geographic Scope and Vision for Plains Planning Area states: *“Land located outside CSAs and east of the Forestry zoning district, should be designated as the Plains Planning Area, and should remain rural. Urban services should not be extended into the Plains Planning Area, and zoning should continue to prohibit urban development and densities. Land uses within the Plains Planning Area should continue to be related to agricultural activities, environmental resource protection, low density residential development and other activities consistent with the rural character of the county.”*

The subject property is located outside of any Community Service Area and is east of the Forestry zoning district. As such, it is located in the portion of the county where uses should be related to “agricultural activities, environmental resource protection, low density residential development and other activities consistent with the rural character of the county.” Consistent with staff analysis for previous dockets related to the subject property and the school located there, staff finds that the proposed enrollment increase would be in conflict with this policy as the school is of a size and level of intensity that would be more appropriate in an urban area or, at the very least, a CSA.

Based on staff's analysis of the Comprehensive Plan's goals and policies, staff finds that the application as submitted is not in accordance with the Comprehensive Plans.

Therefore, staff finds this criterion has not been met.

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

The applicant has not proposed any new structures or any new physical development on the subject property. Per the referral response from the Natural Resources Planner, it is estimated that 69 of the property's 95 acres have been developed; this includes structures, parking areas, roads, athletic/recreation facilities, and turf grass. This represents approximately 73% of the total land area. While this is a significant portion of the property, additional floor area has been approved through previous approvals. Per the submitted narrative, the applicant asserts that, between the existing floor area and the additional floor area which has been approved (but not yet constructed), they have sufficient floor area to accommodate their proposed increase in student enrollment. As discussed above, however, staff finds that increasing the maximum student enrollment from 540 students to 700 students would be an over-intensive use of the land as the level of the activities on the subject property is urban in nature.

Additionally, staff reviewed the electricity, gas, and water usage from 2013 to 2021, as reflected in an applicant-submitted 2021 sustainability report, and found that the school has generally been able to stay within the limits established through the SU-13-0002, as amended (see Attachment D). The school has met the limits for both water and electricity nearly every year, even when increases in student numbers have been approved; however, the school has not been in compliance with the imposed limits is gas usage.

Specifically, the school has consistently exceeded the required limits on gas usage. Per condition 11 of Resolution 2013-100 (related to docket SU-13-0002), if the school fails to meet the limits established for electricity, gas, and water usage, the county "shall have the ability to reduce student enrollment and/or withhold building permits for any building/expansion, or take other necessary enforcement measures to achieve compliance with the performance objectives." In 2016, the applicant submitted a modification request which, in part, sought to reset the limit on gas usage (MD-16-0020). This was based on the applicant getting updated and corrected information from their gas providers, which showed that actual gas usage from 2008 to 2012, which was used to establish the initial baseline, was incomplete. Based on this more complete information, staff determined at the time that the applicant was meeting the intent of the original condition of approval and found that resetting the limit on gas usage to 9,164 dekatherms per year was appropriate and was a minor modification. However, this modification approval included a condition that this updated

limit could not be revised again in the future. As such, staff finds removal of the limit on gas usage would be in conflict with the condition of approval of the 2016 modification.

Staff finds that the school's failure to meet the required limits on gas usage is not grounds to remove the limit as requested by the applicant. Additionally, staff finds that the school not meeting the limits on gas usage, which was an explicit mitigation measure for the previous increase in maximum enrollment, to be grounds to deny the current request for an additional increase in enrollment; it may be grounds, under Resolution 2013-100 to require the applicant to *reduce* enrollment.

Therefore, staff finds this criterion is not 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;*

There is no indication the proposal will require a level of community facilities or services greater than that which is available, and no referral agency has responded with any such concerns.

Additionally, the applicant submitted a report from a qualified engineering firm, stating that the school's existing wastewater treatment facility (WWTF) is capable of handling up to 1,025 persons (based on organic capacity). State of Colorado regulations require that planning for facility expansion begin at 80% capacity (820 persons). Per the school's website, the school has approximately 125 faculty and staff. With the school's current enrollment limit of 540 students and the approximate number of staff, the total number of persons is currently 665; this is well below the maximum capacity and the 80% threshold. The applicant's request to increase the maximum enrollment to 700 students would result in an increase in the total number of persons to 825. This would put the system over the 80% threshold, and the applicant would have to begin planning for any future increases. Staff finds that the WWTF's capacity is sufficient to allow for an increase in enrollment as requested without resulting in any negative impacts to their wastewater treatment services.

Therefore, staff finds this criterion is met.

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

The subject property has demonstrated legal access via US Highway 287, also known as N. 107th Street, a Colorado Department of Transportation (CDOT) owned and maintained right-of-way (ROW). Legal access has been demonstrated via adjacency to this public ROW.

Per the approval for docket SU-13-0002, the school is required to comply with a limit of 1,674 average daily trips (ADTs). According to the 2021 sustainability report submitted by

the applicant, the applicant has monitored the ADTs for the school since 2013 and, during that time, the applicant has met the required ADT limit for all but two monitoring periods. Between September 28 and 29, 2016, the ADTs exceeded the limit by 150 average daily trips, and between September 18 and 19, 2018, the ADTs exceeded the limit by 2 average daily trips (see Attachment D). While the applicant has demonstrated compliance with the limits on ADTs established through SU-13-0002, staff finds no reason to remove this limit as requested by the applicant as these limits are critical to limiting the impact of the use. As such, staff recommends that the limit on average daily trips remain in place and that the required monitoring and reporting on traffic volume continue.

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

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

There is no indication that the proposed increase in student enrollment would result in any significant odor or water pollution, and no referral agency has responded with any such concerns.

As discussed above, staff find the proposed increase in student enrollment is anticipated to likely increase the Average Daily Trips related to activities at the school. One of the intents of the ADT limits under SU-13-0002 was to prevent the 2013 increase in enrollment from resulting in additional emissions from transportation. As discussed above, staff finds that removal of the ADT limits required under SU-13-0002 would be contrary to this and recommends that the limits remain in place. As such, staff finds retaining the limit of 1,674 ADTs, as conditioned in Criterion 7 above, is appropriate.

Staff finds that the requested increase in student enrollment would likely result in an increase in the level of noise related to school activities. However, no referral agencies have responded with any specific concerns related to noise, and the adjacent Homeowners Association has not expressed any concerns.

Therefore, as conditioned in Criterion 7 above, staff finds this criterion can be met.

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

As discussed above, the applicant has not proposed any new structures or floor area and staff has not identified any undue visual impacts that might result from the proposal.

Therefore, 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 significant detrimental impacts to health, safety, or welfare of inhabitants of Boulder County.

Therefore, 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;***

Staff acknowledges that the continued use of and investment in the renovation and expansion of existing buildings may preclude the need for the Alexander Dawson School to relocate and construct new facilities elsewhere thus maximizing the use of the embodied resources on site. Staff also notes that Alexander Dawson School provides a unique educational experience and fills a societal need by doing so while contributing positively to the Boulder County economy.

However, as discussed above, staff has found that the proposed increase in enrollment and the requested removal of the limits on electricity, gas, and water usage and traffic limits is an over-intensive use of the land and would likely result in an increase in the use and depletion of energy, water, and other finite resources. The previously imposed limits were intended to help strike a balance between current and future economic, environmental, and societal needs by allowing for the previously approved expansions, while still limiting the use of those finite resources. No additional mitigation measures have been proposed as part of this application which might off-set the impacts of increased enrollment. As such, finds that the increase in enrollment and the removal of the limits on electricity, gas, water, and traffic does not 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.

Therefore, staff finds this criterion in not 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.***

No portions of the subject property contain areas identified as having any natural or geologic hazards or constraints. A small portion of the southeastern most parcel of the school grounds is located within the 100-year and 500-year floodplains (see Figure 4 below). However, the portion of the subject property within the floodplains does not have any structures or development on it. As such, no potential unreasonable risk of harm related to the floodplains has been identified, and no referral agencies have responded with any such concerns.

Therefore, staff finds this criterion is met.

- (13) ***The proposed use shall not alter historic drainage patterns and/or flow rates unless the associated development includes acceptable mitigation measures to compensate for***

anticipated drainage impacts. The best available information should be used to evaluate these impacts, including without limitation the Boulder County Storm Drainage Criteria Manual, hydrologic evaluations to determine peak flows, floodplain mapping studies, updated topographic data, Colorado Geologic Survey landslide, earth/debris flow data, and creek planning studies, all as applicable given the context of the subject property and the application.

There is no new construction or site modifications included in this proposal. As such, there will be no impacts to historic drainage patterns or flow rates.

Therefore, staff finds this criterion is met.

ADDITIONAL CRITERIA ANALYSIS

Per Article 4-602.C, Community Uses are subject floor area limits based on the parcel size. For parcels of 35 acres or greater, the maximum allowed floor area is 30,000 square feet; an additional 5,000 square feet of floor area is allowed for each additional 35 acres in parcel size with a maximum of 45,000 square feet of floor area. However, a subsequent provision (4-602.C.3) provides a mechanism for additional square footage with certain mitigation measures. In addition to requiring the purchase of Transferable Development Credits, these mitigation measures include: (i) an acceptable, multimodal transportation management plan, and provision of transportation system improvements reasonably necessitated by the expansion; (ii) 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) 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; and (iv) appropriate siting of, or limitations on hours of operation or types of, noise-generating activities (Article 4-602.C.3.b.i – iv).

As this proposal does not include any new floor area above that which has already been approved, staff finds no additional mitigation measures are required under Article 4-602.C at this time. However, as discussed above, staff does find that the request to remove the established limits in electricity, gas, water, and traffic would conflict with these provisions. Removal of those limits would effectively retroactively allow the previously approved increase in floor area to occur without any of the required mitigation measures.

RECOMMENDATION

Staff has determined that the proposal to allow the Educational Facility increase student enrollment to a maximum of 700 student and the removal of the limits and restrictions on electricity, gas, water, and traffic does not meet all the applicable criteria of the Boulder County Land Use Code for Special Review. Therefore, staff recommends that the Planning Commission recommend to the Board of County Commissioners ***DENIAL of docket SU-22-0002 Alexander Dawson School SU/SSDP.***



Boulder County Land Use Department

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

Shaded Areas for Staff Use Only
Intake Stamp

Planning Application Form

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

Project Number		Project Name	
<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 checked="" 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) 10455 Dawson Dr. Lafayette, CO 80026			
Subdivision Name			
Lot(s)	Block(s)	Section(s)	Township(s)
Area in Acres	Existing Zoning	Existing Use of Property	Number of Proposed Lots
Proposed Water Supply Left Hand		Proposed Sewage Disposal Method own sewer plant.	

Applicants:

Applicant/Property Owner Alexander Dawson School LLC		Email gmoore@dawsonschool.org	
Mailing Address 10455 Dawson Dr.			
City Lafayette	State CO	Zip Code 80026	Phone 303-665-6679
Applicant/Property Owner/Agent/Consultant		Email	
Mailing Address			
City	State	Zip Code	Phone
Agent/Consultant		Email	
Mailing Address			
City	State	Zip Code	Phone

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

I certify that I am signing this Application Form as an owner of record of the property included in the Application. I certify that the information and exhibits I have submitted are true and correct to the best of my knowledge. I understand that all materials required by Boulder County must be submitted prior to having this matter processed. I understand that public hearings or meetings may be required. I understand that I must sign an Agreement of Payment for Application processing fees, and that additional fees or materials may be required as a result of considerations which may arise in the processing of this docket. I understand that the road, school, and park dedications may be required as a condition of approval. I understand that I am consenting to allow the County Staff involved in this application or their designees to enter onto and inspect the subject property at any reasonable time, without obtaining any prior consent.

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

Signature of Property Owner 	Printed Name George Moore	Date 4/11/22
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.

DEVELOPMENT REPORT

**THE ALEXANDER DAWSON SCHOOL, LLC
10455 DAWSON DRIVE
LAFAYETTE, CO 80026**

**10288 LOOKOUT ROAD,
BOULDER, CO 80301**

APPLICANT:

George Moore
The Alexander Dawson School, LLC
10455 Dawson Drive
Lafayette, CO 80026

PROPERTY OWNER:

The Alexander Dawson School, LLC
10455 Dawson Drive
Lafayette, CO 80026

ADJOINING PROPERTIES:

Samuel & Helene Spano
5005 N 107th Street
Lafayette, CO 80026-9712

Mark Gmur
10484 Dawson Drive
Lafayette, CO 80026

Maziar & Susan Shams
10518 Dawson Drive
Lafayette, CO 80026

Gene Cahill
10498 Sunlight Drive
Lafayette, CO 80026

Brandon Greiner and Andrea Mustian
10459 Sunlight Drive
Lafayette, CO 80026

Liran Tzipory and Megan Marquez
10443 Sunlight Drive
Lafayette, CO 80026

Elena Gibert
10040 Phillips Road
Lafayette, CO 80026

Logan and Allison Grover
10060 Phillips Road
Lafayette, CO 80026

Boulder County
PO Box 471
Boulder, CO 80306

Northern Colorado Water Conservancy District
c/o Southern Water Supply Et Al
1250 N Wilson
Loveland, CO 80537-4461

NOTE: The above addresses are for properties directly adjoining the subject property or directly across Sunlight Drive from the subject property or to the west of the Northern Colorado Water Conservancy Water District property only.

PROJECT DESCRIPTION:

The Alexander Dawson School, LLC is a K-12 independent school that has operated within the Boulder County community for over 50 years. The school has consistently provided an educational alternative to local public and private schools and has grown steadily over the years in serving a growing county population. Our vision going forward is continued moderate growth to a size that will allow us to meet demand for our programs while simultaneously achieving efficiencies of scale and enhancements that will benefit current and future families. Specifically, we respectfully request to increase our enrollment cap from 540 students to 700 students to allow for additional flexibility and growth over the next decade plus.

To successfully increase the school's enrollment, no additional development of the campus beyond what has already been approved will be required in the near term. Over the last several years, the school has been careful to plan all development in a compact area out of view of most neighbors and well within the guidelines developed in the Land Use Code. Likewise, the school has removed five residential structures visible from Highway 287 to the East, with plans to remove one more eventually, all of which reduce the visual impact of our campus on the surrounding landscape. The combination of reasonable campus improvements and modest enrollment growth will allow us to continue to enhance our programs to serve families from across Boulder County.

In December 2009, the Board of County Commissioners approved an enrollment increase of 40 students (from 420 students to 460 students) for Dawson by a vote of 3-0. The increase was subject to certain restrictions, including traffic monitoring, and did not allow, at that time, for any of the proposed expansions to campus facilities. Following the revision to the Land Use Code in February, 2011, the Board of County Commissioners in 2013

approved by a vote of 3-0 the school's special use application that increased the enrollment cap to 540 students and allowed for the expansion of the campus, subject to annual restrictions on traffic, electric usage, water usage, and gas usage. Other conditions also were included in the Development Agreement, including but not limited to square footage caps, TDC purchase requirements, and landscape plans. It has been nine years since we began our last request for an enrollment increase. Given the continuous growth in Boulder (12.3% between 2010 and 2020 according to the census) and surrounding counties (Broomfield County grew by 32.6%, Weld by 30% and the State of Colorado by 14.8%) and the ongoing demand for a Dawson education among many in our community, enrollment flexibility is important for the school and for Boulder-area families. The time therefore is right for Dawson's return to the Board of County Commissioners, and in the spirit of continuing to be a meaningful educational option for local families, we respectfully request an increase of our enrollment cap to 700 students.

The reason for this request is twofold, as alluded to earlier. First, as we approach our current cap of 540 students (see enrollment history), there are advantages to being able to exceed that number without fear of penalty. Even if we planned to be at an enrollment of even 550 students, the ability to work with families and be confident in our ability to enroll them is invaluable. Second, because recent history suggests we are most likely to experience relatively slow growth (an average of roughly 10 students per year), establishing an aspirational yet ultimately achievable enrollment will provide a long time-horizon that will eliminate the need for further special use reviews for many years.

In the 2014 Development Agreement (SU-13-0002), the County approved plans for several new facilities, subject to the aforementioned requirements on traffic and energy use. Over the last seven years, we have completed two of the three approved new buildings and one approved renovation, increasing our actual capacity to roughly 700 students; the third and fourth approved projects (Arts Center and Concessions Building), which is not currently scheduled for construction, would not increase our capacity meaningfully, though it would make our maximum enrollment more comfortable.

This special use review does not include any additional facilities requests, yet we respectfully ask that the Board of County Commissioners consider amending the related annual caps on traffic, energy, gas, and water as described below. We have met these requirements over the last seven years (and corrected/explained any variances) and very much respect the spirit of their intent. In fact, these requirements have incentivized us to expedite our commitment to making our existing buildings more energy efficient and to build our new buildings to LEED Gold specifications. These actions have allowed us to stay within the requirements established in 2014 and based on our average usage in each of these categories from 2008-2012. The traffic number (1674 trips per day), which we also

have consistently met, was based on enrollment (540) and a calculated number of student trips per day (3.1) established by the County.

Dawson has worked hard to meet County requirements in these areas, with great success, yet we recognize also that there are diminishing returns to these restrictions as more of our existing buildings are brought to current standards and as we add students and staff. Given all of the work we have done, I think it is safe to say two things. First, Dawson is committed to energy efficiency and to the reduction of traffic on campus. Beyond the financial incentives energy efficiency creates, having sustainable practices is consistent with our educational program and with authentic community engagement. Likewise, we have a similar incentive to keep traffic on campus as low and well-managed as possible to maintain safety and to provide a positive experience for families and visitors to campus.

Second, and perhaps more importantly, our energy, gas, water, and traffic are all proportional to our enrollment. Our enrollment dictates not only the number of students on campus, but the size of our faculty and staff and ultimately the number of people on campus at any given time. In addition to our commitment to environmental stewardship, as a non-profit we also have an obligation to provide our educational program as efficiently and cost-effectively as possible. Given that we are close to maximizing our energy efficiency and that we are limited by the single entry and exit on campus, it is reasonable to assume that increases in the four measurable areas of County interest will, again, be proportional to the increase in the enrollment cap. We can attempt to estimate these numbers and cap them, or as we request, we can assume that yes, there will be modest increase in these areas, yet within a range that is reasonable relative both to County expectations and the marginal impact on the surrounding community.

It is appropriate here to speak about two related areas of concern for our neighbors; these are traffic and noise. Though I speak to the overall traffic question throughout this report, along with the natural constraints provided by our single entrance and the need to keep families and employees moving efficiently and safely on and off campus, there are several other factors currently in place that mitigate the impact of an overall increase in traffic on campus. The first is the completion of a LS parking lot on the east side of campus. This allowed us to shift the pick-up of our lower school students in 2019 and kept those families from driving up the hill and using the ring road.. Second, we adjusted the traffic flow so that there is two-way traffic to the middle school parking lot. This adjustment also minimizes the time these cars are on upper campus and also reduces the number of cars driving all the way around the ring road. Third, the Innovation Center is also a popular pick-up spot, and with the two-way traffic and its proximity to the top of the hill, the number of cars and noise on the ring road are further reduced. Fourth, our Greenride busing program continues to keep the number of cars on campus at a reasonable number. In

2021-22, 234 of our 528 students (44.3%) are taking the bus most days. Another 26 (4.9%) ride occasionally using a punch pass. In the Upper School, where we anticipate most of our enrollment growth, that percentage is 30%. The bus program, then, will continue to apply downward pressure on traffic, and therefore noise at drop-off and pick-up.

In proposing that the enrollment cap serve as the primary determining factor in the County's enforcement of the Land Use Code, the school seeks to continue to work in good faith, partnership, and stewardship as an important organization in the community. The use of the enrollment cap as a proxy for the school's use of resources is both simple and reasonable. It also honors the school's good faith efforts in these areas over the last eight years and acknowledges the reality that our resource usage and campus traffic are functions of the number of students we have and our interests in running a program that is environmentally responsible, financially sustainable, and consistent with the school's and community's values. Importantly, our partnership with the County through the last eight years of growth demonstrates our sincerity, and the increase in students has not changed in any measurable way our harmonious operation within the surrounding areas and communities.

Accompanying reports confirm that the school's current and planned infrastructure can accommodate the proposed increase in enrollment. The independent operator of the wastewater treatment plant on campus notes that the school's proposed enrollment will still be well below the capacity under the state's license for the facility. Water and power providers likewise highlight their ability to serve the campus with more students. Our successful efforts to limit traffic during our increase in enrollment over the last nine years confirms that the proposal will not materially affect the flow of traffic on campus or surrounding roads. Likewise a November 2018 letter from CDOT indicated that a traffic signal at Dawson Drive and Highway 287 is not "warranted," and a recommendation would "not obligate the state to approve the signal, even if found warranted." The school's current utilization rates, mitigated by ongoing trip reduction efforts, and recently completed parking lots will continue to absorb the requested increase in enrolled students. Over 40% of our students take the bus, and this has limited vehicular traffic on campus even as we have grown.

Dawson aspires to continue its program improvement and to become more firmly integrated in the Boulder community by making our program available to more students and by enhancing our service to the community. The summer program hosted on campus continues summer academic experiences free of charge to 180 students from local public middle schools is but one way that we already are serving the local community.

In summary, we request an increase in our enrollment cap to 700 students and the elimination of current constraints on traffic and energy and water use. Our most recent proposals have included plans for additional construction and square footage; this one does not. We seek to increase our enrollment to better serve the growing Boulder community. The collateral request to remove the annual usage and traffic requirements is based on our historical success in this area, and on the significant natural financial, educational, and cultural incentives we have to limit the school's impact on the environment and the community. In other words, our energy, water, and traffic are largely a function of our enrollment, so the County's management of that number directly serves the related interest of limiting environmental impacts

If considered in the context of the growing Boulder County population, the increase of Dawson's K-12 enrollment by 160 students over the next decade plus, and the school's commitment to limiting energy use, water use, and traffic, reflect at a minimum the school's responsible stewardship of its resources and its impact on surrounding areas. At best, approval of the Special Use Permit Application will enable Dawson to enhance its programs, improve its existing facilities, serve a larger number of Boulder County families, increase its support of the larger community, solidify its legacy as an important part of the county's organizational and educational landscape, and continue to be an institution that contributes to Boulder's reputation as an intellectual and entrepreneurial community with many exceptional educational options.

SITE DESCRIPTION:

The subject property is located at 10455 Dawson Drive and is approximately 107 acres in size. Approximately 18 acres of this has a conservation easement with the remaining 89 acres available for development. The property is developed with Alexander Dawson School, an independent school serving grades K through 12. The school consists of 15 primary buildings including 8 academic and administration buildings, an innovation center, a dining commons, an athletic center, a performing arts building, an outdoor swimming pool, two maintenance buildings, and a sewer plant. Two occupied residences are on site, each occupied by employees of the school. Two former residences are used for storage. Small miscellaneous sheds are also on site. Additional development includes athletic fields, detention areas, parking and landscaping. The school also owns an adjacent property which is entirely covered by a conservation easement and will not be affected by this proposal.

SOIL CHARACTERISTICS:

There are no soil characteristics that are impacted by the proposed enrollment increase.

GEOLOGIC CHARACTERISTICS:

There are no natural or man-made geologic hazards on this site.

ENVIRONMENTAL IMPACTS:

There are no environmental impacts associated with the proposed enrollment increase described above. There are no impacts related to groundwater, water supply or any aquifer recharge area.

SANITATION SYSTEM:

The school uses an individual wastewater treatment package plant. The attached letter from Aqua Engineering indicates adequate capacity to handle this proposed increase in enrollment.

BIOLOGICAL IMPACTS:

This proposed enrollment increase will not affect existing vegetation on site.

CULTURAL AND HABITAT IMPACTS:

No significant cultural or habitat resources exist on this site.

RADIATION HAZARD:

There will be no radiation hazards as a result of this application.

INFRASTRUCTURE SERVICE PROVISION:

There will be no additional demands on services provided by local governments or special districts.

TRANSPORTATION IMPACTS:

While there will be limited traffic impacts resulting from an increase in the number of students, the marginal impacts will be incremental and minimal relative to current traffic on

Highway 287 and increased development at the intersection of Arapahoe and Highway 287. There also is no indication that the intersection of Highway 287 and Dawson Drive will meet the criteria for a traffic signal under CDOT's current warrants and a November 2018 letter from CDOT on the subject. Likewise, Dawson remains committed to its current campus traffic mitigation strategies and to Greenride to limit these numbers. We also provide all of our employees with an Eco Pass to encourage the use of public transit when possible. Given the limited times for drop off and pick up, the addition of a parking lot east of the Lower School, and the ongoing attention given to minimizing traffic and noise on the ring road, I think it safe to say that overall transportation impacts will be minimal.

FINANCIAL GUARANTEES:

No financial guarantees with any other entity exist as a result of this application.

REVIEW CRITERIA:

Section 4-601A of the Boulder County Land Use Code outlines the standards and criteria a use permitted by special review must meet:

Comply with minimum zoning requirements of the applicable zone district and all other applicable requirements

The property is zoned A, Agriculture and the proposed amendments meet all requirements of the zone district. Staff reports for all previous submittals have indicated the school complies with the requirements of the Agricultural zone district. A staff memorandum from 2009 confirms that *"an educational facility is allowed in the Agricultural District by approval of a special review."*

Be compatible with the surrounding area

The proposed amendments will not change previous determinations by the County that this criteria is met and that the school remains in character with the neighborhood and compatible with the surrounding area. Dawson's commitment to mitigating energy use, visual impact, water use, and traffic impact has yielded tangible progress over the last eight years and promises more gains in the near future.

In 2014, we anticipated that our new facilities would increase the capacity of our campus to 540 students. Based on a more recent analysis that takes

into account current usage, we have determined that our current facilities can accommodate up to 700 students without the need for additional construction. This acknowledgement is in keeping with our desire to be efficient and respectful of our commitments moving forward. Again, our desire is not to maximize our footprint; rather we have added facilities only to the extent that they can best serve an increasing number of students over time while also blending seamlessly with current facilities and our overall campus look and feel.

Will be in accordance with the Comprehensive Plan

Our past inclusion in the now-expired Intergovernmental Agreement between Boulder County, the Town of Erie and the City of Lafayette holds some meaning with respect to our community relevance.

Intergovernmental Agreements are legally binding agreements between local governments that help plan and shape future growth. (Boulder County Comprehensive Plan, Appendix A – Page 1). In 1994, Boulder County, Erie, and Lafayette enacted the East Central Boulder County Development Plan (ECBCDP). The plan (page 15-13) provided for the future growth of Dawson as follows: *“the balance of the property is designated rural preservation area, and shall be regulated by the County in accordance with the regulations set forth in Section 3 above, notwithstanding the provisions of Section 3; however, the County shall be permitted to approve application(s) for expansion of the private school (Dawson School) on the property west of SH 287 currently operating on the premises.”* That agreement expired in 2014.

Dawson also operates within the spirit of the expired Comprehensive Plan’s Sustainability Element, which states: *“Environmental sustainability is a long-term goal that seeks to balance environmental, economic, and societal needs. This involves the wise use of natural and economic resources and includes ... changes to building and land use ...”* Dawson’s educational and operational commitment to sustainability and its stewardship of its land and resources demonstrate compatibility with the long-term goals of county planners. The school’s proposed expansion should only reinforce and enhance its contributions and performance in these areas.

Will not result in an over-intensive use of land or excessive depletion of natural resources

Natural resource depletion is not an issue for an existing use such as Dawson, even under the proposed increase in the enrollment cap.

Dawson has an area of roughly 40 acres (35%) of its campus that preserves land through conservation or agricultural easements. This commitment to preservation of resources is even more significant when the school's sale of almost 700 acres of land to Boulder County Open Space in the 1990's is considered.

Will not have a material adverse effect on community capital improvement programs

The school's proposal has no effect on community capital improvement programs.

Will not require a level of community facilities and services greater than that which is available

The school's proposal will have a negligible effect on community facilities and services given that the frequency of visits by emergency services over the years is a small and variable number. That is unlikely to change with relatively small increases in the number of students over time.

Will support a multimodal transportation system and not result in significant negative impacts to the transportation system or traffic hazards

Dawson's proposal to increase the number of students on campus has the potential to increase the amount of traffic on campus (measured by number of trips per day) and the amount of traffic flowing through the school's only entrance, the intersection with SH 287. Of course, this was true in previous Special Use Permit requests submitted by the school, so traffic mitigation and monitoring have been a priority of the school over that time. Traffic impacts have been addressed through improvements in transportation programs and working with local consultants.

With respect to a potential traffic signal at Dawson Drive and SH 287, historical conversations with CDOT confirm that even a larger than proportional increase in traffic that might result from the requested increase in the enrollment cap would not meet the CDOT warrant for a

traffic light. The monitoring of the school's traffic count over the last 12 years, CDOT's inclination NOT to put a signal at the intersection, as well as the overall increase in traffic on Highway 287 itself all support the school's contention that the proposal will not lead to significant negative impact to the transportation system or traffic hazards. Furthermore, CDOT has concluded that our proposal of 13 years ago, which called for an increase of the enrollment cap from 420 students to 640 students, would have no effect.

Will not cause significant air, odor, water, or noise pollution

The school has already demonstrated that its proposal would not cause significant odor or water pollution given that our own wastewater treatment plant would remain below capacity

As mentioned earlier, in terms of air and noise pollution, increased traffic would be the only likely source. As we have stated, the school will continue to subsidize bus ridership and manage the amount of traffic on campus in the years ahead. This also assumes that any new students to Dawson would not have been driving to another area school; in fact, it seems reasonable to assume that these students would be going to school somewhere and to conclude that by going to Dawson there would be an increase in air or noise pollution would require analysis that exceeds the scope of this proposal. In terms of our neighbors to the west, there should be no discernible increase in traffic or noise on the west side of campus.

Even if one does assume a small increase in traffic, the school, as it has said, would be willing to purchase carbon offsets to mitigate certain levels of pollution if they are demonstrated to be the result of increased enrollment and not other factors.

It seems reasonable to conclude that one cannot make any conclusions about the impact of an enrollment increase on pollution in the county. Clearly if these students did not enroll at Dawson a number of them would be driving, or be driven to other Boulder County schools. Evidence presented in this proposal and from the last seven years demonstrates that there has been no measurable increase in any of the factors that might increase pollution.

Will be adequately landscaped, buffered and screened to mitigate visual impacts

Staff reports for previous applications state that *“the existing buildings are surrounded by significant amounts of landscaping and are adequately landscaped, buffered, and screened.”* As shown on the existing landscape plan, additional landscaping and screening will be provided going forward that not only will mitigate any perceived visual impact, but will serve to reduce any concerns about noise as well.

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

Dawson’s existing use is not detrimental to the health, safety, or welfare of the inhabitants of Boulder County. The school has served as an educational option for Boulder families for over 50 years and through this proposal hopes only to provide an option for more families as the county population grows. We are committed to serving families from all locations and from all socio-economic backgrounds in the county. Being able to increase enrollment above the current cap of 540 students will provide the school with more flexibility in how it serves families and allocates tuition assistance.

Dawson serves the community in many other ways through community service, partnerships with local organizations, a summer program for local public middle school students, and more. Dawson’s position as an asset to the community is clear, and we hope to serve current and future families more effectively by increasing the size of our middle school and upper schools to be more efficient and to provide programs that continue to engage the local community.

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

Other sections of this Development Report speak to the degree to which Dawson has sought, and will seek, to minimize the consumption and inefficient use of energy, materials, minerals, water, land, and other finite resources. Dawson’s commitment to balancing economic, environmental, and societal needs is at the heart of our educational mission as we prepare students for life in a complex and dynamic world. If we are to teach our students, we must continue to find this balance ourselves. The educational

opportunities afforded by some of the projects the school is doing and will be able to do with higher enrollment will allow students to learn about many of the issues and concerns of importance to residents of Boulder County, the nation, and the world.

Will not result in unreasonable risk of harm to people or property from natural hazards.

The school's proposal includes no natural hazards that pose any risk of harm to people or property.

Will not alter historic drainage patterns.

The school's proposal will not alter historic drainage patterns.



ALEXANDER DAWSON
CAMPUS MASTER PLAN

HIGHWAY 287

03.31.2020



EXISTING / PROPOSED STRUCTURES

- | | | | |
|-----|---|----|--|
| 1 | Arts Center Addition & Renovation | 19 | Music Cottage (K-8) |
| 1A | Arts East Parking: 60 spaces | 20 | Arts Cottage (K-8) |
| 2 | Facilities / Fleet Maintenance | 21 | K-8 Learning Commons |
| 2A | Maintenance Parking: 5 Spaces | 22 | Lower School (K-5) Renovation |
| 3 | "T-Hangar" Storage - Removed | 23 | Lower School Parking: 24 Spaces |
| 4 | Sewage Treatment Facility | 24 | East Parking: 56 Spaces |
| 5 | Arts Entry Parking: 44 spaces | 25 | Lower School Play |
| 6 | Visitor Parking: 17 spaces | 26 | Dining Parking: Bus Lane & 25 Spaces |
| 7 | Innovation Center | 27 | Athletics Parking: 72 Spaces |
| 8 | Henderson Hall Learning Commons & Classroom Renovations | 28 | Swimming Pool - 25m / 8-lane |
| 9 | Henderson / Middle School Parking: 46 Spaces | 29 | Athletics Addition |
| 10A | Middle School (6-8) | 30 | Concessions and Restroom Building |
| 10B | Middle School Drop Off: 10 spaces | 31 | Artificial Turf Field |
| 11 | Grand Lawn | 32 | Pond |
| 12 | Middle School Play | 33 | Residence: 4834 Henderson Ct. - Removed |
| 13 | Ropes Course | 34 | Residence: 4839 Henderson Ct. - Removed |
| 14 | Residence: 10477 Dawson Drive | 35 | Residence: 4857 Henderson Ct. |
| 15 | Outdoor Multi-Purpose | 36 | Residence: 4830 Henderson Ct. |
| 16 | Dining Hall | 37 | Loop Road Expansion |
| 17 | Admissions Cottage | 38 | Residence: 10463 Dawson Drive |
| 18 | World Language Cottage (K-8) | 39 | Walk Connecting the East Parking Lot to the Athletics Building |
| | | 40 | Tennis Courts: 2 new |
| | | 41 | Sports Wall |
| | | 42 | Vehicle Charging Station (2 Cars) |

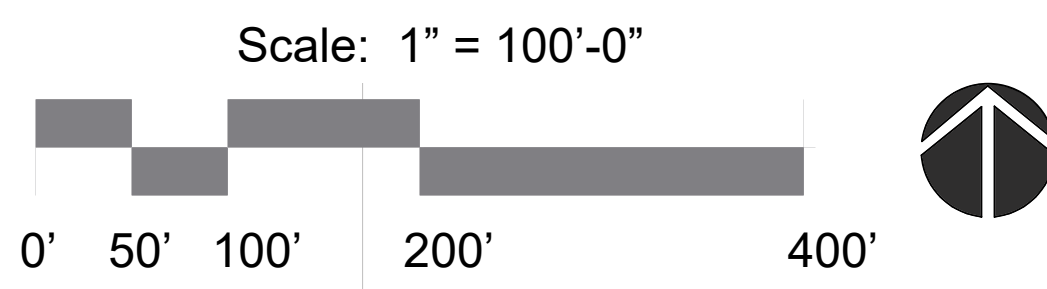
TOTAL PARKING: 359 spaces

LEGEND

- Irrigated Landscape Areas
- Non-irrigated Landscape Areas
- Agricultural / Conservation Easements
- Existing Deciduous Tree
- Existing Evergreen Tree
- Proposed Deciduous Tree
- Proposed Evergreen Tree

NOTES

1. Tree species to be determined.





TECHNICAL MEMORANDUM

TO: Christine Lipson MBA, SPHR, SHRM-SCP
 Director of Operations and Human Resources
 Dawson School

FROM: Mitchell Weldon, Project Engineer
 AQUA Engineering

DATE: November 11th, 2021

SUBJECT: Dawson School Expansion - Wastewater Treatment Capacity

PROJECT NO.: 001558.C

The Alexander Dawson (Dawson) School owns and operates the Dawson School Wastewater Treatment Facility (WWTF) which treats domestic wastewater from the Dawson School campus as well as some adjacent residential properties. The facility discharges treated effluent to groundwater under the terms of a CDPS General Permit/Certification #COX631005 (the Permit). The Permit establishes a hydraulic limit of 30,000 gallons per day (gpd) and organic capacity of 49 pounds per day (ppd) as measured by 5-day Biological Oxygen Demand (BOD₅).

This memorandum quantifies the total on campus population of student and staff that will not exceed the permitted capacities of the wastewater treatment facility. Campus population capacity is determined from analysis of data obtained during March and April of 2021. This memorandum considers the permitted facility capacity and does not include a detailed analysis of the equipment installed at the WWTF.

STUDY SUMMARY

A study of influent flows and organic loadings to the WWTF took place between March 4th and April 7th according to the following methodology:

- Sample BOD daily for 30-days following the bar screen in the upstream influent manhole.
- Use an autosampler to collect flow-weighted samples.
- Record daily flow totals from the influent flow meter.

Sampling began on March 4th, 2021 after installation of a flow-paced autosampler. Sampling concluded on April 7th, 2021. Daily flow totals were recorded by operators when on-site. Samples were analyzed by Colorado Analytical Laboratory to establish BOD₅ concentration in the wastewater. Laboratory results are presented in Appendix A, along with daily average flows.

Campus staffing and student attendance numbers were provided by Christine Lipson, Dawson School Director of Operations and Human Resources. For consistency in analysis, only periods of full attendance were analyzed:

- March 4th – March 5th
- March 8th – March 12th
- March 30th – April 2nd
- April 5th – April 7th

The analysis period consists of a total of 14 days. The student population totals 522, while the staff population is 120 personnel, for a total of 642 persons.

HYDRAULIC CAPACITY

Per the flow totals given in Appendix A, the average flow during days of full attendance was 9862 gpd. At a campus population of 642 persons, the flow per capita is 15.4 gpd.

At a permit limit of 30,000 gpd and per capita flow of 15.4 gpd, the hydraulic capacity of the WWTF is equivalent to the wastewater from 1,952 persons. Per State Regulations, planning for facility expansion must begin when the facility reaches 80% of its hydraulic capacity. The 80% threshold of 24,000 gpd equates to 1,562 persons.

Literature values for per capita wastewater flows for day schools with full facilities – cafeteria, gyms, and showers – indicate a typical per student flow of 15 – 30 gpd.¹ The observed flow per capita is therefore within typical values.

ORGANIC CAPACITY

From the measured BOD₅ concentrations, BOD influent daily loading is determined from the following equation:

$$\text{BOD (pounds per day)} = \text{BOD Concentration (mg/L)} \times \text{Influent Flow (mgd)} \times 8.34$$

A statistical analysis of the resulting loading data yields the following results:

- Average: 30.7 ppd
- Median: 25.4 ppd
- Maximum: 124.5 ppd
- Minimum: 14.3 ppd

This subset includes one outlier datapoint of 124.5 ppd. This sample had a concentration of 1395 mg/L, which is highly atypical for domestic wastes which have a typical range of 110-350 mg/L BOD₅.² There is currently no explanation for this reading. However, given that another atypical value occurred within the full study dataset, this outlier was not excluded from the analysis.

The average loading from the dataset is the appropriate statistic for limit analysis, because the basis of the permit limit is itself a 30-day average value. With the average loading of 30.7 ppd and a total population of 642 persons, the per capita loading value is 0.0478 ppd BOD₅.

Population capacity per WWTF organic limits and the established per capita loading is provided below. As with the hydraulic capacity, reaching the 80% threshold of the permitted organic capacity necessitates appropriate planning for facility expansion:

- Permit Limit: 49 ppd
- Population Capacity at Permit Limit: 1025 persons
- 80% of Permit Limit: 39.2 ppd
- Population Capacity at 80% of Limit: 820 persons

¹ Metcalf & Eddy. *Wastewater Engineering: Treatment and Reuse*. 4th ed. 2003

² *ibid.*

CONCLUSION

The analysis demonstrates that the facility has adequate capacity to expand the campus population to a total of 1025 persons. The permitted organic capacity of the facility is the constraining limit.

Based on the study results, planning for future expansion of the facility will be required when the school population reaches 820 persons. If population growth that would cause exceedances of permitted limits is not planned, the School may coordinate with the Colorado Department of Public Health and Environment to nullify the expansion planning requirement.

Attachments:

- BOD Influent Study Results

BOD Influent Study Results

Date	BOD [mg/L]	Flow [GPD]	Loading [PPD]
3/4/2021	349	9900	28.8
3/5/2021	321	9900	26.5
3/8/2021	369	6167	19.0
3/9/2021	308	11550	29.7
3/10/2021	229	11550	22.1
3/11/2021	176	10050	14.8
3/12/2021	364	10050	30.5
3/16/2021	262	8500	18.6
3/17/2021	366	6601	20.1
3/18/2021	1630	10100	137.3
3/19/2021	181	10100	15.2
3/20/2021	173	6500	9.4
3/21/2021	168	6500	9.1
3/22/2021	768	6500	41.6
3/23/2021	672	7051	39.5
3/24/2021	178	7051	10.5
3/25/2021	307	8050	20.6
3/26/2021	150	8050	10.1
3/29/2021	236	3800	7.5
3/30/2021	510	5200	22.1
3/31/2021	330	5200	14.3
4/1/2021	150	15100	18.9
4/2/2021	1395	10700	124.5
4/3/2021	273	10700	24.4
4/4/2021	178	10700	15.9
4/5/2021	303	10700	27.0
4/6/2021	265	11001	24.3
4/7/2021	296	11001	27.2



Sustainability Report

June 30, 2022

Presented by:

George P. Moore, Head of School

Christine Lipson, Director of Facilities and Operations

Energy

Electricity - Performance Objective Met

Target: 2008-2012 average 1,727,331 kW

2013 usage	1,679,899 kW
2014 usage	1,457,386 kW
2015 usage	1,418,283 kW
2016 usage	1,314,767 kW
2017 usage	1,317,317 kW
2018 usage	1,321,885 kW
2019 usage	1,330,078 kW
2020 usage	1,065,757 kW
2021 usage	1,476,242 kW

Projects Completed in 2015

- Demolished two houses
- Added motion sensors for most lights in Henderson Hall
- Replaced ranges in kitchen with more energy efficient model
- Replaced two hot water heaters in cottages with more energy efficient model
- Replaced exterior lighting
- Continued to replace lights with LED as needed

Projects Completed in 2016

- Replaced heater and pump for the pool
- Utilized a liquid pool cover
- Continued replacement of exterior lighting
- Replaced kitchen fryer
- Continued to replace lights with LED as needed

2017-18 Projects

- Replaced Four HVAC Units with new HVAC Roof System at the Gym
- Updated Campus Lighting – Completion of exterior lighting project

2018-19 Projects

- Replaced older model drinking fountains with new bottle fill stations
- Installed LED lighting in new Learning Commons space
- Replaced older HVAC equipment in Henderson Hall with energy efficient models

- Replaced old maintenance heaters with new energy efficient models
- New windows in two cottages

2019-20 Projects

- Demolished one home
- Replaced a hot water heater in the Middle School
- Installed LED lighting in the gym and one cottage
- Installed LED exit signs in two buildings

2020-21 Projects

- Demolished two homes
- Added EV charging station
- Installed LED lighting in Aux gym
- Decreased campus usage due to COVID

2021-22 Projects

- Continued to change to LED lighting in three buildings
- Replaced numerous exit signs

Natural Gas – Close to meeting objective

****Revised Benchmark Per 2017 Minor Modification is 9,164 dekatherms***

2013 usage	9,819 dekatherms
2014 usage	9,649 dekatherms
2015 usage	8,023 dekatherms
2016 usage	7,553 dekatherms
2017 usage	7,528 dekatherms
2018 usage	9,207 dekatherms
	* New construction heating contributed to the overage for the year.
2019 usage	9,571 dekatherms
	*Transitioned to new gym HVAC units
2020 usage	7,689 dekatherms
2021 usage	9,175 dekatherms
	*Opened new Innovation Center building



Projects Completed in 2015

- Demolished two houses
- Replaced two water heaters in faculty housing
- Replaced kitchen range with more energy efficient model

Projects Completed in 2016

- Replaced two water heaters in faculty housing
- Replaced heater and pump for pool

2017-18 Projects

- Replaced Four HVAC Units with new HVAC Roof System at the Gym

2018-19 Projects

- Replaced older HVAC equipment in Henderson Hall with energy efficient models
- New windows in two cottages

2019-20 Projects

- Demolished one home
- Replaced furnace in maintenance

2020-21 Projects

- Demolished two homes
- Did not open pool due to COVID
- Replaced water tank in gym
- Decreased campus usage due to COVID

2021-22 Projects

- Replaced two gas ceiling heaters with more efficient models

Water - Performance Objective Met

Target: 2008-2012 Average 2,831,000 gallons

2013 usage 2,485,000 gallons

2014 usage 2,323,000 gallons

2015 usage 3,612,000 gallons (*Overage due to water leak*)

2016 usage 2,203,000 gallons

2017 usage 2,499,000 gallons



2018 usage	1,970,018 gallons
2019 usage	1,785,019 gallons
2020 usage	1,200,020 gallons
2021 usage	1,620,021 gallons

Projects Completed in 2015

- Demolished two houses

Projects Completed 2016

- Utilized liquid pool cover
- Added aerators to some sinks on campus (190)

2017-18 Projects

- Replaced/upgraded bathroom fixtures

2018-19 Projects

- Added aerators to remaining sinks on campus

2019-20 Projects

- Finished aeration throughout campus
- Demolished one home
- Replaced water heater in Middle School

2020-21 Projects

- Demolished two homes
- Did not open pool due to COVID
- Replaced water tank in gym
- Decreased campus usage due to COVID

2021-22 Projects

- Replaced hot water heater in cottage



Transportation - Performance Objective Met

Requirement: maximum of 1,674 average daily trips (ADTs)

Dates	ADTs	Comments
March 29-30, 2016	1,467	Performance objective met
May 1-2, 2016	1,354	Performance objective met
July 6-7, 2016	611	Performance objective met
September 28-29, 2016	1,824	Trigger five-day count
October 3-7, 2016	1,438	Performance objective met
November 15-16, 2016	1,432	Performance objective met
January 17-19, 2017	1,586	Performance objective met
March 7-8, 2017	1,554	Performance objective met
May 10-11, 2017	1,409	Performance objective met
July 5-6, 2017	798	Performance objective met
September 20-21, 2017	1,549	Performance objective met
November 28-29, 2017	1,608	Performance objective met
January		No count due to weather
March 20-21, 2018	1,082	Performance objective met
May 8-9, 2018	1,351	Performance objective met
July 24-25, 2018	1,338	Performance objective met
September 18-19, 2018	1,676	Performance objective met
November 28-29, 2018	1,559	Performance objective met
January 2019		No count due to weather
March 26-27, 2019	1,364	Performance objective met
May 7-8, 2019	1,292	Performance objective met
July 9-10, 2019	1,376	Performance objective met
September 24-25, 2019	1,556	Performance objective met
November 21-22, 2019	1,442	Performance objective met
January 21-22, 2020	1,532	Performance objective met
March		No counts due to COVID- no school
May		No counts due to COVID- no school
July 21-22, 2020	540	Performance objective met
September 22-23, 2020	1,544	Performance objective met
November 17-18, 2020	792	Performance objective met
January 20-21, 2021	1,344	Performance objective met
March 9-10, 2021	1,382	Performance objective met
May 18-19, 2021	1,556	Performance objective met
July 6-7, 2021	493	Performance objective met
August 25-26 2021	1,492	Performance objective met
November 23-24, 2021	264	Performance objective met

Projects Completed in 2015

- Kept transportation pricing the same
- Made changes to pick-up times to encourage ridership

Projects Completed in 2016

- Hired full time transportation supervisor to oversee transportation program
- Surveyed all Dawson families to improve transportation program
- Moved to staggered start time in 2016-17 to decrease morning peak traffic congestion
- Added an additional daily route

2017-18 Projects

- Kept transportation pricing the same
- Promoted busing to increase ridership (no increase in cost)
- Added Dawson Summer Initiative (DSI) busing

2018-19 & 2019-20 & 2020-21

- Kept transportation pricing the same
- Continued EcoPass program

2021-22

- Continued busing during COVID
- Continued EcoPass program

Transferable Development Credits (TDCs)

Completed Development Agreement requirements

Lighting

Completed Development Agreement requirements

Landscaping

Completed Development Agreement requirements





Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302
 Mailing Address: P.O. Box 471 • Boulder, Colorado 80306
 303-441-3930 • www.BoulderCounty.gov

TO: Pete L'Orange
FROM: Hannah Hippely, AICP
DATE: July 31, 2023
SUBJECT: Docket SU-22-0002: ALEXANDER DAWSON SCHOOL SU/SSDP

Staff understands that the current request from the Alexander Dawson School is to modify the previous special use approvals to increase in the numbers of students by 160 students from 540 students to 700 students, an increase of nearly 30%. Additionally, the applicant has requested the removal of conditions of approval imposed by previous docket approvals which were required in order to find that the Land Use Code requirements for approval could be met.

The site was established as a school prior to the adoption of the Boulder County Comprehensive Plan (BCCP). The BCCP, adopted in 1978, was in large part a response to the urban development occurring in the unincorporated areas of the county. Since that time, the Alexander Dawson School has routinely requested expansions of the Educational Facility use in both student numbers and permissions for additional Floor Area. This continual growth of the use has resulted in numerous and complex conditions of approval that were implemented in order to find the special use approval criteria could be met. The applicants now request to have these conditions removed but have not proposed accompanying reductions in Floor Area or student numbers to a level which would allow the use to meet the criteria for approval without the need for these conditions. Instead, the applicant has requested to increase student numbers by almost 30%. To entertain additional levels of use on the property additional mitigation measures, not less, would be reasonable. Staff understands that the school has not maintained compliance with all the existing conditions of approval. At this time, rather than considering any expansion of the use, the county should examine how the school can be brought into conformance with those previous approvals. If the conditions of approval, which were the basis for the approval of the current levels of use, cannot be effectively implemented by the school without being a burden on county resources to enforce and monitor then the current level of use approved by the county should be reconsidered.

One primary purpose of the Boulder County Land Use Code is “to implement the goals and policies of the Boulder County Comprehensive Plan” (Article 1-300.A). When the Code criteria cannot be met or conditions of approval cannot be implemented which allow a use to meet Code criteria, the use is counter to Boulder County Comprehensive Plan and cannot be considered in accordance with the Plan.



Parks & Open Space

5201 St. Vrain Road • Longmont, CO 80503
 303-678-6200 • POSinfo@bouldercounty.org
 www.BoulderCountyOpenSpace.org

TO: Pete L'Orange, Community Planning & Permitting Department
FROM: Ron West, Natural Resource Planner
DATE: June 1, 2022
SUBJECT: Docket SU-22-0002, Alexander Dawson School, 10455 Dawson Drive

County Comprehensive Plan Designations

The parcel has the following designations in the Boulder County Comprehensive Plan.

- View Protection Corridor – associated with US 287
- County-held Conservation Easement
- Adjacent to County Open Space – ADF and Cattell-Sherburne properties
- Significant Agricultural Lands of National and Statewide Importance
- Major Agricultural Ditches – Leggett, and Boulder White Rock
- Environmental Conservation Area – White Rocks/Gunbarrel Hill; minimal
- Wetland and Riparian Areas -- minimal

Discussion

The Parks & Open Space Department does not support the proposal and has fundamental concerns with it and the application's questionable logic. Staff reviewed earlier expansion proposals in both 2008 and 2013. The current proposal for increased enrollment is the sixth such proposal since 1988. This latest proposal is to expand from 540 to 700 students, or a 30 percent increase.

The Department's position is that any further expansion of the school's capacity would not be in accordance with the Comprehensive Plan. Indeed, as stated in referrals for those earlier dockets, staff believes that the *existing* facility is not compatible with the Plan. A basic pillar of the Comprehensive Plan is that urban development should be located within or adjacent to existing urban areas (Goal A.1). This is one of the goals that "...are the foundation on which land use policies and proposals have been constructed."

In the Plains Planning Area, the Plan further states that, "Land uses with the PPA should continue to be related to agricultural activities, environmental resource protection, low-density residential development, and other activities consistent with the rural character of the county" (PPA Goal 1.01).

Staff estimates that 69 acres of the property's 95 acres are "developed" with either structures, roads, parking, sports facilities, or turf grass. This is 73 percent of the property. The school likely has the largest development footprint in the unincorporated county for parcels with similar uses, and it has one the largest footprints of any non-agricultural use in the entire

county.

If the subject 95-acre property were currently vacant agricultural land, would a school with the following parameters be considered compatible with the Comprehensive Plan? – about 212,000 square feet of structures, 700 students, 85 staff, 360 parking spaces, and nearly 70 of those 95 acres developed? (Staff notes that TDCs have already been secured for “future construction over 212,373 square feet.”)

Deciding that the proposed intensity of use is *not* urban development puts at risk an enormous amount of land in the Plains Planning Area, on which there could be future requests for similarly intensive uses.

The school draws students from a large metropolitan population, a population that continues to grow, especially in cities and nearby Weld County. The application states that the school’s vision is to allow for growth “that will allow us to meet demand” – in other words, to keep up with population growth. Since it’s a given that the northern Front Range will continue to significantly grow, this is not a sustainable model or vision. How large does the school intend to grow?

The application asks for “amending the...annual caps on traffic, energy, gas, and water,” which were laboriously researched and implemented in 2014. However, the school doesn’t seek amendment, it seeks elimination of these “current constraints.”

The enrollment cap would become a “proxy” for these impacts. However, there is no truth in an enrollment cap if the cap never stops over-capping. The subject request would be the sixth ostensible “limit” to the site’s growth. As far back as 1996, the school acknowledged to the Planning Commission and the Board of County Commissioners that it would be unlikely that any further expansion would be approved. It is time to stop such approvals.

Recommendations

- The Parks & Open Space Department does not support the proposal, based on the discussion above.



Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303-441-3930
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.BoulderCounty.org

June 3, 2022

TO: Pete L'Orange, Planner II; Community Planning & Permitting, Development Review Team - Zoning

FROM: Jennifer Severson, Principal Planner; Community Planning & Permitting, Development Review Team – Access & Engineering

SUBJECT: Docket # SU-22-0002: Alexander Dawson School SU/SSDP – **HOLD REQUEST**

10455 Dawson Drive

The Development Review Team – Access & Engineering staff has reviewed the above referenced docket and has the following initial comments:

1. The subject property is accessed via US Highway 287 (US 287), also known as N. 107th Street, a Colorado Department of Transportation (CDOT) owned and maintained right-of-way (ROW). Legal access has been demonstrated via adjacency to this public ROW.

Staff requests the docket be placed on hold for the following reasons:

2. The applicant is proposing to increase in the number of students from 540 to 700. Based on the previously used methodology of 3.1 trips/ student identified in a Transportation System Impact Study (TSIS) dated 11/27/2012 that was included in the application materials for SU-13-0002, the additional 160 students may be expected to generate an additional 496 daily trips (160 students x 3.1 trips/ student).
3. Staff is concerned the 2012 TSIS may not accurately represent current conditions for the school (have the current student busing numbers been incorporated into the 3.1 trips/ student?) or daily traffic on US 287 (has the decrease in traffic on US 287 post-COVID-19 been considered?).
4. A new TSIS (not just an addendum memo) is required to accurately determine how the current and proposed number of students will impact the surrounding transportation network. The TSIS must include trip generation estimates for all 700 students, not just the additional 160 students being proposed. Please see [Section 4.7](#) in the Standards for more information regarding TSIS requirements.

Additional comments will be provided following a more detailed review conducted on the revised application materials identified above.



Community Planning & Permitting

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Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 •

Tel: 303-441-3930 • www.BoulderCounty.gov

July 26, 2023

TO: Pete L'Orange, Planner II; Community Planning & Permitting, Development Review Team - Zoning

FROM: Anita Riley, Principal Planner; Community Planning & Permitting, Development Review Team – Access & Engineering

SUBJECT: Docket # SU-22-0002: Alexander Dawson School SU/SSDP
10455 Dawson Drive

The Development Review Team – Access & Engineering staff has reviewed the original application as well as the traffic impact study, dated March 9, 2023, for the above referenced docket and has the following comments:

1. The subject property is accessed via US Highway 287 (US 287), also known as N. 107th Street, a Colorado Department of Transportation (CDOT) owned and maintained right-of-way (ROW). Legal access has been demonstrated via adjacency to this public ROW.
2. Staff reviewed the traffic impact study and finds it acceptable.
3. In a continuing effort to achieve the Transportation Element goals in the Comprehensive Plan, specifically TR 4.01 Reduce Single-Occupant Vehicle Travel and TR 5.01 Reduce Vehicle Miles Traveled, staff recommends that the average daily traffic (ADT) not exceed 1,674 trips. The ADT requirements can be met by continuing to improve the traffic demand management (TDM) program that the applicant already has in place.
4. The traffic counting program will continue as it has done in the past to monitor compliance with the ADT requirement. The applicant shall annually provide the county a school schedule showing the days in which school is in session and with days that a significant number of students will not be at the school for whatever reason.

This concludes our comments at this time.



Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930

Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

MEMO TO: Referral Agencies
 FROM: Pete L'Orange, Planner II
 DATE: April 25, 2022
 RE: Docket SU-22-0002

Docket SU-22-0002: ALEXANDER DAWSON SCHOOL SU/SSDP

Request: Special Use Review request to modify a previous Special Use / Site Specific Development Plan approval (SU-13-0002) to increase the number of students allowed from 540 students to 700 students.

Location: 10455 Dawson Drive and parcel number 146510000036, west of U.S. Hwy. 287 and approximately 1.5 miles south of Lookout Road, in Section 10, T1N, R69W.

Zoning: Agricultural (A) Zoning District

Applicant/Owner: Alexander Dawson School LLC

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 303-441-1418 or plorange@bouldercounty.org.

Please return responses by **May 30, 2022**.

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

We have reviewed the proposal and have no conflicts.

Letter is enclosed.

Signed *Liz Northrup* PRINTED

Name Liz Northrup

Agency or Address Conservation Easement Program at Boulder County Parks & Open Space

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

Matt Jones County Commissioner **Claire Levy** County Commissioner **Marta Loachamin** County Commissioner



Parks & Open Space

5201 St. Vrain Road • Longmont, CO 80503
303-678-6200 • POSinfo@bouldercounty.org
www.BoulderCountyOpenSpace.org

Delivery by e-mail

Pete L'Orange, Planner II
Boulder County Community Planning & Permitting Department
2045 13th St., Boulder CO 80302
plorange@bouldercounty.org

RE: SU-22-0002 Alexander Dawson School at 10455 Dawson Drive

Dear Pete,

I reviewed the referral packet for SU-22-0002. A portion of the property described above is encumbered by a conservation easement that was recorded in the Real Estate records of Boulder County on March 6, 1996 at Reception Number 1589243.

The application materials do not propose any activities on the conservation easement encumbered property that appear to conflict with, nor materially affect, the terms of the conservation easement; therefore, the Conservation Easement Program at Boulder County Parks & Open Space does not have any conflicts with this docket.

Sincerely,

A handwritten signature in cursive script that reads "Liz Northrup".

Liz Northrup
Conservation Easement Stewardship Specialist
303-678-6253
enorthrup@bouldercounty.org



Community Planning & Permitting

Courthouse Annex • 2045 13th Street • Boulder, Colorado 80302 • Tel: 303.441.3930 • Fax: 303.441.4856
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

Building Safety & Inspection Services Team

MEMO

TO: Pete L'Orange, Planner
FROM: Ron Flax, Deputy Director/ Chief Building Official
DATE: May 6, 2022

RE: Referral Response, SU-22-0002: ALEXANDER DAWSON SCHOOL SU/SSDP. Special Use Review request to modify a previous Special Use / Site Specific Development Plan approval (SU-13-0002) to increase the number of students allowed from 540 students to 700 students.

Location: 10455 Dawson Drive

Thank you for the referral. We have the following comments for the applicants:

Because this request does not propose any development, or change of use, Boulder County Building Safety and Inspection Services does not have any objections to the proposal. If at some point in the future, the applicant wishes to propose and development or re-development on the property, or change the use of any existing structure, then the applicant should reach out to our team regarding potential Building Code requirements.

If the applicants should have questions or need additional information, we'd be happy to work with them toward solutions that meet minimum building code requirements. Please call (720) 564-2640 or contact us via e-mail at building@bouldercounty.org

From: noreply_accela@bouldercounty.org
To: [L"Orange, Pete](#)
Subject: SU-22-0002 - Public Health Water Quality - Environmental Review
Date: Thursday, April 28, 2022 5:11:58 PM

The Public Health Water Quality - Environmental Review workflow task for SU-22-0002 has been updated to **No Comments/No Conflict** and the following comments entered:

null

Please see the Accela record for more information.

email sent by EMSE: PLN_Referrals_Entered



Community Planning & Permitting

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Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

MEMO TO: Referral Agencies
 FROM: Pete L'Orange, Planner II
 DATE: April 25, 2022
 RE: Docket SU-22-0002

Docket SU-22-0002: ALEXANDER DAWSON SCHOOL SU/SSDP

Request: Special Use Review request to modify a previous Special Use / Site Specific Development Plan approval (SU-13-0002) to increase the number of students allowed from 540 students to 700 students.

Location: 10455 Dawson Drive and parcel number 146510000036, west of U.S. Hwy. 287 and approximately 1.5 miles south of Lookout Road, in Section 10, T1N, R69W.

Zoning: Agricultural (A) Zoning District

Applicant/Owner: Alexander Dawson School LLC

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 303-441-1418 or plorange@bouldercounty.org.

Please return responses by **May 30, 2022**.

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

We have reviewed the proposal and have no conflicts.

Letter is enclosed.

Signed  PRINTED

Name Jessica Fasick

Agency or Address CP&P Historic Review

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

Matt Jones County Commissioner **Claire Levy** County Commissioner **Marta Loachamin** County Commissioner

From: [Doug Porrey](#)
To: [L'Orange, Pete](#)
Subject: [EXTERNAL] Docket SU-22-0002, Alexander Dawson School SU/SSDP
Date: Monday, May 2, 2022 2:26:03 PM
Attachments: [image001.png](#)

Dear Mr. L'Orange,

This is inform you that the Goose Haven Homeowners' Association has reviewed the provided documents related to the above-referenced request; and we have no objections to the approval of this request.

Regards,
GOOSE HAVEN HOMEOWNERS ASSOCIATION
Douglas Porrey
HOA Secretary/Treasurer



Douglas Porrey | Chief Executive Officer
IONEX Research Corporation | Lafayette, CO
dporrey@ionex.us
Office 303.666.5550 x152 | Fax 303.666.5560

Disclaimer

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Community Planning & Permitting

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Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

MEMO TO: Referral Agencies
 FROM: Pete L'Orange, Planner II
 DATE: April 25, 2022
 RE: Docket SU-22-0002

Docket SU-22-0002: ALEXANDER DAWSON SCHOOL SU/SSDP

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Please return responses by **May 30, 2022**.

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

We have reviewed the proposal and have no conflicts.

Letter is enclosed.

Signed Veronica L Garcia PRINTED

Name Veronica L. Garcia

Agency or Address United Power, Inc. 9586 E I-25 Frontage Road, Longmont CO 80504

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

Matt Jones County Commissioner **Claire Levy** County Commissioner **Marta Loachamin** County Commissioner



May 26, 2022

Boulder County
Community Planning and Permitting Department
PO Box 471
Boulder CO 80306

Re: SU-22-0002 Alexander Dawson School SU/SSDP

Dear Pete L'Orange,

On behalf of United Power, Inc., thank you for inviting us to review and comment on the **Alexander Dawson School SU/SSDP**. United Power has electrical distribution in the area that may or may not need to be upgraded depending on the requirements of the site, in order to provide safe, reliable power to the area. United Power has no concerns or objection to the proposed site improvements; contingent upon United Power's ability to maintain all existing rights, facilities/equipment, and existing easements. This request should not hinder our ability for future expansion, including all present and any future accommodations for electrical distribution.

Please note, the property owner/developer/contractor must submit an application along with CAD data for new electric service via <https://www.unitedpower.com/construction>. United Power would like to work with these persons early in the construction process on getting an electric design prepared so that we can request any additional easements needed and hopefully have those easements dedicated on the plat rather than obtaining separate instrument. Obtaining easements via a separate instrument can be time consuming and could cause delays.

As a Reminder: No permanent structures are acceptable within the dry utility easement(s); such as, window wells, wingwalls, retaining walls, basement walls, roof overhang, anything affixed to the house like decks, etc. United Power considers any structure that impedes the access, maintenance, and safety of our facilities a permanent structure. No exceptions will be allowed, and any encroachments could result in penalties.

Service will be provided according to the rules, regulations, and policies in effect by United Power at the time service is requested. We look forward to safely and efficiently providing reliable electric power and outstanding service.

Thank you,

Veronica L Garcia

Veronica L. Garcia
United Power, Inc.
Right of Way Agent III
O: 303-637-1344 | Email: platreferral@unitedpower.com



Community Planning & Permitting

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

MEMO TO: Referral Agencies
FROM: Pete L'Orange, Planner II
DATE: April 25, 2022
RE: Docket SU-22-0002

Docket SU-22-0002: ALEXANDER DAWSON SCHOOL SU/SSDP

Request: Special Use Review request to modify a previous Special Use / Site Specific Development Plan approval (SU-13-0002) to increase the number of students allowed from 540 students to 700 students.

Location: 10455 Dawson Drive and parcel number 146510000036, west of U.S. Hwy. 287 and approximately 1.5 miles south of Lookout Road, in Section 10, T1N, R69W.

Zoning: Agricultural (A) Zoning District

Applicant/Owner: Alexander Dawson School LLC

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 303-441-1418 or plorange@bouldercounty.org.

Please return responses by **May 30, 2022**.

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

We have reviewed the proposal and have no conflicts.

Letter is enclosed.

Signed Martin Harders PRINTED

Name Martin Harders

Agency or Address Left Hand Water District

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

Matt Jones County Commissioner Claire Levy County Commissioner Marta Loachamin County Commissioner



April 27, 2022

Pete L'Orange
Community Planning and Permitting
P.O. Box 471
Boulder, CO 80306
RE: SU-22-0002 ALEXANDER DAWSON SCHOOL

Mr. L'Orange,

Left Hand Water District has reviewed SU-22-0002 and has no issues with the proposed increase in student enrollment. The District will require the applicant to submit a Tap Availability Review Form and Commercial Supplement Form with Left Hand Water District prior to or in conjunction with any new building permit application. The application form is available online at lefthandwater.org.

Feel free to contact me if you have any questions or require further information.

Sincerely,

Martin Harders

Martin Harders
Civil Engineer I
Left Hand Water District
(303) 530-4200

From: [LU Land Use Planner](#)
To: [L'Orange, Pete](#)
Subject: FW: SU-22-0002
Date: Tuesday, April 26, 2022 1:24:29 PM
Attachments: [image001.png](#)

[@L'Orange, Pete](#)

Fyi bbg

From: LuAnn Penfold <lpnfold@mvfpd.org>
Sent: Tuesday, April 26, 2022 1:22 PM
To: LU Land Use Planner <planner@bouldercounty.org>
Subject: [EXTERNAL] SU-22-0002

We have no objection to the increase in the number of students from 540 to 700 at Alexander Dawson Campus located at 10455 Dawson Drive.

Thank you for including us in the planning process.

LuAnn Penfold, Fire Prevention Specialist

Mountain View Fire Rescue
3561 N. Stagecoach Road, Longmont, CO 80504
720-678-9890 | lpnfold@mvfpd.org | www.mvfpd.org





Right of Way & Permits

1123 West 3rd Avenue
Denver, Colorado 80223
Telephone: 303.571.3306
Facsimile: 303. 571. 3284
donna.l.george@xcelenergy.com

May 31, 2022

Boulder County Community Planning and Permitting
PO Box 471
Boulder, CO 80306

Attn: Pete L'Orange

Re: Alexander Dawson School SU/SSDP, Case # SU-22-0002

Public Service Company of Colorado's (PSCo) Right of Way & Permits Referral Desk has reviewed the special use/site specific development plan for **Alexander Dawson School** and has no conflict with the special use request.

Please be aware PSCo owns and operates existing natural gas distribution facilities within the subject property. As a safety precaution, PSCo would like to remind the developer to call the Utility Notification Center by dialing 811 for utility locates prior to construction, particularly in areas of proposed new trees.

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](https://www.xcelenergy.com/InstallAndConnect).

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

00965132 01/30/89 02:43 PM REAL ESTATE RECORDS
F1564 CHARLOTTE HOUSTON BOULDER CNTY CO RECORDER

6-1

DEVELOPMENT AGREEMENT

RECEIVED

RELATING TO ALEXANDER DAWSON SCHOOL FEB 03 1989

LAND USE DEPT.

THIS AGREEMENT is made on this 21st day of October, 1988,
by and between the Board of County Commissioners of Boulder County, Colorado
hereinafter referred to as the "County", and Alexander Dawson Foundation,
hereinafter referred to as "Owner".

WHEREAS, Developer has submitted to County for Special Use approval for
a private school, water storage tank and helipad, hereinafter referred to
as "development"; and

WHEREAS, County has fully considered the proposed development and the
requirements to be imposed upon the land and properties by reason of the
proposed development; and

WHEREAS, County is willing to approve the development upon the agreement
of the Owner to the matters herein described; and

WHEREAS, County and Owner mutually acknowledge and agree that the
matters hereinfater set forth are reasonable conditions and requirements to
be imposed by the County in connection with it's approval of the development
and that such matters are necessary to protect, promote and enhance the
general welfare.

NOW, THEREFORE in consideration of the premises, the mutual covenants
herein contained and the approval of the development it is agreed as follows:

1. Types of Development. Special Use approval has been given for a private school, water storage tank and distribution system and heli-pad landing area. All three uses have been delineated on the approved Special Use Site Plan which has been reduced and attached as Exhibit "A". The School has been approved to facilitate up to 300 students. Development of the School and accessory uses shall occur according to the plans and supporting documents which are on file with the County Land Use Department.

JLW
JLW

2. Water Supply. A water main from Left Hand Water Supply Company is in place providing service from Lookout Road to the property. Owner has previously installed fire hydrants at the direction of the Longmont Fire Protection District. Water taps have been approved by Left Hand and Owner has acquired adequate water taps.

3. Sewage. A sewer main is in place providing collection throughout the School campus for a private sewage treatment plant. The sewer system is available for inspection by the County Engineer and Health Department. Both primary and secondary treatment of all sewage occurs on site. The School processed a Use by Special Review permit (Docket #SU-574) in 1971 where it received approval from the Boulder County Planning Commission and County Commissioners to construct an 18,000 gallon per day aerobic digestion system.

4. Landscaping. Landscaping shall continue to be planted according to plan which has been approved and is attached as Exhibit "B". Water for irrigation will continue to be supplied through the School's water rights, ~~and~~ groundwater wells, or treated water supplies.

JLW
JLW

5. Signage. All signs shall meet the requirements of the Boulder County Zoning Resolution. When applicable, building permits will be obtained for all signs constructed in the future.

6. Parking Areas and Sidewalks. Parking areas and sidewalks have been delineated on the approved site plan.

7. Boulder County may conduct a periodic review of the status of the development which is the subject of this agreement, said review to occur at 12-month intervals.

8. In consideration of the above conditions and covenants, the County agrees to grant a vested property right for the proposed development to proceed pursuant to the terms of this agreement. The approval shall have a term of 5 years subject to the provisions for modification and termination contained herein. The Owner may request an extension of said vested right.

*2/18/18
Vested
15.
JP*

9. The vested property right granted herein shall be terminated if Boulder County determines that the Owner is not in good faith compliance with the terms of this agreement.

10. Subsequent regulations enacted by Boulder County shall be applicable to the proposed development if necessary to protect the health and safety of the inhabitants of Boulder County or if general in nature and applicable to all properties subject to County land use regulations.

11. The Owner shall participate in the appropriate road impact fee fund if and when Boulder County adopts a county-wide road impact fee system prior to the issuance of building permits pursuant to this agreement.

etc

12. This agreement may be cancelled or amended on the mutual consent of the parties or to bring the proposed development into conformance with federal or state law.

13. Owner's compliance with the terms of this agreement may be enforced by any legal means, including, but not limited to termination of Owner's vested right granted herein revocation of the Owner's approval, denial of building permits or action for breach of contract.

14. The terms and conditions of this agreement shall be covenants which run with the lands and inure to the benefit of and are binding upon the heirs, successors and interests and signs of the parties hereto.

15. This agreement, upon execution, shall be recorded in the records of the Boulder County Clerk and Recorder.

16. Enforcement. Boulder County alone may waive or modify requirements herein. It is agreed that Boulder County or any purchaser of land subject to the restrictions or requirements of the Development Agreement shall have the authority to bring an action in the Boulder District Court to compel the enforcement of this agreement and the restrictions and requirements herein provided for. If the property becomes included within the boundaries of any city or town, Boulder County's right to enforce this agreement shall automatically pass to the governing body of the city or town. Boulder County shall have the right to waive its rights to enforce this agreement or to modify the same (with the consent of the Owner) without obtaining the consent of any other entity or person; provided that if the property becomes included within the boundaries of any city or town, such rights of Boulder County shall automatically pass to the governing body of the city or town.

17. Recordation. The Owner shall file for recording with the Boulder County Clerk and Recorder this Development Agreement, reduced site plan and/or any other documents required as part of the approval by the Board of County Commissioners of the above referenced development.

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals this 21st day of October, 1988.

~~OWNER~~ CHAIRMAN & CHIEF EXECUTIVE OFFICER

Farrow J. Smith, chairman
ALEXANDER DAWSON FOUNDATION

Nevada
State of ~~Colorado~~)
Clark) ss.
County of ~~Boulder~~)

The foregoing instrument was acknowledged before me this 21st day of October, 1988, by Farrow J. Smith,
Chairman, of the Alexander Dawson Foundation.

Witness my hand and official seal.

My commission expires: May 7, 1990

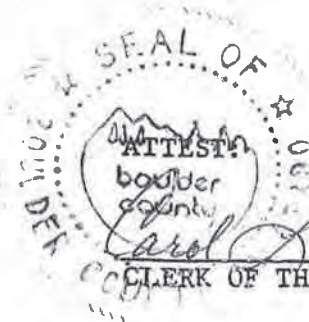


NOTARY PUBLIC
STATE OF NEVADA
County of Clark
Carolyn S. Sinderson
My Appointment Expires May 7, 1990

Carolyn S. Sinderson
NOTARY PUBLIC

BOULDER COUNTY

Joseph W. Death
CHAIR, BOULDER COUNTY BOARD OF
COUNTY COMMISSIONERS



Carol S. Gardiner
CLERK OF THE BOARD 10/27/88

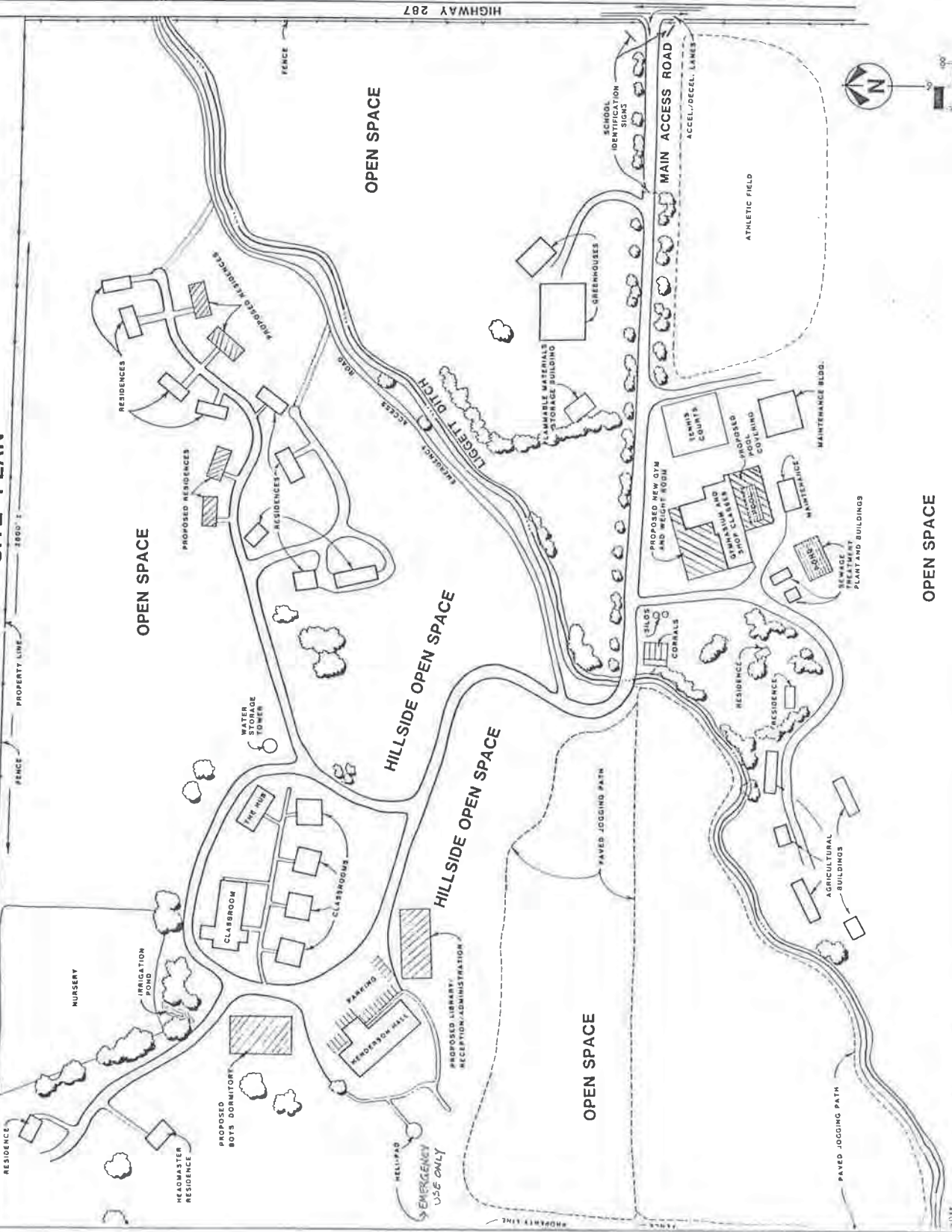
ALEXANDER DAWSON SCHOOL SITE PLAN

PREPARED FOR
ALEXANDER DAWSON FOUNDATION
FOR SUBMITTAL TO BOULDER COUNTY
FOR SPECIAL USE APPROVAL FOR:

- PRIVATE SCHOOL
- WATER STORAGE TANK AND WATER DISTRIBUTION SYSTEM
- HELI-PAD

NOTES:

1. PROPERTY CONSISTS OF APPROXIMATELY TEN ACRES AND IS DIVIDED INTO UPPER AND LOWER CAMPUSES BY THE LIGGETT DITCH.
2. ALL STRUCTURES WHICH HAVE BEEN HISTORICALLY ASSOCIATED WITH THE SCHOOL AND ARE CURRENTLY EXISTING HAVE BEEN DEPICTED ON THE SITE PLAN AND ARE DEPICTED IN A CROSS-HATCH PATTERN.
3. ALL STRUCTURES EXISTING AND PROPOSED, ARE LOCATED OUT OF BOULDER CREEK FLOOD PLAIN.
4. THE WATER STORAGE TANK AND DISTRIBUTION SYSTEM HAVE EXISTED SINCE 1971.
5. THE WATER DISTRIBUTION SYSTEM ON CAMPUS IS PRESSURIZED WITH MULTIPLE HYDRANTS WHICH ARE LOCATED ON THE WATER AND SEWER UTILITIES PLAN.
6. THE CAPITAL COLLECTION STORAGE TREATMENT PLANT HAS EXISTED SINCE 1971 AND HAS A SPECIAL USE PERMIT APPROVED BY BOULDER COUNTY.
7. THE HELI-PAD WAS EXISTED SINCE THE MID-1970'S - EMERGENCY USE.
8. THE PRIMARY ACCESS TO THE SCHOOL IS VIA THE MAIN ACCESS ROAD OFF OF HIGHWAY 287 WITH EMERGENCY ACCESS ALONG A GRAVEL ROAD ON THE WESTERN SIDE OF THE LIGGETT DITCH.



1800' ±

SCALE: 1" = 100'

NOTE:
PROPERTY BOUNDARY EXTENDS AN ADDITIONAL 174' ± SOUTH FROM THAT WHICH IS DRAWN HERE

DATE	REVISED	SCALE
4-18-08	5/13/08	1"=100'

SPECIAL USE PERMIT
SITE PLAN FOR BOULDER COUNTY

TIEFEL & ASSOCIATES
P.O. BOX 17130
BOULDER, COLO 80508

RESOLUTION 88-156

A RESOLUTION CONDITIONALLY APPROVING A SPECIAL USE REQUEST AND SITE SPECIFIC DEVELOPMENT PLAN FOR A PRIVATE SCHOOL, WATER TANK AND DISTRIBUTION SYSTEM AND HELIPAD LOCATED WEST OF HIGHWAY 287, IMMEDIATELY NORTH OF BOULDER CREEK, APPROXIMATELY 2½ MILES NORTHWEST OF ERIE IN SECTION 10, T1N, R69W.

WHEREAS, the Alexander Dawson Foundation ("applicant") has requested approval of a site specific development plan and a special use request for a private school ("the Alexander Dawson School") with a capacity of 300 students, a water tank and distribution system and a helipad located west of Highway 287, immediately north of Boulder Creek, approximately 2½ miles northwest of Erie in the A-Agricultural Zoning District; and

WHEREAS, on August 17, 1988, the Boulder County Planning Commission held a duly-advertised public hearing on applicant's request for approval of a site specific development plan and a special use request for the Alexander Dawson School (Docket #SU-88-10) and recommended conditional approval of the request to the Board of County Commissioners; and

WHEREAS, on October 4, 1988, the Board of County Commissioners held a duly-advertised public hearing on applicant's request for approval of a site specific development plan and a special use request for the Alexander Dawson School; at which time the Board considered documents and testimony presented by Doug Tiefel, Chris Taylor and Oswald Gutsche on behalf of the applicant and the Boulder County Land Use Department and further considered the recommendation of the Boulder County Land Use Department and the Boulder County Planning Commission; and

WHEREAS, based on the documents and testimony presented at the October 4, 1988 public hearing, the Board finds as follows:

1. Applicant's request meets the criteria for special use approval as set forth in §20-301(1-10) of the Boulder County Zoning Resolution.
2. Applicant's request meets the criteria for Site Specific Development Plans as set forth in §19-301 of the Boulder County Zoning Resolution.

NOW, THEREFORE, BE IT RESOLVED that applicant's request for approval of a site specific development plan and a special use request for the Alexander Dawson School, a water tank and distribution system and helipad located west of Highway 287, immediately north of Boulder Creek, approximately 2½ miles northwest of Erie is hereby granted pursuant to Docket #SU-88-10 and subject to the following conditions:

1. That the operation of the Alexander Dawson School be subject to the terms, conditions and commitments of record contained in the file and Development Agreement as submitted by the applicant.

2. That any change in the existing and/or proposed residences or ownership of the property will require an amendment to the Special Use Permit.

3. That the applicant shall install a flow measurement device at the sewage treatment plant in order to accurately monitor the effluent and shall also submit an amendment to the Special Use application when or if the actual use of the plant is 80% of design capacity or 16,000 gallons per day or work out an alternative monitoring system acceptable to the Boulder County Land Use Department and Health Department.

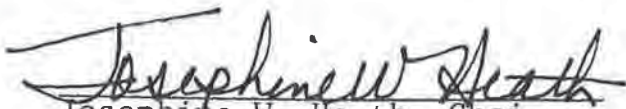
4. That the existing helipad be limited in use to emergency use only and that if helicopter and pad usage were to be used for greater use than emergency, the applicant be required to amend his application for Special Use showing need and why there would be additional need.


5. That the development agreement provide for a five (5) year vesting period.

A motion to grant applicant's request for approval of a site specific development plan and a special use request for the Alexander Dawson School was made by Commissioner Smith, seconded by Commissioner Stewart and unanimously approved by a 3-0 vote.

ADOPTED this 1st day of December, 1988, nunc pro tunc the this 4th day of October, 1988.

BOARD OF COUNTY COMMISSIONERS OF BOULDER COUNTY:


Josephine W. Heath, Chair


Ronald K. Stewart

ATTEST:


Herbert E. Smith, Jr.


Carol S. Gardiner
Clerk to the Board

RES. SU8810.DAWSON.AT1907

RESOLUTION 92- 16

A RESOLUTION CONDITIONALLY APPROVING BOULDER COUNTY LAND USE DOCKET #SU-88-10 ("ALEXANDER DAWSON SCHOOL, 1991 SSDP AMENDMENT"): AN AMENDED SITE SPECIFIC DEVELOPMENT PLAN REQUEST FOR THE ALEXANDER DAWSON SCHOOL LOCATED WEST OF U.S. HIGHWAY 287, IMMEDIATELY NORTH OF BOULDER CREEK, IN SECTION 10, T1N, R69W.

WHEREAS, Alexander Dawson Foundation ("Applicant") has requested approval for an amended site specific development plan for the Alexander Dawson private school (special use permit approved as Docket SU-88-10), which proposes that a middle school be constructed rather than a boy's dormitory; that a larger expansion be allowed to Henderson Hall of 18,125 square feet including dormitory space and dorm supervisors' living quarters; that the four new residences approved in 1988 are not needed at this time; all on the property described in the caption to this Resolution, above ("the Subject Property"), which is located in the Agricultural Zoning District in unincorporated Boulder County; and

WHEREAS, the above-described request was processed and reviewed as Boulder County Land Use Docket #SU-88-10 ("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 September 24, 1991, with its attachments ("the Staff Recommendation"); and

WHEREAS, on August 21, 1991, 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 September 24, 1991, 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 documents and testimony presented by the County Land Use Department Planning Staff, as well as by Chris Taylor, School Headmaster; Chris Cares, Planner; and other representatives of the Applicant; and

WHEREAS, based on the Public Hearing, the Board finds that the Docket meets the criteria for approval of an amended site specific development plan set forth in Article 19-301 and 19-501 of the Boulder County Zoning Resolution, subject to the conditions set forth below.

NOW, THEREFORE, BE IT RESOLVED that the Docket is hereby approved, subject to the following conditions:

1. That the operation of the private school be subject to the terms, conditions and commitments of record contained in the file(s) and Development Agreement submitted by the Applicant.

2. That any change in the status of the existing and/or proposed accessory residences, or ownership of the property, will require an amendment to the Special Use.
3. That the Applicant continue to accurately monitor the effluent at the sewage treatment plant and submit an amendment to the Special Use application if/when the actual use of the plant is 80% of design capacity or 16,000 gallons per day.

A motion to approve the Docket, as stated above, was made by Commissioner Stewart, seconded by Commissioner Hume, and passed by a 3-0 vote.

ADOPTED this 7th day of January, 1992, nunc pro tunc the 24th day of September, 1991.

BOARD OF COUNTY COMMISSIONERS
OF BOULDER COUNTY:

Homer Page

Homer Page, Chair

Ronald K Stewart

Ronald K. Stewart, Vice Chair

Sandy Hume

Sandy Hume

ATTEST:

Ausca M. Schcraft
Clerk to the Board

7-1
RECEIVED

AMENDMENT TO THE DEVELOPMENT AGREEMENT
RELATING TO ALEXANDER DAWSON SCHOOL

MAY 15 1992

LAND USE DEPT.

THIS AGREEMENT is made on this 7th DAY OF MAY, 1992, by and between the Board of the County Commissioners of Boulder County, Colorado hereinafter referred to as the "County," and Alexander Dawson Foundation, hereinafter referred to as the "Owner."

WHEREAS, Owner has submitted to the County for an Amended Site Specific Development Plan for changes to the Alexander Dawson School (Docket #SU 88-10) Site Specific Development Plan, development agreement recorded with reception #00965132 on January 30, 1989, hereinafter referred to as "development"; and

WHEREAS, the County has fully considered the proposed Development and the requirements to be imposed upon the land and properties by reason of the proposed Development; and

WHEREAS, the County is willing to approve the Development upon the agreement of the Owner to the matters herein described; and

WHEREAS, the County and Owner mutually acknowledge and agree that the matters hereinafter set forth are reasonable conditions and requirements to be imposed by the County in connection with its approval of the Development, and that such matters are necessary to protect, promote and enhance the general welfare; and

WHEREAS, 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. Types of Development - Special Use and Site Specific Development Plan approval was given in October 1988 (see Docket #SU 88-10) for a private school, water storage tank and distribution system, and heli-pad landing area. Uses were delineated on the approved Site Specific Development Plan which has been reduced and attached as Exhibit "A". The School was approved for up to 300 students.

The September 1991 Site Specific Amendments included the addition of a middle school, an expansion to Henderson Hall, and other minor changes to access, circulation and landscape plantings. A previously planned and approved boys dormitory building was deleted from the plans. The Amended Site Specific Development Plan, which includes a summary of permitted uses, is attached as Exhibit "B". Development of the School and accessory uses shall occur according to the plans and supporting documents which are on file with the County Land Use Department.

SUB

2. Water Supply - A water main from Left Hand Water Supply Company is in place providing service from Lookout Road to the property. Owner has previously installed fire hydrants at the direction of the Longmont Fire Protection District. Water taps have been approved by Left Hand and Owner has acquired adequate water taps.

3. Sewage - A sewer main is in place providing collection throughout the School campus for a private sewage treatment plant. The sewer system is available for inspection by the County Engineer and Health Department. Both primary and secondary treatment of all sewage occurs on site. The School processed a Use by Special Review permit (Docket #SU-574) in 1971 where it received approval from the Boulder County Planning Commission and County Commissioners to construct an 18,000 gallon per day aerobic digestion system. The Owner will continue to monitor the effluent at the sewage treatment plant and submit an amendment to the Special Use application if/when the actual use of the plan is 80% of design capacity or 16,000 gallons per day.

4. Landscaping - Landscaping shall continue to be planted according to plan which has been approved and is attached as Exhibit "C". Water for irrigation will continue to be supplied through the School's water rights, groundwater wells, or treated water supplies.

5. Signage - All signs shall meet the requirements of the Boulder County Zoning Resolution. When applicable, building permits will be obtained for all signs constructed in the future.

6. Parking Areas and Sidewalks - The general configuration of parking areas, plazas, and sidewalks have been delineated on the approved site plan.

7. Boulder County may conduct a periodic review of the status of the Development which is the subject of this agreement, said review to occur at 12-month intervals.

8. In consideration of the above conditions and covenants, the County agrees to grant a vested property right for the proposed Development to proceed pursuant to the terms of this agreement. The approval shall have a term of 3 years subject to the provisions for modification and termination contained herein. The Owner may request an extension of said vested right.

9. The vested property right granted herein shall be terminated if Boulder County determines that the Owner is not in good faith compliance with the terms of this agreement.

10. Subsequent regulations enacted by Boulder County shall be applicable to the proposed Development if necessary to protect the health and safety of the inhabitants of Boulder County or if general in nature and applicable to all properties subject to County land use regulations.

7-3

11. The Owner shall participate in the appropriate road impact fee fund if and when Boulder County adopts a county-wide road impact fee system prior to the issuance of building permits pursuant to this agreement.

12. This agreement may be canceled or amended on the mutual consent of the parties or to bring the proposed Development into conformance with Federal or State law.

13. Owner's compliance with the terms of this agreement may be enforced by any legal means, including but not limited to, termination of Owner's vested right granted herein, revocation of Owner's approval, denial of building permits, or action for breach of contract.

14. The terms and conditions of this agreement shall be covenants which run with the lands and inure to the benefit of and are binding upon the heirs, successors and interests assigns of the parties hereto.

15. This agreement, upon execution, shall be recorded in the records of the Boulder County Clerk and Recorder.

16. Enforcement - Boulder County alone may waive or modify requirements herein. It is agreed that Boulder County or any purchaser of any land subject to the restrictions or requirements of this Development Agreement shall have the authority to bring an action in the Boulder District Court to compel the enforcement of this agreement and the restrictions and requirements herein provided for. If the property becomes included with the boundaries of any city or town, Boulder County's right to enforce this agreement shall automatically pass to the governing body of the city or town. Boulder County shall have the right to waive its rights to enforce this agreement or to modify the same (with the consent of the Owner) without obtaining the consent of any other entity or person; provided that if the property becomes included within the boundaries of any city or town, such rights of Boulder County shall automatically pass to the governing body of the city or town.

17. Recordation - The Owner shall file for recording with the Boulder County Clerk and Recorder this Development Agreement, reduced site plan and/or any other documents required as part of the approval by the Board of County Commissioners of the above referenced development.

18. The parties will deal with each other fairly and in good faith under the terms and conditions of this agreement.

CB

7-4

IN WITNESS WHEREOF, the parties have hereunto set their hands and seals
this _____, ____.

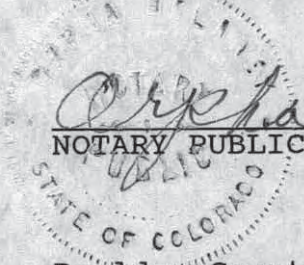
CHAIRMAN & CHIEF EXECUTIVE OFFICE

Mario P. Borini
ALEXANDER DAWSON FOUNDATION

STATE OF COLORADO)
COUNTY OF BOULDER) ss.

The foregoing instrument was acknowledged before me this 5th day
of May 1992, by Alpha Delaney.
Witness my hand and official seal

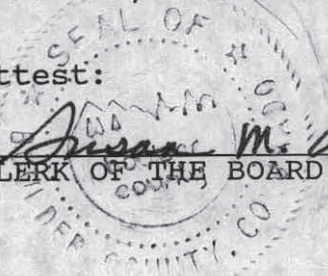
My commission expires 7-18-92



Alpha Delaney
NOTARY PUBLIC

Boulder County:
Ronald K Stewart
CHAIRMAN, BOULDER COUNTY BOARD OF COUNTY COMMISSIONERS

Attest:
Susan M. Ashcraft
CLERK OF THE BOARD



Sub

EWB

EXHIBIT A

ALEXANDER DAWSON SCHOOL SITE PLAN

PREPARED FOR
ALEXANDER DAWSON FOUNDATION
FOR SUBMITTAL TO BOULDER COUNTY
FOR SPECIAL USE APPROVAL FOR:

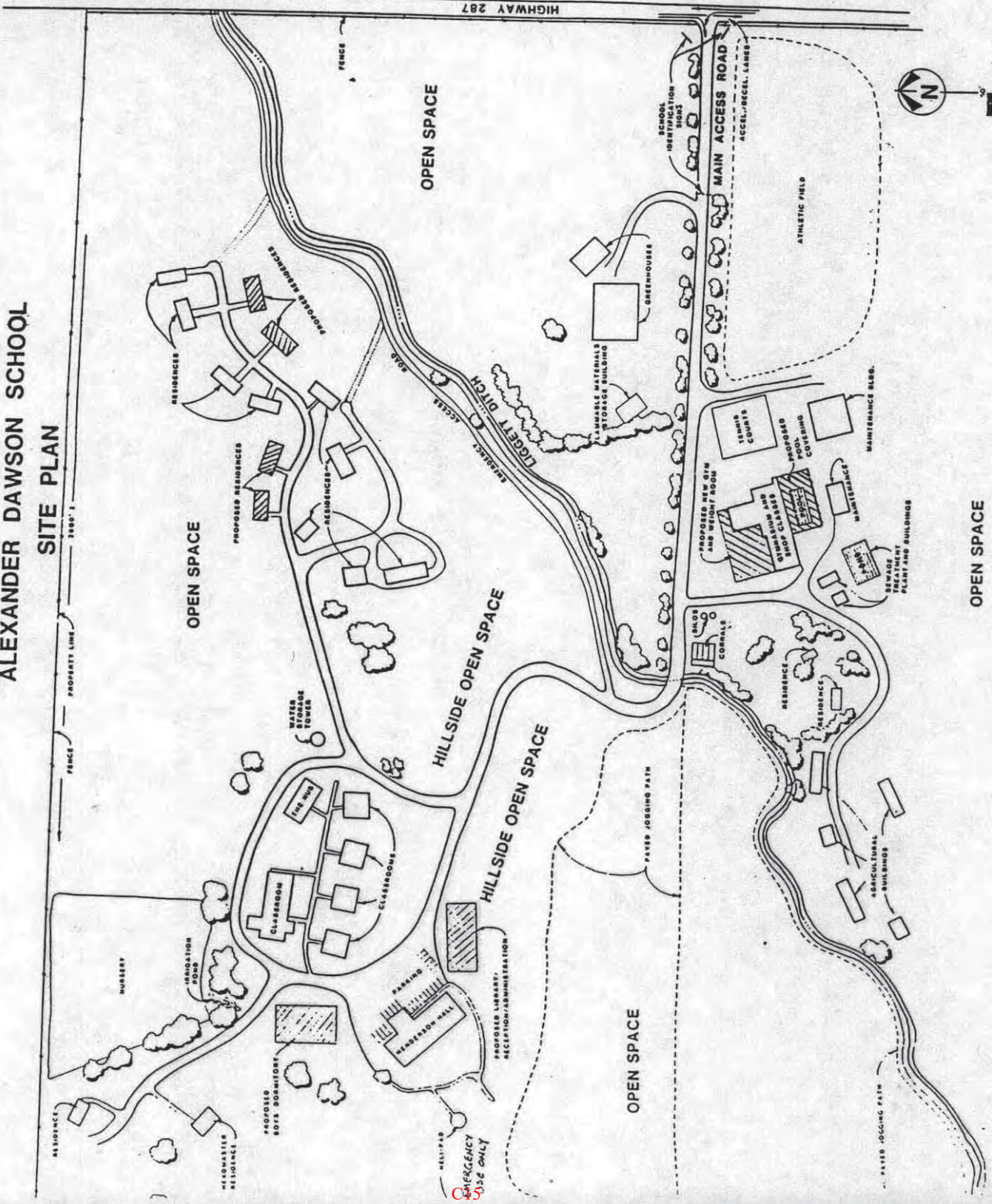
- PRIVATE SCHOOL
- WATER STORAGE TANK AND WATER DISTRIBUTION SYSTEM
- HELI-PAD

- NOTE:
- PROPERTY CONSISTS OF APPROXIMATELY 100 ACRES AND IS DIVIDED INTO 100 APPLICABLE LOTS BY THE LIGHTLY DOTTED LINE.
 - ALL STRUCTURES MUST BE BUILT WITHIN THE SPECIFIC ZONING DISTRICT AND ARE CURRENTLY EXISTING AND HAVE BEEN DELETED ON THE SITE PLAN AND ARE SHOWN IN A DOTTED LINE.
 - ALL STRUCTURES, EXISTING, AND PROPOSED, ARE LOCATED ON THE BOULDER COUNTY 10000 PLAT.
 - THE WATER STORAGE TANK AND DISTRIBUTION SYSTEM WERE LOCATED ON THE 10000 PLAT.
 - THE WATER DISTRIBUTION SYSTEM ON THE 10000 PLAT IS RELOCATED WITHIN THE PROPOSED SCHOOL SITE AND IS SHOWN IN A DOTTED LINE.
 - THE EXISTING COLLECTION TREATMENT PLANT WAS LOCATED ON THE 10000 PLAT AND WAS A SPECIAL USE PERMIT APPROVAL BY BOULDER COUNTY.
 - THE HELI-PAD WAS LOCATED ON THE 10000 PLAT AND IS RELOCATED WITHIN THE PROPOSED SCHOOL SITE AND IS SHOWN IN A DOTTED LINE.
 - THE PRIMARY ACCESS TO THE SCHOOL IS VIA THE MAIN ACCESS ROAD ON THE WEST SIDE OF THE LIGHTLY DOTTED LINE.

APPROVED SITE PLAN 10/88

7-5




TIEFEL & ASSOCIATES P.O. BOX 11130 BOULDER, COLO. 80502
SPECIAL USE PERMIT SITE PLAN FOR BOULDER COUNTY
DATE: 10/11/88
REVISIONS: 1/1/88
SCALE: 1" = 100'



SCALE: 1" = 100'

ALL DIMENSIONS (EXCEPT AS ADDITIONAL 1/8" FROM THIS PLAN) WHICH IS DRAWN HERE

EXHIBIT B
W C MUCHOW AND PARTNERS ARCHITECTS
AMENDED SITE SPECIFIC DEVELOPMENT PLAN
PROPOSED BUILDING ADJUSTMENTS TO
ALEXANDER DAWSON SCHOOL

-  PROPOSED NEW BUILDING LOCATION ADDED
-  PROPOSED EXPANSION OF EXISTING BUILDING
-  PROPOSED PREVIOUS BUILDING LOCATION DELETED

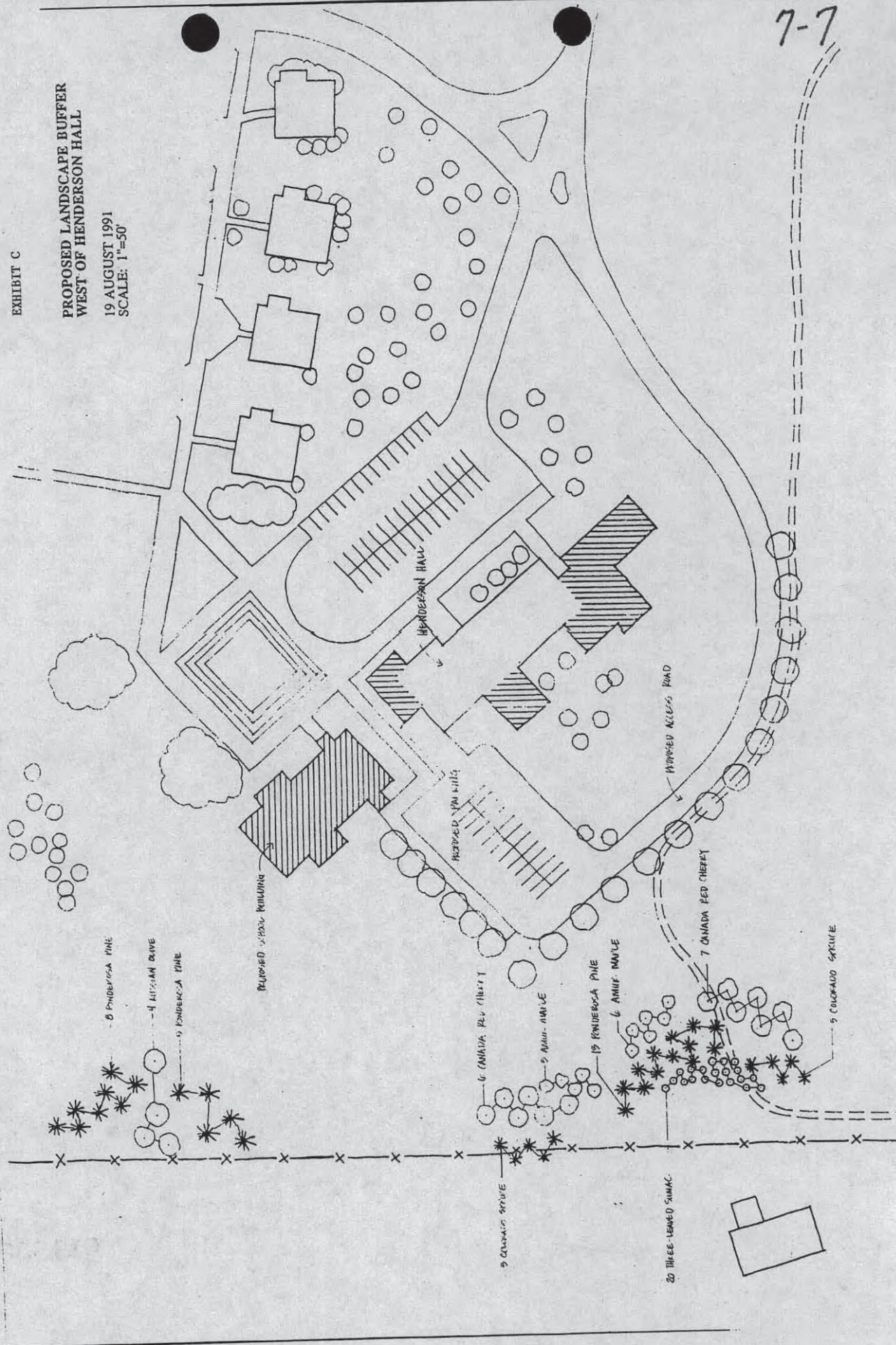
Summary of Modifications to Plans
 This 1988 Plan Compared to the 1991 Approved Plan

1991 Modified Proposal	1988 Approved Proposal
Existing Structures	152,190
Middle School	8,425
Henderson Hall	18,125
Additional Kitchen/ Dorm/Supervisors Qtrs/ Dining Hall Expansion	18,200
Future Possible Additions	11,000
Total Sq. Ft.	196,940
Existing Structures	152,190
Boys Dormitory	6,000
Library/Reception/Admin.	9,500
4 Employee Residences	11,800
Cover of the Swimming Pool	6,450
Gym/Weight Room	11,000
Total Sq. Ft.	196,940



7-7

EXHIBIT C
PROPOSED LANDSCAPE BUFFER
WEST OF HENDERSON HALL
19 AUGUST 1991
SCALE: 1"=50'



RESOLUTION 96-26

A RESOLUTION CONDITIONALLY APPROVING BOULDER COUNTY LAND USE DOCKETS #SU-95-12, SE-95-37, AND SI-95-04 ("ALEXANDER DAWSON SCHOOL SPECIAL USE, LOT RECOGNITION/SUBDIVISION EXEMPTION, AND WASTEWATER FACILITY EXPANSION"): REQUESTS FOR AN AMENDED SPECIAL USE PERMIT, WITH ASSOCIATED SITE SPECIFIC DEVELOPMENT PLAN, TO EXPAND THE ALEXANDER DAWSON SCHOOL; FOR A SUBDIVISION EXEMPTION TO RECOGNIZE 11 RESIDENTIAL LOTS AND A LOT FOR THE LOWER CAMPUS AREA (GYM/MAINTENANCE COMPLEX) OF THE ALEXANDER DAWSON SCHOOL; AND FOR AN ACTIVITY OF STATE INTEREST PERMIT FOR A WASTEWATER TREATMENT FACILITY EXPANSION TO SERVICE THE ALEXANDER DAWSON SCHOOL AND PROPOSED NEW LOTS, ALL ON PROPERTY LOCATED AT 4801 N. 107TH STREET, WEST OF HIGHWAY 287, NORTH OF BOULDER CREEK, AND APPROXIMATELY 2 1/2 MILES NORTHWEST OF ERIE, IN SECTION 10, T1N, R69W.

WHEREAS, the Alexander Dawson Foundation/Oswald G. Gutsche, Trustee ("Applicant") has requested approval for (1) a special use permit, with associated site specific development plan, under Article 4 of the Boulder County Land Use Code ("the Land Use Code"), to amend its existing special use approval in Docket #SU-88-10 (including a 1991 amendment to the 1988-approved site specific development plan), to expand the existing Alexander Dawson School ("the School"); (2) a subdivision exemption under Article 9 of the Land Use Code to recognize 11 residential building lots as well as a separate lot for the lower campus portion of the School (the existing gym/maintenance area); and (3) a permit for an activity of state interest under Article 8 of the Land Use Code to expand the School's existing wastewater treatment facility to serve the School and the proposed new lots, all on the portion of property which the Applicant owns and has reserved for its ownership and use under the "Option to Purchase and Lease" Agreement between the Applicant and the County of Boulder ("the County") dated May 4, 1995 ("the Option to Purchase Agreement"), and which is located as described in the caption to this Resolution, above ("the Subject Property"), in the Agricultural Zoning District in unincorporated Boulder County; and

WHEREAS, the special use amendment request involves two phases, with the first phase (Phase 2A) including facilities deemed necessary to meet the School's current needs (with the currently approved 300 students in a middle and upper school): a new gymnasium of 30,000 square feet; a renovated arts center of 20,000 square feet to be located in the existing gymnasium building in the lower campus area; renovations to the upper school classrooms; a new main athletic field; a replacement ball field; and five tennis courts; and

WHEREAS, the second phase (Phase 2B) of the special use amendment request, as revised by the Applicant, includes those projects which the School envisions implementing within two to five years, to allow for an expansion of the student enrollment to a

maximum of 420 students (with the addition of 100 elementary school students, and an increase in the middle and upper school enrollment to 320 students), including construction of a new elementary school of 19,000 square feet; additions to upper school classrooms totalling 9,000 square feet; a 5,600 square foot addition to the middle school; and construction of three practice fields, a running track, and one tennis court; and

WHEREAS, the subdivision exemption request is to recognize 11 residential lots within the portion of the Subject Property identified as the "Housing Parcel," according to several proposed alternatives for location of the lots, and includes a proposal to recognize a separate lot for the existing gym/maintenance portion of the School located in its lower campus area; and

WHEREAS, the state interest permit request is to increase the School's existing wastewater treatment facility (a groundwater discharge facility) from 18,000 gallons per day to 30,000 gallons per day, which expansion is planned for completion in October of 1996, and includes a new 30 by 60 foot treatment building located adjacent to the existing wastewater facilities; the conversion of the existing adjacent weight room to a "blower and operations building," and the addition of new infiltration ponds; and

WHEREAS, the above-described requests were processed and reviewed as, respectively, Boulder County Land Use Dockets #SU-95-12 ("the Special Use Amendment Request"), #SE-95-37 ("the Subdivision Exemption Request"), and #SI-95-04 ("the State Interest Request") (collectively, "the Dockets"), all as further described in the Boulder County Land Use Department Planning Staff's Memoranda and written recommendations to the Boulder County Board of County Commissioners ("the Board") dated January 4, 1996 and January 30, 1996, with their attachments (collectively, "the Staff Recommendation"); and

WHEREAS, on November 15, 1995, the Boulder County Planning Commission ("the Planning Commission") held a duly-noticed public hearing on the Special Use Amendment Request (Docket #SU-95-12), and recommended denial of the Docket to the Board; and

WHEREAS, on January 17, 1996, the Planning Commission held a duly-noticed public hearing on the State Interest Request Docket #SU-95-04), and recommended conditional approval of the Docket to the Board; and

WHEREAS, on January 4, 1996, as continued on January 30, 1996, and as continued for Board discussion and decision on February 6, 1996, February 8, 1996, and February 15, 1996, the Board held a duly-noticed public hearing on the Special Use Amendment Request ("the Public Hearing"), at which time the Board considered the Staff Recommendation and the recommendation of the Planning Commission, and also considered documents and testimony presented

by the Applicants' architect, planning consultant, attorneys, and headmaster; numerous residents of the subdivision adjacent to the Subject Property to the west and their attorney and planning consultant; and other members of the public speaking both for and against the Request; and

WHEREAS, on January 30, 1996, as continued for Board discussion and decision on February 6, 1996, February 8, 1996, and February 15, 1996, the Board held a duly-noticed public hearing on the Subdivision Exemption Request ("the Public Hearing"), at which time the Board considered the Staff Recommendation and also considered documents and testimony presented by the Applicants' architect, planning consultant, attorneys, and headmaster; numerous residents of the subdivision adjacent to the Subject Property to the west and their attorney and planning consultant; and other members of the public speaking both for and against the Request; and

WHEREAS, also on January 30, 1996, as continued for Board discussion and decision on February 6, 1996, February 8, 1996, and February 15, 1996, the Board held a duly-noticed public hearing on the State Interest Request ("the Public Hearing"), at which time the Board considered the Staff Recommendation and the Planning Commission Recommendation, also considered documents and testimony presented by the Applicants' planning consultant and professional engineer; numerous residents of the subdivision adjacent to the Subject Property to the west and their attorney and planning consultant; and other members of the public speaking both for and against the Request; and

WHEREAS, based on the Public Hearing, the Board finds that the Special Use Amendment Request, subject to the conditions stated below, meets the criteria for special use approval set forth in Article 4 of the Land Use Code, and can be approved on that basis, and, further, that the Special Use Amendment Request, with the submission of the standard development agreement, and also subject to the conditions stated below, meets the criteria in the Land Use Code for a site-specific development plan, and can be approved as such on that basis; and

WHEREAS, also based on the Public Hearing, the Board finds that the Subdivision Exemption Request, subject to the conditions stated below, meets the applicable criteria for an exemption to recognize the 11 proposed residential lots as set forth in Article 9 of the Land Use Code; and

WHEREAS, also based on the Public Hearing, the Board finds that the State Interest Request, subject to the conditions stated below, meets the applicable criteria for a permit for an expansion of a wastewater treatment facility set forth in Article 8 of the Land Use Code.

NOW, THEREFORE, BE IT RESOLVED that the Special Use Amendment Request, with associated site specific development plan (Docket #SU-95-12), is hereby approved, on the basis set forth in this Resolution, above, and subject to the following conditions:

1. The site plan for the approved improvements to the School (additions to existing facilities and new facilities) shall be that plan which is attached to and incorporated into this Resolution as Exhibit A.

2. The facade of the proposed gymnasium should be designed to reflect a more residential character, including design elements to characterize roof treatments of the existing classroom buildings. The final design shall be approved by the County staff prior to recordation of the Development Agreement.

3. Additional landscaping shall be required around the perimeter of the new buildings and additions. The submitted landscape plan shall be revised by the Applicant, shall include the commitment to complete the landscaping from the 1991 approval (as shown on Exhibit C to the Development Agreement for Docket #SU 88-10, dated May 7, 1992 and recorded with the Boulder County Clerk and Recorder at Reception #01183386, F 1732), and shall be submitted to the County staff for review and approval prior to recordation of the Development Agreement. Native plantings and xeriscaping shall be incorporated into the landscaping plan.

4. a. Landscaping for Phases 2A and 2B: Prior to the issuance of building permits for each of Phases 2A and 2B approved in the Special Use Amendment Request portion of the Dockets, an irrevocable letter of credit or other security acceptable to the County must be provided to assure completion of landscaping for that phase. The letter of credit shall be in the amount of the cost of the landscaping materials and the market value of the installation labor. In addition, 15 percent of that amount shall be provided as warranty collateral (security) to assure that the landscaping survives for two years after installation. Landscaping for each phased building must occur within one growing season after certificate of occupancy issuance.

b. Landscaping to be completed from 1991 approval (see Condition #3, above): No later than May 1, 1996, a letter of credit or other acceptable security meeting the requirements of Condition #4.a., immediately above, must be provided to cover the completion of the required landscaping from the 1991 approval. This landscaping must be completed no later than August 1, 1996.

5. Approval of the Special Use Amendment Request is contingent upon approval of the Subdivision Exemption Request for the Housing Parcel and approval of the State Interest Request.

6. The Applicant shall submit a lighting plan (including fixture details for the athletic lighting area) to the County staff for review and approval prior to the issuance of permits. All exterior lighting fixtures must utilize downlighting and must have flat, horizontal lenses. Glare shall be minimized as much as possible.

7. Lighted athletic facilities are to be used for Alexander Dawson School activities only. Lighting on the athletic field shall be utilized no more than 14 times per year.

8. If required by the Colorado Department of Transportation, the Applicant must submit written approval for change of access from the Colorado Department of Transportation. The Applicant must submit written approval from the Colorado Department of Public Health and Environment for the proposed expansion of the wastewater treatment facility for the second phase of this Request, prior to construction of the second phase.

9. Prior to issuance of any permits, the Applicant must submit detailed parking lot information, specific grading and drainage plans for all proposed athletic fields, and specific engineering details for proposed roadways or ditch crossings, and written approval of the access and hydrant design from the Mountain View Fire Protection District.

10. The Applicant shall grant a conservation easement to the County on the portion of the Subject Property (the perimeter of the upper campus area) which has been identified as necessary to provide open land buffer area, and which is depicted in black diagonal lines on Exhibit A. The conservation easement shall be for the purpose of preserving the encumbered land as open land to maintain the rural character of the Subject Property. No structures shall be allowed on the encumbered land, with the exceptions of replacing and widening the existing bridge and road; adding a foot bridge across the ditch; the existing volleyball court; irrigation structures; the existing tepee; and moveable picnic tables. The Applicant may conduct recreational activities on the land encumbered by the easement, such as volleyball, horseshoes, and badminton, provided that they do not require structures other than those permitted by and consistent with the purposes of the easement. Trails and new roads shall not be allowed without the County's prior written approval, except that the access road for the Housing Parcel may be allowed on the encumbered land provided that the Board approves the road through the subdivision exemption process for the Housing Parcel.

11. The Applicant shall meet all commitments of record and in the file for the Docket.

12. The Applicant shall submit a Development Agreement to be reviewed and approved by County staff prior to recordation.

NOW, THEREFORE, BE IT FURTHER RESOLVED that the Subdivision Exemption Request (Docket #SE-95-37), is hereby approved, on the basis set forth in this Resolution, above, and subject to the following conditions:

1. The Housing Parcel shall be established as a block, as shown on Exhibit A, and shall have 11 units of density associated with it. Internal parcel lines for the 11 lots shall be created through a future subdivision exemption review. The County reserves the right to review and determine the size, height, and location of structures and landscaping at the subdivision exemption review.

2. The Applicant shall be the wastewater treatment provider for the lots recognized through the subdivision exemption process. This condition shall apply regardless of whether the lots remain in the Applicant's ownership or are sold.

3. The Applicant shall comply with the requirement to dedicate a conservation easement for buffer purposes as set forth in Condition #10, above.

4. The lot for the lower campus is not approved as part of the Docket. The Applicant may request that the lot be created at a future time, under applicable subdivision or subdivision exemption regulations, for use as a recreational facility or performing arts center. Any request to create this lot will be processed along with any zoning approval required for the proposed use. Any lot created in this manner will not include that area to the north of the School access road.

5. All parcels created by this approval will continue to be subject to the requirements of Article 4-800 (Site Plan Review) of the Land Use Code, as amended.

6. The Applicant shall comply with all applicable post-approval requirements of the Land Use Code.

7. The Applicant shall meet all commitments of record.

NOW, THEREFORE, BE IT FURTHER RESOLVED that the State Interest Request (Docket #SI-95-04), is hereby approved, on the basis set forth in this Resolution, above, and subject to the following conditions:

1. The proposed new infiltration pond shall be relocated on land owned entirely by the Applicant, or, in the alternative, the land area retained by the Applicant through the Option to Purchase Agreement shall be reconfigured to accommodate the infiltration pond.

2. Approval of this Request shall be subject to County staff review and approval of a revegetation plan for all infiltration

ponds.

3. The Applicant shall meet all commitments of record.
4. The Applicant shall be the wastewater treatment provider for any new lots recognized through the Subdivision Exemption Request, regardless of whether the lots remain in the Applicant's ownership or are sold.
5. This wastewater treatment expansion is approved solely to serve the existing and additional uses represented in the Docket. Any excess capacity provided by this expansion shall not be construed as approval for any future additions to the use of the Subject Property.
6. Any exterior lighting for any wastewater treatment building must be downward-directed, or must have an indirect, diffused, or shielded light source. Exterior building lighting must be switched; motion sensors shall not be used.

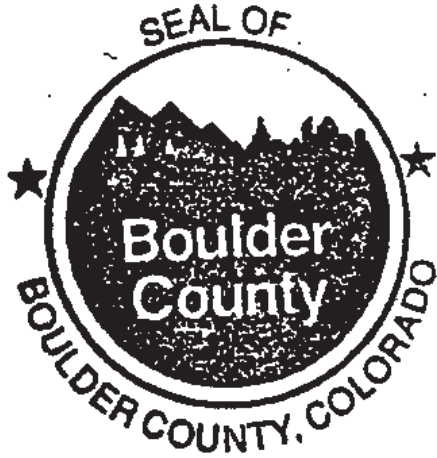
A motion to approve the Special Use Amendment Request portion of the Dockets, as stated above, was made at the Public Hearing on February 8, 1996 by Commissioner Mendez, seconded by Commissioner Danish, and passed by a 3-0 vote.

A motion to approve the Subdivision Exemption Request portion of the Dockets, as stated above (with the exception of Condition #4 imposed on this Request, which was tabled until the continued Public Hearing on February 15, 1996), was made by at the Public Hearing on February 8, 1996 by Commissioner Danish, seconded by Commissioner Mendez, and passed by a 3-0 vote.

A motion to approve the State Interest Request portion of the Dockets, as stated above, was made at the Public Hearing on February 8, 1996 by Commissioner Mendez, seconded by Commissioner Danish, and passed by a 3-0 vote.

A motion to approve the written resolution conditionally approving all three Dockets, with certain specified minor changes, as stated above, was made at the Public Hearing on February 15, 1996, by Commissioner Danish, seconded by Commissioner Mendez, and passed by a 3-0 vote.

ADOPTED this 5th day of March, 1996, nunc pro tunc the 8th and 15th days of February, 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:

Susan M. Ashcraft
Clerk to the Board

Chris T.

**AMENDMENT TO
DEVELOPMENT AGREEMENT
RELATING TO DEVELOPER'S OBLIGATIONS IN
Alexander Dawson School - Special Use Amendment
Docket No. SU-95-12 As Amended By
Docket No. SU-97-02**

This Amendment to the Development Agreement Relating to Developer's Obligations in Alexander Dawson School-Special Use Amendment (Docket No. SU-95-12) is made on this 24th day of September, 1997, by and between BOARD OF COUNTY COMMISSIONERS OF BOULDER COUNTY, COLORADO, hereinafter referred to as "County," and the ALEXANDER DAWSON FOUNDATION, hereinafter referred to as "Developer."

WHEREAS, County and Developer have previously entered into a Development Agreement Relating to Developer's Obligations in Alexander Dawson School-Special Use Amendment (Docket No. SU-95-12) recorded as Reception No. 01595231 in the real estate records of Boulder County ("Development Agreement").

WHEREAS, the Developer has requested an amendment to Special Use Permit No. 95-12, reducing the square footage of the proposed new elementary school by 2,000 square feet, eliminating additions to upper school classroom buildings totaling 9,000 square feet, allowing the two residences totaling 5,000 square feet to remain and adjusting the athletic field, all as specified in Resolution No. 97-92 (Exhibit A), and as set forth in the revised site plan (Exhibit B).

WHEREAS, the County has approved the amendment to Special Use Permit 95-12 and approved the changes to the development as described therein and has imposed specific conditions on the approval of the amendment to the docket as set forth in Resolution No. 97-92.

WHEREAS, the Development Agreement must be amended to reflect the changes approved in Docket No. SU-97-02 (Resolution 97-92).

NOW, THEREFORE, in consideration of the mutual covenants contained herein and the approval of the development (Resolution No. 97-92), County and Developer agree to amend the Development Agreement as follows:

1. Paragraph 1, entitled "Types of Development" shall be amended to reduce the square footage of the new elementary school to 17,000 square feet, to eliminate the additions to upper school classrooms totaling 9,000 square feet and to allow the two residences totaling 5,000 square feet, which were to have been removed to facilitate construction of the elementary school, to remain and be used in conjunction with the school.



2. Paragraph 1 is amended to reflect the adjustments in the athletic field layout as reflected in the revised site plan attached as Exhibit B hereto.

3. A new paragraph shall be added to the Development Agreement stating:

Guarantee of Improvements - Developer shall provide an irrevocable Letter(s) of Credit from a federal or state licensed financial institution in an amount sufficient to cover the cost of constructing the detention pond and revegetation as required by the Docket, should the Developer fail to construct such improvements within one year of the date upon which the Letter of Credit is issued (or as otherwise specifically referenced in the Docket). The Letter of Credit or other guarantee shall be in the amount of 115% of the estimated cost of installing the required detention pond and revegetation and shall provide for payment, upon demand, to the County. The Letter of Credit shall include an expiration date or dates at which time the County may use the funds available to pay for the completion of the construction of the required detention pond and revegetation. The issuer of the Letter of Credit shall guarantee that at all times the unreleased portion of the Letter of Credit shall be equal to a minimum of 115% of the estimated cost of completing the portions of the required detention pond and revegetation that have not been completed, based on inspections of the Development by the County. In no case shall disbursement for a general grading or revegetation item exceed the cost estimate. The Letter of Credit shall specify that 15% of the total amount may not be drawn upon by Developer but will remain available to County as warranty collateral to be drawn upon by County in those instances in which the improvement fails to perform as expected for a period of two years from the date of acceptance by the County. The Developer may draw from the Letter of Credit in accordance with the provisions of the Agreement.

The Letter of Credit shall be released only in accordance with the following provisions: The letter requesting release of the collateral shall include a submission of "as installed" plans, listing all deviations from the approved plans. The collateral will not be released if the County Land Use Department determines that deviations are present which have not received prior approval by the Department and are not consistent with accepted construction design and installation. Release of warranty collateral will require a letter of request for inspection and an inspection and approval by the County.

County shall notify Developer of any to failure by Developer to install or maintain the detention pond and revegetation as required in the Docket, and will grant Developer a reasonable period (but in no event less than 30 days) in which to cure or contest the failure of the detention pond or revegetation . If failure is not cured within the required period, County shall schedule a public hearing and give at least 7 days notice, prior to such hearing, to Developer. If after said hearing, County determines that the Developer has failed to construct or maintain the detention pond and revegetation as required, it may draw upon the financial security in the amount necessary to cure the failure.



- 4. The Applicant shall comply with all requirements of Resolution 97-92 (Exhibit A hereto).
- 5. Except as amended herein, the provisions of the Development Agreement remain unamended, unchanged, and in full force and effect.

IN WITNESS WHEREOF, the parties have set their hands and seals this 24th day of September, 1997.



ALEXANDER DAWSON FOUNDATION

Mario P. Borini
By: Mario P. Borini
Its: Chairman

ATTEST:

Anne M. Ashurst
Its: Clerk to the Board

COUNTY OF BOULDER

By: Ronald K Stewart
Chair, Boulder County Board of Commissioners

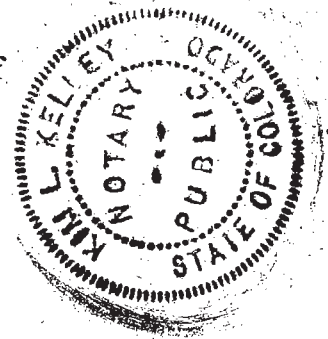
STATE OF COLORADO)
)ss.
COUNTY OF BOULDER)

The foregoing instrument was acknowledged before me this 23rd day of September, 1997 by Mario P. Borini and

Witness my hand and official seal.

My commission expires: 07/19, 1999.

Kim Kelley
Notary Public



EXHIBIT

A



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RESOLUTION 97-92

A RESOLUTION CONDITIONALLY APPROVING BOULDER COUNTY LAND USE DOCKET #SU-97-02 ("ALEXANDER DAWSON SCHOOL SPECIAL USE REVIEW"): REQUEST FOR AN AMENDED SPECIAL USE PERMIT, WITH ASSOCIATED SITE SPECIFIC DEVELOPMENT PLAN, TO AMEND DOCKET #SU-95-12 TO ALLOW FOR A RECONFIGURATION OF THE SITE PLAN OF THE APPROVED ALEXANDER DAWSON SCHOOL CAMPUS, ON PROPERTY LOCATED AT 4801 N. 107TH STREET, WEST OF HIGHWAY 287, NORTH OF BOULDER CREEK, AND APPROXIMATELY 2½ MILES NORTHWEST OF ERIE, IN SECTION 10, T1N, R69W.

WHEREAS, the Alexander Dawson School and Alexander Dawson Foundation ("Applicants" or "the School") have requested approval for an amended special use permit, with associated site specific development plan, under Article 4 of the Boulder County Land Use Code ("the Land Use Code"), to amend the School's existing special use approval granted in Resolution 96-26 for Docket #SU-95-12 (the 1995 amendment to the 1988 special use approval, #SU-88-10), to allow for the reconfiguration of the site plan of the School Campus which is located as described in the caption to this Resolution, above ("the Subject Property"), in the Agricultural Zoning District in unincorporated Boulder County; and

WHEREAS, through the 1995 Special Use approval, the 19,000 square foot elementary school was relocated to an area south of the new gymnasium, with the anticipation that two residences would need to be removed to facilitate construction of the elementary school; and

WHEREAS, upon further site design, the Applicants have indicated that the two residences, totaling 5,000 square feet, can remain, resulting in the cancellation of two proposed additions to the upper classroom buildings totaling 9,000 square feet, and a 2,000 square-foot reduction in the size of the elementary school, thus reducing the total approved square footage by 6,000 square feet; and

WHEREAS, this proposed amendment also requests an adjustment of the athletic field layout presently consisting of one lighted athletic field west of the proposed gymnasium, a soccer field/running track and one softball field located northeast of the power line easement, and two soccer fields and one baseball field southwest of the power line easement, with the proposed adjustments consisting of (1) no lighting for the field west of the gymnasium, (2) the track/soccer field and an additional field to be located southwest of the power line easement, and (3) two practice fields and one baseball field to be located northeast of the power line easement; and

WHEREAS, in a letter dated January 27, 1997, the Applicants' landscape architect indicated that upon further design of the athletic fields, the revised layout was found to provide increased



Boulder County Clerk, CO AMEND AGREE R 41.00

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grading and drainage compatibility with open space, the existing topography, and on-site drainage, along with the benefit of having the main spectator fields located closer to pedestrian and vehicle corridors, and the largest structural improvements of the baseball field being further removed from opens space; and

WHEREAS, the Applicants have committed to locate the sprint lanes of the running track on the east side of the track, to minimize the number of spectators adjacent to the property line; and

WHEREAS, in a letter dated March 17, 1997, the Applicants, also in response to neighborhood concerns, have committed to the installation of a minimum of 25 pinion pine trees west of the middle school parking lot; and

WHEREAS, the above-described request was processed and reviewed as Boulder County Land Use Docket #SU-97-02 ("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 5, 1997, with its attachments ("the Staff Recommendation"); and

WHEREAS, on April 16, 1997, 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 5, 1997, 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 documents and testimony presented by the Applicants' planning representative, with no members of the public speaking to the Docket; and

WHEREAS, based on the Public Hearing, the Board finds that the Docket, subject to the conditions stated below, meets the criteria for special use approval set forth in Article 4 of the Land Use Code, and can be approved on that basis, and, further, that the Docket, with the submission of the standard development agreement, and also subject to the conditions stated below, meets the criteria in the Land Use Code for a site-specific development plan, and can be approved on that basis.

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 Docket shall continue to be subject to the terms and conditions of approval of Dockets #SU-95-12/ #SE-95-37 (Resolution 96-26), except as expressly amended herein.



2. The Applicants shall provide a Development Agreement to be reviewed and approved by the County staff prior to recordation.
3. A weed management plan for athletic field construction and maintenance shall be reviewed and approved by the County staff prior to recordation.
4. The Applicants shall ensure appropriate ditch conveyance and relocation for athletic fields.
5. The Applicants shall be subject to the terms, conditions, and commitments of record for the Docket (#SU-97-02: ALEXANDER DAWSON SCHOOL).
6. The Applicants shall submit to the Boulder County Transportation Department a Master Drainage Plan for review and approval prior to the issuance of any additional permits related to this Docket.
7. A landscaping plan for additional landscaping to screen the two buildings being retained on site shall be submitted and approved by the County Land Use Department prior to recordation.

A motion to approve the Docket, as set forth in the Resolution above, was made at the Public Hearing by Commissioner Danish, seconded by Commissioner Mendez, and passed by a 3-0 vote.

ADOPTED this 9th day of September, 1997, nunc pro tunc the 5th day of June, 1997.

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, Commissioner
(EXCUSED)

Recorder's Note: 9-26-97
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Recorder's Note: 9-26-97
Portion of recorded document
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ATTEST:

Susan M. Ashcraft
Clerk to the Board

RESOLUTION 2008-152

A RESOLUTION DENYING DOCKET #SU-07-015 ("ALEXANDER DAWSON SCHOOL SU/SSDP"): A REQUEST BY THE ALEXANDER DAWSON SCHOOL, LLC, FOR A SPECIAL USE REVIEW/SITE SPECIFIC DEVELOPMENT PLAN AMENDMENT TO DOCKETS #SU-95-12 and SU-97-02, TO EXPAND THE EXISTING SCHOOL FACILITY BY: (1) ADDING 56,114 SQUARE FEET OF NEW FLOOR AREA TO THE 212,373 SQUARE-FOOT EXISTING SCHOOL FACILITY (SUBSEQUENTLY REVISED DOWNWARD TO ADD 42,910 SQUARE FEET OF NEW FLOOR AREA TO THE EXISTING SCHOOL); (2) INCREASING STUDENT ENROLLMENT FROM THE EXISTING APPROVED LIMIT OF 420 STUDENTS IN GRADES K-12, TO 670 TOTAL STUDENTS IN GRADES K-12 AND INCLUDING A NEW PROPOSED PRESCHOOL PROGRAM (SUBSEQUENTLY REVISED DOWNWARD TO PROPOSE AN INCREASED ENROLLMENT LIMIT OF 620 TOTAL STUDENTS WITH NO ADDED PRESCHOOL); (3) AUTHORIZING A NEW SUMMER ACADEMIC ENRICHMENT PROGRAM TO OPERATE WITHIN THE PROPOSED INCREASED STUDENT ENROLLMENT LIMIT; AND (4) OFFICIALLY RECOGNIZING THE USE OF THE SCHOOL FOR A VARIETY OF COMMUNITY PROGRAMS AND PURPOSES SUCH AS ATHLETIC CLUBS AND PUBLIC MEETING SPACE, ALL ON THE ALEXANDER DAWSON SCHOOL'S 95-ACRE PROPERTY LOCATED IN THE RURAL PRESERVATION AREA OF THE EAST CENTRAL BOULDER COUNTY DEVELOPMENT PLAN INTERGOVERNMENTAL AGREEMENT, AND CLASSIFIED AS AGRICULTURAL LANDS OF NATIONAL AND STATEWIDE IMPORTANCE UNDER THE BOULDER COUNTY COMPREHENSIVE PLAN, IN THE AGRICULTURAL ZONING DISTRICT AS MAPPED AND REGULATED PURSUANT TO THE BOULDER COUNTY LAND USE CODE, ADDRESSED AT 10455 DAWSON DRIVE (FORMERLY 4801 N. 107TH STREET), ADJACENT TO AND WEST OF U.S. HIGHWAY 287 AND SOUTH OF LOOKOUT ROAD, IN SECTION 10, T1N, R69W, UNINCORPORATED BOULDER COUNTY

WHEREAS, in 1996, in Docket #SU-95-12 (memorialized in Resolution 96-26), the Board of County Commissioners of the County of Boulder ("the Board") approved a special use request by the Alexander Dawson Foundation/School ("the School") pursuant to Article 4-600 of the Boulder County Land Use Code ("the Land Use Code"), which authorized a major expansion of the School as first recognized by the Board in 1988 (Docket #SU-88-10), including an increase in student enrollment to 420 total students in grades K-12, with 85 faculty and staff; the construction of a new 30,000 square-foot gym; approval for new athletic fields and five tennis courts; renovation of the old gym into an arts center; construction of a new 19,000 square-foot elementary school; addition of 9,000 square feet to the upper classroom building and 5,600 square feet to the middle school; construction of five new faculty houses totaling 7,000 square feet; the expansion (in a companion docket) of the School's wastewater treatment system; and a subdivision exemption (in another companion docket) to

create 11 residential lots out of a 10-acre site, on the property which is located as generally described to the caption of this Resolution, above, in the Agricultural Zoning District in unincorporated Boulder County; and

WHEREAS, in 1997, in Docket #SU-97-02 (memorialized in Resolution 97-92), the Board permitted certain requested revisions to the 1996 major expansion approval described above, allowing the School to retain two existing buildings consisting of 5,000 square feet; reducing the elementary school building by 2,000 square feet; deleting the 9,000 square feet previously approved for the upper campus buildings; and amending the athletic field layout; and

WHEREAS, the School has successfully operated under the 1996-97 special use approvals since that time, with an enrollment in 2008 of 418 students (just below the approved limit of 420 students); developed floor area of 212,373 square feet on a 95-acre campus; camps and related school events that occur throughout the summer and on weekends; and use of the School facilities by a number of community and educational organizations; and

WHEREAS, in the current docket (Docket #SU-07-015 ("the Docket")), the School proposes to amend its prior special use approvals again, this time specifically for the following purposes: (1) to expand the existing floor area of the School, initially proposed as an addition of 56,114 square feet of new floor area to the existing 212,373 square-foot School facility, and subsequently revised downward (by 13,204 square feet) to add 42,910 square feet to the existing School (constituting an approximately 20.2% increase above the School's current floor area); (2) to increase student enrollment from the existing approved limit of 420 students in grades K-12, to an initially proposed enrollment limit of 670 total students in grades K-12 and including a new proposed preschool program, and subsequently revised downward to propose an increased enrollment limit of 620 total students with no added preschool (the latter constituting an approximately 47.6% increase over present School enrollment); (3) to allow for a new summer academic enrichment program which would operate within the proposed increased student enrollment limit; and (4) to officially recognize the use of the School for a variety of community programs and educational purposes including athletic clubs and public meeting space (collectively, "the School Expansion Proposal"); and

WHEREAS, the School's square footage expansion includes additions to a number of the School's buildings, including the Arts Center, Henderson Hall, the Middle School, the Lower School, and the Gymnasium, and incorporates numerous proposals to make the School improvements more efficient in terms of energy and water usage; and

WHEREAS, the School has begun to implement, and has also proposed, a variety of alternate modes and transportation demand management programs in an effort to minimize car trips to the School, and work toward the School's stated goal of keeping School traffic to less than a 20% increase from the School's proposed traffic baseline level (1,600 trips per day) if the School Expansion Proposal is approved; and

WHEREAS, in addition to downsizing the floor area of its original School Expansion Proposal by 13,204 square feet, the School has proposed certain reductions in height in some of the buildings, has moved half of the footprint of the proposed Lower School addition to the north side of the existing building for better screening, and has proposed the planting of over 230 trees (more than 160 of which will be evergreen) to further screen school buildings from views from surrounding roadways and properties; and

WHEREAS, the School Expansion Proposal in the Docket is further described in the memoranda and recommendations of the Boulder County Land Use Department dated June 3, 2008; September 23, 2008; and December 3 and 4, 2008, with their attachments (collectively, "the Staff Recommendation"), which are incorporated into this Resolution by this reference; and

WHEREAS, on April 16, 2008, the Boulder County Planning Commission ("the Planning Commission") held a duly-noticed public hearing on the School Expansion Proposal, and recommended denial of the Docket to the Board; and

WHEREAS, on June 3, 2008, as continued on September 23, 2008 and December 4, 2008, 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 the County Transportation Department staff, several representatives of the School, and numerous members of the public speaking both for and against the Docket, all as further reflected on the official record of the Public Hearing; and

WHEREAS, based on the Public Hearing, and in particular the Staff Recommendation dated June 3, 2008, and for the reasons emphasized below, the Board finds that the School Expansion Proposal in the Docket does not meet the criteria for a special use permit amendment set forth in Article 4-600 of the Land Use Code, and must be denied.

NOW, THEREFORE, BE IT RESOLVED that the School Expansion Proposal in the Docket is denied, on the basis set forth in the June 3, 2008 Staff Recommendation as well as in the Board's discussion on the record of the Public Hearing, and as supported in the record of the Public Hearing and as further elucidated in this Resolution. Without limitation, the Board in particular finds and concludes with respect to the governing special use review criteria, as follows:

(1) **The Docket violates Section 4-601.A.2. of the special use review requirements of the Land Use Code, mandating that the proposed use "will be in harmony with the character of the neighborhood and compatible with the surrounding area."** The predominant character of the School's unincorporated neighborhood and surrounding area is single-family residential development, undeveloped open space, and agricultural land uses. The purpose of the Agricultural Zoning District in which the School resides is to include and foster "[r]ural areas where conservation of agricultural resources is of major value, and where residential development compatible with agricultural uses is allowed." Land Use Code Article 4-102.A. While educational facilities are allowed by special review in the Agricultural Zone, such facilities can be approved only if they are deemed compatible with the surrounding area (which in this case is largely open and agricultural rural land) and do not offend the underlying purposes of the Agricultural Zone. The School as it currently exists is a very large institutional development with multiple structures totaling 212,373 square feet, which equates to approximately 2,235 square feet of structure developed for each of the School's 95 acres. The School property is further intensively developed through its associated paving, parking lots, and tennis courts/athletic fields. The Board's review process for the School's last expansion proposed between 1995 and 1997, indicated that the School

as approved at that time was likely the limit of institutional development which could occur on this property without the School becoming an urban use incompatible with the surrounding area/neighborhood and the open land preservation purposes of the Agricultural Zoning District. Even though the School has made commendable efforts to reduce the size and impact of its original proposal in this Docket, the addition of 42,910 more square feet of school buildings to this already densely developed campus, as well as a nearly 50% enrollment increase resulting in 620 total students (and a corresponding number of additional staff beyond the currently approved 85 staff members), crosses the line between a rural and urban use, and causes the School to no longer be an appropriate use in harmony with the neighborhood and the Agricultural Zoning District. Simply stated, the Proposed School Expansion does not equate to a rural facility: it would be an urban one.

(2) The Docket violates Section 4-601.A.3. of the special use review requirements of the Land Use Code, mandating that the proposed use "will be in accordance with the Comprehensive Plan." The School's property is unquestionably designated as rural, under both the Boulder County Comprehensive Plan ("Comprehensive Plan"), and the East Central Boulder County Development Plan Intergovernmental Agreement ("IGA") entered into between the County, the Town of Erie, and the City of Lafayette on December 21, 1994. Under the Comprehensive Plan, The School's property is designated as Agricultural Lands of National and Statewide Importance, and contains Open Roadside Corridor, Streamside Corridor, and Riparian Area designations. The School's property also falls within the Comprehensive Plan's "Plains Planning Area," whose goals and policies envision that lands which are in the plains and outside of community service areas "should remain rural," with county zoning continuing to "prohibit urban development and densities." PPA 1.01. The Comprehensive Plan unequivocally states that in the Plains Planning Area, where urban services are not provided, land uses "should continue to be related to agricultural activities, environmental resource protection, low-density residential development and other activities consistent with the rural character of the county." PPA 1.01. Moreover, appropriate

zoning densities in the Plains Planning Area are not to exceed one residential unit per 35 acres of land, unless greater divisions of land, which are expressly intended to preserve agricultural land, are approved through the County's rural "planned unit development" processes. PPA 1.02. The Proposed School Expansion, as revised in the Docket, would constitute 255,283 square feet of development on 95 acres (2,687 square feet per acre), which is a fundamentally urban and intensive development violating the foregoing goals, policies, and rural land designations of the Comprehensive Plan. Moreover, for all the additional reasons stated in the immediately preceding finding regarding compatibility of the Proposed School Expansion, and as analyzed in the Staff Recommendation and supported by the Public Hearing, the Docket violates the Comprehensive Plan.

In addition, under the IGA, the School property is mapped as "Rural Preservation Area." Even though the IGA, as enacted in 1994, allowed the County "to approve application(s) for expansion" of the School, this permission did not in any way eliminate or supersede the County's authority to exercise its discretion in deciding the merits of specific, future expansion proposals under the Land Use Code's zoning special use criteria and Comprehensive Plan. The Board approved a major expansion to the School just after the IGA was enacted, in the 1995-1997 period (previously referenced Dockets #SU-95-12 and #SU-97-02). Still, clearly, the IGA's allowance for the County to approve School expansions without necessarily violating the IGA, was not a blank check requiring the Board to approve all future School-proposed expansions, or to endorse any particular proposed expansion as conforming with the Rural Preservation land designation under the IGA or the rural land designations under the County's longstanding Comprehensive Plan (in effect since 1978).

(3) The Docket violates Section 4-601.A.4. of the special use review requirements of the Land Use Code, mandating that the proposed use "will not result in an over-intensive use of land or excessive depletion of natural resources."

The findings and conclusions related to the two preceding special use criteria which the Board determines to have been violated here also apply to this finding and conclusion. The Proposed School Expansion is urban in nature and constitutes an over-intensive development of land in a rural area. It is notable that the staff recommendation regarding the School's prior major expansion processed in 1995-97 (in particular Docket #SU-95-12) noted, in analyzing this very same special use criterion, that the 1995 proposal "will maximize the land designated as the school site The applicant has acknowledged that the proposed expansions will bring the school to the anticipated maximum level of operations proposed in their mission statement. The applicant is aware that this proposal severely limits any future expansion." While the Board acknowledges the School's right to apply for additional expansions as the School has done in this Docket, the Board agrees with the 1995 docket staff recommendation, and with the Staff Recommendation in this Docket, that the Proposed School Expansion (with a proposed 20% increase in floor area and nearly 50% increase in student enrollment) goes beyond the maximum development appropriate for this rural property, and is an over-intensive use of rural land designated as Agricultural Lands of National and Statewide Importance, with significant open corridor and environmental resource attributes as noted above. Because the Proposed School Expansion is over-intensive for these fundamental reasons, the Docket's size and enrollment increase impacts are not adequately mitigated through the School's proposed energy and water savings measures, transportation demand programs, and building landscape/screening plans.

A motion to deny the Docket, as stated above, was made by Commissioner Domenico, seconded by Commissioner Pearlman, and passed by a 2-1 vote of the Board, with Commissioner Toor voting against the motion.

ADOPTED this 30th day of December, 2008, nunc pro tunc the 4th day of December, 2008.

BOARD OF COUNTY COMMISSIONERS
OF BOULDER COUNTY:



Ben Pearlman

Ben Pearlman, Chair

Will Toor, Vice Chair

Cindy Domenico

Cindy Domenico, Commissioner

ATTEST:

Walter P. ...

Clerk to the Board



**SECOND AMENDMENT TO DEVELOPMENT
AGREEMENT
RELATING TO DEVELOPER'S OBLIGATIONS IN
ALEXANDER DAWSON SCHOOL -- SPECIAL USE AMENDMENT --
DOCKET#SU-09-0007 (AMENDING DOCKETS #SU-95-12 AND #SU-97-02)**

THIS SECOND AMENDMENT TO DEVELOPMENT AGREEMENT is made on this 30th day of August, 2010, by and between the Board of County Commissioners of Boulder County, Colorado ("the County"), and the Alexander Dawson School, LLC ("the Developer") (collectively, "the Parties"), to implement the County's partial approval of the Developer's request in Boulder County Land Use Docket #SU-09-0007 for an amendment to the Developer's existing special use permit for the Alexander Dawson School ("the School").

WHEREAS, the Developer has submitted to the County a request for an amendment to its existing special use permit under Article 4-600 of the Boulder County Land Use Code ("the Land Use Code"), to make various expansions to the existing School, which request the County has processed as Land Use Docket #SU-09-0007 ("the Docket"); and

WHEREAS, County has partially approved the Docket as set forth in Board of County Commissioners' Resolution No. 2010-10, adopted January 26, 2010, which is attached to and incorporated into this Agreement as Exhibit A ("the Docket Approval"); and

WHEREAS, while the Docket Approval did not authorize any of the Developer's proposed School building expansions, it did allow for an enrollment increase of 40 students, thus enabling the School's enrollment to grow from the previously approved 420 students, to 460 students total in grades K-12, subject to the conditions set forth in Exhibit

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A; and

WHEREAS, the County previously approved a major expansion to the School in Docket #SU-95-12, which the Parties memorialized in a Development Agreement recorded at Reception No. 01595231 in the real property records of Boulder County, and which was subsequently amended in Docket #SU-97-02 as set forth in an amended Development Agreement recorded at Reception No. 1734318; and

WHEREAS, this Second Amendment to Development Agreement amends the above-referenced, prior two Development Agreements for the School, for the sole purpose of allowing the School's student body to increase from 420 to 460 students as permitted in the Docket Approval; and

WHEREAS, the County has determined that this Amendment to Development Agreement is consistent with the Boulder County Comprehensive Plan, the applicable County regulations, and the Docket Approval as set forth in Exhibit A; and

WHEREAS, the County and the Developer acknowledge and agree that the matters addressed herein are reasonable requirements for the County to impose as part of its Docket Approval, and that such matters are necessary to protect and promote the public health, safety, and welfare.

NOW, THEREFORE, in consideration of the mutual covenants herein contained and the County's Docket Approval as set forth in Exhibit A hereto, the Developer and the County agree as follows:

1. **Approved Development.** The development approved herein is an increase in the School's student body from the previously approved 420 students in grades K-12, to a total of 460 students in grades K-12, all as further set forth in Exhibit A

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hereto. The Parties recognize that the enrollment increase is the only part of the Docket approved by the County, with the Developer withdrawing all portions of the Docket application except for a requested increase in the number of students permitted on campus.

2. **Limitations on Approved Development.** The approved 40-student enrollment increase is subject to the school's traffic not exceeding 1,552 average daily trips (ADTs) on an annual basis, based on three traffic counting episodes being taken per year, one of which shall be taken when seniors are off campus. As required in Condition #2 of Exhibit A, the Developer has submitted to the Boulder County Transportation Department a plan for monitoring compliance with the 1,552 ADT traffic limit, which the Transportation Department has approved in the form attached to and incorporated into this Second Amendment as Exhibit B.
3. **Statutory Vested Right for Approved Development.** The statutory vested right granted by the Docket Approval is limited to the Approval's authorization of an enrollment increase of 40 students. This vested right shall run for a period of three (3) years, beginning on the January 26, 2010, the date of adoption of Exhibit A. This vested right shall expire immediately upon the running of this three-year period, unless the Board in its discretion approves an extension pursuant to the applicable provisions of the Land Use Code.
4. **Continuing Binding Effect of School Special Use Approvals.** The Developer, the School, and any successors thereof, shall be subject to and bound by the terms of the Docket Approval and this Second Amendment to Development Agreement, as well as by all prior, applicable special use approvals and Development Agreements and amendments thereto. These prior agreements are amended only to the extent expressly stated in this Second Amendment, and otherwise remain in full force and effect as stated therein. The Developer's acceptance of this Second Amendment does not limit the School's ability to apply to the County in the future for other amendments to its special use permit as the Land Use Code may allow.
5. **Enforcement.** The County may conduct inspections and reviews as necessary to assure compliance with this Agreement. This right includes the right to enter upon the property included within the Docket Approval at any time, without prior notice, to inspect for compliance with the terms of this Second Amendment to Development Agreement. The County or any purchaser of any land subject to the requirements of this Second Amendment shall have the authority to bring an action in the Boulder 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.
6. **Notation and Recordation** The Developer shall file this Second Amendment to Development Agreement for recording with the Boulder County Clerk and Recorder.

[Type text]

BOULDER COUNTY

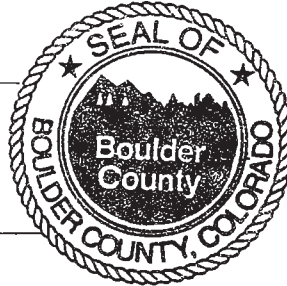
Cindy Domenech

CHAIR, BOULDER COUNTY
BOARD OF COUNTY COMMISSIONERS

DATE: 9/9/2010

ATTEST: *Walter Zyder*

CLERK TO THE BOARD



DEVELOPER

Brian E.M. Johnson

BRIAN E.M. JOHNSON
HEADMASTER

(Name, Title)

STATE OF COLORADO)

)ss.

COUNTY OF BOULDER)

Subscribed and sworn to before me this 30 day of August,
2010.

by Brian E.M. Johnson

My commission expires 11/26/2010

Lisa Moken
NOTARY PUBLIC



EXHIBIT A

RESOLUTION 2010-10

A RESOLUTION PARTIALLY APPROVING (TO ALLOW AN ENROLLMENT INCREASE OF 40 STUDENTS OUT OF A REQUESTED ADDITIONAL 120 STUDENTS) DOCKET #SU-09-0007 ("ALEXANDER DAWSON SCHOOL SU/SSDP"): A REQUEST BY THE ALEXANDER DAWSON SCHOOL, LLC, FOR A SPECIAL USE REVIEW/SITE SPECIFIC DEVELOPMENT PLAN AMENDMENT TO DOCKETS #SU-95-12 and #SU-97-02, TO EXPAND THE EXISTING SCHOOL FACILITY BY: (1) ADDING 27,288 SQUARE FEET OF NEW FLOOR AREA TO THE EXISTING 212,373 SQUARE-FOOT SCHOOL FACILITY (YIELDING A NET INCREASE OF 23,888 SQUARE FEET WITH THE PROPOSED REMOVAL OF AN EXISTING 3,400 SQUARE-FOOT HOUSE); (2) INCREASING STUDENT ENROLLMENT FROM THE EXISTING APPROVED LIMIT OF 420 STUDENTS IN GRADES K-12, TO 540 STUDENTS IN GRADES K-12; AND (3) OFFICIALLY RECOGNIZING THE USE OF THE SCHOOL FOR A VARIETY OF COMMUNITY PROGRAMS AND PURPOSES SUCH AS ATHLETIC CLUBS AND PUBLIC MEETING SPACE, ALL ON THE SCHOOL'S 95-ACRE PROPERTY (AND INCLUDING AN 18.3-ACRE OUTLOT PARCEL JUST TO THE WEST OF THE SCHOOL, WITH AGRICULTURAL STRUCTURE DEVELOPMENT POTENTIAL, WHICH THE SCHOOL PROPOSES NOT TO DEVELOP AS MITIGATION FOR THE ADDITIONAL REQUESTED SQUARE FOOTAGE ON CAMPUS), ALL ON THE PROPERTY LOCATED AT 10455 DAWSON DRIVE (SCHOOL CAMPUS), AND 10288 LOOKOUT ROAD (CONTIGUOUS 18.3-ACRE OUTLOT PARCEL), ADJACENT TO AND WEST OF U.S. HIGHWAY 287 AND SOUTH OF LOOKOUT ROAD, IN SECTIONS 9 AND 10, T1N, R69W, UNINCORPORATED BOULDER COUNTY

WHEREAS, in 1996, in Docket #SU-95-12 (memorialized in Resolution 96-26), the Board of County Commissioners of the County of Boulder ("the Board") approved a special use request by the Alexander Dawson Foundation/School ("the School") pursuant to Article 4-600 of the Boulder County Land Use Code ("the Land Use Code"), which authorized a major expansion of the School as first recognized by the Board in 1988 (Docket #SU-88-10), including an increase in student enrollment to 420 total students in grades K-12, with 85 faculty and staff; the construction of a new 30,000 square-foot gym; approval for new athletic fields and five tennis courts; renovation of the old gym into an arts center; construction of a new 19,000 square-foot elementary school; addition of 9,000 square feet to the upper classroom building and 5,600 square feet to the middle school; construction of five new faculty houses totaling 7,000 square feet; the expansion (in a companion docket) of the School's wastewater treatment system; and a subdivision exemption (in another companion docket) to create 11 residential lots out of a 10-acre site, on the property which is located as generally described to the caption of this Resolution, above, in the Agricultural Zoning District in unincorporated Boulder County; and

WHEREAS, the Board approved the expansion of the School in Docket #SU-95-12, finding the expansion consistent with the applicable zoning special use criteria as well as with the designation of the School's property west of U.S. Highway 287 as Rural Preservation Area under the 1994 East Central Boulder County Comprehensive Development Plan Intergovernmental Agreement between the County, the City of Lafayette, and the Town of Erie ("the IGA"); and

WHEREAS, the IGA specifically allowed the County to approve applications for the expansion of the School on its Rural Preservation Area property west of U.S. 287, subject to the terms of the IGA; and

WHEREAS, in 1997, in Docket #SU-97-02 (memorialized in Resolution 97-92), the Board permitted certain requested revisions to the 1996 major expansion approval described above, allowing the School to retain two existing buildings consisting of 5,000 square feet; reducing the elementary school building by 2,000 square feet; deleting the 9,000 square feet previously approved for the upper campus buildings; and amending the athletic field layout; and

WHEREAS, the School has operated under the 1996-97 special use approvals since that time, with a current enrollment of 420 students, and a developed floor area of 212,373 square feet on a 95-acre campus; and

WHEREAS, in Docket #SU-07-015, the School proposed to amend its prior special use approvals again, this time specifically for the following purposes: (1) to expand the existing floor area of the School, initially proposed as an addition of 56,114 square feet of new floor area to the existing 212,373 square-foot School facility, and subsequently revised downward (by 13,204 square feet) to add 42,910 square feet to the existing School (constituting an approximately 20.2% increase above the School's current floor area); (2) to increase student enrollment from the existing approved limit of 420 students in grades K-12, to an initially proposed enrollment limit of 670 total students in grades K-12 and including a new proposed preschool program, and subsequently revised downward to propose an increased enrollment limit of 620 total students with no added preschool (the latter constituting an approximately 47.6% increase over present School enrollment); (3) to allow for a new summer academic enrichment program which would operate within the proposed increased student enrollment limit; and (4) to officially recognize the use of the School for a variety of community programs and educational

purposes including athletic clubs and public meeting space; and

WHEREAS, the Board denied Docket #SU-07-015 pursuant to the zoning special use criteria set forth in Article 4-600 of the Land Use Code, for the reasons set forth in Resolution 2008-152 which the Board adopted on December 30, 2008; and

WHEREAS, in 2009, the School submitted a revised special use application under Article 4-600 of the Land Use Code, seeking a smaller expansion than that proposed in Docket #SU-07-015, and specifically requesting: (1) a student enrollment increase of 120 students (representing an increase from the current 420-student cap in grades K-12, to 540 students); (2) building additions totaling 27,288 square feet, which would constitute a net increase of 23,888 square feet on the campus factoring in the proposed removal of a 3,400 square-foot house on the School property, and which would be offset by the School's commitment to not develop an 18.3-acre outlot parcel adjacent to the campus (recently purchased by the School, and eligible to have 25,000 square feet of agricultural structures built on it); and (3) official recognition of the use of the School for a variety of community programs and educational purposes including athletic clubs and public meeting space (collectively, "the Revised School Expansion Proposal"); and

WHEREAS, the Revised School Expansion Proposal was processed and reviewed as Boulder County Land Use Docket #SU-09-0007 ("the Docket"), all as further described in the memorandum and recommendation of the Boulder County Land Use Department dated December 8, 2009, with its attachments ("the Staff Recommendation"); and

WHEREAS, on October 21, 2009, the Boulder County Planning Commission ("the Planning Commission") held a duly-noticed public hearing on the Docket/Revised School Expansion Proposal, and recommended conditional approval of the Docket to the Board; and

WHEREAS, on December 8, 2009, 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 staffs of the County Land and County Transportation Departments, representatives of the School, and numerous members of the public speaking both for and against the Docket, all as further reflected on the official record of the Public Hearing; and

WHEREAS, based on the Public Hearing, the Board finds that approval of a limited student enrollment increase (an increase of 40 students out of the 120 students requested in the Docket) can solve the School's expressed immediate need to expand the current enrollment cap to admit additional students, while still meeting the zoning criteria for special use approval stated in Article 4-600 of the Land Use Code, and will not result in the School being converted from a rural use into an urban use as the Board found regarding the larger expansion proposal (proposed addition of 42,910 square feet of floor area and of 200 new students) denied in Resolution 2008-152 (Docket #SU-07-015); and

WHEREAS, the Board notes that the zoning special use criteria of concern in the prior expansion proposal denial were those requiring harmony with the character of the neighborhood and compatibility with the surrounding area (Land Use Code Section 4-601.A.2.), consistency with the Boulder County Comprehensive Plan (Section 4-601.A.3.); and avoidance of an over-intensive use of the land (Section 4-601.A.4.); and

WHEREAS, the Board finds that the special use criteria of concern noted above are met for the limited enrollment increase approved here, because the approved increase is relatively modest in number, does not require the construction of any additional, institutionally used floor area on the School's campus, and will maintain acceptable traffic levels under Condition #2, imposed below; and

WHEREAS, the Board recognizes that it has directed the County Land Use Department to develop amended regulations for institutional special uses under the Land Use Code, to provide additional guidance on expansion applications from established uses, while still meeting the requirements of the Land Use Code and the rural preservation mandates of the Boulder County Comprehensive Plan and applicable intergovernmental agreements; and

WHEREAS, therefore, action on the other elements of the Revised School Expansion Plan should await the outcome of such regulations, if the School desires to resubmit the other expansion elements in the Docket or a revised expansion proposal to the County for consideration after such regulations are enacted; and

WHEREAS, the School has accepted this partial approval of the Docket (enrollment increase of 40 students) on the record of the Public Hearing.

NOW, THEREFORE, BE IT RESOLVED that the Revised School Expansion Proposal is approved in part, as follows:

1. This approval allows an enrollment increase of 40 students, thereby raising the School's current enrollment cap from 420 students, to 460 students (in grades K-12). No proposed building expansions in the Docket are included in this approval. All other prior provisions constituting the County's approval of the School shall remain in full force and effect, with the one exception of this 40-student enrollment increase as permitted herein.
2. The approved 40-student enrollment increase is subject to the School's traffic not exceeding 1,552 average daily trips (ADTs) on an annual basis, based on three traffic counting episodes being taken per year, one of which shall be taken when seniors are off campus. Prior to recording the Development Agreement for this approval (see Condition #3, below), the School shall provide an acceptable plan for monitoring compliance with the 1,552 ADT traffic limit, which has been approved by the County Transportation Department.
3. Prior to initiating the approved enrollment increase, the School shall submit an amended Development Agreement (including the requirements in Condition #2, above) for approval by the County Land Use and Transportation Departments and the County Attorney's Office, and shall have the approved Agreement recorded in the real property records of Boulder County.
4. The vested right granted by and covering this partial approval (enrollment increase of 40 students) shall run for a period of three ~~(3) years, beginning on the date of~~ adoption of this Resolution as set forth below. The vested right shall expire immediately upon the running of this three-year period, unless the Board in its discretion approves an extension pursuant to the applicable provisions of the Land Use Code.
5. The School and any successor thereof shall be subject to and bound by the terms and conditions of this approval, and by the School's commitments of record as reflected in the Docket file.

A motion to grant a partial approval of the Docket (enrollment increase of 40 additional students), as stated above, was made by Commissioner Toor, seconded by Commissioner Domenico, and passed by a 3-0 vote of the Board.

ADOPTED this 26th day of January, 2010, nunc pro tunc the
8th day of December, 2009.

**BOARD OF COUNTY COMMISSIONERS
OF BOULDER COUNTY:**

Cindy Domenico

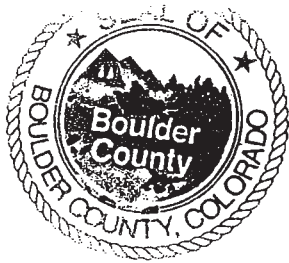
Cindy Domenico, Chair

Ben Pearlman

Ben Pearlman, Vice Chair

Will Toor

Will Toor, Commissioner



ATTEST:

Cecilia J. Lacey

Clerk to the Board



Transportation Department

2525 13th Street, Suite 203 • Boulder, Colorado 80304 • Tel: 303.441.3900 • Fax: 303.441.4594
Mailing Address: P.O. Box 471 • Boulder, Colorado 80306 • www.bouldercounty.org

Exhibit B

Below is the approved monitoring plan for the purposes of monitoring Average Daily Trips (ADT) at the Alexander Dawson School, as required by approving Resolution 2010-10, and as agreed to by the Alexander Dawson School and the Boulder County Transportation Department:

1. Alexander Dawson School will present an annual calendar of school days to the Boulder County Transportation Department before the start of the school year in question. This calendar will clearly indicate school holidays and vacations, as well as the time period during which seniors leave campus for senior projects.
2. The Boulder County Transportation Department will decide upon three periods of two days each for monitoring vehicle trips on Dawson Drive. At least one of these periods will occur when the seniors are not on campus, in accordance with Resolution 2010-10. Neither Boulder County Transportation Department nor the monitoring agent will inform the Alexander Dawson School in advance of the selected dates for monitoring.
3. The Boulder County Transportation Department will select the monitoring agent of its choice and the Alexander Dawson School agrees to pay the entire cost of monitoring for all three periods.
4. The Alexander Dawson School will receive data directly from the monitoring agent as soon as practicable after the conclusion of each monitoring period so that the school can have the opportunity to adjust policies and procedures appropriately.
5. As required by Resolution 2010-10, ADT may not exceed 1,552 trips. Recognizing that traffic on campus varies significantly daily (based upon activities on campus) and seasonally (based upon family needs and student ages) the ADT calculated during the monitoring periods will represent an average of the three periods recorded.
6. The Alexander Dawson School will submit the first report to the Boulder County Transportation Department no later than June 30, 2011, and all subsequent annual reports are due no later than June 30 of each year thereafter. This report will include a summary of results and a plan for addressing any excess ADT above goals as well as the unedited reports from each of the three monitoring periods.

RESOLUTION 2013-100

A RESOLUTION CONDITIONALLY APPROVING BOULDER COUNTY LAND USE DOCKET #SU-13-0002 ("ALEXANDER DAWSON SCHOOL SU/SSDP"): A REQUEST BY THE ALEXANDER DAWSON SCHOOL, LLC, FOR A SPECIAL USE REVIEW/SITE SPECIFIC DEVELOPMENT PLAN AMENDMENT TO DOCKETS #SU-95-12, #SU-97-02, AND SU-09-0007 TO EXPAND THE EXISTING SCHOOL FACILITY BY: (1) ADDING 30,712 SQUARE FEET OF NEW FLOOR AREA TO THE APPROVED 212,373 SQUARE-FOOT SCHOOL FACILITY (WHICH CONSISTUTES A 24,521 SQUARE-FOOT ADDITION TO THE SCHOOL AS ACTUALLY BUILT/MEASURED); (2) INCREASING STUDENT ENROLLMENT FROM THE EXISTING APPROVED LIMIT OF 460 STUDENTS IN GRADES K-12, TO 540 STUDENTS IN GRADES K-12; (3) ADDING 10 FACULTY AND STAFF, FOR A TOTAL OF 95 FACULTY/STAFF; AND (4) PERFORMING RELATED CAMPUS IMPROVEMENTS INCLUDING NEW LANDSCAPING AND CHANGES TO INTERNAL CIRCULATION AND PARKING, ON THE SCHOOL'S 93+-ACRE CAMPUS PROPERTY LOCATED AT 10455 DAWSON DRIVE, AND PARCEL NUMBER 146510000049, WEST OF U.S. HIGHWAY 287 AND APPROXIMATELY 1.5 MILES SOUTH OF LOOKOUT ROAD, IN SECTION 10, T1N, R69W, UNINCORPORATED BOULDER COUNTY

WHEREAS, in 1996, in Docket #SU-95-12 (memorialized in Resolution 96-26), the Board of County Commissioners of the County of Boulder ("the Board") approved a special use request by the Alexander Dawson Foundation/School ("the School" or "Applicant") , pursuant to Article 4-600 of the Boulder County Land Use Code ("the Land Use Code"), which authorized a major expansion of the School as first recognized by the Board in 1988 (Docket #SU-88-10), including an increase in student enrollment to 420 total students in grades K-12, with 85 faculty and staff; the construction of a new 30,000 square-foot gym; approval for new athletic fields and five tennis courts; renovation of the old gym into an arts center; construction of a new 19,000 square-foot elementary school; addition of 9,000 square feet to the upper classroom building and 5,600 square feet to the middle school; construction of five new faculty houses totaling 7,000 square feet; the expansion (in a companion docket) of the School's wastewater treatment system; and a subdivision exemption (in another companion docket) to create 11 residential

lots out of a 10-acre site, on the School's property which is located as generally described to the caption of this Resolution, above, in the Agricultural Zoning District in unincorporated Boulder County; and

WHEREAS, the Board approved the expansion of the School in Docket #SU-95-12, finding the expansion consistent with the applicable zoning special use criteria as well as with the designation of the School's property west of U.S. Highway 287 as Rural Preservation Area under the 1994 East Central Boulder County Comprehensive Development Plan Intergovernmental Agreement between the County, the City of Lafayette, and the Town of Erie ("the IGA"); and

WHEREAS, the IGA specifically allowed the County to approve applications for the expansion of the School on its Rural Preservation Area property west of U.S. 287, subject to the terms of the IGA; and

WHEREAS, in 1997, in Docket #SU-97-02 (memorialized in Resolution 97-92), the Board permitted certain requested revisions to the 1995-96 major expansion approval described above, allowing the School to retain two existing buildings consisting of 5,000 square feet; reducing the elementary school building by 2,000 square feet; deleting the 9,000 square feet previously approved for the upper campus buildings; amending the athletic field layout; and resulting in a total permitted floor area of 212,373 square feet and a total enrollment cap of 420 students; and

WHEREAS, in 2007 (Docket #SU-07-015), the School applied for another special use amendment, this time to add 42,910 square feet of floor area and increase student enrollment from 420 to 620 students, which request the Board denied in Resolution 2008-152; and

WHEREAS, in 2009 (Docket #SU-09-0007), the School applied for a special use amendment for a smaller expansion than had been requested in 2007, asking for 27,288 square feet of added floor area and an enrollment increase from 420 to 540 students;

and

WHEREAS, the Board approved only part of Docket #SU-09-0007 in Resolution 2010-10, allowing an enrollment increase of 40 students (up to a total of 460 students), but not permitting any building expansions or improvements, and also requiring that the School's traffic not exceed 1,552 average daily trips on an annual basis, as further provided in that approval; and

WHEREAS, in acting on Docket #SU-09-0007, the Board directed the Land Use Department to develop amended regulations for institutional special uses under the Land Use Code, to provide additional guidance on expansion applications from established uses, while still meeting the requirements of the Land Use Code and the rural preservation mandates of the Boulder County Comprehensive Plan and applicable intergovernmental agreements, with the idea that once more detailed Land Use Code special use amendments and criteria were adopted for institutional/community uses the School could reapply for its expansion plans; and

WHEREAS, effective November 4, 2010, through Docket #DC-09-0005, the Board adopted amendments establishing additional special use criteria, including specific floor area limitations for new and existing institutional and community uses and the expansion of those uses, as codified in Article 4-602.C. of the Land Use Code ("the 2010 Land Use Code Amendments"); and

WHEREAS, the present docket (Docket #SU-13-0002, or "the Docket"), constitutes the School's first re-application under the 2010 Land Use Code Amendments for an expansion of the School, now proposed to include the following elements: (1) the addition of 30,712 square feet of new floor area over the approved 212,373 square-foot School size (which constitutes a 24,521 square-foot addition over the actual floor area (218,564 square feet total) developed on the School property, with 6,191 square feet having been built above the currently approved School size of 212,373 square feet); (2) a student enrollment increase from the currently approved 460 students, to 540 students, in grades K-12; (3) an addition of 10 faculty/staff,

bringing the School's faculty/staff total to 95; and (4) the implementation of related campus improvements such as new landscaping, and changes to internal circulation and parking; and

WHEREAS, while the approved School use includes a K-12 curricular program that operates nine months out of the year with summer months off, the School for many years has conducted summer enrichment activities on campus that are subject to the special use permit's limits on total numbers of students and faculty/staff, on generated traffic, and on other School use activities and impacts; and

WHEREAS, the School also has made its facilities available to local club athletic teams and other community organizations, and while the special use permit's occupancy limits have not been expressly applied to these activities, the traffic they generate must meet the special use permit's trip generation limits, and such usage must comply with all other applicable special use requirements governing the School; and

WHEREAS, the current expansion proposal in the Docket is further described in the memorandum and recommendation of the Boulder County Land Use Department to the Board dated October 22, 2013, with its attachments ("the Staff Recommendation"); and

WHEREAS, on June 19, 2013, the Boulder County Planning Commission ("the Planning Commission") held a duly-noticed public hearing on the Docket, and by a unanimous vote recommended conditional approval of the Docket to the Board; and

WHEREAS, on October 22, 2013, 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 staff, representatives of the School, and two members of the public, all as further reflected on the official record of the Public Hearing; and

WHEREAS, based on the Public Hearing, the Board finds that the Staff Recommendation provides an appropriate analysis of the applicable special use criteria under the 2010 Land Use Coe Amendments, and that, subject to the conditions listed in this Resolution, below, the Docket meets the governing special use criteria and can be approved on that basis.

NOW, THEREFORE, BE IT RESOLVED that the Docket is approved, subject to the following conditions:

1. The Applicant shall provide a Development Agreement for the Docket for review, approval, and recordation by County staff, prior to the issuance of any grading or building permits for the proposed new construction, and prior to any student enrollment increase beyond the number of students (460) previously approved. The plans and drawings utilized as part of this review (amended as required) shall be included as exhibits to the Development Agreement. Notwithstanding this requirement the Applicant may, beginning in January, 2014, enroll no more than six (6) students above the 460-student cap imposed in Docket #SU-09-0007 (Resolution 2010-10), without recording the Development Agreement for this Docket (#SU-13-0002), provided that the Development Agreement for this Docket is recorded no later than June 30, 2014. If such recordation is not timely made, then the 460-student limit under Docket #SU-09-0007/Resolution 2010-10 shall come back into effect until recordation is accomplished.
2. No later than five (5) calendar years after the date of adoption of this Resolution as set forth below, the Applicant shall purchase the 13 required TDCs associated with the 6,191 square feet of existing floor area developed on the School property in excess of the prior approved 212,373 square feet, and provide proof to the Land Use Department of such purchase; or, in the alternative, and subject to obtaining the required County building permits, the Applicant may deconstruct existing floor area on the School property and obtain a corresponding reduction (based on one TDC per 500 square feet of floor area deconstructed)

in the number of TDCs required to cover the 6,191 square-foot amount. The TDCs required for all new floor area beyond the 6,191 square feet approved hereunder, shall be purchased before the County will issue building permits for the new floor area (with the required number of TDCs being one TDC per 500 square feet of floor area proposed in the applicable building permit application).

3. Prior to recordation of the Development Agreement, the Applicant shall apply for and receive a building permit for the conversion of 4826 Henderson Court structure from the illegal triplex to a duplex, or for the deconstruction of the structure.
4. The Applicant shall be subject to the adopted Boulder County Building Code and shall comply with the recommendations and requirements listed in the referral response dated February 27, 2013 from the Boulder County Building Safety and Inspection Services Team, which is part of the official Docket file.
5. The Applicant shall submit documentation from the Colorado Department of Public Health and Environment (CDPHE) confirming that the necessary wastewater treatment system capacity does exist and the Applicant is in compliance with its state wastewater permits, prior to recordation of the Development Agreement.
6. The proposed new outdoor learning pavilion shall be relocated and shall not be sited to the west of the existing buildings. A new location as recommended in the Staff Recommendation shall be reviewed and approved by the County Land Use staff prior to recordation, and the revised site plan shall be recorded with the Development Agreement. Specifically, staff recommends the area immediately west of the proposed orchard as a location for the pavilion.
7. The proposed glass cube entry feature on the east side of the new facade shall be removed from the design, and the elevation drawings shall be amended to reflect this change, prior to recordation with the Development Agreement.

8. The following traffic mitigation measures are required:
- a. The maximum allowable average daily trips (ADTs) on Dawson Drive at Hwy 287 shall be ~~4674~~
 - b. Traffic counts shall occur every two months, in September, November, January (in dry conditions as weather permits), March, May, and July.
 - c. Counts shall occur over a two-day period, either ~~Tuesday - Wednesday, or Wednesday - Thursday.~~
 - d. If a two-day count exceeds the maximum allowable ADTs, an additional five school day count shall be made to verify accuracy. If the additional five school day count indicates traffic counts are below the maximum allowable ADTs, those figures shall be used as the official ADT for that period. Otherwise, the process described below shall be followed.
 - i. Should the additional five school day count exceed the maximum allowable ADTs, the Applicant shall revise the TDM measures to come into compliance.
 - ii. Should the regular two-day count exceed the maximum allowable ADTs a second time, an additional five school day count shall be made to verify accuracy. The Applicant shall meet with the Transportation Department to revise the TDM program, should non-compliance continue.
 - iii. Should the regular two school day count exceed the maximum allowable ADTs a third time, an additional five-day count shall be made to verify accuracy. At this point, the Applicant shall not be able to obtain building permits and/or be eligible to apply for land use applications until the counts come back into conformance.
 - iv. If the Applicant believes there is unusual traffic (as would occur as a result of construction) from the subdivision, additional traffic counters may be placed at the access points for the subdivision. Future subdivision residences built shall deduct 10 ADTs per new residence from the total counts on Dawson Drive.
 - e. The Applicants shall be responsible for all traffic counting expenses required.

- f. Results of traffic counting episodes shall be reported immediately upon compilation of the data to the County Land Use and Transportation Departments.
- g. Prior to the commencement of the school year, the Applicant shall provide the County Land Use and Transportation Departments with a school calendar that details all special school events and identifies days when school will not be in session and details the use of the school by outside organizations.
- h. By June 30th of each year the, the Applicant shall provide the County Land Use and Transportation Departments with a calendar that details all summer activities and events and the use of the school grounds by outside organizations for the summer months.
9. The Applicant shall submit an annual report to the Transportation Department by June 30 of each year that (1) documents the enrollment at the beginning of each year, and all other activities that took place on campus during the year, the vehicle counts, and the calculated trip rate/student; (2) assesses whether the performance objective has been met in the prior year; (3) details the steps and content of the travel reduction program implemented in the previous year; and (4) specifies any additional steps being considered to accomplish the goal in the coming year. This report may also be requested as needed by the County Land Use or Transportation Department. If the performance objectives are not accomplished, Boulder County shall have the ability reduce student enrollment and/or to withhold building permits for any building/expansion, or take other necessary enforcement measures in order to achieve compliance with the performance objectives.
10. The School shall enact all reasonable measures to avoid the signalization of Dawson Drive, including restriction of the access to a ¾ access or other means acceptable to the Colorado Department of Transportation (CDOT).

11. The Applicant shall not exceed current levels of average energy use, by adopting energy conservation measures. The documented energy use of average electricity ~~(1,727,331 kW)~~ and natural gas use ~~(7,755 thermal units)~~ shall serve as a baseline and recommendations summarized in the Comprehensive Preliminary Feasibility Study and Carbon Neutral Capital Planning Report dated November 1, 2012 shall serve as an outline for a plan of action. Boulder County requires that accomplishment of the performance objectives be documented in an annual report, provided by June 30 of each year, to the County Land Use Department. The report shall (1) document the enrollment at the beginning of each year and all other activities that took place on campus during the year, and the associated energy use data; (2) assess whether the performance objective has been met in the prior year; (3) detail the steps implemented in the previous year; and (4) specify any additional steps being considered to accomplish the goal in the coming year. If the performance objectives are not accomplished, Boulder County shall have the ability reduce student enrollment and/or to withhold building permits for any building/expansion, or take other necessary enforcement measures in order to achieve compliance with the performance objectives.
12. The Applicant shall not exceed current levels of average monthly water use, by adopting a series of water conservation measures. The documented water use of ~~2,831,000 gallons per year~~ shall serve as a baseline and recommendations summarized in the Aquacraft, Inc. report dated August 23, 2012 shall serve as an outline for a plan of action. The Applicant shall also install an automatic cover for the swimming pool at the time of the pool's construction. Boulder County requires that accomplishment of the performance objectives be documented in an annual report, provided by June 30 of each year, to the County Land Use Department. The report shall (1) document the enrollment at the beginning of each year and all other activities that took place on campus during the year, and the associated water use data; (2) assess whether the performance objective has been met in the prior year; (3)

detail the steps implemented in the previous year; and (4) specify any additional steps being considered to accomplish the goal in the coming year. If the performance objectives are not accomplished, Boulder County shall have the ability reduce student enrollment and/or to withhold building permits for any building/expansion, or take other necessary enforcement measures in order to achieve compliance with the performance objectives.

13. Prior to the issuance of any grading or building permits, the Applicant shall provide a Final Drainage Report. The Applicant shall complete all of the drainage improvements identified in the Master Drainage Report for each phase of construction.
14. The Applicant shall comply with all applicable requirements of the State and County Health Departments as explained in the referral letter dated February 26, 2013 which is incorporated in the record as part of the Docket file.
15. The Applicant shall comply with all applicable requirements of the Mountain View Fire Protection District, including review and approval of all applicable requirements as they pertain to water supply, fire hydrant locations, fire department access, and building construction.
16. To minimize disturbances to the site, all utility service lines shall be routed underground and should be located in areas already disturbed or proposed to be disturbed (e.g., along driveways).
17. Prior to the issuance of a building permit (for each building/structure), one set of samples (color chips, brochure, or catalog page) of all exterior colors to be used including roof, siding and trim must be submitted to and approved by the Land Use Department. The proposed colors shall be chosen to ensure that they will be compatible with the area and will minimize the visual impact of the development.
18. Alexander Dawson School shall review the locations of all existing exterior lights and provide the Land Use Department with a site lighting plan which identifies the location of all exterior lighting, the removal of

key + take pictures - inventory where & what

not to be deleted

~~unnecessary lighting, and a plan for replacement of all exterior fixtures which do not meet current downlighting standards. The approved site lighting plan and replacement schedule (not to exceed three years) shall be provided for recordation with the Development Agreement.~~

19. Prior to the issuance of a building permit (for each building/structure), an exterior lighting plan for that structure shall be reviewed and approved. One copy of the proposed lighting plan with details for all exterior lighting must be submitted to and approved by the Land Use Department. Exterior lighting shall minimal and limited to that which is required by the adopted building code to ensure public health and safety. Down-lighting is required, and all bulbs must be fully shielded to prevent light emissions above a horizontal plane drawn from the bottom of the fixture. The lighting plan must indicate the location of all new or replacement exterior fixtures on the site and structure(s), and must include cut sheets (manufacturer's specifications with picture or diagram) of all proposed fixtures. Other lighting sources on the subject property (e.g., parking lot, yard) are also limited to a maximum of 12 feet in height above finished grade. Prior to final inspection or issuance of Certificate of Occupancy, the full installation of the approved lighting plan must be inspected and approved by the Land Use Department. Exterior lighting shall minimal and limited to that which is required by the adopted building code to ensure public health and safety.

20. ~~The Applicant shall complete the additional landscaping as shown on the revised Landscapes Plan dated 3/20/13. The Plan shall be updated to include a planting schedule and the revised plan shall be recorded with Development Agreement.~~ The Applicant shall preserve the existing trees and ground vegetation to provide visual screening from nearby areas, reduce soil erosion, and deter weed infestation.

21. Prior to the issuance of a building permit (for each building/structure), a Re-vegetation Plan must be submitted to and approved by the Land Use Department. Prior to final inspection or issuance of Certificate of Occupancy, the full installation of the landscaping and re-vegetation plan must be inspected and approved by the Land Use Department. If weather is not conducive to installing the re-vegetation and landscaping improvements or if adequate re-vegetation efforts have not occurred and vegetation and landscaping is not adequately established at the time of final inspection request, an irrevocable letter of credit or monies deposited into a County Treasurer account will be required to assure the success of re-vegetation and landscaping.
22. A silt barrier must be installed down slope of all disturbed areas prior to construction and maintained throughout the construction process until re-vegetation has been established. Silt barrier construction shall be in accordance with the Colorado Storm Water regulations. If any surface water is to be channeled around or through the disturbed areas, anchored hay bale dikes shall also be installed to filter and slow channeled flow.
23. The vested right granted for this Docket approval shall run for a period of three (3) years, beginning on the date of adoption of this Resolution as set forth below. The vested right shall expire immediately upon the running of this three-year period, unless the Board in its discretion approves an extension pursuant to the applicable provisions of the Land Use Code.
24. The School and any successor thereof shall be subject to and bound by the terms and conditions of this approval and by the School's commitments of record as reflected in the Docket file.

Standard

A motion to approve the Docket (#SU-13-0002), as stated above, was made by Commissioner Jones, seconded by Commissioner Gardner, and passed by a 3-0 vote of the Board.

THIS RESOLUTION 2013-100 ADOPTED as a final decision of the Board on this 5 day of November, 2013.

BOARD OF COUNTY COMMISSIONERS
OF BOULDER COUNTY:

Cindy Domenico

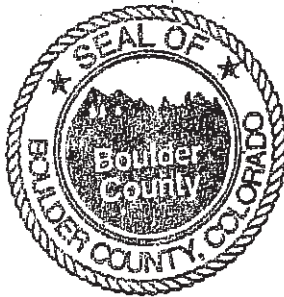
Cindy Domenico, Chair

Deb Gardner

Deb Gardner, Vice Chair

Elise Jones

Elise Jones, Commissioner



ATTEST:

Cecilia G. Lacey

Clerk to the Board



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

March 24, 2017

George Moore
 Alexander Dawson School
 10455 Dawson Drive
 Lafayette CO 80026

Re: MD-16-0020/SU-13-0002 Alexander Dawson School Modification Request Determination

Dear George,

Staff understands that the current modification proposal includes:

- Changes to the distribution of previously approved floor area amongst the existing buildings including the Middle School Annex Building and dugouts;
- Changes to the traffic circulation near the existing Middle School Annex Building, and;
- A request to again reset the benchmark for natural gas use.

In determining whether the proposed modification to a special use approval is minor or substantial, the Director considers the record of the special use approval, including any conditions, limitations, or agreements governing the approved special use and the nature, character, and extent of the land use impacts of the approved use. The following proposed modifications may be presumed substantial: changes in the use expressly approved, structural additions that exceed stated square footage limitations, and changes to express conditions or agreements. Other changes shall be considered substantial if they significantly alter the nature, character development or activity contemplated under the approved use.

The proposed changes include replacing the Middle School Annex building with a new dining commons building instead of the approved science building. This proposal changes the floor area from the previously-approved 20,730 square feet (15,725-square-foot ground floor and 5,005-square-foot basement) to 14,886 square feet (all above grade). The maximum height proposed will be 25 feet 4 inches. Figure 1 shows the original building in white, the approved new building footprint in dashed blue lines, and the currently proposed building footprint in yellow. The proposed footprint is smaller than the approved footprint, and is located in the same location as the existing building and in the location that was approved in the Development Agreement. Therefore, staff finds this change to be minor.

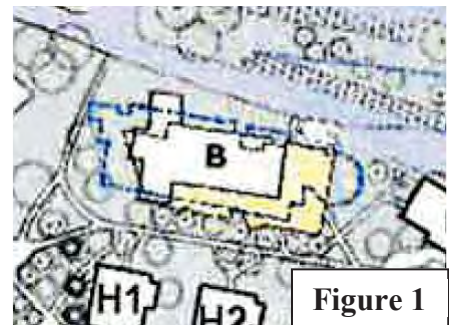


Figure 1

There are multiple mature deciduous trees within the footprint and surrounding the proposed structure which are proposed to be removed. In the Development Agreement recorded

12/10/2014, with reception number 03417388, a revegetation plan was approved. This revegetation plan shows several new trees, along with other existing trees to remain within this area. *To retain the intent of this revegetation plan and the Development Agreement, a new revegetation plan, which includes replacement of existing trees, must be approved prior to the issuance of any building permits for the new dining commons building.*

This proposal also includes additional square footage for the dugouts, which were built approximately 60 square feet larger than what was approved. The location remains the same and staff finds this to be a minor change to the Development Agreement.

The above changes will decrease the floor area from 240,445 square feet approved in the SU-13-0002 docket to 228,741 square feet.

It is also proposed to change the traffic circulation near the Middle School Annex building, as shown in pink in Figure 2. The Boulder County Transportation Department reviewed the proposed change and noted in their referral comments dated November 21, 2016, that the proposed change does not conflict with the Boulder County Transportation Standards and is found not to be a substantial change. The changes to the circulation are approved as proposed.

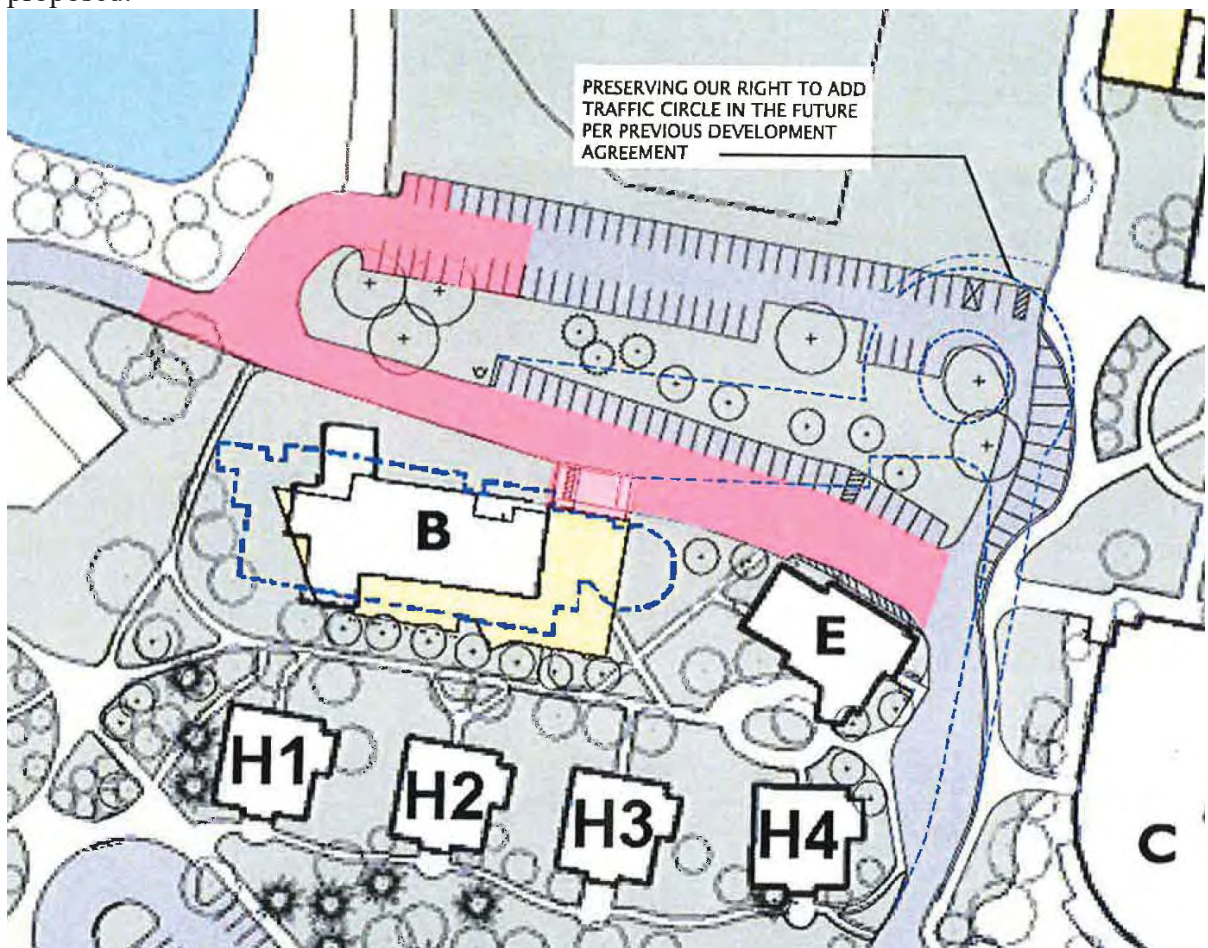


Figure 2

The last change proposed is the gas benchmark numbers. The Development Agreement, recorded 12/10/2014, with reception number 03417388, notes a benchmark of 8,524 thermal

units which the applicant cannot exceed. However, during the initial review for SU-13-0002, the benchmark was originally set at 7,755 thermal units in the resolution. The applicant, prior to the recordation of the Development Agreement, submitted additional information which demonstrated that its initial analysis submitted for energy use was incomplete and the numbers were updated. The applicant has stated that due to multiple gas providers there was no reliable way to verify the past usage for 2008-2012. Since the SU approval in 2014, the applicants have been documenting the gas usage and have received certified gas usage numbers from each provider. This information has shown that the 2008-2012 usage numbers were incomplete. The gas usage numbers provided by the applicant show a total of 9,819 dekatherms for 2013, 9,649 dekatherms for 2014, and 8,023 dekatherms for 2015. The applicant has requested the benchmark be reset at 9,164 dekatherms, which is the average of these three years. Staff believes that the applicant has been monitoring their usage, and has demonstrated the intent of Condition 11 is being met, and so finds that the revision of the benchmark to 9,164 dekatherms is a minor modification. Based on the information provided, staff believes that this new benchmark reflects the most accurate information available and therefore does not believe that any further revisions should be necessary. Therefore, this benchmark cannot be revised in the future.

In addition to the above, it was also discovered that the unit of measurement stated within the Development Agreement is incorrect. The measurement should have been dekathermal units, instead of thermal units. Based on the provided information, staff will be amending the Development Agreement to reflect the accurate gas usage benchmark.

As conditioned and stated above, staff finds the proposed changes to the approved Special Use Review, SU-13-0002: Alexander Dawson School SU/SSDP, to be minor in nature and within the intent of the approved Development Agreement.

If you have additional questions please do not hesitate to contact me at mmcnamara@bouldercounty.org or 720-564-2613.

Regards,



Michelle McNamara, Planner II

RESOLUTION 2018-23

A resolution conditionally approving Boulder County Land Use Docket SU-17-0004: Alexander Dawson School, LLC Special Use Review

Recitals

A. Alexander Dawson School LLC, and the Alexander Dawson Foundation (the “School” or “Applicant”), has requested approval of a use by special review under Article 4-600 (Uses Permitted by Special Review) of the Boulder County Land Use Code (the “Code”) to revise the previously approved Special Use Review, SU-13-0002, to allow a revision of the overall master plan of the campus on three parcels totaling approximately 94.28 acres.

B. The property is located at 710455 Dawson Drive¹, approximately 4,000 feet south of the intersection of Lookout Road and Dawson Drive, in Section 10, Township 1 North, Range 69 West, in the Agricultural zoning district of unincorporated Boulder County (the “Property”).

C. The Property is comprised of approximately 94 acres and houses the Alexander Dawson School. Through previous approvals,² the School has been approved for a total of 243,085 square feet of floor area. Based on these previous approvals, the school is limited to a maximum of 540 students in grades K through 12. The property is located in the Agricultural zoning district and is within a designated Rural Preservation Area of the Boulder County Countywide Coordinated Development Plan (IGA). The current request includes the revision of the master plan approved in 2013 to rearrange and decrease to total overall approved floor area from 243,085 square feet to 239,055 square feet.

D. In 1996, in Docket #SU-95-12 (memorialized in Resolution 96-26), the Board of County Commissioners of the County of Boulder (the “Board”) approved a special use request by the Applicant pursuant to Article 4-600 of the Code, which authorized a major expansion of the School as first recognized by the Board in 1988 (Docket SU-88-10), including an increase in student enrollment to 420 total students in grades K-12, with 85 faculty and staff; the construction of a new 30,000 square-foot gym; approval for new athletic fields and five tennis courts; renovation of the old gym into an arts center; construction of a new 19,000 square-foot elementary school; addition of 9,000 square feet to the upper classroom building and 5,600 square feet to the middle school; construction of five new faculty houses totaling 7,000 square feet; the expansion (in a companion docket) of the School’s wastewater treatment system; and a subdivision exemption (in another companion docket) to create 11 residential lots out of a 10-acre site.

¹Boulder County Assessor Parcel Nos.: 146510000036, 146510000049, 146510000055

²Boulder County Land Use Dockets SU-88-10 as amended, SU-95-12, SU-97-02, SU-09-0007, and SU-13-0002

E. The Board approved the expansion of the School in Docket SU-95-12, finding the expansion consistent with the applicable zoning special use criteria as well as with the designation of the School's property west of U.S. Highway 287 as Rural Preservation Area under the 1994 East Central Boulder County Comprehensive Development Plan Intergovernmental Agreement between the County, the City of Lafayette, and the Town of Erie ("the IGA"). The IGA specifically allowed the County to approve applications for the expansion of the School on its Rural Preservation Area property west of U.S. 287, subject to the terms of the IGA.

F. In 1997, in Docket SU-97-02 (memorialized in Resolution 97-92), the Board permitted certain requested revisions to the 1995-96 major expansion approval described above, allowing the School to retain two existing buildings consisting of 5,000 square feet; reducing the elementary school building by 2,000 square feet; deleting the 9,000 square feet previously approved for the upper campus buildings; amending the athletic field layout; and resulting in a total permitted floor area of 212,373 square feet and a total enrollment cap of 420 students.

G. In 2007 (Docket SU-07-015), the School applied for another special use amendment, this time to add 42,910 square feet of floor area and increase student enrollment from 420 to 620 students, which request the Board denied in Resolution 2008-152.

H. In 2009 (Docket SU-09-0007), the School applied for a special use amendment for a smaller expansion than had been requested in 2007, asking for 27,288 square feet of added floor area and an enrollment increase from 420 to 540 students. The Board approved only part of Docket SU-09-0007 in Resolution 2010-10, allowing an enrollment increase of 40 students (up to a total of 460 students), but not permitting any building expansions or improvements, and also requiring that the School's traffic not exceed 1,552 average daily trips on an annual basis, as further provided in that approval.

I. In acting on Docket SU-09-0007, the Board directed the Land Use Department to develop amended regulations for institutional special uses under the Land Use Code, to provide additional guidance on expansion applications from established uses, while still meeting the requirements of the Land Use Code and the rural preservation mandates of the Boulder County Comprehensive Plan and applicable intergovernmental agreements, with the idea that once more detailed Land Use Code special use amendments and criteria were adopted for institutional/community uses the School could reapply for its expansion plans.

J. Effective November 4, 2010, through Docket DC-09-0005, the Board adopted amendments establishing additional special use criteria, including specific floor area limitations for new and existing institutional and community uses and the expansion of those uses, as codified in Article 4-602.C. of the Land Use Code ("the 2010 Land Use Code Amendments").

K. It was under the 2010 Land Use Code amendment that the school submitted a new special use review in 2013 (SU-13-0002), to increase the number of students approved in 2009 from 460 students to 540 and to increase the approved floor area from 212,373 square feet, approved in 1997, to 243,085 square feet. The cap on faculty was removed and extra activities were approved to occur on the campus, predominately outside normal school hours. These uses included summer enrichment activities for local children, an academic and leadership program for middle school students, and rental of the athletic facilities to local club athletic teams and other organizations. SU-13-002 also approved changes to the onsite transportation facilities which updated the traffic flow, parking, and imposed a traffic count cap which was designed to encourage alternative modes of transportation in and out of the school and to help prevent a traffic light being installed on Highway 287. In addition to the approval of the transportation facilities, energy consumption caps were also imposed to encourage further conformance with the goals of the Comprehensive Plan and to address previous concerns regarding the urban nature of the use. The current proposal would revise the 2013 approval, with the recommendation that the approved conditions stated within the recorded Development Agreement associated with the 2013 approval continue to be imposed.

L. In 2016 the school requested two minor modification requests. The first modification was denied since it was found to significantly alter the approved master plan of 2013 and therefore, was not found to be minor in nature. The second minor modification altered the gas consumption cap, the traffic flow around the school, and revised some floor area. Specifically, the modification updated the gas energy consumption numbers from 8,524 thermal units to 9,164 dekatherms. Through information provided staff was able to conclude that the originally approved 8,534 thermal units was inaccurate and the number was revised to reflect the average of three years of gas consumption records. The “deka” unit was added to correct the unit of measurement since thermal units was found to be inconsistent with the unit of measurement described on their energy bills. The 20,730-square foot MS (Middle School) Annex building was replaced with a 14,886-square-foot Dining Commons building (currently under construction), and the Gym had two small additions approved along with the dugouts for the baseball fields. Overall, the proposed changes to the total floor area approved in 2013 decreased from 243,085 square feet to 228,271 square feet, which the applicant could not exceed without a Special Use Review. Since staff found this modification to be minor in nature, it was approved with conditions. Staff recommended that the current docket impose all the conditions listed within the 2016 Minor Modification approval, including the gas consumption maximum.

M. The current proposal, SU-17-0004, changes the master plan of the campus approved in 2013 and 2016, shown in [Figure 1, Exhibit A](#), by rearranging floor area to accommodate the educational needs of the school. The total floor area is proposed to decrease from the 2013 approved 243,085 square feet, but increase the approval 2016 Minor Modification maximum of 228,271 square feet. The total amount of square feet proposed is 239,055 square feet. The number of students will not increase and will remain at a maximum of 540 students.

N. The floor area will be rearranged to accommodate a new building called the Innovation Center as shown in Figure 2, Exhibit B. The Innovation Center is the largest orange building in Figure 2. This building has been clustered within the existing campus to minimize the impacts to the surrounding area while allowing for reasonable growth. The proposed master plan increases the size of the Art Center by adding 5,270 square feet with a maximum height of 36 feet, shown at the bottom of Figure 2, and moves the existing pool, currently attached to the Arts Center, to be clustered with the Gym, the largest building at the top of Figure 2. The areas in orange in Figure 2 show the changes proposed to the existing campus. Figure 3, Exhibit C is a detailed inventory of the existing floor area, approved in 2013 and 2016, compared to the floor area in the current proposal. The proposed revision of the existing floor area removes seven out of eight existing residences on the property closest to Highway 287. These structures are the most visible to Highway 287 and, therefore, cause the most visual impacts to the View Protection Corridor. The Applicant has stated that their goal is to comply with the goals of the Comprehensive Plan to the greatest extent possible and to minimize their visual impact to the surrounding area. The removal of these residences will also open up additional available floor area for future campus development. The other additions proposed, including the additions to the Gym and the Concessions were not found to compromise the character of the area since they would be located furthest away from residential neighborhoods and would not be visible to the highway.

O. The Applicant has proposed to increase the existing parking from 286 spaces approved in 2013 to 357 spaces. This increase will accommodate the increase in class rooms proposed. Most of this parking is proposed on the east side of campus in the location of the residences proposed to be removed, as shown in Figure 2. Other parking changes include the parking area on the east side of the Innovation Center, the parking lot west of Henderson Hall and parking near the Dining Commons. The traffic flow is proposed to remain as approved within the 2016 minor modification and will remain as one-way traffic moving counterclockwise around the campus. Additional landscaping is proposed to continue to minimize visual impacts to the surrounding area and is specifically targeted to minimize the visual impacts of the Innovation Center and the eastern parking lot.

P. The above described request was processed and reviewed as Boulder County Land Use Docket SU-17-0004 (the "Docket"), as further described in the memorandum and written recommendation to the Board of County Commissioners (the "Board") by Boulder County Land Use Department Planning staff dated January 9, 2018, together with its attachments (the "Staff Recommendation"). The Staff Recommendation found that the docket could meet the criteria for approval, and therefore, recommended that the Board conditionally approve the Docket.

Q. On October 18, 2017, the Boulder County Planning Commission (“the Planning Commission”) held a duly-noticed public hearing on the Docket, and unanimously recommended conditional approval of the Docket to the Board.

R. At a public hearing on the Docket held January 9, 2018, as further reflected in the official record of the hearing, the Board considered the Staff Recommendation as well as the documents and testimony presented by County Land Use Planning staff, the Applicant, and one member of the public (the “Public Hearing”).

S. Based on the Public Hearing, the Board finds that the Docket meets the criteria for special use review as set forth in Article 4-601 of the Code, as well as the applicable additional criteria in 4-602(C) for Community Uses classified as an Educational Facility contained in 4-504(E) of the Code. Therefore, the use can be approved, subject to the conditions listed below.

Therefore, the Board resolves:

Docket SU-17-0004 is approved on the basis and terms set forth in this Resolution, above, and subject to the following conditions:

1. The Applicant shall provide a development agreement, for review and approval by County staff, prior to the issuance of any permits by the Boulder County Land Use Department and prior to the recordation of said agreement. The Development Agreement shall encompass all applicable terms and conditions of the Docket still in effect.
2. The Applicant is subject to all applicable County Building Safety and Inspection Services Team requirements for a building permit.
3. Prior to the issuance of any building permits the Applicant shall submit for review and approval by Land Use Staff a proposed route for materials to be brought onto and hauled off the subject property. In addition, a traffic control plan to govern operations during all construction projects shall be submitted.
4. Prior to the issuance of any building permits the Applicant shall ensure that all necessary permits for stormwater is obtained as stated in Boulder County Department of Transportation’s referral comments dated September 14, 2017.
5. Prior to the issuance of any building permits for the Arts Center a revegetation, and tree protection plan must be submitted for review and approval by Land Use Department staff.

6. Prior to the issuance of any building permits associated with the parking or construction of the Innovation Center a revegetation and landscape plan shall be provided for review and approval by Land Use Department staff.

7. Water usage shall be submitted annually, by June 30th, to ensure continued compliance. This will also include natural gas and energy usage.

- a. The energy usage reduction plan should continue to be implemented as stated in the recorded 2013 Development Agreement and updated within the 2016 approved minor modification.
- b. To ensure that the Applicant continues to comply with the 2013 goal of a 27% reduction, and annual reports shall continue to be submitted by June 30 of each year as stated in the 2013 recorded development agreement condition 11.
- c. The natural gas consumption usage shall not exceed 9,164 dekatherms, as stated in the 2016 Minor Modification approval.

8. Prior to any permits associated with the eastern parking lot are issued, a landscape plan and revegetation plan shall be submitted for review and approval by Land Use Department staff.

9. Prior to the recordation of the development agreement, an engineered drainage plan shall be submitted for review and approval by Land Use Department staff.

10. Prior to the issuance of all building permits, a revegetation plan shall be submitted for review and approval by Land Use Department staff showing the locations of silt fencing, revegetation of the undergrounding of utilities, and addressing the noise and visual impacts to the western neighbors.

11. The landscaping plan shall be included as an exhibit with the development agreement but shall be updated to include a planting schedule and timeline for full implementation.

12. Prior to the issuance of building permits, the Applicant shall provide a grading and drainage plan to be reviewed and approved by the Transportation Department.

13. Prior to the issuance of building permits, one set of samples (color chips, brochure, or catalog page) of all exterior colors to be used (including roof, siding and trim) must be submitted to and approved by the Land Use Department. The proposed colors shall be chosen to ensure that they will be compatible with the area and will minimize the visual impact of the development.

14. Prior to the issuance of building permits, a lighting plan associated with each new construction area shall be submitted for review and approval by Land Use Department staff to ensure that the proposed lighting continues to adhere to this approval.

15. The approved traffic control plan from 2013 shall be adhered to and continued traffic studies shall continue as outlined below:

- a. The maximum allowable ADT shall be 1,674.
- b. Counts shall occur every two months in September, November, January (dry conditions count as weather permits), March, May, July.
- c. Counts shall occur over a two-day period, either Tuesday – Wednesday or Thursday – Friday.
- d. If a two-day count exceeds the maximum allowable ADT, an additional five school day count shall be made to verify accuracy. If the additional five school day count indicates traffic counts are below the maximum allowable ADT, those figures shall be used as the official ADT for that period. Otherwise, the process described below shall be followed.
 - i. Should the additional five school day count exceed the maximum allowable ADT, the Applicant shall revise the TDM measures to come into compliance.
 - ii. Should the regular two-day count exceed the maximum allowable ADT a second time, an additional five school day count shall be made to verify accuracy. The Applicant shall meet with the Transportation Department to revise the TDM program, should non-compliance continue.
 - iii. Should the regular two school day count exceed the maximum allowable ADT a third time, an additional five-day count shall be made to verify accuracy. At this point, the Applicant shall not be able to obtain building permits and/or be eligible to apply for land use applications until the counts come back into conformance.
 - iv. If the Applicant believes there is unusual traffic (as would occur as a result of construction) from the subdivision, additional traffic counters may be placed at the access points for the subdivision. Future subdivision residences built shall deduct 10 ADT per new residence from the total counts on Dawson Drive.
- e. The Applicant shall be responsible for all traffic counting expenses required.
- f. Results of traffic counting episodes shall be reported immediately upon compilation of the data to the County Land Use and Transportation Departments.
- g. Prior to the commencement of the school year, the Applicant shall provide the County Land Use and Transportation Departments with a school calendar that details all school special school events and identifies days when school will not be in session and details the use of the school by outside organizations.
- h. By June 30th of each year the, the Applicant shall provide the County Land Use and Transportation Departments with a calendar that details all summer activities and events and the use of the school grounds by outside organizations for the summer months.

- i. An annual report related to compliance with these requirements shall be provided by June 30th each year.
- j. Carpool space locations shall be indicated on the final plans submitted for Building Permit. Spaces designated for carpool vehicles shall be placed closest to the structures. Carpool spaces shall be signed.

16. The Applicant shall comply with all applicable requirements of the State and County Health Departments.

17. Prior to the issuance of a building permit, the Applicant must purchase the required amount of Transferrable Development Credits to accommodate the additional 26,682 square feet of floor area is proposed in addition to the approved and grandfathered 212,373 square feet. Fifty-four (54) transferable development credits would be required for this proposed project³. The TDC Clearinghouse will provide you with information on Boulder County's new TDC program, help you to obtain TDC Certificates for sale or purchase, and facilitate the market for TDCs. See <https://www.bouldercounty.org/property-and-land/land-use/planning/transferable-development-credits-tdc/marketplace/> for more information.

18. The Applicant shall be subject to the terms, conditions and commitments of record and in the file for Docket SU-17-0004: Alexander Dawson School Special Use Review, including those conditions imposed by prior approvals still in effect.

[Signature Page to Follow]

³ In 2015, the School purchased 23 TDC's which exceeded the 2013 requirement for 13 TDC's to be purchased. The remainder of the TDCs shall be purchased prior to the issuance of building permits for new development (with the required number of TDCs being one TDC per 500 sq. ft. of floor area proposed in the applicable building permit application).

A motion to approve the Docket was made by Commissioner Jones, seconded by Commissioner Gardner, and passed by a 3-0 vote.

ADOPTED as a final decision of the Board on this 8th day of February 2018.

**BOARD OF COUNTY COMMISSIONERS
OF BOULDER COUNTY:**



Handwritten signature of Cindy Domenico in blue ink.

Cindy Domenico, Chair

Handwritten signature of Elise Jones in blue ink.

Elise Jones, Vice Chair

Handwritten signature of Deb Gardner in blue ink.

Deb Gardner, Commissioner

ATTEST:

Handwritten signature of Cecilia S. Jacey in blue ink.
Clerk to the Board

Exhibit A

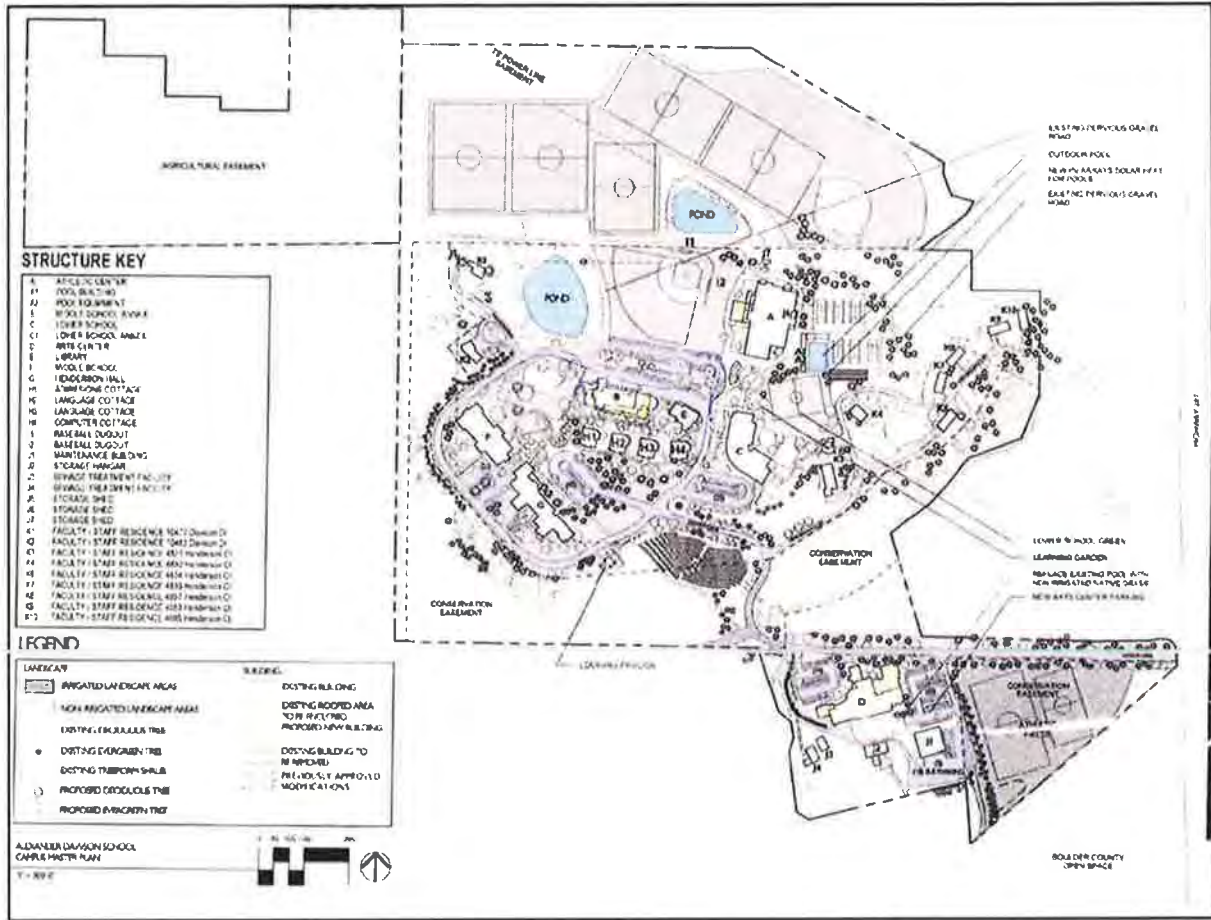


Figure 1 - Approved Master Plan from 2013 and 2016

Exhibit B

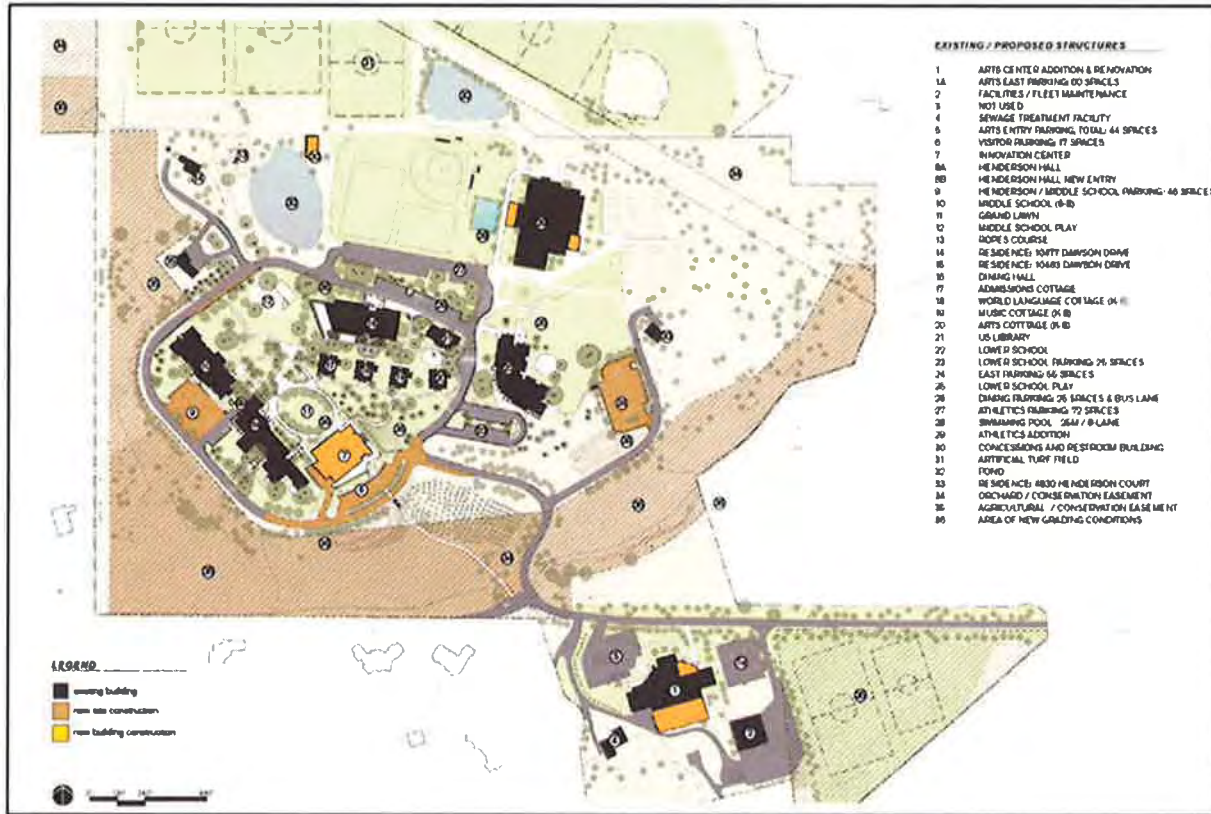


Figure 2 – Proposed Master Plan

Exhibit C

Building	Existing Floor Area Approved in square feet	Proposed Floor Area in square feet
Gym	32,309	31,695
Pool Building	864	0
Pool Equipment Building	324	0
MS Annex Building	20,730	0
Dining Commons	0	14,886
Lower School	20,709	20,709
LS Annex	1,200	0
Arts Center	25,833	31,103
Library	6,052	6,052
MS Building	16,242	16,242
Henderson Hall	57,312	57,562
Admissions Cottage	2,588	2,588
Cottage-FL	2,588	2,588
Cottage-FL	5,102	5,102
Cottage-FL	2,588	2,588
Dugout	360	420
Dugout	360	420
Outdoor Learning Pavilion	1,557	0
Maintenance Building	7,067	7,067
Storage Hanger	3,111	0
Sewage Treatment Facility	5,378	5,378
Storage Shed	80	80
Storage Shed	120	120
Storage Shed	336	336
House – 10477 Dawson Drive	1,813	1,813
House – 10463 Dawson Drive	3,898	3,898
House – 4830 Henderson Court	2,668	2,668
House – 4834 Henderson Court	2,548	0
House – 4839 Henderson Court	3,072	0
House – 4857 Henderson Court	3,072	0
House – 4863 Henderson Court	3,072	0
House – 4821 Henderson Court	3,026	0
House – 4826 Henderson Court	0	0
House – 4885 Henderson Court	2,954	0
Innovation Center	0	24,500
Concession Building	0	1,240
Total Floor Area	240,445 square feet (Approved total in 2013 was 243,085)	239,055 square feet

Figure 3 – Floor Area Inventory

Year	Electricity Usage (kW)	Changes over previous year	Compared to Target (1,727,331 kW)
2013	1,679,899	N/A	(47,432)
2014	1,457,386	-222,513	(269,945)
2015	1,418,283	-39,103	(309,048)
2016	1,314,767	-103,516	(412,564)
2017	1,317,317	2,550	(410,014)
2018	1,321,885	4,568	(405,446)
2019	1,330,078	8,193	(397,253)
2020	1,065,757	-264,321	(661,574) (COVID year)
2021	1,476,242	146,164	(251,089) Change compared to 2019

Year	Natural Gas (dekatherms)	Changes over previous year	Compared to Target (7,744 between 2013 - 2017; 9,164 since 2018)
2013	9,819	N/A	2,075
2014	9,649	-170	1,905
2015	8,023	-1,626	279
2016	7,553	-470	(191)
2017	7,528	-25	(216)
2018	9,207	1,679	43
2019	9,571	364	407
2020	7,689	-1,882	(1,475) (COVID year)
2021	9,175	396	11 Change compared to 2019

Year	Water Usage (gallons)	Changes over previous year	Compared to Target (2,831,000)
2013	2,485,000	N/A	(346,000)
2014	2,323,000	-162,000	(508,000)
2015	3,612,000	1,289,000	781,000 (Overage due to water leak)
2016	2,203,000	-1,409,000	(628,000)
2017	2,499,000	296,000	(332,000)
2018	1,970,018	-528,982	(860,982)
2019	1,785,019	-184,999	(1,045,981)
2020	1,200,020	-584,999	(1,630,980) (COVID year)
2021	1,620,021	-164,998	(1,210,979) Change compared to 2019

Dates	ADTs	Compared to Target (1,674)
March 29-30, 2016	1,467	(207)
May 1-2, 2016	1,357	(317)
July 6-7, 2016	611	(1,063)
Sept. 28-29, 2016	1,824	150
October 3-7, 2016	1,438	(236)
Nov. 15-16, 2016	1,432	(242)

January 17-19, 2017	1,586	(88)	
March 7-8, 2017	1,554	(120)	
May 10-11, 2017	1,409	(265)	
July 5-6, 2017	798	(876)	
September 20-21, 2017	1,549	(125)	
November 28-29, 2017	1,608	(66)	
Jan. 2018			No count due to weather
March 20-21, 2018	1,082	(592)	
May 8-9, 2018	1,351	(323)	
July 24-25, 2018	1,338	(336)	
September 18-19, 2018	1,676	2	
November 28-29, 2018	1,559	(115)	
Jan. 2019			No count due to weather
March 26-27, 2019	1,364	(310)	
May 7-8, 2019	1,292	(382)	
July 9-10, 2019	1,376	(298)	
September 24-25, 2019	1,556	(118)	
November 21-22, 2019	1,442	(232)	
January 21-22, 2020	1,532	(142)	
Mar. 2020			COVID - no school
May. 2020			COVID - no school
July 21-22,2020	540	(1,134)	
September 22-23, 2020	1,544	(130)	
November 17-18, 2020	792	(882)	
January 20-21, 2021	1,344	(330)	
March 9-10, 2021	1,382	(292)	
May 18-19, 2021	1,556	(118)	
July 6-7, 2021	493	(1,181)	
August 25-26 2021	1,492	(182)	
November 23-24, 2021	264	(1,410)	

Dawson School Expansion

Traffic Impact Study

Boulder County



Date: March 9, 2023

Submitted To:

Dawson School
10455 Dawson Drive
Lafayette, Colorado 80026

Submitted By:

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



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- Level of Service Definitions
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DAWSON SCHOOL EXPANSION TRANSPORTATION SYSTEM IMPACT STUDY

1.0 INTRODUCTION

This transportation system impact study has been prepared by the Fox Tuttle Transportation Group, LLC for the Dawson School Expansion project located at the existing Alexander Dawson School campus along US 287 in Boulder County. The purpose of this study is to identify any potential traffic impacts and to recommend traffic mitigation measures that may be needed with development of the project as proposed. This study addresses short-term, build out (Year 2033) and 20-year, long-term (Year 2043) traffic conditions without and with the proposed site development. Weekday morning (AM) and afternoon (PM) peak hours were considered for site specific impacts as these periods correspond with the peak school ingress and egress traffic periods.

This study has been prepared consistent with the Boulder County Multimodal Transportation Standards requirements and previous traffic studies prepared for the campus.

2.0 PROJECT DESCRIPTION

The Alexander Dawson School campus is located at 10455 Dawson Drive, which connects along the west side of US 287 roughly 0.75 miles south of Lookout Road. The site vicinity map is shown on **Figure 1**. The project is proposing to expand the school from an allowable 540 students to 700 students over the next 10-20 years.

The site is served by a single, unsignalized full-movement access (Dawson Drive) along US 287. No new access is currently proposed with the campus expansion. The project vicinity includes existing residential and agricultural land uses.

3.0 EXISTING AND FUTURE BACKGROUND TRAFFIC CONDITIONS

3.1 Existing Circulation Network

Descriptions of the existing roadways that serve the site are presented below.

US 287 is a regional highway that provides north-south access through eastern areas of Boulder County and beyond. This roadway is categorized as an RA facility per the Colorado Department of Transportation (CDOT) Access Category Assignment Schedule. US 287 has two through lanes in each direction plus a center left-turn lane throughout the project vicinity. Existing acceleration and deceleration lanes currently exist northbound and southbound on US 287 for the left and right turn movements at Dawson Drive. The posted speed limit on US 287 is 60 miles per hour (mph) within the project vicinity.

Lookout Road is a two-lane rural arterial that provides east-west access in the site vicinity. Lookout Road extends west from N. 115th Street (east of US 287) to N. 63rd Street in Gunbarrel. The posted speed limit on Lookout Road is 50 mph within the site vicinity. The Lookout Road / US 287 intersection is controlled with a traffic signal.

Jasper Road is a two-lane rural arterial that provides access between US 287 and the Town of Erie to the east. The Jasper Road / US 287 intersection is controlled with a stop sign on the Jasper Street approaches.

Dawson Drive is a two-lane roadway that provides direct access to the Dawson School campus. The intersection of Dawson Drive with US 287 is controlled with a stop sign on the Dawson Street approach. The posted speed on Dawson Drive is 15 mph.

3.2 Existing Traffic Volumes

Existing weekday daily and peak hour intersection volumes were compiled from the following sources:

- School-day daily volume counts collected on Dawson Drive as part of the school's transportation and demand management performance evaluations between 2016-2021
- Peak hour turning movement counts collected at the Lookout Road/US 287 and Jasper Road/US 287 intersections in December 2022 and January 2023 during typical school day conditions with classes in full session
- Colorado Department of Transportation (CDOT) AADT count data on US 287

Morning (AM) and afternoon (PM) peak periods were counted to coincide with school opening and closing times. The existing/historic daily and AM / PM peak hour traffic volumes and lane configurations are illustrated on **Figure 2**.

The traffic data collected by Fox Tuttle, the school, and County since 2016 is summarized on **Table 1**. The driveway count data indicates that there are an average of 1,475 trips on Dawson Drive on a typical weekday when school is in session. Current enrollment is 540 students. This accounts for the school's Green Ride (bus ridership) and carpooling Transportation Demand Management (TDM) outreach efforts.

Table 1: Historical Daily Traffic Volume on Dawson Drive

Dates	ADTs (veh per day)
March 29-30, 2016	1,467
May 1-2, 2016	1,354
September 28-29, 2016	1,824
October 3-7, 2016	1,438
November 15-16, 2016	1,432
January 17-19, 2017	1,586
March 7-8, 2017	1,554
May 10-11, 2017	1,409
September 20-21, 2017	1,549
November 28-29, 2017	1,608
March 20-21, 2018	1,082
May 8-9, 2018	1,351
September 18-19, 2018	1,676
November 28-29, 2018	1,559
March 26-27, 2019	1,364
May 7-8, 2019	1,292
September 24-25, 2019	1,556
November 21-22, 2019	1,442
January 21-22, 2020	1,532
September 22-23, 2020	1,544
January 20-21, 2021	1,344
March 9-10, 2021	1,382
May 18-19, 2021	1,556
August 25-26 2021	1,492
School-Day Average 2016-2021	1,475

3.3 Existing Intersection Capacity Analysis

In determining the operational characteristics of an intersection, “Levels of Service” (LOS) A through F are applied, with LOS A indicating very good operations and LOS F indicating congested operations. Overall intersection LOS A through LOS D is typically considered acceptable operation, while LOS E and LOS F often require some level of mitigation. Individual movements may commonly operate at LOS E/F in some peak hours, such as unsignalized

approaches to major roadways (that do not meet signal warrant thresholds) and protected-only left-turn movements at high volume intersections. Criteria contained in the Highway Capacity Manual (HCM) was applied to study area intersections using Synchro (v11) software in order to determine existing levels of service during peak hour periods. Additional discussion of LOS methodology is contained in the Appendix for reference.

Intersection capacity analyses were conducted with the existing peak hour traffic volumes and lane geometry shown on **Figure 2**. The intersection LOS and queue calculation worksheets are attached in the Appendix. The intersections LOS and 95th percentile queues are summarized for each location in **Table 2** and **Table 3**, respectively.

The data in the level of service summary table illustrates that, with existing peak hour volumes and lane geometry, all study area intersections are operating acceptably overall. However, side street delays at the Dawson Drive intersection are estimated LOS F in the AM and PM peak hours and at LOS F at Jasper Road/US 287 in the AM and PM peak hours. LOS E and LOS F are not uncommon for minor street approaches entering a major roadway. Neither Dawson Drive nor Jasper Street meets the four and/or eight-hour MUTCD signal warrants that CDOT would require for signalization.

The eastbound left + through lane at the Lookout Road & US 287 is shown to operate at LOS F in the PM peak hour with existing volumes. These volumes and delays suggest the need for the addition of an exclusive westbound left-turn lane at this intersection. To mitigate this existing deficiency, it is assumed that separate eastbound and westbound left-turn lanes are implemented by the 2033 and 2043 background traffic scenarios.

3.4 Background Traffic Growth Methodology

In order to estimate short-term and long-term future background traffic growth in the study area, historic CDOT growth factors along US 287 were reviewed and applied for this analysis. Based on the CDOT 20-year growth factor of 1.27, it is estimated that background daily traffic along US 287 will grow by approximately 1.2% annually within the study area.

These growth rate assumptions were applied to the existing traffic volumes to estimate the short-term and long-term background traffic volumes. As discussed earlier in this report, the Dawson School expansion is anticipated to take place over the next ten years. Thus, for the short-term, build out scenario, the Year 2033 was assumed.

For the 20-year, long-term analysis, the Year 2043 was assumed. Using the growth rate assumptions and methodology discussed above, weekday daily and AM / PM peak hour intersection volumes were estimated for the Year 2033 and Year 2043 background scenarios.

These traffic volumes and assumed background lane geometry are shown on **Figure 3** and **Figure 4** for the 2033 background and 2043 background scenarios, respectively.

3.5 Year 2033 Background Intersection Capacity Analysis

Intersection capacity analyses were conducted with the Year 2033 background peak hour traffic volumes and lane geometry shown on **Figure 3** and using the capacity analysis methodology previously discussed. The intersection LOS and queue calculation worksheets are attached in the Appendix. The intersections LOS and 95th percentile queues are summarized for each location in **Table 2** and **Table 3**, respectively.

The data in the level of service summary table illustrates that, with Year 2033 background peak hour volumes and lane geometry, all study area intersections will continue to operate acceptably overall. As noted for the existing conditions, side street delays at the Dawson Drive intersection are estimated LOS F in the AM and PM peak hours and at LOS F at Jasper Road/US 287 in the AM and PM peak hours. LOS E and LOS F are not uncommon for minor street approaches entering a major roadway, and neither intersection meets minimum volumes for signalization per peak hour warrant analysis for this scenario. Per discussions of the existing conditions, it was assumed that separate eastbound and westbound left-turn lanes at the Lookout Road & US 287 intersection would be in place by the 2033 scenario to mitigate existing deficiencies.

3.6 Year 2043 Background Intersection Capacity Analysis

Intersection capacity analyses were conducted with the Year 2043 background peak hour traffic volumes and lane geometry shown on **Figure 4** and using the capacity analysis methodology previously discussed. The intersection LOS and queue calculation worksheets are attached in the Appendix. The intersections LOS and 95th percentile queues are summarized for each location in **Table 2** and **Table 3**, respectively.

The data in the level of service summary table illustrates that, with Year 2043 background peak hour volumes and existing lane geometry, side street delays at the Dawson Drive intersection continue to operate at LOS F, as well as the northbound left-turn from US 287. Either signalization or movement restriction (to right-in, right-out or $\frac{3}{4}$ -movement) would be needed to mitigate these delays, if realized. The Jasper Road intersection experiences similar delays and was analyzed as a traffic signal in the long-term background condition. With signalized control, the Jasper Road and US 287 signal is projected to operate at LOS A in both peak hours. All other intersections are projected to operate acceptably in this scenario.

4.0 FUTURE TRAFFIC CONDITIONS WITH PROJECT

4.1 Trip Generation

The project is proposing to expand from a current enrollment of 536 (as of 3/1/23) students (540 allowable) to 700 students over the next 10-to-20-year period. The additional 160 allowable students will be incrementally added at the rate of no more than roughly 15 students per year.

In order to estimate the new trips that will be added to the surrounding area multimodal transportation network, the current school driveway volumes were factored up based on the current trips generated per student. Trips generated by the residential uses sharing Dawson Drive were assumed to be 125 trips per day (based on ITE single-family trip rates) and were removed from the driveway volume before applying growth factors. This trip generation methodology most effectively takes into account the existing TDM strategies and characteristics of the Dawson school traffic, since these are built into the counts. Since years of count data is available, using real driveway counts and school enrollment data is more accurate than utilizing ITE trip rates for schools, and then having to apply assumed adjustments to the rates to represent charter school multimodal share characteristics.

An increase of 160 students represents an increase of approximately 30% enrollment. This percentage increase will be applied to the existing Dawson Drive roadway counts to estimate the project-added traffic increases with this expansion project.

Using the trip generation methodology discussed above, it is estimated that the proposed expansion from 540 to 700 students will add approximately 398 daily trips, with 132 new trips in the AM peak hour and 95 new trips in the PM peak hour in the Year 2033. These trips will be added incrementally over a ten-year period.

4.2 Trip Distribution and Assignment

The estimated new site trips discussed above were distributed onto the adjacent street network based on existing traffic distribution at the Dawson School access on US 287 and on the geographic distribution of student households.

The existing distribution at the Dawson School access on US 287, as applied to the future new trips, is as follows:

AM Peak, Entering Traffic: 64% from the north along US 287, 36% from the south

AM Peak, Exiting Traffic: 39% to the north along US 287, 61% to the south

PM Peak, Entering Traffic: 47% from the north along US 287, 53% from the south

PM Peak, Exiting Traffic: 48% to the north along US 287, 52% to the south

At the Lookout Road / US 287 intersection, based on the geographic distribution of student households, it was assumed that roughly two-thirds of the new school traffic would be oriented to/from the north along US 287 with one-third oriented to/from the west along Lookout Road. At Jasper Road, again based on the geographic distribution, it was assumed that just under 10% of the traffic would be oriented to/from Jasper Road to the east with the remaining portion oriented to/from the south along US 287.

Using these distribution assumptions, the new site trips were assigned to the study area roadway network and intersections. The new (additional) site generated traffic volumes for the expansion project are shown on **Figure 5**.

4.3 Year 2033 + Site Intersection Capacity Analysis

The new site traffic volumes were added to the Year 2033 background traffic volumes to determine any impacts associated with the development of the project in the short-term scenario. The Year 2033-plus-site peak hour volumes are illustrated on **Figure 6**. The study area intersection levels of service were calculated using the LOS methodology discussed previously with the addition of site generated peak hour traffic volumes to the Year 2033 background volumes. The results are shown in **Table 2**. Intersection level of service and queue worksheets are attached in the Appendix.

As shown in the table, the Lookout Road / US 287 and Jasper Road / US 287 intersections are anticipated to continue to operate acceptably with the addition of project traffic in the Year 2033 scenario. The Dawson Drive / US 287 intersection is anticipated to operate at LOS F overall in the AM peak due to high delay on the side street approach. Discussion of signal warrants and potential mitigation for these delays is provided in Section 4.6.

4.4 Year 2043 + Site Intersection Capacity Analysis

The site traffic volumes were added to the Year 2043 background traffic volumes to determine any impacts associated with the development of the project in the long-term. The Year 2043 background-plus-site peak hour volumes are illustrated on **Figure 7**. The study area intersection levels of service were calculated using the LOS methodology discussed previously with the addition of site generated peak hour traffic volumes to the Year 2043 background volumes. The intersections LOS and 95th percentile queues are summarized for each location in **Table 2** and **Table 3**, respectively. Intersection level of service worksheets are attached in the Appendix. Per the analysis in Section 3.6, it was assumed that the Jasper Road / US 287 intersection would become signalized for the long-term scenario.

To mitigate calculated delays for the long-term scenario for both the Jasper Road/US 287 and Dawson Drive/US 287 intersections, either signals would need to be installed or sidestreet

movement restrictions to right-in, right-only only (or a $\frac{3}{4}$ -movement still allow left-turns in from US 287) would need to be implemented. For this analysis, both intersections were analyzed as signalized intersections for this scenario to demonstrate signalized LOS. Results for Dawson Drive to remain with stop control and signalized are shown for comparison in **Table 2**. As shown, AM Peak delays at Dawson Drive & US 287 increase significantly due to the growth in conflicting through traffic with existing stop sign control. If signalized, the northbound left turn can operate acceptably as protected-only for maximum safety benefit. As shown in **Table 2**, with these assumptions, all study area intersections are anticipated to operate acceptably overall.

4.5 Queue Analysis

Calculated queues were compared to the storage length available at all three intersections in the study area. Queues are shown in **Table 3**.

Calculated queues are all within the available storage at Lookout Road and US 287 for all future scenarios with and without the project traffic. At Jasper Road, the westbound queues extend beyond the existing left turn lane storage length in the existing and future unsignalized scenarios. Assuming the intersection is signalized by 2043, all queues fit within the existing storage.

At Dawson Drive, the eastbound left-turn queue is calculated to exceed the available storage in both AM and PM peak conditions in 2033 with the project traffic. The space to extend queue storage is limited by the Dawson School gateway sign to the west of the intersection. Queues are only anticipated to exceed the available left-turn storage by one to two vehicles for a short period during peak times with the project traffic. As such, no further mitigation for queueing is recommended for the 2033 planning horizon. The Dawson Drive intersection was analyzed assuming traffic signal control in 2043. All queues can be accommodated in the existing storage if a traffic signal is implemented by 2043. If movement restrictions were required by CDOT in lieu of signalization to mitigate delays, queue issues are not anticipated.

4.6 Traffic Signals

To determine the potential need for future traffic signals along US 287 to support background and project-added traffic growth, traffic signal warrant analysis was performed consistent with Manual on Uniform Traffic Control Devices (MUTCD) criteria. Per the MUTCD, determination of the need for a traffic signal should be based on analysis of the following eight traffic signal warrants (as applicable for the given situation):

- Warrant 1. Eight-Hour Vehicular Volume
- Warrant 2. Four-Hour Vehicular Volume
- Warrant 3. Peak Hour
- Warrant 4. Pedestrian Volume

- Warrant 5. School Crossing
- Warrant 6. Coordinated Signal System
- Warrant 7. Crash Experience
- Warrant 8. Roadway Network

While satisfying a signal warrant may be indicative of the need for a traffic signal, it is not the sole determining factor in whether a signal is needed. Engineering judgment and assessment of the unique operational and safety characteristics of an intersection should be applied. Each MUTCD warrant was considered for this study. However, most of the warrants are not applicable for this study or it could quickly be determined that they would not be met. Based on MUTCD criteria, Warrants #1, #2, and #3 are applicable (or could potentially be met) for this study. Thus, further analysis of the of the other MUTCD warrants was not performed.

Given the heavy peak-hour nature of residential commuting traffic and school traffic (in contrast to be spread out during the day), it is unlikely that either Warrant #1 or #2 would be met. Although this site does not meet the “unusual cases” description for the application of Warrant #3 (Peak Hour), this warrant is most often utilized for planning purposes since future trip generation cannot be accurately estimated on an four or eight-hour basis for Warrants #1 and #2.

The MUTCD Peak-Hour signal warrant is satisfied where the side street approach exceeds 75 vehicles per hour (vph) for a one-lane approach or 100 vph for a two-lane approach along a major roadway (above 40 mph). That the peak hour warrant is met does not require that a signal should be installed. It is simply indicative that a signal may be beneficial at this location. There are many other factors to consider.

Based on correspondence between the County and Dawson School in 2018, it was determined by the County and CDOT at that time that a signal was not warranted, but that even if found warranted in the future, that would not obligate CDOT or the County to install one.

The Dawson Drive access is located roughly 0.75 miles south of the existing traffic signal at Lookout Road and roughly 0.50 miles north of Jasper Road. A minimum of 0.50 mile spacing is typically required by CDOT to efficiently progress traffic along a signalized corridor. Since this minimum distance can be achieved in both directions along US 287 to the nearest signalized or potentially signalized intersection, adequate corridor progression should be achievable should signals be ultimately installed at these locations.

Both the County and CDOT have indicated previously they may consider a $\frac{3}{4}$ -movement (no left-turns out) restriction in lieu of signalization should future traffic volumes and/or crash rates suggest that a change in traffic control is needed.

A signal at Jasper Road & US 287 is recommended based on the delays calculated. High delay for the eastbound left turn movement is calculated in both peak periods for existing conditions and increases as traffic volumes are grown into the future. The presence of southbound and northbound left turn lanes makes left turns from the side street at Jasper Road challenging due to the lack of an acceleration lane.

4.7 Auxiliary Lanes

Existing auxiliary lanes at the Dawson Drive / US 287 intersection include all necessary deceleration and acceleration lanes along US 287. No additional lanes are required to support the project. The following bullets provide a summary of the existing lanes and application of the State Highway Access Code standards for an RA roadway classification and 60 mph posted speed:

- Northbound left-turn deceleration lane: 700' decel length (includes a taper at 25:1) plus 230' additional storage (930' total)
Existing lane is roughly 450' total.
- Northbound left-turn acceleration lane: 1,170' (includes a taper at 25:1)
Existing lane is roughly 460' total.
- Southbound right-turn deceleration lane: 700' decel length (includes a taper at 25:1)
Existing lane exceeds 700' total.
- Southbound right-turn acceleration lane: 1,170' (includes a taper at 25:1)
Existing lane is roughly 660' total.

As shown above, the southbound right-turn deceleration lane meets CDOT requirements for total lane length while the others are below the full CDOT standard. However, CDOT often grants variances for existing lanes and/or where lane lengthening is not feasible. If additional auxiliary lane length was ever required by CDOT, the existing two-way left-turn lane along US 287 can be restriped to lengthen the left-turn auxiliary lanes without requiring any roadway widening. However, for the southbound right-turn acceleration lane, there is an existing bridge structure roughly 860' south of Dawson Drive along US 287 that would preclude lengthening to the full Access Code requirement without major impact.

Given that the project is proposing to add incrementally to the traffic volumes at this access and the existing lanes are servicing traffic adequately, we recommend that the existing lanes can remain to service the additional site traffic with expansion of the Dawson School. No auxiliary lane improvements are recommended in this study.

4.8 School Events and Activities

The Dawson School has several school events, after-hours / weekend activities, and non-school events during the course of the calendar year.

A typical school day today includes up to 540 students, 100 faculty members, and visitors. The highest activities / events in terms of attendance are listed as follows:

- Graduation (up to 400 people) – occurs on a Saturday AM in May
- Open House (up to 200 people) – occurs on a Friday morning and Saturday
- Cyclocross race (up to 400) – occurs on a weekend in October
- Farm to Table Dinner (up to 200 people) – occurs on a weekend in Sept. / Oct.

Each of the events above occur only once per year and do not occur concurrently and are typically less than a normal school day. These events also do not coincide with typical weekday traffic and are in most cases less concentrated than school day traffic since they have much more random arrival and departure times.

Since the largest activities and events occur either on weekends or outside of the typical peak hours of traffic, these events do not have as much potential impact on traffic as a typical school day. Furthermore, since a typical school day's PM peak occurs a few hours earlier than the PM peak for traffic on US 287, it reasons that the school day AM peak is the most significant with regards to potential traffic impacts since it is the only time period of peak school traffic that corresponds with the peak hour of adjacent street traffic. The school day AM peak hour impacts have been evaluated and are discussed in this report.

4.9 Transportation Demand Management and Mode Share

The school implemented Transportation Demand Management (TDM) measures for the 2008/2009 school year and has continued to improve the programs to reduce single auto-occupancy trips to/from the school.

Dawson offers a bus program to all of its students that is convenient and affordably priced. The school encourages use of the buses by providing a centralized stop program with a flat fee structure. The school promotes that the bus fees are lower than the cost of the gas it would take to drive, while saving 5,000 lbs of CO2 emissions per year per student and improving safety for students and parent drivers.

The school also offers an annual RTD bus pass free to employees. For all off-campus sporting events, the school provides buses for their teams.

5.0 CONCLUSIONS

The Dawson School Expansion project proposes to expand the school from an allowable 540 students to 700 students over the next 10-20 years. This traffic impact study reviewed short-term build out (Year 2033) and long-term (Year 2043) traffic conditions in the vicinity of the site both with and without the expansion. It was determined that the existing and future roadway and intersection network can serve the project-added traffic volumes in the short and long-term scenarios with minimal effects.

The following site-specific improvements are proposed:

1. **Continue existing TDM measures to further encourage non-auto and higher-occupancy auto trips.** Based on the school day traffic counts discussed in Section 3.2, which have been collected on a bi-monthly basis by the school as part of a previous TDM-monitoring agreement with the County, an average volume of 1,475 vehicles per day (vpd) on Dawson Drive was collected on typical weekdays when school was in session. The data shows that TDM measures in place have been effective in mitigating vehicular traffic volumes. Given the consistency of this count data and the continuation of these TDM efforts over these years, continuing the bi-monthly counts is not deemed necessary.
2. **Continue to communicate with Boulder County and CDOT Region 4** as traffic volumes increase along US 287 at Dawson Drive to determine if a traffic signal and/or change in configuration of access becomes warranted in the future based on volume and/or safety considerations. The project will add volume to this intersection incrementally as expansion occurs over a 10–20-year period, which will provide the opportunity to reassess traffic control needs on a periodic basis. If a signal becomes necessary, CDOT would need to approve the signal and would require that the school purchase the signal (estimated at \$400,000) while CDOT would maintain and operate the signal once built.

No other mitigation measures are recommended to support the Dawson School Expansion project as proposed.



Table 2 - Peak Hour Intersection Level of Service Summary

Intersection and Critical Movements	Existing				Year 2033 Background				Year 2033 Background + Site				Year 2043 Background				Year 2043 Background + Site			
	AM Peak		PM ⁽¹⁾ Peak		AM Peak		PM ⁽¹⁾ Peak		AM Peak		PM ⁽¹⁾ Peak		AM Peak		PM ⁽¹⁾ Peak		AM Peak		PM ⁽¹⁾ Peak	
	Delay (a)	LOS	Delay (a)	LOS	Delay (a)	LOS	Delay (a)	LOS	Delay (a)	LOS	Delay (a)	LOS	Delay (a)	LOS	Delay (a)	LOS	Delay (a)	LOS	Delay (a)	LOS
STOP SIGN CONTROL																				
Dawson Drive & US 287	7.9	A	4.6	A	14.7	B	9.2	A	> 120.0	F	28.0	D	42.5	E	13.0	B	Err*	F	38.2	E
Eastbound Left	> 120.0	F	67.0	F	> 120.0	F	> 120.0	F	> 120.0	F	> 120.0	F	> 120.0	F	> 120.0	F	Err*	F	> 120.0	F
Eastbound Right	26.3	D	20.3	C	35.9	E	26.7	D	49.6	E	34.8	D	52.5	F	34.4	D	80.8	F	49.1	E
Northbound Left	28.2	D	12.0	B	41.5	E	14.6	B	79.2	F	15.8	C	69.8	F	16.7	C	> 120.0	F	18.4	C
Jasper Rd. & US 287	5.6	A	8.1	A	25.6	D	21.1	C	30.3	D	24.9	C	Meets Signal Warrants - Analyzed with Signal Control							
Eastbound Left-Through-Right	105.8	F	13.0	B	> 120.0	F	14.0	B	> 120.0	F	14.2	B								
Westbound Left-Through	> 120.0	F	> 120.0	F	> 120.0	F	> 120.0	F	> 120.0	F	> 120.0	F								
Westbound Right	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A								
Northbound Left	0.0	A	11.1	B	0.0	A	12.0	B	0.0	A	12.2	B								
Southbound Left	12.0	B	14.5	B	13.3	B	17.1	C	13.6	B	17.6	C								
SIGNAL CONTROL																				
Lookout Rd. & US 287	16.9	B	35.1	D	11.6	B	13.1	B	11.7	B	13.4	B	15.5	B	15.9	B	16.7	B	13.9	B
Eastbound Left	22.5	C	> 120.0	F	24.9	C	21.1	C	26.7	C	20.9	C	33.1	C	24.1	C	38.5	D	22.1	C
Eastbound Through	22.5	C	> 120.0	F	20.9	C	18.0	B	22.6	C	17.8	B	27.1	C	20.0	B	31.4	C	18.3	B
Eastbound Right	17.2	B	17.9	B	24.2	C	22.7	C	28.0	C	23.0	C	31.8	C	27.9	C	38.8	D	25.3	C
Westbound Left	18.6	B	17.2	B	21.7	C	18.8	B	23.5	C	18.6	B	28.3	C	21.0	C	32.9	C	19.3	B
Westbound Through-Right	16.3	B	15.4	B	23.9	C	17.6	B	25.6	C	17.4	B	31.0	C	19.6	B	35.8	D	17.9	B
Northbound Left	19.4	B	8.6	A	17.9	B	6.6	A	18.8	B	6.8	A	35.5	D	7.8	A	38.5	D	8.2	A
Northbound Through	10.6	B	16.1	B	6.3	A	13.3	B	6.0	A	13.8	B	6.5	A	17.3	B	6.3	A	13.1	B
Northbound Right	7.0	A	7.6	A	3.9	A	5.5	A	3.7	A	5.5	A	3.8	A	5.8	A	3.7	A	5.9	A
Southbound Left	9.7	A	10.6	B	5.5	A	8.8	A	5.3	A	9.0	A	6.3	A	11.8	B	6.6	A	8.9	A
Southbound Through	21.3	C	12.7	B	12.1	B	9.9	A	11.8	B	10.2	B	15.4	B	11.1	B	16.2	B	11.8	B
Southbound Right	11.1	B	8.5	A	6.5	A	6.2	A	6.3	A	6.3	A	7.6	A	6.5	A	8.0	A	6.7	A
Dawson Dr. & US 287	Analyzed with Stop Control																24.7	C	15.2	B
Eastbound Left	Analyzed with Stop Control																33.4	C	19.9	B
Eastbound Right	Analyzed with Stop Control																24.3	C	16.8	B
Northbound Left	Analyzed with Stop Control																75.4	E	43.0	D
Northbound Through	Analyzed with Stop Control																4.3	A	7.6	A
Southbound Through	Analyzed with Stop Control																32.4	C	20.2	C
Southbound Right	Analyzed with Stop Control																12.0	B	8.5	A
Jasper Rd. & US 287	Analyzed with Stop Control												3.0	A	2.8	A	3.0	A	2.9	A
Eastbound Left-Through-Right	Analyzed with Stop Control												31.7	C	21.2	C	35.5	D	19.7	B
Westbound Left-Through	Analyzed with Stop Control												32.4	C	22.0	C	37.1	D	20.5	C
Westbound Right	Analyzed with Stop Control												0.0	A	0.0	A	0.0	A	0.0	A
Northbound Left	Analyzed with Stop Control												0.0	A	3.3	A	0.0	A	3.6	A
Northbound Through	Analyzed with Stop Control												2.3	A	2.7	A	2.2	A	2.9	A
Northbound Right	Analyzed with Stop Control												1.0	A	1.2	A	0.9	A	1.3	A
Southbound Left	Analyzed with Stop Control												4.1	A	7.4	A	4.3	A	8.2	A
Southbound Through-Right	Analyzed with Stop Control												2.6	A	2.1	A	2.5	A	2.2	A

(a) Delay represented in average seconds per vehicle.

(1) PM Peak corresponding with afternoon school peak egress (3:15pm-4:15pm)

* Calculated delay exceeds upper limit of capacity/delay model.



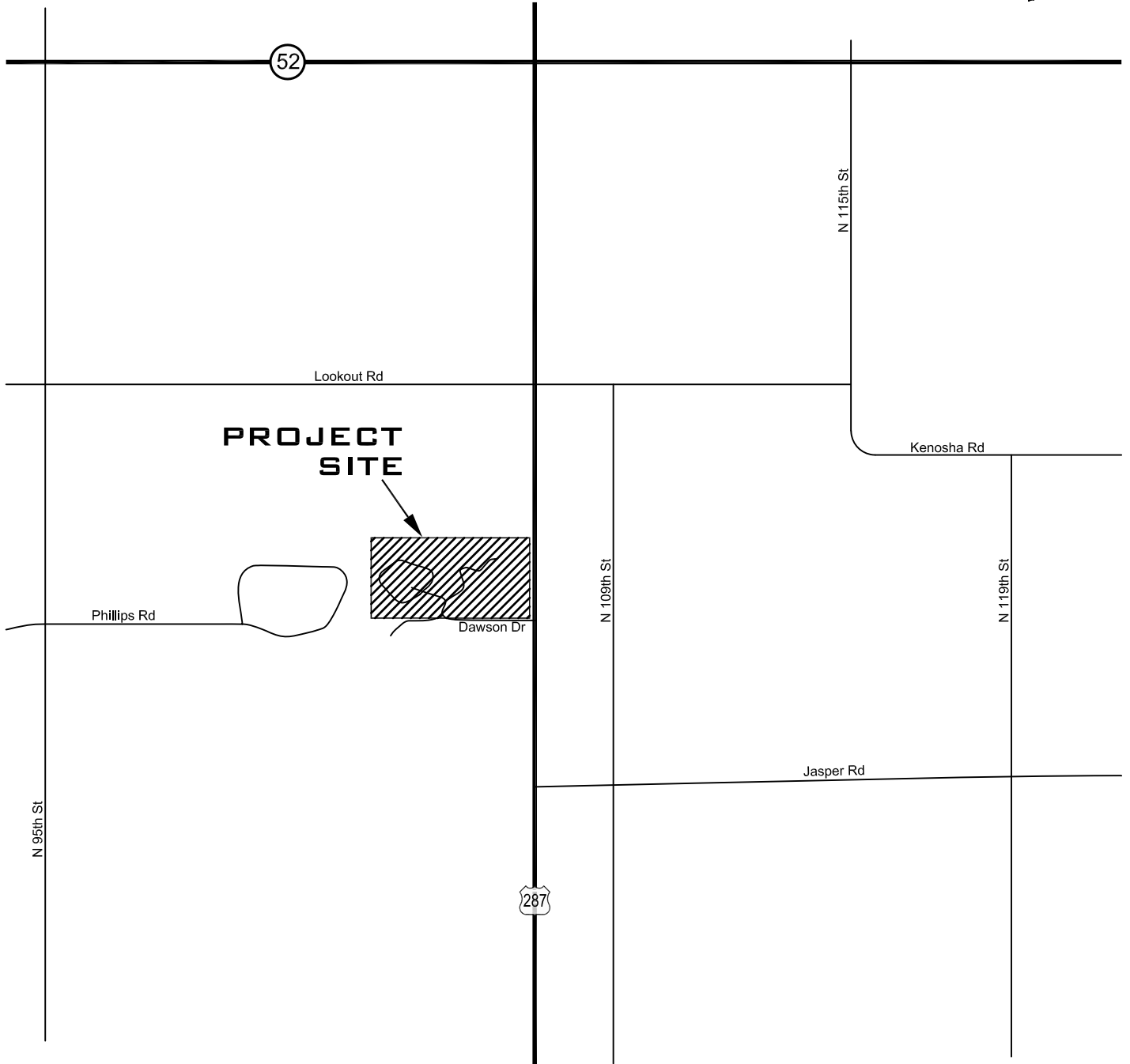
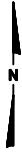
Table 3 - Peak Hour Intersection 95th Percentile Queue Summary

Intersection and Critical Movements	Storage Length	Existing		Year 2033 Background		Year 2033 Background + Site		Year 2043 Background		Year 2043 Background + Site	
		AM Peak	PM ⁽¹⁾ Peak	AM Peak	PM ⁽¹⁾ Peak	AM Peak	PM ⁽¹⁾ Peak	AM Peak	PM ⁽¹⁾ Peak	AM Peak	PM ⁽¹⁾ Peak
STOP SIGN CONTROL											
Dawson Drive & US 287											
Eastbound Left	260'	88'	76'	122'	146'	268'	294'	160'	180'	Err	336'
Eastbound Right	260'	66'	66'	90'	78'	134'	118'	120'	98'	180'	150'
Northbound Left	350'	80'	14'	112'	20'	194'	26'	156'	22'	264'	32'
Jasper Rd. & US 287											
Eastbound Left-Through-Right	80'	8'	0'	46'	0'	46'	0'	Meets Signal Warrants - Analyzed with Signal Control			
Westbound Left-Through	60'	80'	90'	128'	126'	130'	130'				
Northbound Left	275'	0'	0'	0'	0'	0'	0'				
Southbound Left	450'	4'	10'	6'	14'	6'	16'				
SIGNAL CONTROL											
Lookout Rd. & US 287											
Eastbound Left	250'	36'	123'	34'	99'	37'	99'	47'	120'	52'	108'
Eastbound Through	> 1000'	36'	123'	19'	49'	20'	49'	23'	60'	25'	54'
Eastbound Right	250'	31'	40'	35'	56'	39'	59'	43'	86'	50'	78'
Westbound Left	250'	63'	26'	30'	17'	33'	17'	42'	18'	47'	17'
Westbound Through-Right	> 1000'	1'	0'	70'	26'	70'	26'	98'	33'	111'	30'
Northbound Left	465'	145'	24'	207'	27'	208'	29'	286'	29'	302'	32'
Northbound Through	> 1000'	147'	305'	175'	422'	174'	430'	218'	510'	155'	390'
Northbound Right	465'	0'	0'	0'	0'	0'	0'	0'	0'	4'	0'
Southbound Left	500'	6'	12'	8'	14'	7'	14'	8'	15'	19'	15'
Southbound Through	> 1000'	252'	181'	305'	214'	337'	225'	454'	258'	543'	248'
Southbound Right	510'	21'	0'	21'	1'	17'	1'	24'	4'	26'	3'
Dawson Dr. & US 287											
Eastbound Left	260'	Analyzed with Stop Control								44'	47'
Eastbound Right	260'									103'	71'
Northbound Left	350'									118'	89'
Northbound Through	> 1000'									141'	275'
Southbound Through	> 1000'									452'	345'
Southbound Right	230'									5'	10'
Jasper Rd. & US 287											
Eastbound Left-Through-Right	80'	Analyzed with Stop Control						20'	0'	22'	0'
Westbound Left-Through	60'							50'	41'	56'	38'
Westbound Right	> 1000'							88'	39'	100'	38'
Northbound Left	275'							0'	3'	0'	3'
Northbound Through	> 1000'							224'	237'	242'	244'
Northbound Right	275'							7'	10'	8'	10'
Southbound Left	500'							21'	84'	24'	80'
Southbound Through-Right	> 1000'							279'	160'	298'	165'

(a) 95th percentile queue represented in feet.

(1) PM Peak corresponding with afternoon school peak egress (3:15pm-4:15pm)

* Queue lengths in blue exceed available storage length.

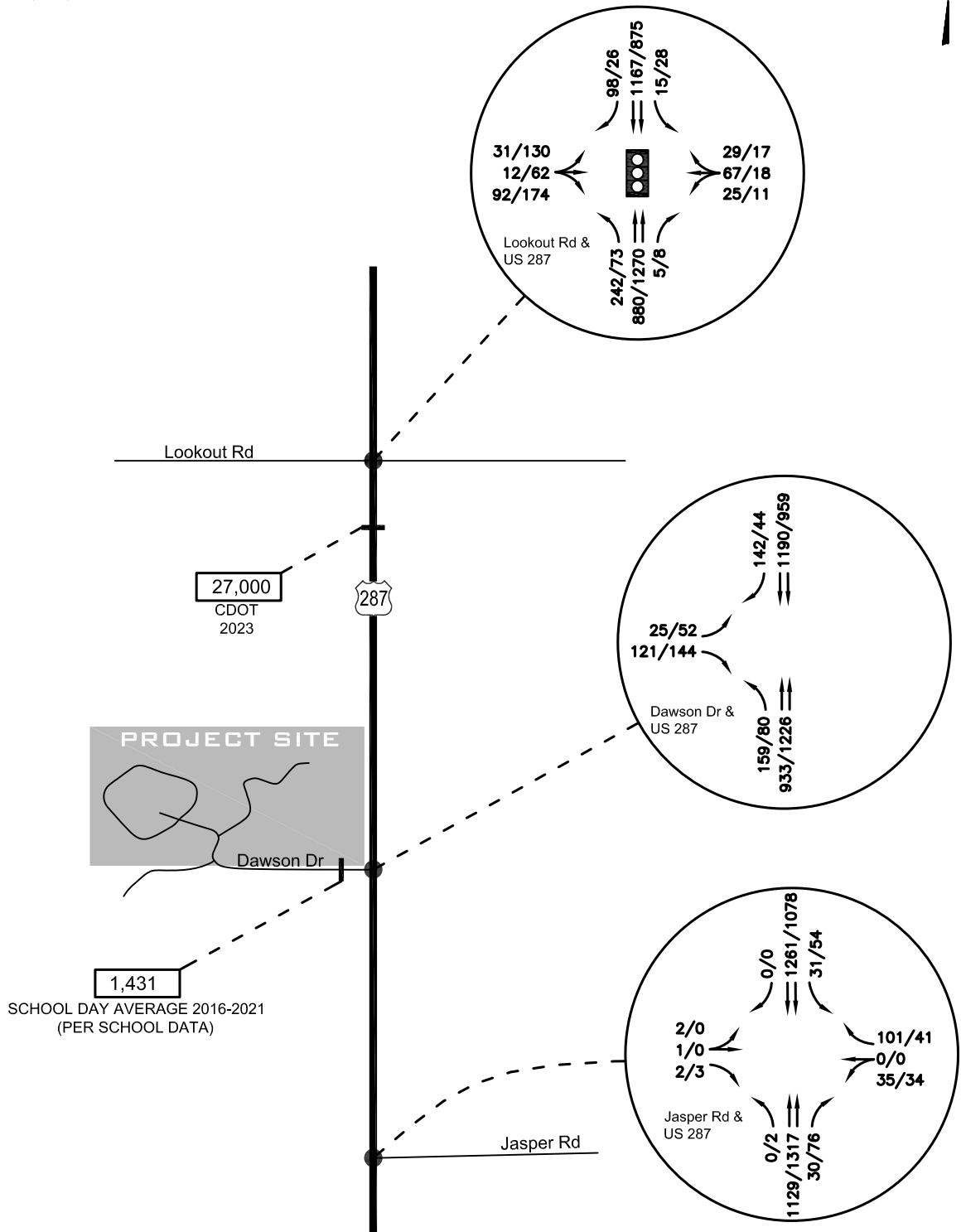


DAWSON SCHOOL EXPANSION TRANSPORTATION SYSTEM IMPACT STUDY
VICINITY MAP

FT Project #	22100	Original Scale	1"=2500'	Date	1/16/2023	Drawn by	SK	Figure #	1
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LEGEND

- ← XX/XX AM / Afternoon Peak Hour Traffic Volumes
- X,XXX Daily Traffic Volume (ADT)

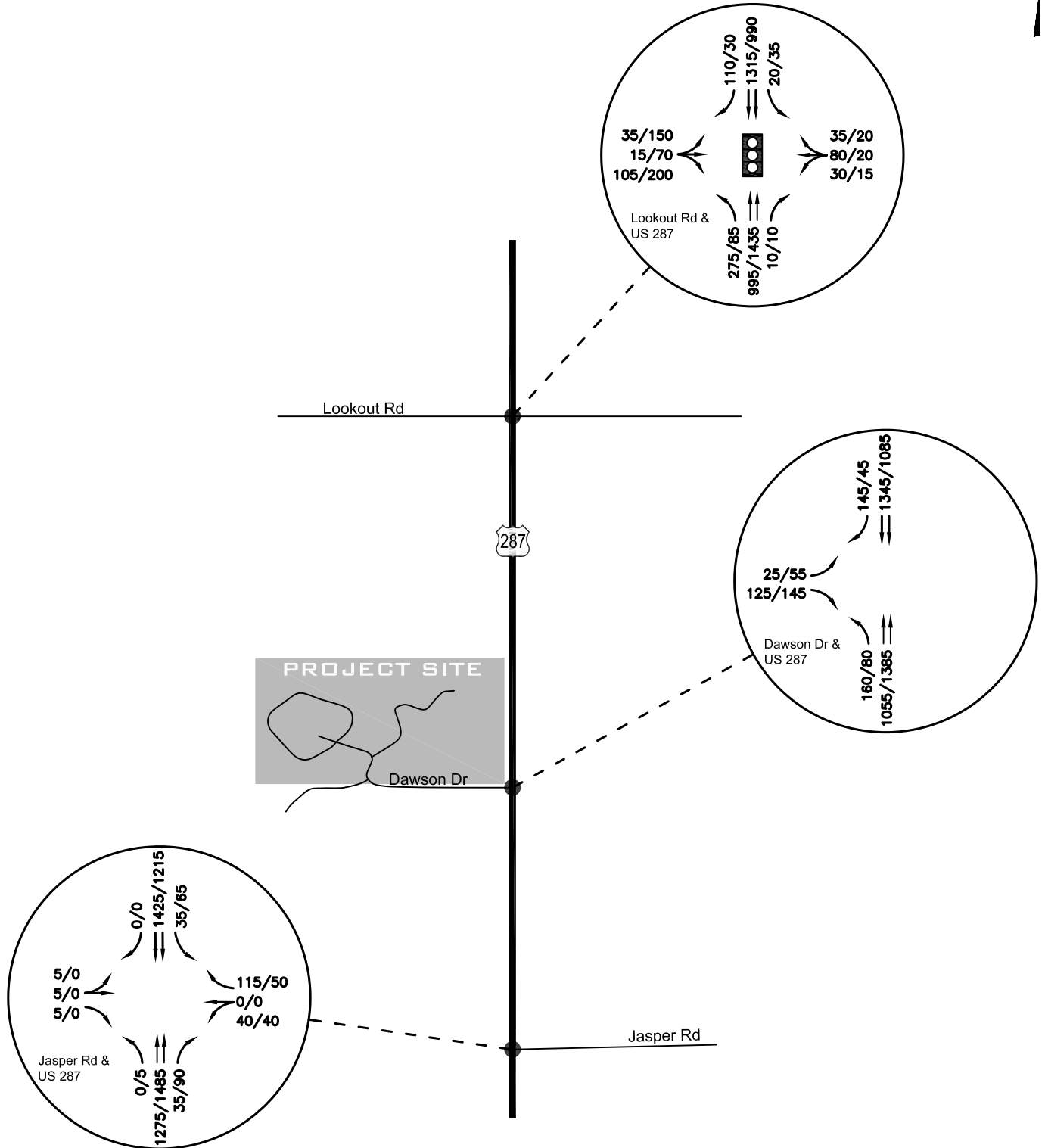
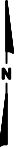


DAWSON SCHOOL EXPANSION TRANSPORTATION SYSTEM IMPACT STUDY
EXISTING VOLUMES

FT Project #	22100	Original Scale	1"=2500'	Date	1/16/2023	Drawn by	SK	Figure #	2
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LEGEND

- XX/XX AM / Afternoon Peak Hour Traffic Volumes
- ☐ X,XXX Daily Traffic Volume (ADT)

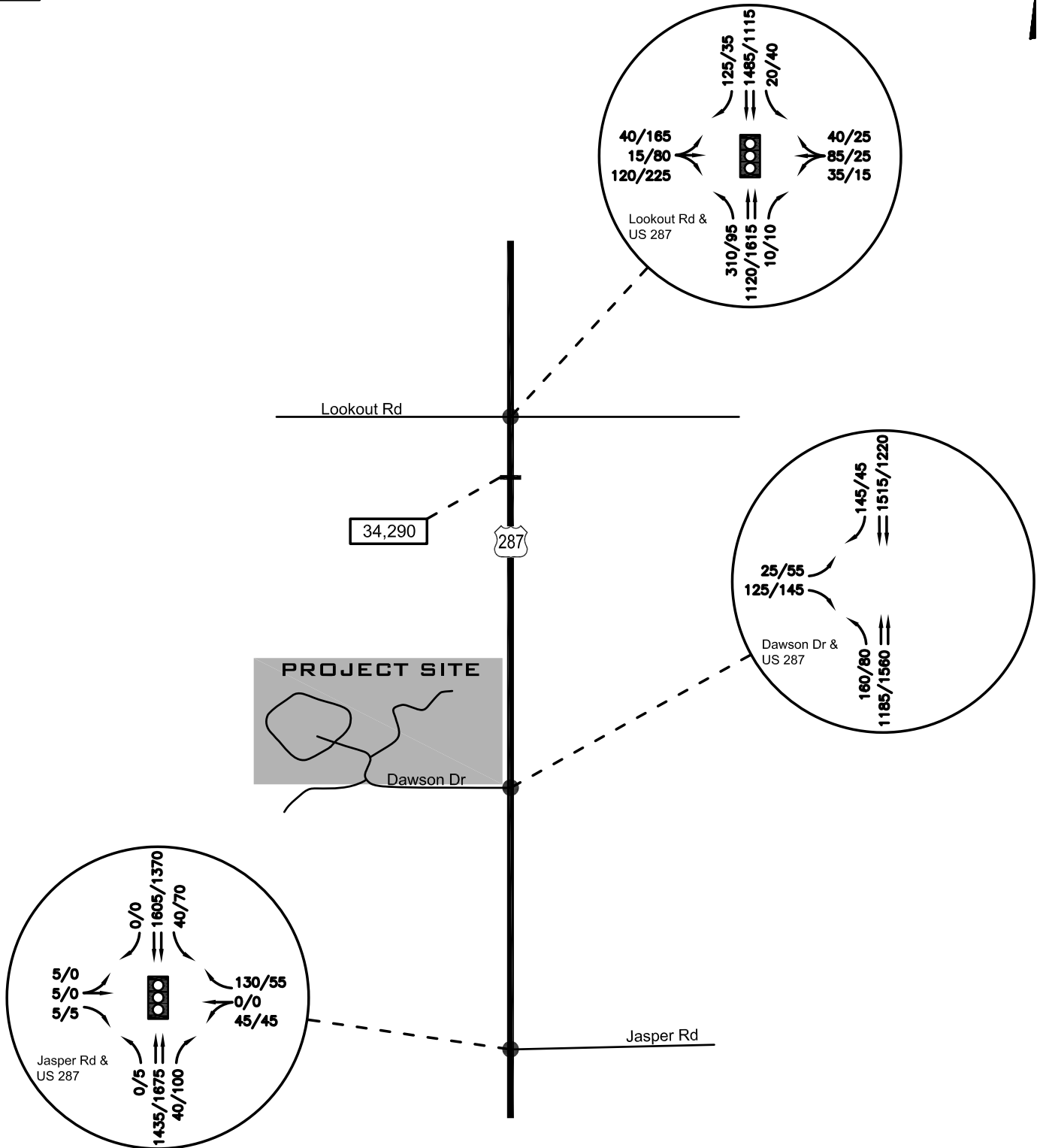


DAWSON SCHOOL EXPANSION TRANSPORTATION SYSTEM IMPACT STUDY
YEAR 2033 BACKGROUND TRAFFIC VOLUMES

FT Project #	22100	Original Scale	1"=2500'	Date	1/17/2023	Drawn by	SK	Figure #	3
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LEGEND

- XX/XX AM / Afternoon Peak Hour Traffic Volumes
- ☐ X,XXX Daily Traffic Volume (ADT)

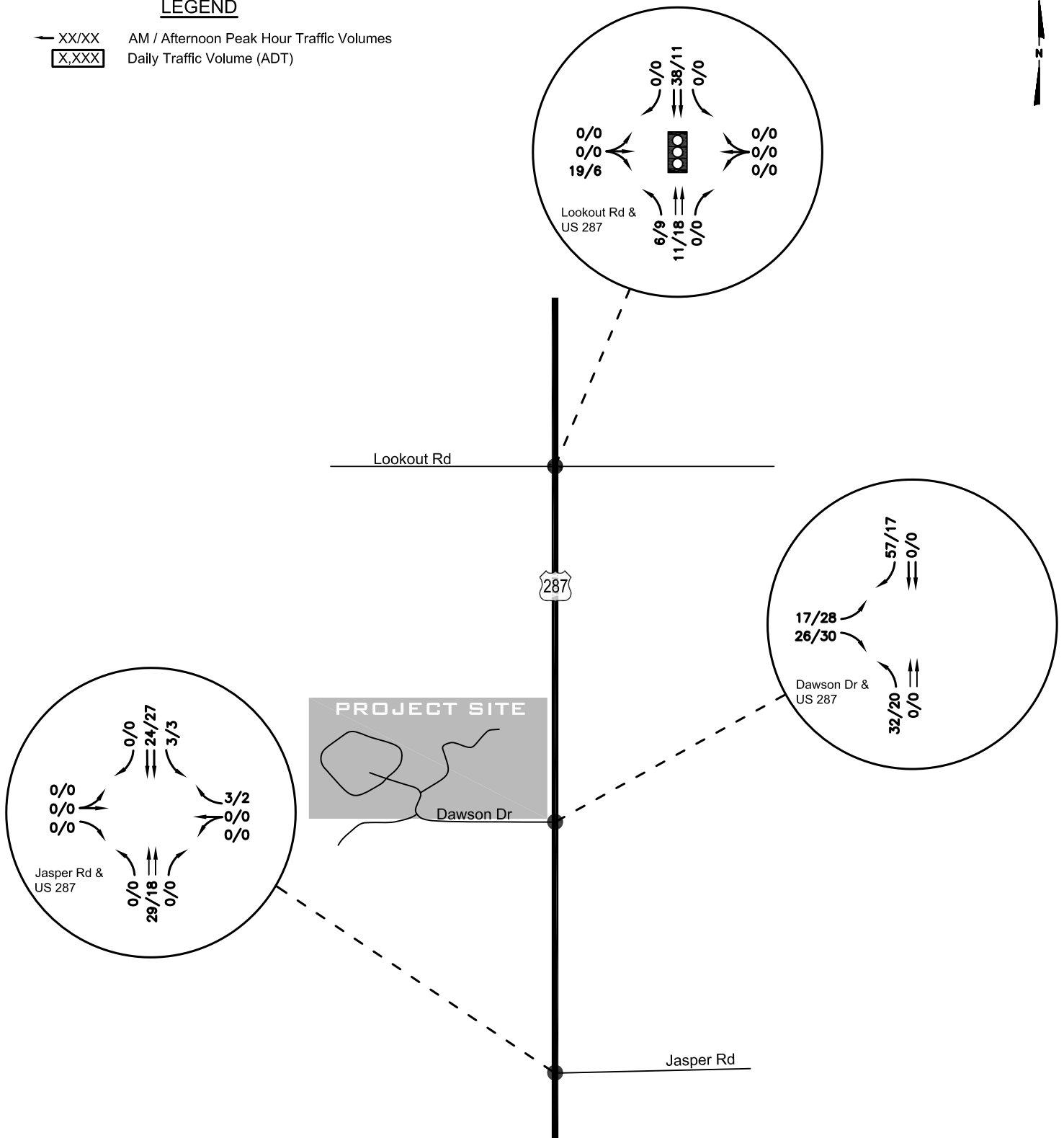
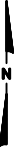


DAWSON SCHOOL EXPANSION TRANSPORTATION SYSTEM IMPACT STUDY
20-YEAR (YEAR 2043) BACKGROUND TRAFFIC VOLUMES

FT Project #	22100	Original Scale	1"=2500'	Date	1/17/2023	Drawn by	SK	Figure #	4
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LEGEND

- XX/XX AM / Afternoon Peak Hour Traffic Volumes
- X,XXX Daily Traffic Volume (ADT)



Note: These volumes represent "new" trips in addition to those currently generated by the existing 540-student enrollment.

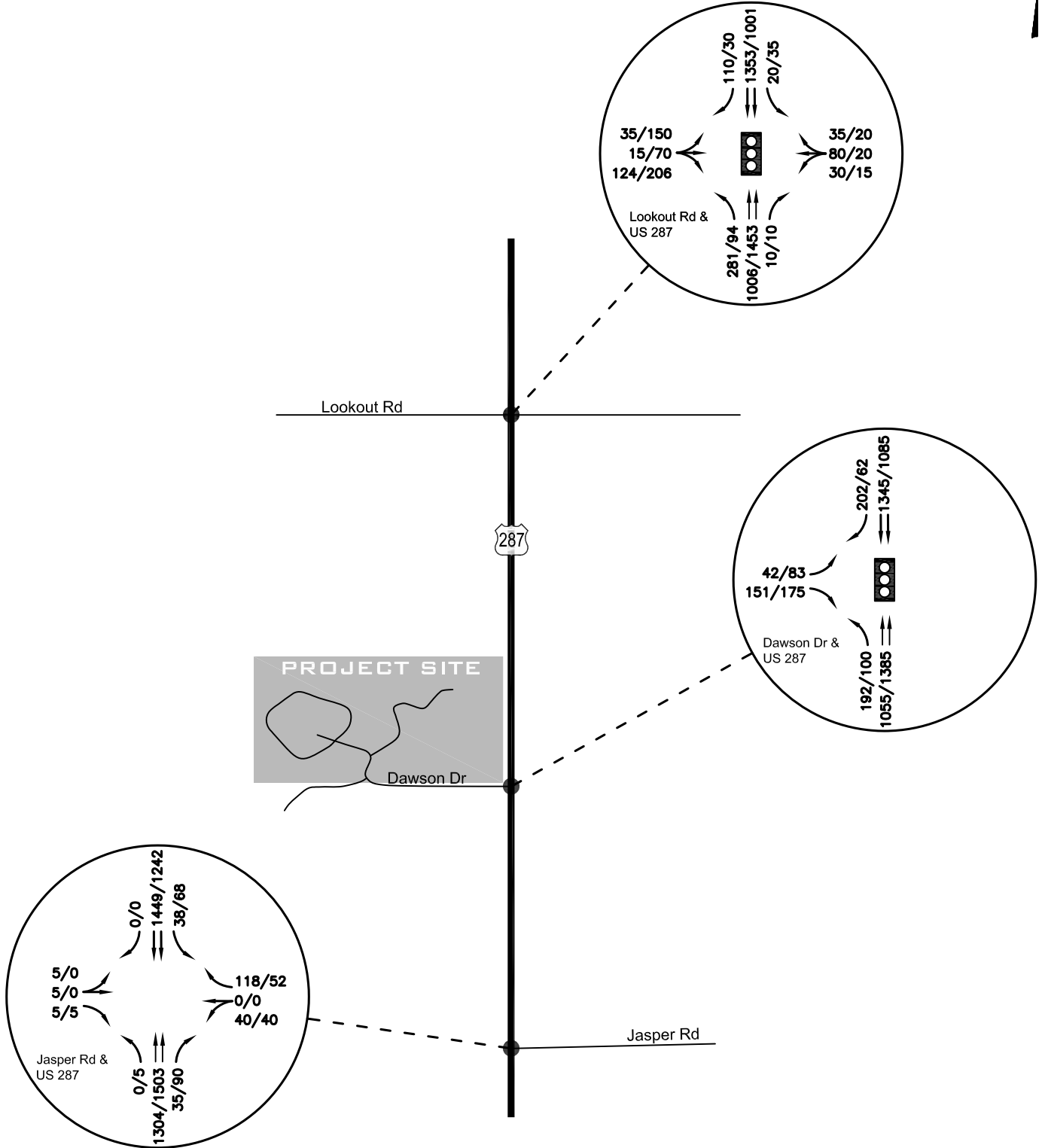
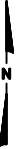


DAWSON SCHOOL EXPANSION TRANSPORTATION SYSTEM IMPACT STUDY
 NEW (ADDITIONAL) SITE-GENERATED TRAFFIC VOLUMES

FT Project #	22100	Original Scale	1"=2500'	Date	1/17/2023	Drawn by	SK	Figure #	5
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LEGEND

- XX/XX AM / Afternoon Peak Hour Traffic Volumes
- ▭ X,XXX Daily Traffic Volume (ADT)

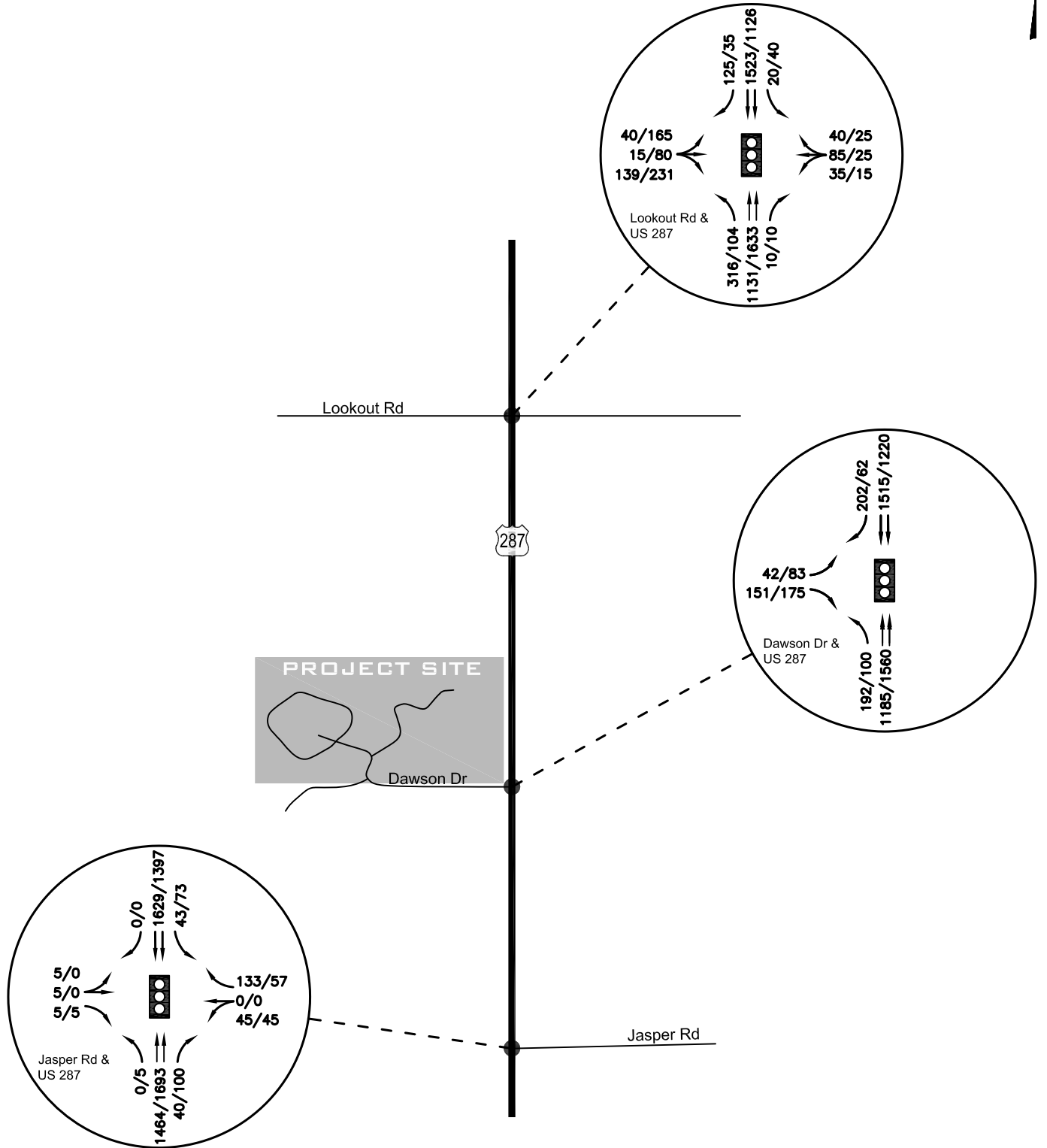
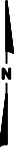


DAWSON SCHOOL EXPANSION TRANSPORTATION SYSTEM IMPACT STUDY
 YEAR 2033 BACKGROUND + SITE-GENERATED TRAFFIC VOLUMES

FT Project #	22100	Original Scale	1"=2500'	Date	1/17/2023	Drawn by	SK	Figure #	6
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LEGEND

- ← XX/XX AM / Afternoon Peak Hour Traffic Volumes
- ▭ X,XXX Daily Traffic Volume (ADT)



DAWSON SCHOOL EXPANSION TRANSPORTATION SYSTEM IMPACT STUDY
 YEAR 2043 BACKGROUND + SITE-GENERATED TRAFFIC VOLUMES

FT Project #	22100	Original Scale	1"=2500'	Date	1/17/2023	Drawn by	SK	Figure #	7
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APPENDIX

Level of Service Definitions
Intersection Capacity Worksheets
Traffic Count Data

Level of Service Definitions

LEVEL OF SERVICE DEFINITIONS

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

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

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

Dawson School Expansion (FT#22100)

Transportation System Impact Study

Intersection Capacity Worksheets

HCM 6th TWSC 1: US 287 & Dawson Dr.

Existing AM

Intersection						
Int Delay, s/veh	7.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	121	159	933	1190	142
Future Vol, veh/h	25	121	159	933	1190	142
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	210	270	-	-	465
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	46	58	66	95	83	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	209	241	982	1434	212
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2407	717	1646	0	0	
Stage 1	1434	-	-	-	-	
Stage 2	973	-	-	-	-	
Critical Hdwy	6.84	6.94	4.14	-	-	
Critical Hdwy Stg 1	5.84	-	-	-	-	
Critical Hdwy Stg 2	5.84	-	-	-	-	
Follow-up Hdwy	3.52	3.32	2.22	-	-	
Pot Cap-1 Maneuver	~ 27	372	389	-	-	
Stage 1	186	-	-	-	-	
Stage 2	327	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 10	372	389	-	-	
Mov Cap-2 Maneuver	56	-	-	-	-	
Stage 1	71	-	-	-	-	
Stage 2	327	-	-	-	-	
Approach	EB	NB	SB			
HCM Control Delay, s	68.5	5.6	0			
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	389	-	56	372	-	-
HCM Lane V/C Ratio	0.619	-	0.97	0.561	-	-
HCM Control Delay (s)	28.2	-	230.3	26.3	-	-
HCM Lane LOS	D	-	F	D	-	-
HCM 95th %tile Q(veh)	4	-	4.4	3.3	-	-
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Timings

Existing AM

2: US 287 & Lookout Rd.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	31	12	92	25	67	29	242	880	5	15	1167	98
Future Volume (vph)	31	12	92	25	67	29	242	880	5	15	1167	98
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	11.0	32.0	32.0	8.0	29.0	29.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	18.3%	53.3%	53.3%	13.3%	48.3%	48.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effect Green (s)		8.4	8.4		8.4	8.4	38.6	38.0	38.0	31.8	27.8	27.8
Actuated g/C Ratio		0.16	0.16		0.16	0.16	0.72	0.71	0.71	0.60	0.52	0.52
v/c Ratio		0.22	0.30		0.38	0.10	0.72	0.38	0.00	0.04	0.69	0.12
Control Delay		21.5	7.7		23.9	0.6	22.7	5.4	0.0	3.9	13.5	2.8
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		21.5	7.7		23.9	0.6	22.7	5.4	0.0	3.9	13.5	2.8
LOS		C	A		C	A	C	A	A	A	B	A
Approach Delay		12.2			18.3			9.1			12.6	
Approach LOS		B			B			A			B	

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 53.3
 Natural Cycle: 60
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.72
 Intersection Signal Delay: 11.3
 Intersection LOS: B
 Intersection Capacity Utilization 67.2%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: US 287 & Lookout Rd.



Queues

Existing AM

2: US 287 & Lookout Rd.

























Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	47	100	100	32	263	957	5	16	1268	107
v/c Ratio	0.22	0.30	0.38	0.10	0.72	0.38	0.00	0.04	0.69	0.12
Control Delay	21.5	7.7	23.9	0.6	22.7	5.4	0.0	3.9	13.5	2.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	21.5	7.7	23.9	0.6	22.7	5.4	0.0	3.9	13.5	2.8
Queue Length 50th (ft)	13	0	28	0	31	49	0	1	154	0
Queue Length 95th (ft)	36	31	63	1	#145	147	0	6	252	21
Internal Link Dist (ft)	780		675			3810			512	
Turn Bay Length (ft)		50		50	285		465	500		500
Base Capacity (vph)	405	545	502	539	366	2526	1156	423	1845	876
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.12	0.18	0.20	0.06	0.72	0.38	0.00	0.04	0.69	0.12

Intersection Summary

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

HCM 6th Signalized Intersection Summary 2: US 287 & Lookout Rd.

Existing AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	12	92	25	67	29	242	880	5	15	1167	98
Future Volume (veh/h)	31	12	92	25	67	29	242	880	5	15	1167	98
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	34	13	100	27	73	32	263	957	5	16	1268	107
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	121	30	424	83	173	424	356	1827	815	347	1503	670
Arrive On Green	0.27	0.27	0.27	0.27	0.27	0.27	0.11	0.51	0.51	0.02	0.42	0.42
Sat Flow, veh/h	62	114	1585	22	647	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	47	0	100	100	0	32	263	957	5	16	1268	107
Grp Sat Flow(s),veh/h/ln	176	0	1585	670	0	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.0	0.0	2.9	0.6	0.0	0.9	4.5	10.6	0.1	0.3	18.9	2.5
Cycle Q Clear(g_c), s	15.8	0.0	2.9	15.7	0.0	0.9	4.5	10.6	0.1	0.3	18.9	2.5
Prop In Lane	0.72		1.00	0.27		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	0	424	256	0	424	356	1827	815	347	1503	670
V/C Ratio(X)	0.31	0.00	0.24	0.39	0.00	0.08	0.74	0.52	0.01	0.05	0.84	0.16
Avail Cap(c_a), veh/h	156	0	429	262	0	429	376	1827	815	440	1503	670
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.4	0.0	16.9	17.7	0.0	16.2	12.2	9.5	7.0	9.6	15.3	10.6
Incr Delay (d2), s/veh	1.1	0.0	0.3	1.0	0.0	0.1	7.1	1.1	0.0	0.1	6.0	0.5
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.0	0.9	1.0	0.0	0.3	2.0	3.6	0.0	0.1	7.8	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.5	0.0	17.2	18.6	0.0	16.3	19.4	10.6	7.0	9.7	21.3	11.1
LnGrp LOS	C	A	B	B	A	B	B	B	A	A	C	B
Approach Vol, veh/h		147			132			1225			1391	
Approach Delay, s/veh		18.9			18.1			12.5			20.4	
Approach LOS		B			B			B			C	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.9	34.5		19.9	10.4	29.0		19.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	28.0		16.0	7.0	25.0		16.0				
Max Q Clear Time (g_c+I1), s	2.3	12.6		17.8	6.5	20.9		17.7				
Green Ext Time (p_c), s	0.0	6.1		0.0	0.0	3.0		0.0				
Intersection Summary												
HCM 6th Ctrl Delay			16.9									
HCM 6th LOS			B									

HCM 6th TWSC 3: US 287 & Jasper Rd.

Existing AM

Intersection												
Int Delay, s/veh	5.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↗	↖	↗	↖	↗	↖	↔
Traffic Vol, veh/h	2	1	2	35	0	101	0	1129	30	31	1261	0
Future Vol, veh/h	2	1	2	35	0	101	0	1129	30	31	1261	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	290	-	290	425	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	2	1	2	38	0	110	0	1227	33	34	1371	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2053	2699	686	1981	2666	-	1371	0	0	1260	0	0
Stage 1	1439	1439	-	1227	1227	-	-	-	-	-	-	-
Stage 2	614	1260	-	754	1439	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	-	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	-	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	32	21	390	~37	22	0	497	-	-	548	-	-
Stage 1	140	197	-	189	249	0	-	-	-	-	-	-
Stage 2	446	240	-	367	197	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	30	20	390	~34	21	-	497	-	-	548	-	-
Mov Cap-2 Maneuver	30	20	-	~34	21	-	-	-	-	-	-	-
Stage 1	140	185	-	189	249	-	-	-	-	-	-	-
Stage 2	446	240	-	340	185	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	105.8	\$ 370.1	0	0.3
HCM LOS	F	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	497	-	-	41	34	-	548	-	-
HCM Lane V/C Ratio	-	-	-	0.133	1.119	-	0.061	-	-
HCM Control Delay (s)	0	-	-	105.8	\$ 370.1	0	12	-	-
HCM Lane LOS	A	-	-	F	F	A	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0.4	4	-	0.2	-	-

Notes			
-:	Volume exceeds capacity	Ⓢ:	Delay exceeds 300s
+	Computation Not Defined	*	All major volume in platoon

HCM 6th TWSC 1: US 287 & Dawson Dr.

Existing PM

Intersection						
Int Delay, s/veh	4.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	52	144	80	1226	959	44
Future Vol, veh/h	52	144	80	1226	959	44
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	210	270	-	-	465
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	51	51	69	84	95	46
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	102	282	116	1460	1009	96
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	1971	505	1105	0	0	
Stage 1	1009	-	-	-	-	
Stage 2	962	-	-	-	-	
Critical Hdwy	6.84	6.94	4.14	-	-	
Critical Hdwy Stg 1	5.84	-	-	-	-	
Critical Hdwy Stg 2	5.84	-	-	-	-	
Follow-up Hdwy	3.52	3.32	2.22	-	-	
Pot Cap-1 Maneuver	~ 55	512	628	-	-	
Stage 1	313	-	-	-	-	
Stage 2	331	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 45	512	628	-	-	
Mov Cap-2 Maneuver	152	-	-	-	-	
Stage 1	255	-	-	-	-	
Stage 2	331	-	-	-	-	
Approach	EB		NB		SB	
HCM Control Delay, s	32.7		0.9		0	
HCM LOS	D					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	628	-	152	512	-	-
HCM Lane V/C Ratio	0.185	-	0.671	0.551	-	-
HCM Control Delay (s)	12	-	67	20.3	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.7	-	3.8	3.3	-	-
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Timings

Existing PM

2: US 287 & Lookout Rd.

Lane Group	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	62	174	11	18	17	73	1270	8	28	875	26
Future Volume (vph)	130	62	174	11	18	17	73	1270	8	28	875	26
Turn Type	Perm	NA	Perm	Perm	NA	Perm	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8		8	2		2	6		6
Detector Phase	4	4	4	8	8	8	5	2	2	1	6	6
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	9.0	32.0	32.0	8.0	31.0	31.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	33.3%	15.0%	53.3%	53.3%	13.3%	51.7%	51.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.0	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effect Green (s)		12.5	12.5		12.5	12.5	33.8	32.0	32.0	32.1	29.9	29.9
Actuated g/C Ratio		0.23	0.23		0.23	0.23	0.61	0.58	0.58	0.58	0.54	0.54
v/c Ratio		0.64	0.38		0.09	0.04	0.21	0.68	0.01	0.12	0.50	0.03
Control Delay		29.1	5.8		17.3	0.2	6.2	12.6	0.0	6.0	11.0	0.1
Queue Delay		0.0	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		29.1	5.8		17.3	0.2	6.2	12.6	0.0	6.0	11.0	0.1
LOS		C	A		B	A	A	B	A	A	B	A
Approach Delay		18.0			11.2			12.1			10.5	
Approach LOS		B			B			B			B	

Intersection Summary

Cycle Length: 60	
Actuated Cycle Length: 55.5	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.68	
Intersection Signal Delay: 12.4	Intersection LOS: B
Intersection Capacity Utilization 65.6%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: US 287 & Lookout Rd.



Queues

Existing PM

2: US 287 & Lookout Rd.

























Lane Group	EBT	EBR	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	208	189	32	18	79	1380	9	30	951	28
v/c Ratio	0.64	0.38	0.09	0.04	0.21	0.68	0.01	0.12	0.50	0.03
Control Delay	29.1	5.8	17.3	0.2	6.2	12.6	0.0	6.0	11.0	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.1	5.8	17.3	0.2	6.2	12.6	0.0	6.0	11.0	0.1
Queue Length 50th (ft)	64	0	9	0	9	126	0	3	115	0
Queue Length 95th (ft)	123	40	26	0	24	#305	0	12	181	0
Internal Link Dist (ft)	780		675			3810			512	
Turn Bay Length (ft)		50		50	285		465	500		500
Base Capacity (vph)	420	594	475	525	380	2039	951	250	1904	894
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.50	0.32	0.07	0.03	0.21	0.68	0.01	0.12	0.50	0.03

Intersection Summary

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

HCM 6th Signalized Intersection Summary 2: US 287 & Lookout Rd.

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	130	62	174	11	18	17	73	1270	8	28	875	26
Future Volume (veh/h)	130	62	174	11	18	17	73	1270	8	28	875	26
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	141	67	189	12	20	18	79	1380	9	30	951	28
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	31	438	86	105	438	369	1740	776	236	1658	739
Arrive On Green	0.28	0.28	0.28	0.28	0.28	0.28	0.05	0.49	0.49	0.03	0.47	0.47
Sat Flow, veh/h	0	111	1585	0	381	1585	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	208	0	189	32	0	18	79	1380	9	30	951	28
Grp Sat Flow(s),veh/h/ln	111	0	1585	381	0	1585	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	0.0	0.0	5.7	0.0	0.0	0.5	1.3	18.7	0.2	0.5	11.3	0.6
Cycle Q Clear(g_c), s	16.0	0.0	5.7	16.0	0.0	0.5	1.3	18.7	0.2	0.5	11.3	0.6
Prop In Lane	0.68		1.00	0.37		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	135	0	438	191	0	438	369	1740	776	236	1658	739
V/C Ratio(X)	1.54	0.00	0.43	0.17	0.00	0.04	0.21	0.79	0.01	0.13	0.57	0.04
Avail Cap(c_a), veh/h	135	0	438	191	0	438	434	1740	776	312	1658	739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	25.4	0.0	17.2	16.8	0.0	15.3	8.4	12.3	7.6	10.4	11.2	8.4
Incr Delay (d2), s/veh	276.4	0.0	0.7	0.4	0.0	0.0	0.3	3.8	0.0	0.2	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	12.1	0.0	1.8	0.3	0.0	0.2	0.4	6.9	0.1	0.2	4.0	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	301.8	0.0	17.9	17.2	0.0	15.4	8.6	16.1	7.6	10.6	12.7	8.5
LnGrp LOS	F	A	B	B	A	B	A	B	A	B	B	A
Approach Vol, veh/h		397			50			1468			1009	
Approach Delay, s/veh		166.6			16.6			15.7			12.5	
Approach LOS		F			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.5	32.3		20.0	6.9	31.0		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	28.0		16.0	5.0	27.0		16.0				
Max Q Clear Time (g_c+I1), s	2.5	20.7		18.0	3.3	13.3		18.0				
Green Ext Time (p_c), s	0.0	5.1		0.0	0.0	5.8		0.0				
Intersection Summary												
HCM 6th Ctrl Delay				35.1								
HCM 6th LOS				D								

HCM 6th TWSC 3: US 287 & Jasper Rd.

Existing PM

Intersection												
Int Delay, s/veh	8.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↕			↕	↗	↖	↗	↖	↗	↖	↕
Traffic Vol, veh/h	0	0	3	34	0	41	2	1317	76	54	1078	0
Future Vol, veh/h	0	0	3	34	0	41	2	1317	76	54	1078	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	290	-	290	425	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	3	37	0	45	2	1432	83	59	1172	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2010	2809	586	2140	2726	-	1172	0	0	1515	0	0
Stage 1	1290	1290	-	1436	1436	-	-	-	-	-	-	-
Stage 2	720	1519	-	704	1290	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	-	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	-	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	35	18	454	-28	20	0	592	-	-	437	-	-
Stage 1	173	232	-	140	197	0	-	-	-	-	-	-
Stage 2	385	180	-	394	232	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	31	16	454	-25	17	-	592	-	-	437	-	-
Mov Cap-2 Maneuver	31	16	-	-25	17	-	-	-	-	-	-	-
Stage 1	172	201	-	140	196	-	-	-	-	-	-	-
Stage 2	384	179	-	338	201	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	13	\$ 584.3	0	0.7
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	592	-	-	454	25	-	437	-	-
HCM Lane V/C Ratio	0.004	-	-	0.007	1.478	-	0.134	-	-
HCM Control Delay (s)	11.1	-	-	13\$	584.3	0	14.5	-	-
HCM Lane LOS	B	-	-	B	F	A	B	-	-
HCM 95th %tile Q(veh)	0	-	-	0	4.5	-	0.5	-	-

Notes			
-:	Volume exceeds capacity	\$:	Delay exceeds 300s
+	Computation Not Defined	*	All major volume in platoon

HCM 6th TWSC 1: US 287 & Dawson Dr.

Year 2033 Background AM

Intersection						
Int Delay, s/veh	14.7					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	125	160	1055	1345	145
Future Vol, veh/h	25	125	160	1055	1345	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	210	270	-	-	465
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	46	58	66	95	83	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	216	242	1111	1620	216
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2660	810	1836	0	0	
Stage 1	1620	-	-	-	-	
Stage 2	1040	-	-	-	-	
Critical Hdwy	6.84	6.94	4.14	-	-	
Critical Hdwy Stg 1	5.84	-	-	-	-	
Critical Hdwy Stg 2	5.84	-	-	-	-	
Follow-up Hdwy	3.52	3.32	2.22	-	-	
Pot Cap-1 Maneuver	~ 18	323	328	-	-	
Stage 1	147	-	-	-	-	
Stage 2	302	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 5	323	328	-	-	
Mov Cap-2 Maneuver	~ 32	-	-	-	-	
Stage 1	~ 39	-	-	-	-	
Stage 2	302	-	-	-	-	
Approach	EB	NB	SB			
HCM Control Delay, s	151	7.4	0			
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	328	-	32	323	-	-
HCM Lane V/C Ratio	0.739	-	1.698	0.667	-	-
HCM Control Delay (s)	41.5	-	\$ 607.3	35.9	-	-
HCM Lane LOS	E	-	F	E	-	-
HCM 95th %tile Q(veh)	5.6	-	6.1	4.5	-	-
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Timings 2: US 287 & Lookout Rd.

Year 2033 Background AM

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	35	15	105	30	80	275	995	10	20	1315	110	
Future Volume (vph)	35	15	105	30	80	275	995	10	20	1315	110	
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases		4			8	5	2		1	6		
Permitted Phases	4		4	8		2		2	6		6	
Detector Phase	4	4	4	8	8	5	2	2	1	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	11.0	37.0	37.0	8.0	34.0	34.0	
Total Split (%)	30.8%	30.8%	30.8%	30.8%	30.8%	16.9%	56.9%	56.9%	12.3%	52.3%	52.3%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max	
Act Effect Green (s)	8.4	8.4	8.4	8.4	8.4	42.0	41.7	41.7	35.2	31.1	31.1	
Actuated g/C Ratio	0.15	0.15	0.15	0.15	0.15	0.74	0.74	0.74	0.62	0.55	0.55	
v/c Ratio	0.20	0.06	0.34	0.16	0.43	0.88	0.41	0.01	0.06	0.73	0.13	
Control Delay	23.9	20.9	8.4	22.8	22.0	43.0	5.4	0.0	3.8	14.0	2.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	23.9	20.9	8.4	22.8	22.0	43.0	5.4	0.0	3.8	14.0	2.4	
LOS	C	C	A	C	C	D	A	A	A	B	A	
Approach Delay		13.1			22.2		13.4			13.0		
Approach LOS		B			C		B			B		

Intersection Summary

Cycle Length: 65	
Actuated Cycle Length: 56.5	
Natural Cycle: 65	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.88	
Intersection Signal Delay: 13.6	Intersection LOS: B
Intersection Capacity Utilization 70.2%	ICU Level of Service C
Analysis Period (min) 15	












Splits and Phases: 2: US 287 & Lookout Rd.



Queues

Year 2033 Background AM

2: US 287 & Lookout Rd.

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	38	16	114	33	125	299	1082	11	22	1429	120
v/c Ratio	0.20	0.06	0.34	0.16	0.43	0.88	0.41	0.01	0.06	0.73	0.13
Control Delay	23.9	20.9	8.4	22.8	22.0	43.0	5.4	0.0	3.8	14.0	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	23.9	20.9	8.4	22.8	22.0	43.0	5.4	0.0	3.8	14.0	2.4
Queue Length 50th (ft)	12	5	0	10	29	56	58	0	2	186	0
Queue Length 95th (ft)	34	19	35	30	70	#207	175	0	8	305	21
Internal Link Dist (ft)		780			675		3810			777	
Turn Bay Length (ft)	250		250	250		285		465	500		500
Base Capacity (vph)	359	530	532	396	529	340	2609	1189	397	1951	926
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.03	0.21	0.08	0.24	0.88	0.41	0.01	0.06	0.73	0.13
























Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary 2: US 287 & Lookout Rd.

Year 2033 Background AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	15	105	30	80	35	275	995	10	20	1315	110
Future Volume (veh/h)	35	15	105	30	80	35	275	995	10	20	1315	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	16	114	33	87	38	299	1082	11	22	1429	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	219	254	215	292	167	73	392	2224	992	406	1935	863
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.10	0.63	0.63	0.02	0.54	0.54
Sat Flow, veh/h	1266	1870	1585	1260	1234	539	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	38	16	114	33	0	125	299	1082	11	22	1429	120
Grp Sat Flow(s),veh/h/ln	1266	1870	1585	1260	0	1773	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.6	0.4	3.7	1.3	0.0	3.6	3.5	9.0	0.1	0.3	16.9	2.1
Cycle Q Clear(g_c), s	5.2	0.4	3.7	1.7	0.0	3.6	3.5	9.0	0.1	0.3	16.9	2.1
Prop In Lane	1.00		1.00	1.00		0.30	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	219	254	215	292	0	241	392	2224	992	406	1935	863
V/C Ratio(X)	0.17	0.06	0.53	0.11	0.00	0.52	0.76	0.49	0.01	0.05	0.74	0.14
Avail Cap(c_a), veh/h	415	543	460	487	0	515	437	2224	992	498	1935	863
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	24.6	20.8	22.2	21.5	0.0	22.1	10.9	5.5	3.9	5.5	9.6	6.2
Incr Delay (d2), s/veh	0.4	0.1	2.0	0.2	0.0	1.7	7.0	0.8	0.0	0.1	2.6	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.2	1.3	0.3	0.0	1.4	2.6	2.5	0.0	0.1	5.6	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.9	20.9	24.2	21.7	0.0	23.9	17.9	6.3	3.9	5.5	12.1	6.5
LnGrp LOS	C	C	C	C	A	C	B	A	A	A	B	A
Approach Vol, veh/h		168			158			1392			1571	
Approach Delay, s/veh		24.0			23.4			8.8			11.6	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.1	38.5		11.5	9.6	34.0		11.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	33.0		16.0	7.0	30.0		16.0				
Max Q Clear Time (g_c+I1), s	2.3	11.0		7.2	5.5	18.9		5.6				
Green Ext Time (p_c), s	0.0	8.4		0.3	0.1	7.6		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				11.6								
HCM 6th LOS				B								

HCM 6th TWSC 3: US 287 & Jasper Rd.

Year 2033 Background AM

Intersection												
Int Delay, s/veh	25.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↔	↔	↔	↔	↔
Traffic Vol, veh/h	5	5	5	40	0	115	0	1275	35	35	1425	0
Future Vol, veh/h	5	5	5	40	0	115	0	1275	35	35	1425	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	290	-	290	425	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	43	0	125	0	1386	38	38	1549	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2318	3049	775	2239	3011	-	1549	0	0	1424	0	0
Stage 1	1625	1625	-	1386	1386	-	-	-	-	-	-	-
Stage 2	693	1424	-	853	1625	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	-	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	-	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	20	12	341	-23	13	0	424	-	-	474	-	-
Stage 1	107	159	-	151	209	0	-	-	-	-	-	-
Stage 2	400	200	-	320	159	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	19	11	341	-13	12	-	424	-	-	474	-	-
Mov Cap-2 Maneuver	19	11	-	-13	12	-	-	-	-	-	-	-
Stage 1	107	146	-	151	209	-	-	-	-	-	-	-
Stage 2	400	200	-	279	146	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	403.7		1643.1		0		0.3	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	424	-	-	20	13	-	474	-	-
HCM Lane V/C Ratio	-	-	-	0.815	3.344	-	0.08	-	-
HCM Control Delay (s)	0	-	-	403.7	1643.1	0	13.3	-	-
HCM Lane LOS	A	-	-	F	F	A	B	-	-
HCM 95th %tile Q(veh)	0	-	-	2.3	6.4	-	0.3	-	-

Notes			
-:	Volume exceeds capacity	Ⓢ:	Delay exceeds 300s
+	Computation Not Defined	*	All major volume in platoon

HCM 6th TWSC 1: US 287 & Dawson Dr.

Year 2033 Background PM

Intersection						
Int Delay, s/veh	9.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	145	80	1385	1085	45
Future Vol, veh/h	55	145	80	1385	1085	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	210	270	-	-	465
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	46	58	66	95	83	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	250	121	1458	1307	67
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2278	654	1374	0	-	0
Stage 1	1307	-	-	-	-	-
Stage 2	971	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 34	409	495	-	-	-
Stage 1	217	-	-	-	-	-
Stage 2	328	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 26	409	495	-	-	-
Mov Cap-2 Maneuver	~ 110	-	-	-	-	-
Stage 1	164	-	-	-	-	-
Stage 2	328	-	-	-	-	-
Approach	EB		NB		SB	
HCM Control Delay, s	78		1.1		0	
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	495	-	110	409	-	-
HCM Lane V/C Ratio	0.245	-	1.087	0.611	-	-
HCM Control Delay (s)	14.6	-	185.3	26.7	-	-
HCM Lane LOS	B	-	F	D	-	-
HCM 95th %tile Q(veh)	1	-	7.3	3.9	-	-
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Timings
2: US 287 & Lookout Rd.

Year 2033 Background PM

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	150	70	200	15	20	85	1435	10	35	990	30	
Future Volume (vph)	150	70	200	15	20	85	1435	10	35	990	30	
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases		4			8	5	2		1	6		
Permitted Phases	4		4	8		2		2	6		6	
Detector Phase	4	4	4	8	8	5	2	2	1	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	9.0	32.0	32.0	8.0	31.0	31.0	
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	15.0%	53.3%	53.3%	13.3%	51.7%	51.7%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag						Lead	Lag	Lag	Lead	Lag	Lag	
Lead-Lag Optimize?						Yes	Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max	
Act Effect Green (s)	11.8	11.8	11.8	11.8	11.8	36.0	34.1	34.1	33.2	30.0	30.0	
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.63	0.60	0.60	0.58	0.53	0.53	
v/c Ratio	0.58	0.20	0.46	0.06	0.12	0.27	0.74	0.01	0.16	0.58	0.04	
Control Delay	28.5	18.9	8.7	17.3	11.9	6.8	14.3	0.0	6.2	12.3	0.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	28.5	18.9	8.7	17.3	11.9	6.8	14.3	0.0	6.2	12.3	0.1	
LOS	C	B	A	B	B	A	B	A	A	B	A	
Approach Delay		17.5			13.4		13.8			11.7		
Approach LOS		B			B		B			B		

Intersection Summary

Cycle Length: 60	
Actuated Cycle Length: 57	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.74	
Intersection Signal Delay: 13.6	Intersection LOS: B
Intersection Capacity Utilization 68.0%	ICU Level of Service C
Analysis Period (min) 15	












Splits and Phases: 2: US 287 & Lookout Rd.



Queues

Year 2033 Background PM

2: US 287 & Lookout Rd.

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	163	76	217	16	44	92	1560	11	38	1076	33
v/c Ratio	0.58	0.20	0.46	0.06	0.12	0.27	0.74	0.01	0.16	0.58	0.04
Control Delay	28.5	18.9	8.7	17.3	11.9	6.8	14.3	0.0	6.2	12.3	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	18.9	8.7	17.3	11.9	6.8	14.3	0.0	6.2	12.3	0.1
Queue Length 50th (ft)	49	21	10	4	6	9	141	0	4	128	0
Queue Length 95th (ft)	99	49	56	17	26	27	#422	0	14	214	1
Internal Link Dist (ft)		780			675		3810			512	
Turn Bay Length (ft)	250		250	250		285		465	500		500
Base Capacity (vph)	380	523	573	370	499	336	2118	984	245	1861	875
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.15	0.38	0.04	0.09	0.27	0.74	0.01	0.16	0.58	0.04
























Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary 2: US 287 & Lookout Rd.

Year 2033 Background PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	70	200	15	20	20	85	1435	10	35	990	30
Future Volume (veh/h)	150	70	200	15	20	20	85	1435	10	35	990	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	76	217	16	22	22	92	1560	11	38	1076	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	371	359	304	310	165	165	398	1934	863	258	1849	825
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.06	0.54	0.54	0.03	0.52	0.52
Sat Flow, veh/h	1362	1870	1585	1086	858	858	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	163	76	217	16	0	44	92	1560	11	38	1076	33
Grp Sat Flow(s),veh/h/ln	1362	1870	1585	1086	0	1716	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.9	1.8	6.7	0.7	0.0	1.1	1.2	18.5	0.2	0.5	10.8	0.5
Cycle Q Clear(g_c), s	7.0	1.8	6.7	2.4	0.0	1.1	1.2	18.5	0.2	0.5	10.8	0.5
Prop In Lane	1.00		1.00	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	371	359	304	310	0	329	398	1934	863	258	1849	825
V/C Ratio(X)	0.44	0.21	0.71	0.05	0.00	0.13	0.23	0.81	0.01	0.15	0.58	0.04
Avail Cap(c_a), veh/h	530	577	489	436	0	529	469	1934	863	337	1849	825
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.3	17.7	19.6	18.7	0.0	17.4	6.3	9.6	5.4	8.6	8.6	6.1
Incr Delay (d2), s/veh	0.8	0.3	3.1	0.1	0.0	0.2	0.3	3.7	0.0	0.3	1.3	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	0.7	2.3	0.1	0.0	0.4	0.3	6.1	0.0	0.2	3.5	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	21.1	18.0	22.7	18.8	0.0	17.6	6.6	13.3	5.5	8.8	9.9	6.2
LnGrp LOS	C	B	C	B	A	B	A	B	A	A	A	A
Approach Vol, veh/h		456			60			1663			1147	
Approach Delay, s/veh		21.3			17.9			12.9			9.8	
Approach LOS		C			B			B			A	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	32.3		14.0	6.9	31.0		14.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	28.0		16.0	5.0	27.0		16.0				
Max Q Clear Time (g_c+I1), s	2.5	20.5		9.0	3.2	12.8		4.4				
Green Ext Time (p_c), s	0.0	5.7		1.0	0.0	6.7		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				13.1								
HCM 6th LOS				B								

HCM 6th TWSC 3: US 287 & Jasper Rd.

Year 2033 Background PM

Intersection												
Int Delay, s/veh	21.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↗	↖	↗	↖	↗	↖	↔
Traffic Vol, veh/h	0	0	5	40	0	50	5	1485	90	65	1215	0
Future Vol, veh/h	0	0	5	40	0	50	5	1485	90	65	1215	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	290	-	290	425	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	43	0	54	5	1614	98	71	1321	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2280	3185	661	2427	3087	-	1321	0	0	1712	0	0
Stage 1	1463	1463	-	1624	1624	-	-	-	-	-	-	-
Stage 2	817	1722	-	803	1463	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	-	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	-	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	22	10	405	~ 17	12	0	519	-	-	367	-	-
Stage 1	135	191	-	107	159	0	-	-	-	-	-	-
Stage 2	337	142	-	343	191	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	19	8	405	~ 14	10	-	519	-	-	367	-	-
Mov Cap-2 Maneuver	19	8	-	~ 14	10	-	-	-	-	-	-	-
Stage 1	134	154	-	106	157	-	-	-	-	-	-	-
Stage 2	334	141	-	273	154	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14	\$ 1500	0	0.9
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	519	-	-	405	14	-	367	-	-
HCM Lane V/C Ratio	0.01	-	-	0.013	3.106	-	0.193	-	-
HCM Control Delay (s)	12	-	-	14	\$ 1500	0	17.1	-	-
HCM Lane LOS	B	-	-	B	F	A	C	-	-
HCM 95th %tile Q(veh)	0	-	-	0	6.3	-	0.7	-	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th TWSC 1: US 287 & Dawson Dr.

Year 2033 Background + Site AM

Intersection						
Int Delay, s/veh	238.1					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	151	192	1055	1345	202
Future Vol, veh/h	42	151	192	1055	1345	202
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	210	270	-	-	465
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	46	58	66	95	83	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	91	260	291	1111	1620	301
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2758	810	1921	0	0	
Stage 1	1620	-	-	-	-	
Stage 2	1138	-	-	-	-	
Critical Hdwy	6.84	6.94	4.14	-	-	
Critical Hdwy Stg 1	5.84	-	-	-	-	
Critical Hdwy Stg 2	5.84	-	-	-	-	
Follow-up Hdwy	3.52	3.32	2.22	-	-	
Pot Cap-1 Maneuver	~ 16	323	304	-	-	
Stage 1	147	-	-	-	-	
Stage 2	268	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 1	323	304	-	-	
Mov Cap-2 Maneuver	~ 5	-	-	-	-	
Stage 1	~ 6	-	-	-	-	
Stage 2	268	-	-	-	-	
Approach	EB	NB	SB			
HCM Control Delay, \$	2423.2	16.4	0			
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	304	-	5	323	-	-
HCM Lane V/C Ratio	0.957	-	18.261	0.806	-	-
HCM Control Delay (s)	79.2	-	\$ 9191.2	49.6	-	-
HCM Lane LOS	F	-	F	E	-	-
HCM 95th %tile Q(veh)	9.7	-	13.4	6.7	-	-
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Timings
2: US 287 & Lookout Rd.

Year 2033 Background + Site AM

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	35	15	124	30	70	281	1006	10	20	1353	110	
Future Volume (vph)	35	15	124	30	70	281	1006	10	20	1353	110	
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases		4			8	5	2		1	6		
Permitted Phases	4		4	8		2		2	6		6	
Detector Phase	4	4	4	8	8	5	2	2	1	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	13.0	42.0	42.0	8.0	37.0	37.0	
Total Split (%)	28.6%	28.6%	28.6%	28.6%	28.6%	18.6%	60.0%	60.0%	11.4%	52.9%	52.9%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max	
Act Effect Green (s)	8.3	8.3	8.3	8.3	8.3	46.7	46.1	46.1	37.6	33.6	33.6	
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.14	0.77	0.76	0.76	0.62	0.55	0.55	
v/c Ratio	0.22	0.06	0.40	0.17	0.42	0.81	0.41	0.01	0.06	0.75	0.13	
Control Delay	26.9	23.5	8.8	25.8	23.6	33.4	4.9	0.0	3.7	15.0	1.8	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	26.9	23.5	8.8	25.8	23.6	33.4	4.9	0.0	3.7	15.0	1.8	
LOS	C	C	A	C	C	C	A	A	A	B	A	
Approach Delay		13.7			24.1		11.0			13.9		
Approach LOS		B			C		B			B		

Intersection Summary

Cycle Length: 70
 Actuated Cycle Length: 60.8
 Natural Cycle: 70
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.81
 Intersection Signal Delay: 13.1
 Intersection LOS: B
 Intersection Capacity Utilization 71.6%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 2: US 287 & Lookout Rd.



Queues

Year 2033 Background + Site AM

2: US 287 & Lookout Rd.


























Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	38	16	135	33	114	305	1093	11	22	1471	120
v/c Ratio	0.22	0.06	0.40	0.17	0.42	0.81	0.41	0.01	0.06	0.75	0.13
Control Delay	26.9	23.5	8.8	25.8	23.6	33.4	4.9	0.0	3.7	15.0	1.8
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.9	23.5	8.8	25.8	23.6	33.4	4.9	0.0	3.7	15.0	1.8
Queue Length 50th (ft)	13	5	0	11	28	64	59	0	2	213	0
Queue Length 95th (ft)	37	20	39	33	70	#208	174	0	7	337	17
Internal Link Dist (ft)		780			675		3810			512	
Turn Bay Length (ft)	250		250	250		285		465	500		500
Base Capacity (vph)	337	493	522	368	493	377	2686	1220	385	1954	937
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.11	0.03	0.26	0.09	0.23	0.81	0.41	0.01	0.06	0.75	0.13

Intersection Summary

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

HCM 6th Signalized Intersection Summary 2: US 287 & Lookout Rd.

Year 2033 Background + Site AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	35	15	124	30	70	35	281	1006	10	20	1353	110
Future Volume (veh/h)	35	15	124	30	70	35	281	1006	10	20	1353	110
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	38	16	135	33	76	38	305	1093	11	22	1471	120
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	210	241	204	272	151	76	385	2298	1025	409	2014	898
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.10	0.65	0.65	0.02	0.57	0.57
Sat Flow, veh/h	1279	1870	1585	1236	1176	588	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	38	16	135	33	0	114	305	1093	11	22	1471	120
Grp Sat Flow(s),veh/h/ln	1279	1870	1585	1236	0	1764	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	1.7	0.4	4.8	1.4	0.0	3.5	3.6	9.2	0.1	0.3	18.0	2.1
Cycle Q Clear(g_c), s	5.2	0.4	4.8	1.9	0.0	3.5	3.6	9.2	0.1	0.3	18.0	2.1
Prop In Lane	1.00		1.00	1.00		0.33	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	210	241	204	272	0	227	385	2298	1025	409	2014	898
V/C Ratio(X)	0.18	0.07	0.66	0.12	0.00	0.50	0.79	0.48	0.01	0.05	0.73	0.13
Avail Cap(c_a), veh/h	394	509	432	450	0	480	479	2298	1025	494	2014	898
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	26.3	22.5	24.4	23.3	0.0	23.9	11.7	5.3	3.7	5.3	9.4	6.0
Incr Delay (d2), s/veh	0.4	0.1	3.6	0.2	0.0	1.7	7.1	0.7	0.0	0.1	2.4	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.5	0.2	1.8	0.4	0.0	1.4	2.9	2.5	0.0	0.1	5.9	0.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	26.7	22.6	28.0	23.5	0.0	25.6	18.8	6.0	3.7	5.3	11.8	6.3
LnGrp LOS	C	C	C	C	A	C	B	A	A	A	B	A
Approach Vol, veh/h		189			147			1409			1613	
Approach Delay, s/veh		27.3			25.1			8.8			11.3	
Approach LOS		C			C			A			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.2	42.0		11.6	9.9	37.3		11.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	38.0		16.0	9.0	33.0		16.0				
Max Q Clear Time (g_c+I1), s	2.3	11.2		7.2	5.6	20.0		5.5				
Green Ext Time (p_c), s	0.0	9.2		0.4	0.3	8.7		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				11.7								
HCM 6th LOS				B								

HCM 6th TWSC 3: US 287 & Jasper Rd.

Year 2033 Background + Site AM

Intersection												
Int Delay, s/veh	30.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↕	↕	↕	↕	↕
Traffic Vol, veh/h	5	5	5	40	0	118	0	1304	35	38	1449	0
Future Vol, veh/h	5	5	5	40	0	118	0	1304	35	38	1449	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	290	-	290	425	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	5	5	5	43	0	128	0	1417	38	41	1575	0

Major/Minor	Minor2		Minor1		Major1		Major2					
Conflicting Flow All	2366	3112	788	2289	3074	-	1575	0	0	1455	0	0
Stage 1	1657	1657	-	1417	1417	-	-	-	-	-	-	-
Stage 2	709	1455	-	872	1657	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	-	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	-	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	18	11	334	-21	12	0	414	-	-	461	-	-
Stage 1	102	154	-	144	201	0	-	-	-	-	-	-
Stage 2	391	193	-	312	154	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	17	10	334	-11	11	-	414	-	-	461	-	-
Mov Cap-2 Maneuver	17	10	-	-11	11	-	-	-	-	-	-	-
Stage 1	102	140	-	144	201	-	-	-	-	-	-	-
Stage 2	391	193	-	269	140	-	-	-	-	-	-	-

Approach	EB		WB		NB		SB	
HCM Control Delay, s	434.9		2008.3		0		0.3	
HCM LOS	F		F					

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	414	-	-	19	11	-	461	-	-
HCM Lane V/C Ratio	-	-	-	0.858	3.953	-	0.09	-	-
HCM Control Delay (s)	0	-	-	434.9	2008.3	0	13.6	-	-
HCM Lane LOS	A	-	-	F	F	A	B	-	-
HCM 95th %tile Q(veh)	0	-	-	2.3	6.5	-	0.3	-	-

Notes			
-:	Volume exceeds capacity	Ⓢ:	Delay exceeds 300s
+	Computation Not Defined	*	All major volume in platoon

HCM 6th TWSC 1: US 287 & Dawson Dr.

Year 2033 Background + Site PM

Intersection						
Int Delay, s/veh	28					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	83	175	100	1385	1085	62
Future Vol, veh/h	83	175	100	1385	1085	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	210	270	-	-	465
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	46	58	66	95	83	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	302	152	1458	1307	93

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	2340	654	1400	0	-	0
Stage 1	1307	-	-	-	-	-
Stage 2	1033	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 31	409	484	-	-	-
Stage 1	217	-	-	-	-	-
Stage 2	304	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 21	409	484	-	-	-
Mov Cap-2 Maneuver	~ 100	-	-	-	-	-
Stage 1	~ 149	-	-	-	-	-
Stage 2	304	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	198	1.5	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	484	-	100	409	-	-
HCM Lane V/C Ratio	0.313	-	1.804	0.738	-	-
HCM Control Delay (s)	15.8	-	\$ 470.9	34.8	-	-
HCM Lane LOS	C	-	F	D	-	-
HCM 95th %tile Q(veh)	1.3	-	14.7	5.9	-	-

Notes			
-:	Volume exceeds capacity	\$:	Delay exceeds 300s
+	Computation Not Defined	*	All major volume in platoon

Timings
2: US 287 & Lookout Rd.

Year 2033 Background + Site PM

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	150	70	206	15	20	94	1453	10	35	1001	30	
Future Volume (vph)	150	70	206	15	20	94	1453	10	35	1001	30	
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases		4			8	5	2		1	6		
Permitted Phases	4		4	8		2		2	6		6	
Detector Phase	4	4	4	8	8	5	2	2	1	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	10.0	32.0	32.0	8.0	30.0	30.0	
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	16.7%	53.3%	53.3%	13.3%	50.0%	50.0%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max	
Act Effect Green (s)	11.8	11.8	11.8	11.8	11.8	36.2	34.0	34.0	32.2	29.0	29.0	
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.64	0.60	0.60	0.57	0.51	0.51	
v/c Ratio	0.58	0.20	0.48	0.06	0.12	0.29	0.75	0.01	0.15	0.60	0.04	
Control Delay	28.5	18.9	9.3	17.3	11.9	6.8	14.7	0.0	6.4	13.2	0.1	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	28.5	18.9	9.3	17.3	11.9	6.8	14.7	0.0	6.4	13.2	0.1	
LOS	C	B	A	B	B	A	B	A	A	B	A	
Approach Delay		17.6			13.4		14.1			12.6		
Approach LOS		B			B		B			B		

Intersection Summary

Cycle Length: 60	
Actuated Cycle Length: 56.8	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.75	
Intersection Signal Delay: 14.1	Intersection LOS: B
Intersection Capacity Utilization 68.5%	ICU Level of Service C
Analysis Period (min) 15	

Splits and Phases: 2: US 287 & Lookout Rd.



Queues

Year 2033 Background + Site PM

2: US 287 & Lookout Rd.


























Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	163	76	224	16	44	102	1579	11	38	1088	33
v/c Ratio	0.58	0.20	0.48	0.06	0.12	0.29	0.75	0.01	0.15	0.60	0.04
Control Delay	28.5	18.9	9.3	17.3	11.9	6.8	14.7	0.0	6.4	13.2	0.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	28.5	18.9	9.3	17.3	11.9	6.8	14.7	0.0	6.4	13.2	0.1
Queue Length 50th (ft)	49	21	13	4	6	10	144	0	4	136	0
Queue Length 95th (ft)	99	49	59	17	26	29	#430	0	14	225	1
Internal Link Dist (ft)		780			675		3810			512	
Turn Bay Length (ft)	250		250	250		285		465	500		500
Base Capacity (vph)	382	526	573	372	502	350	2115	982	246	1808	853
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.43	0.14	0.39	0.04	0.09	0.29	0.75	0.01	0.15	0.60	0.04

Intersection Summary

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

HCM 6th Signalized Intersection Summary 2: US 287 & Lookout Rd.

Year 2033 Background + Site PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	150	70	206	15	20	20	94	1453	10	35	1001	30
Future Volume (veh/h)	150	70	206	15	20	20	94	1453	10	35	1001	30
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	163	76	224	16	22	22	102	1579	11	38	1088	33
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	360	305	310	165	165	397	1927	860	254	1832	817
Arrive On Green	0.19	0.19	0.19	0.19	0.19	0.19	0.06	0.54	0.54	0.03	0.52	0.52
Sat Flow, veh/h	1362	1870	1585	1079	858	858	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	163	76	224	16	0	44	102	1579	11	38	1088	33
Grp Sat Flow(s),veh/h/ln	1362	1870	1585	1079	0	1716	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	5.8	1.8	6.9	0.7	0.0	1.1	1.3	18.9	0.2	0.5	11.0	0.5
Cycle Q Clear(g_c), s	6.9	1.8	6.9	2.4	0.0	1.1	1.3	18.9	0.2	0.5	11.0	0.5
Prop In Lane	1.00		1.00	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	373	360	305	310	0	331	397	1927	860	254	1832	817
V/C Ratio(X)	0.44	0.21	0.73	0.05	0.00	0.13	0.26	0.82	0.01	0.15	0.59	0.04
Avail Cap(c_a), veh/h	533	580	491	437	0	532	498	1927	860	334	1832	817
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	20.1	17.5	19.6	18.6	0.0	17.3	6.4	9.7	5.4	8.8	8.7	6.2
Incr Delay (d2), s/veh	0.8	0.3	3.4	0.1	0.0	0.2	0.3	4.0	0.0	0.3	1.4	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.7	0.7	2.4	0.1	0.0	0.4	0.4	6.3	0.0	0.2	3.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	20.9	17.8	23.0	18.6	0.0	17.4	6.8	13.8	5.5	9.0	10.2	6.3
LnGrp LOS	C	B	C	B	A	B	A	B	A	A	B	A
Approach Vol, veh/h		463			60			1692			1159	
Approach Delay, s/veh		21.4			17.8			13.3			10.0	
Approach LOS		C			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.7	32.0		13.9	7.1	30.6		13.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	28.0		16.0	6.0	26.0		16.0				
Max Q Clear Time (g_c+I1), s	2.5	20.9		8.9	3.3	13.0		4.4				
Green Ext Time (p_c), s	0.0	5.5		1.0	0.1	6.4		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				13.4								
HCM 6th LOS				B								

HCM 6th TWSC 3: US 287 & Jasper Rd.

Year 2033 Background + Site PM

Intersection												
Int Delay, s/veh	24.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔			↔	↔	↔	↕	↕	↕	↕	↕
Traffic Vol, veh/h	0	0	5	40	0	52	5	1503	90	68	1242	0
Future Vol, veh/h	0	0	5	40	0	52	5	1503	90	68	1242	0
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Stop	Stop	Stop	Stop	Stop	Stop	Free	Free	Free	Free	Free	Free
RT Channelized	-	-	None	-	-	Free	-	-	None	-	-	None
Storage Length	-	-	-	-	-	0	290	-	290	425	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	92	92	92	92	92	92	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	0	0	5	43	0	57	5	1634	98	74	1350	0

Major/Minor	Minor2		Minor1		Major1			Major2				
Conflicting Flow All	2325	3240	675	2467	3142	-	1350	0	0	1732	0	0
Stage 1	1498	1498	-	1644	1644	-	-	-	-	-	-	-
Stage 2	827	1742	-	823	1498	-	-	-	-	-	-	-
Critical Hdwy	7.54	6.54	6.94	7.54	6.54	-	4.14	-	-	4.14	-	-
Critical Hdwy Stg 1	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Critical Hdwy Stg 2	6.54	5.54	-	6.54	5.54	-	-	-	-	-	-	-
Follow-up Hdwy	3.52	4.02	3.32	3.52	4.02	-	2.22	-	-	2.22	-	-
Pot Cap-1 Maneuver	20	9	396	-15	11	0	506	-	-	360	-	-
Stage 1	128	184	-	104	156	0	-	-	-	-	-	-
Stage 2	332	139	-	334	184	0	-	-	-	-	-	-
Platoon blocked, %								-	-	-	-	-
Mov Cap-1 Maneuver	17	7	396	-12	9	-	506	-	-	360	-	-
Mov Cap-2 Maneuver	17	7	-	-12	9	-	-	-	-	-	-	-
Stage 1	127	146	-	103	154	-	-	-	-	-	-	-
Stage 2	329	138	-	262	146	-	-	-	-	-	-	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	14.2	\$ 1810.4	0	0.9
HCM LOS	B	F		

Minor Lane/Major Mvmt	NBL	NBT	NBR	EBLn1	WBLn1	WBLn2	SBL	SBT	SBR
Capacity (veh/h)	506	-	-	396	12	-	360	-	-
HCM Lane V/C Ratio	0.011	-	-	0.014	3.623	-	0.205	-	-
HCM Control Delay (s)	12.2	-	-	14.2	\$ 1810.4	0	17.6	-	-
HCM Lane LOS	B	-	-	B	F	A	C	-	-
HCM 95th %tile Q(veh)	0	-	-	0	6.5	-	0.8	-	-

Notes			
-: Volume exceeds capacity	\$: Delay exceeds 300s	+: Computation Not Defined	*: All major volume in platoon

HCM 6th TWSC 1: US 287 & Dawson Dr.

Year 2043 Background AM

Intersection						
Int Delay, s/veh	42.5					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	25	125	160	1185	1515	145
Future Vol, veh/h	25	125	160	1185	1515	145
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	210	270	-	-	465
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	46	58	66	95	83	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	216	242	1247	1825	216
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2933	913	2041	0	0	
Stage 1	1825	-	-	-	-	
Stage 2	1108	-	-	-	-	
Critical Hdwy	6.84	6.94	4.14	-	-	
Critical Hdwy Stg 1	5.84	-	-	-	-	
Critical Hdwy Stg 2	5.84	-	-	-	-	
Follow-up Hdwy	3.52	3.32	2.22	-	-	
Pot Cap-1 Maneuver	~ 12	276	273	-	-	
Stage 1	114	-	-	-	-	
Stage 2	278	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 1	276	273	-	-	
Mov Cap-2 Maneuver	~ 11	-	-	-	-	
Stage 1	~ 13	-	-	-	-	
Stage 2	278	-	-	-	-	
Approach	EB	NB	SB			
HCM Control Delay, s	535.2	11.4	0			
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	273	-	11	276	-	-
HCM Lane V/C Ratio	0.888	-	4.941	0.781	-	-
HCM Control Delay (s)	69.8	\$	2449.3	52.5	-	-
HCM Lane LOS	F	-	F	F	-	-
HCM 95th %tile Q(veh)	7.8	-	8	6	-	-
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Timings 2: US 287 & Lookout Rd.

Year 2043 Background AM

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	40	15	120	35	85	310	1120	10	20	1485	125
Future Volume (vph)	40	15	120	35	85	310	1120	10	20	1485	125
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	15.0	52.0	52.0	8.0	45.0	45.0
Total Split (%)	25.0%	25.0%	25.0%	25.0%	25.0%	18.8%	65.0%	65.0%	10.0%	56.3%	56.3%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effect Green (s)	9.8	9.8	9.8	9.8	9.8	56.5	54.4	54.4	45.4	41.3	41.3
Actuated g/C Ratio	0.14	0.14	0.14	0.14	0.14	0.78	0.76	0.76	0.63	0.57	0.57
v/c Ratio	0.31	0.06	0.40	0.20	0.51	0.91	0.45	0.01	0.06	0.79	0.14
Control Delay	34.5	27.7	9.8	30.5	31.0	50.5	6.1	0.0	4.1	17.4	2.3
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	34.5	27.7	9.8	30.5	31.0	50.5	6.1	0.0	4.1	17.4	2.3
LOS	C	C	A	C	C	D	A	A	A	B	A
Approach Delay		16.9			30.9		15.6			16.1	
Approach LOS		B			C		B			B	

Intersection Summary
























Cycle Length: 80	
Actuated Cycle Length: 72	
Natural Cycle: 80	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.91	
Intersection Signal Delay: 16.6	Intersection LOS: B
Intersection Capacity Utilization 81.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: US 287 & Lookout Rd.



HCM 6th Signalized Intersection Summary 2: US 287 & Lookout Rd.

Year 2043 Background AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	15	120	35	85	40	310	1120	10	20	1485	125
Future Volume (veh/h)	40	15	120	35	85	40	310	1120	10	20	1485	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	16	130	38	92	43	337	1217	11	22	1614	136
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	182	255	216	261	165	77	382	2404	1072	366	2029	905
Arrive On Green	0.14	0.14	0.14	0.14	0.14	0.14	0.13	0.68	0.68	0.02	0.57	0.57
Sat Flow, veh/h	1254	1870	1585	1242	1206	563	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	43	16	130	38	0	135	337	1217	11	22	1614	136
Grp Sat Flow(s),veh/h/ln	1254	1870	1585	1242	0	1769	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.4	0.5	5.5	2.0	0.0	5.1	6.7	12.1	0.2	0.4	25.6	2.9
Cycle Q Clear(g_c), s	7.5	0.5	5.5	2.5	0.0	5.1	6.7	12.1	0.2	0.4	25.6	2.9
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	182	255	216	261	0	242	382	2404	1072	366	2029	905
V/C Ratio(X)	0.24	0.06	0.60	0.15	0.00	0.56	0.88	0.51	0.01	0.06	0.80	0.15
Avail Cap(c_a), veh/h	290	417	353	368	0	394	432	2404	1072	430	2029	905
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.5	27.0	29.2	28.1	0.0	29.0	18.1	5.7	3.8	6.2	12.1	7.2
Incr Delay (d2), s/veh	0.7	0.1	2.7	0.3	0.0	2.0	17.3	0.8	0.0	0.1	3.3	0.4
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.2	2.1	0.6	0.0	2.1	4.9	3.6	0.0	0.1	9.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	33.1	27.1	31.8	28.3	0.0	31.0	35.5	6.5	3.8	6.3	15.4	7.6
LnGrp LOS	C	C	C	C	A	C	D	A	A	A	B	A
Approach Vol, veh/h		189			173			1565			1772	
Approach Delay, s/veh		31.7			30.4			12.7			14.7	
Approach LOS		C			C			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.4	52.6		13.8	13.0	45.0		13.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	48.0		16.0	11.0	41.0		16.0				
Max Q Clear Time (g_c+I1), s	2.4	14.1		9.5	8.7	27.6		7.1				
Green Ext Time (p_c), s	0.0	11.6		0.3	0.3	9.7		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				15.5								
HCM 6th LOS				B								

Timings
3: US 287 & Jasper Rd.

Year 2043 Background AM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↔		↕	↗	↕	↗	↖	↕
Traffic Volume (vph)	5	5	45	0	130	1435	40	40	1605
Future Volume (vph)	5	5	45	0	130	1435	40	40	1605
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		8		2	6	
Detector Phase	4	4	8	8	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	60.0	60.0	60.0	60.0
Total Split (%)	25.0%	25.0%	25.0%	25.0%	25.0%	75.0%	75.0%	75.0%	75.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	Max	Max	Max	Max
Act Effect Green (s)		9.9		9.9	9.9	61.3	61.3	61.3	61.3
Actuated g/C Ratio		0.12		0.12	0.12	0.77	0.77	0.77	0.77
v/c Ratio		0.07		0.28	0.58	0.57	0.03	0.22	0.64
Control Delay		23.0		33.2	28.6	5.1	1.2	6.7	5.9
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		23.0		33.2	28.6	5.1	1.2	6.7	5.9
LOS		C		C	C	A	A	A	A
Approach Delay		23.0		29.8		5.0			5.9
Approach LOS		C		C		A			A

Intersection Summary






















Cycle Length: 80	
Actuated Cycle Length: 79.2	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.64	
Intersection Signal Delay: 6.8	Intersection LOS: A
Intersection Capacity Utilization 61.1%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: US 287 & Jasper Rd.



HCM 6th Signalized Intersection Summary 3: US 287 & Jasper Rd.

Year 2043 Background AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	45	0	130	0	1435	40	40	1605	0
Future Volume (veh/h)	5	5	5	45	0	130	0	1435	40	40	1605	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	5	5	49	0	0	0	1560	43	43	1745	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	94	30	26	173	0		108	2971	1325	332	2971	0
Arrive On Green	0.04	0.04	0.04	0.04	0.00	0.00	0.00	0.84	0.84	0.84	0.84	0.00
Sat Flow, veh/h	499	677	588	1474	0	1585	276	3554	1585	317	3647	0
Grp Volume(v), veh/h	15	0	0	49	0	0	0	1560	43	43	1745	0
Grp Sat Flow(s),veh/h/ln	1764	0	0	1474	0	1585	276	1777	1585	317	1777	0
Q Serve(g_s), s	0.0	0.0	0.0	1.6	0.0	0.0	0.0	8.6	0.3	3.1	10.6	0.0
Cycle Q Clear(g_c), s	0.5	0.0	0.0	2.2	0.0	0.0	0.0	8.6	0.3	11.7	10.6	0.0
Prop In Lane	0.33		0.33	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	150	0	0	173	0		108	2971	1325	332	2971	0
V/C Ratio(X)	0.10	0.00	0.00	0.28	0.00		0.00	0.52	0.03	0.13	0.59	0.00
Avail Cap(c_a), veh/h	462	0	0	446	0		108	2971	1325	332	2971	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.8	0.0	0.0	31.6	0.0	0.0	0.0	1.6	0.9	3.3	1.8	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	0.9	0.0	0.0	0.0	0.7	0.0	0.8	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.2	0.0	0.0	0.8	0.0	0.0	0.0	0.5	0.0	0.2	0.6	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	31.1	0.0	0.0	32.4	0.0	0.0	0.0	2.3	1.0	4.1	2.6	0.0
LnGrp LOS	C	A	A	C	A		A	A	A	A	A	A
Approach Vol, veh/h		15			49			1603			1788	
Approach Delay, s/veh		31.1			32.4			2.2			2.7	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		60.0		7.0		60.0		7.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		56.0		16.0		56.0		16.0				
Max Q Clear Time (g_c+I1), s		10.6		2.5		13.7		4.2				
Green Ext Time (p_c), s		19.0		0.0		23.4		0.1				
Intersection Summary												
HCM 6th Ctrl Delay				3.0								
HCM 6th LOS				A								
Notes												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th TWSC 1: US 287 & Dawson Dr.

Year 2043 Background PM

Intersection						
Int Delay, s/veh	13					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	55	145	80	1560	1220	45
Future Vol, veh/h	55	145	80	1560	1220	45
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	210	270	-	-	465
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	46	58	66	95	83	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	120	250	121	1642	1470	67
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2533	735	1537	0	0	
Stage 1	1470	-	-	-	-	
Stage 2	1063	-	-	-	-	
Critical Hdwy	6.84	6.94	4.14	-	-	
Critical Hdwy Stg 1	5.84	-	-	-	-	
Critical Hdwy Stg 2	5.84	-	-	-	-	
Follow-up Hdwy	3.52	3.32	2.22	-	-	
Pot Cap-1 Maneuver	~ 22	362	429	-	-	
Stage 1	178	-	-	-	-	
Stage 2	293	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	~ 16	362	429	-	-	
Mov Cap-2 Maneuver	~ 87	-	-	-	-	
Stage 1	128	-	-	-	-	
Stage 2	293	-	-	-	-	
Approach	EB	NB	SB			
HCM Control Delay, s	124	1.1	0			
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	429	-	87	362	-	-
HCM Lane V/C Ratio	0.283	-	1.374	0.691	-	-
HCM Control Delay (s)	16.7	-	\$ 311.4	34.4	-	-
HCM Lane LOS	C	-	F	D	-	-
HCM 95th %tile Q(veh)	1.1	-	9	4.9	-	-
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Timings 2: US 287 & Lookout Rd.

Year 2043 Background PM

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	165	80	225	14	25	95	1615	10	40	1115	35	
Future Volume (vph)	165	80	225	14	25	95	1615	10	40	1115	35	
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases		4			8	5	2		1	6		
Permitted Phases	4		4	8		2		2	6		6	
Detector Phase	4	4	4	8	8	5	2	2	1	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	10.0	37.0	37.0	8.0	35.0	35.0	
Total Split (%)	30.8%	30.8%	30.8%	30.8%	30.8%	15.4%	56.9%	56.9%	12.3%	53.8%	53.8%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max	Max
Act Effect Green (s)	12.8	12.8	12.8	12.8	12.8	39.8	36.3	36.3	36.2	33.1	33.1	33.1
Actuated g/C Ratio	0.21	0.21	0.21	0.21	0.21	0.65	0.59	0.59	0.59	0.54	0.54	0.54
v/c Ratio	0.64	0.23	0.54	0.06	0.14	0.33	0.84	0.01	0.19	0.64	0.04	0.04
Control Delay	33.7	21.5	13.5	19.5	13.0	7.5	18.6	0.0	6.7	13.6	0.7	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	21.5	13.5	19.5	13.0	7.5	18.6	0.0	6.7	13.6	0.7	0.7
LOS	C	C	B	B	B	A	B	A	A	B	A	A
Approach Delay		21.9			14.4		17.9			13.0		
Approach LOS		C			B		B			B		

Intersection Summary

Cycle Length: 65	
Actuated Cycle Length: 61.7	
Natural Cycle: 65	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.84	
Intersection Signal Delay: 16.7	Intersection LOS: B
Intersection Capacity Utilization 73.8%	ICU Level of Service D
Analysis Period (min) 15	

Splits and Phases: 2: US 287 & Lookout Rd.



Queues

Year 2043 Background PM

2: US 287 & Lookout Rd.


























Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	179	87	245	15	54	103	1755	11	43	1212	38
v/c Ratio	0.64	0.23	0.54	0.06	0.14	0.33	0.84	0.01	0.19	0.64	0.04
Control Delay	33.7	21.5	13.5	19.5	13.0	7.5	18.6	0.0	6.7	13.6	0.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	33.7	21.5	13.5	19.5	13.0	7.5	18.6	0.0	6.7	13.6	0.7
Queue Length 50th (ft)	62	27	28	5	8	12	311	0	5	177	0
Queue Length 95th (ft)	120	60	86	18	33	29	#510	0	15	258	4
Internal Link Dist (ft)		780			675		3810			512	
Turn Bay Length (ft)	250		250	250		285		465	500		500
Base Capacity (vph)	350	485	527	340	468	314	2082	966	229	1898	887
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.51	0.18	0.46	0.04	0.12	0.33	0.84	0.01	0.19	0.64	0.04

Intersection Summary

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

HCM 6th Signalized Intersection Summary 2: US 287 & Lookout Rd.

Year 2043 Background PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	80	225	14	25	25	95	1615	10	40	1115	35
Future Volume (veh/h)	165	80	225	14	25	25	95	1615	10	40	1115	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	87	245	15	27	27	103	1755	11	43	1212	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	360	377	320	293	173	173	354	1991	888	219	1916	855
Arrive On Green	0.20	0.20	0.20	0.20	0.20	0.20	0.06	0.56	0.56	0.03	0.54	0.54
Sat Flow, veh/h	1350	1870	1585	1048	858	858	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	179	87	245	15	0	54	103	1755	11	43	1212	38
Grp Sat Flow(s),veh/h/ln	1350	1870	1585	1048	0	1716	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	7.4	2.3	8.6	0.7	0.0	1.5	1.5	25.3	0.2	0.6	14.0	0.7
Cycle Q Clear(g_c), s	8.9	2.3	8.6	3.0	0.0	1.5	1.5	25.3	0.2	0.6	14.0	0.7
Prop In Lane	1.00		1.00	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	360	377	320	293	0	346	354	1991	888	219	1916	855
V/C Ratio(X)	0.50	0.23	0.77	0.05	0.00	0.16	0.29	0.88	0.01	0.20	0.63	0.04
Avail Cap(c_a), veh/h	454	508	431	366	0	466	437	1991	888	279	1916	855
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	23.1	19.7	22.2	20.9	0.0	19.4	7.3	11.3	5.7	11.3	9.5	6.4
Incr Delay (d2), s/veh	1.1	0.3	5.7	0.1	0.0	0.2	0.4	6.0	0.0	0.4	1.6	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	1.0	3.3	0.2	0.0	0.5	0.5	9.2	0.1	0.2	4.7	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	24.1	20.0	27.9	21.0	0.0	19.6	7.8	17.3	5.8	11.8	11.1	6.5
LnGrp LOS	C	B	C	C	A	B	A	B	A	B	B	A
Approach Vol, veh/h		511			69			1869			1293	
Approach Delay, s/veh		25.2			19.9			16.7			11.0	
Approach LOS		C			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.0	37.0		15.9	7.3	35.8		15.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	33.0		16.0	6.0	31.0		16.0				
Max Q Clear Time (g_c+I1), s	2.6	27.3		10.9	3.5	16.0		5.0				
Green Ext Time (p_c), s	0.0	4.8		0.9	0.0	7.8		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				15.9								
HCM 6th LOS				B								

Timings 3: US 287 & Jasper Rd.

Year 2043 Background PM



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↕		↕	↕	↕	↕	↕	↕	↕
Traffic Volume (vph)	0	45	0	55	5	1675	100	70	1370
Future Volume (vph)	0	45	0	55	5	1675	100	70	1370
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases	4		8			2			6
Permitted Phases		8		8	2		2	6	
Detector Phase	4	8	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	45.0	45.0	45.0	45.0	45.0
Total Split (%)	30.8%	30.8%	30.8%	30.8%	69.2%	69.2%	69.2%	69.2%	69.2%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effect Green (s)	7.8		7.8	7.8	47.4	47.4	47.4	47.4	47.4
Actuated g/C Ratio	0.13		0.13	0.13	0.80	0.80	0.80	0.80	0.80
v/c Ratio	0.02		0.27	0.26	0.02	0.65	0.08	0.56	0.53
Control Delay	0.2		27.9	20.0	3.0	5.5	0.9	27.8	4.2
Queue Delay	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.2		27.9	20.0	3.0	5.5	0.9	27.8	4.2
LOS	A		C	C	A	A	A	C	A
Approach Delay	0.2		23.6			5.2			5.4
Approach LOS	A		C			A			A

Intersection Summary

Cycle Length: 65
 Actuated Cycle Length: 59.5
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.65
 Intersection Signal Delay: 5.8
 Intersection Capacity Utilization 69.3%
 Analysis Period (min) 15

Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 3: US 287 & Jasper Rd.



Queues
3: US 287 & Jasper Rd.

Year 2043 Background PM
























Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	5	49	60	5	1821	109	76	1489
v/c Ratio	0.02	0.27	0.26	0.02	0.65	0.08	0.56	0.53
Control Delay	0.2	27.9	20.0	3.0	5.5	0.9	27.8	4.2
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.2	27.9	20.0	3.0	5.5	0.9	27.8	4.2
Queue Length 50th (ft)	0	20	15	0	134	0	9	92
Queue Length 95th (ft)	0	41	39	3	237	10	#84	160
Internal Link Dist (ft)	660	1067			1890			2575
Turn Bay Length (ft)				290		290	425	
Base Capacity (vph)	484	394	459	221	2819	1283	136	2819
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.12	0.13	0.02	0.65	0.08	0.56	0.53

Intersection Summary

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

HCM 6th Signalized Intersection Summary 3: US 287 & Jasper Rd.

Year 2043 Background PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	5	45	0	55	5	1675	100	70	1370	0
Future Volume (veh/h)	0	0	5	45	0	55	5	1675	100	70	1370	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	5	49	0	0	5	1821	109	76	1489	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	0	69	217	0	0	379	2769	1235	286	2769	0
Arrive On Green	0.00	0.00	0.04	0.04	0.00	0.00	0.78	0.78	0.78	0.78	0.78	0.00
Sat Flow, veh/h	0	0	1585	1313	0	1585	354	3554	1585	231	3647	0
Grp Volume(v), veh/h	0	0	5	49	0	0	5	1821	109	76	1489	0
Grp Sat Flow(s),veh/h/ln	0	0	1585	1313	0	1585	354	1777	1585	231	1777	0
Q Serve(g_s), s	0.0	0.0	0.1	1.6	0.0	0.0	0.2	10.5	0.7	10.1	7.2	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.1	1.7	0.0	0.0	7.4	10.5	0.7	20.5	7.2	0.0
Prop In Lane	0.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	69	217	0	0	379	2769	1235	286	2769	0
V/C Ratio(X)	0.00	0.00	0.07	0.23	0.00	0.00	0.01	0.66	0.09	0.27	0.54	0.00
Avail Cap(c_a), veh/h	0	0	562	655	0	0	424	3227	1440	315	3227	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	20.7	21.5	0.0	0.0	3.3	2.3	1.2	6.9	1.9	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.5	0.0	0.0	0.0	0.4	0.0	0.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.5	0.0	0.0	0.0	0.2	0.0	0.4	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	21.2	22.0	0.0	0.0	3.3	2.7	1.2	7.4	2.1	0.0
LnGrp LOS	A	A	C	C	A	A	A	A	A	A	A	A
Approach Vol, veh/h		5			49			1935			1565	
Approach Delay, s/veh		21.2			22.0			2.6			2.3	
Approach LOS		C			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		39.2		6.0		39.2		6.0				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		41.0		16.0		41.0		16.0				
Max Q Clear Time (g_c+I1), s		12.5		2.1		22.5		3.7				
Green Ext Time (p_c), s		18.9		0.0		12.6		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			2.8									
HCM 6th LOS			A									
Notes												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

HCM 6th TWSC 1: US 287 & Dawson Dr.

2043 Background + Site AM

Intersection						
Int Delay, s/veh	10.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	42	151	192	1185	1515	202
Future Vol, veh/h	42	151	192	1185	1515	202
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	210	270	-	-	465
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	46	58	66	95	83	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	91	260	291	1247	1825	301
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	3031	913	2126	0	0	
Stage 1	1825	-	-	-	-	
Stage 2	1206	-	-	-	-	
Critical Hdwy	6.84	6.94	4.14	-	-	
Critical Hdwy Stg 1	5.84	-	-	-	-	
Critical Hdwy Stg 2	5.84	-	-	-	-	
Follow-up Hdwy	3.52	3.32	2.22	-	-	
Pot Cap-1 Maneuver	~ 10	276	~ 252	-	-	
Stage 1	114	-	-	-	-	
Stage 2	246	-	-	-	-	
Platoon blocked, %				-	-	
Mov Cap-1 Maneuver	0	276	~ 252	-	-	
Mov Cap-2 Maneuver	0	-	-	-	-	
Stage 1	0	-	-	-	-	
Stage 2	246	-	-	-	-	
Approach	EB	NB	SB			
HCM Control Delay, s		27.8	0			
HCM LOS	-					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	~ 252	-	-	276	-	-
HCM Lane V/C Ratio	1.154	-	-	0.943	-	-
HCM Control Delay (s)	146.9	-	-	80.8	-	-
HCM Lane LOS	F	-	-	F	-	-
HCM 95th %tile Q(veh)	13.2	-	-	9	-	-
Notes						
-: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

Timings
2: US 287 & Lookout Rd.

2043 Background + Site AM

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Traffic Volume (vph)	40	15	139	35	85	316	1131	10	20	1523	125
Future Volume (vph)	40	15	139	35	85	316	1131	10	20	1523	125
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm
Protected Phases		4			8	5	2		1	6	
Permitted Phases	4		4	8		2		2	6		6
Detector Phase	4	4	4	8	8	5	2	2	1	6	6
Switch Phase											
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	20.0	19.0	62.0	62.0	8.0	51.0	51.0
Total Split (%)	22.2%	22.2%	22.2%	22.2%	22.2%	21.1%	68.9%	68.9%	8.9%	56.7%	56.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag							Lead	Lag	Lag	Lead	Lag
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max
Act Effect Green (s)	10.7	10.7	10.7	10.7	10.7	65.6	62.5	62.5	51.1	47.1	47.1
Actuated g/C Ratio	0.13	0.13	0.13	0.13	0.13	0.78	0.74	0.74	0.61	0.56	0.56
v/c Ratio	0.34	0.07	0.45	0.22	0.55	0.88	0.47	0.01	0.07	0.84	0.14
Control Delay	41.0	32.3	10.7	35.7	37.3	47.8	6.1	0.0	4.6	21.3	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	32.3	10.7	35.7	37.3	47.8	6.1	0.0	4.6	21.3	2.4
LOS	D	C	B	D	D	D	A	A	A	C	A
Approach Delay		18.5			36.9		15.1			19.7	
Approach LOS		B			D		B			B	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 84.3
 Natural Cycle: 90
 Control Type: Semi Act-Uncoord
 Maximum v/c Ratio: 0.88
 Intersection Signal Delay: 18.5
 Intersection LOS: B
 Intersection Capacity Utilization 83.2%
 ICU Level of Service E
 Analysis Period (min) 15

Splits and Phases: 2: US 287 & Lookout Rd.



Queues

2: US 287 & Lookout Rd.

2043 Background + Site AM



Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	43	16	151	38	135	343	1229	11	22	1655	136
v/c Ratio	0.34	0.07	0.45	0.22	0.55	0.88	0.47	0.01	0.07	0.84	0.14
Control Delay	41.0	32.3	10.7	35.7	37.3	47.8	6.1	0.0	4.6	21.3	2.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	32.3	10.7	35.7	37.3	47.8	6.1	0.0	4.6	21.3	2.4
Queue Length 50th (ft)	21	8	0	18	56	127	87	0	2	360	0
Queue Length 95th (ft)	52	25	50	47	111	#304	226	0	8	#543	26
Internal Link Dist (ft)		780			675		3810			512	
Turn Bay Length (ft)	250		250	250		285		465	500		500
Base Capacity (vph)	189	354	423	264	355	399	2625	1190	321	1977	944
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.23	0.05	0.36	0.14	0.38	0.86	0.47	0.01	0.07	0.84	0.14
























Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary 2: US 287 & Lookout Rd.

2043 Background + Site AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	15	139	35	85	40	316	1131	10	20	1523	125
Future Volume (veh/h)	40	15	139	35	85	40	316	1131	10	20	1523	125
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	43	16	151	38	92	43	343	1229	11	22	1655	136
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	164	249	211	240	160	75	385	2497	1114	366	2092	933
Arrive On Green	0.13	0.13	0.13	0.13	0.13	0.13	0.13	0.70	0.70	0.02	0.59	0.59
Sat Flow, veh/h	1254	1870	1585	1218	1206	563	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	43	16	151	38	0	135	343	1229	11	22	1655	136
Grp Sat Flow(s),veh/h/ln	1254	1870	1585	1218	0	1769	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	2.8	0.6	7.5	2.3	0.0	5.9	8.6	13.0	0.2	0.4	29.6	3.2
Cycle Q Clear(g_c), s	8.7	0.6	7.5	2.9	0.0	5.9	8.6	13.0	0.2	0.4	29.6	3.2
Prop In Lane	1.00		1.00	1.00		0.32	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	164	249	211	240	0	235	385	2497	1114	366	2092	933
V/C Ratio(X)	0.26	0.06	0.72	0.16	0.00	0.57	0.89	0.49	0.01	0.06	0.79	0.15
Avail Cap(c_a), veh/h	240	362	307	314	0	343	472	2497	1114	418	2092	933
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	37.7	31.3	34.3	32.6	0.0	33.6	22.2	5.6	3.7	6.5	13.1	7.6
Incr Delay (d2), s/veh	0.8	0.1	4.5	0.3	0.0	2.2	16.3	0.7	0.0	0.1	3.2	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.9	0.3	3.0	0.7	0.0	2.5	7.7	2.9	0.0	0.1	9.3	0.9
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	38.5	31.4	38.8	32.9	0.0	35.8	38.5	6.3	3.7	6.6	16.2	8.0
LnGrp LOS	D	C	D	C	A	D	D	A	A	A	B	A
Approach Vol, veh/h		210			173			1583			1813	
Approach Delay, s/veh		38.2			35.2			13.2			15.5	
Approach LOS		D			D			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.6	62.0		15.0	15.0	52.6		15.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	58.0		16.0	15.0	47.0		16.0				
Max Q Clear Time (g_c+I1), s	2.4	15.0		10.7	10.6	31.6		7.9				
Green Ext Time (p_c), s	0.0	10.0		0.3	0.4	9.9		0.4				
Intersection Summary												
HCM 6th Ctrl Delay				16.7								
HCM 6th LOS				B								

Timings
3: US 287 & Jasper Rd.

2043 Background + Site AM



Lane Group	EBL	EBT	WBL	WBT	WBR	NBT	NBR	SBL	SBT
Lane Configurations		↔		↕	↗	↕↕	↗	↖	↕↕
Traffic Volume (vph)	5	5	45	0	133	1464	40	43	1629
Future Volume (vph)	5	5	45	0	133	1464	40	43	1629
Turn Type	Perm	NA	Perm	NA	Perm	NA	Perm	Perm	NA
Protected Phases		4		8		2			6
Permitted Phases	4		8		8		2	6	
Detector Phase	4	4	8	8	8	2	2	6	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	21.0	21.0	21.0	21.0	21.0	69.0	69.0	69.0	69.0
Total Split (%)	23.3%	23.3%	23.3%	23.3%	23.3%	76.7%	76.7%	76.7%	76.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)		4.0		4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	None	Max	Max	Max	Max
Act Effect Green (s)		10.5		10.5	10.5	70.2	70.2	70.2	70.2
Actuated g/C Ratio		0.12		0.12	0.12	0.79	0.79	0.79	0.79
v/c Ratio		0.08		0.30	0.61	0.57	0.03	0.24	0.63
Control Delay		26.3		38.0	32.7	5.0	1.1	7.0	5.7
Queue Delay		0.0		0.0	0.0	0.0	0.0	0.0	0.0
Total Delay		26.3		38.0	32.7	5.0	1.1	7.0	5.7
LOS		C		D	C	A	A	A	A
Approach Delay		26.3		34.1		4.9			5.7
Approach LOS		C		C		A			A

Intersection Summary

Cycle Length: 90	
Actuated Cycle Length: 88.7	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.63	
Intersection Signal Delay: 6.9	Intersection LOS: A
Intersection Capacity Utilization 62.0%	ICU Level of Service B
Analysis Period (min) 15	

Splits and Phases: 3: US 287 & Jasper Rd.



Queues
3: US 287 & Jasper Rd.





















2043 Background + Site AM



Lane Group	EBT	WBT	WBR	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	15	49	145	1591	43	47	1771
v/c Ratio	0.08	0.30	0.61	0.57	0.03	0.24	0.63
Control Delay	26.3	38.0	32.7	5.0	1.1	7.0	5.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	26.3	38.0	32.7	5.0	1.1	7.0	5.7
Queue Length 50th (ft)	5	24	45	129	0	5	158
Queue Length 95th (ft)	22	56	100	242	8	24	298
Internal Link Dist (ft)	660	1067		1890			2575
Turn Bay Length (ft)					290	425	
Base Capacity (vph)	319	267	349	2799	1261	192	2799
Starvation Cap Reductn	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0
Reduced v/c Ratio	0.05	0.18	0.42	0.57	0.03	0.24	0.63
Intersection Summary							

HCM 6th Signalized Intersection Summary 3: US 287 & Jasper Rd.

2043 Background + Site AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	5	5	5	45	0	133	0	1464	40	43	1629	0
Future Volume (veh/h)	5	5	5	45	0	133	0	1464	40	43	1629	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	5	5	5	49	0	0	0	1591	43	47	1771	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	83	32	26	160	0		94	3024	1349	319	3024	0
Arrive On Green	0.04	0.04	0.04	0.04	0.00	0.00	0.00	0.85	0.85	0.85	0.85	0.00
Sat Flow, veh/h	457	716	586	1474	0	1585	269	3554	1585	307	3647	0
Grp Volume(v), veh/h	15	0	0	49	0	0	0	1591	43	47	1771	0
Grp Sat Flow(s),veh/h/ln	1759	0	0	1474	0	1585	269	1777	1585	307	1777	0
Q Serve(g_s), s	0.0	0.0	0.0	1.8	0.0	0.0	0.0	9.2	0.3	3.7	11.3	0.0
Cycle Q Clear(g_c), s	0.6	0.0	0.0	2.5	0.0	0.0	0.0	9.2	0.3	13.0	11.3	0.0
Prop In Lane	0.33		0.33	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	141	0	0	160	0		94	3024	1349	319	3024	0
V/C Ratio(X)	0.11	0.00	0.00	0.31	0.00		0.00	0.53	0.03	0.15	0.59	0.00
Avail Cap(c_a), veh/h	427	0	0	410	0		94	3024	1349	319	3024	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	35.2	0.0	0.0	36.0	0.0	0.0	0.0	1.5	0.9	3.3	1.7	0.0
Incr Delay (d2), s/veh	0.3	0.0	0.0	1.1	0.0	0.0	0.0	0.7	0.0	1.0	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.3	0.0	0.0	0.9	0.0	0.0	0.0	0.3	0.0	0.2	0.4	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	35.5	0.0	0.0	37.1	0.0	0.0	0.0	2.2	0.9	4.3	2.5	0.0
LnGrp LOS	D	A	A	D	A		A	A	A	A	A	A
Approach Vol, veh/h		15			49			1634			1818	
Approach Delay, s/veh		35.5			37.1			2.2			2.6	
Approach LOS		D			D			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		69.0		7.4		69.0		7.4				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		65.0		17.0		65.0		17.0				
Max Q Clear Time (g_c+I1), s		11.2		2.6		15.0		4.5				
Green Ext Time (p_c), s		16.4		0.0		21.6		0.1				

Intersection Summary

HCM 6th Ctrl Delay	3.0
HCM 6th LOS	A

Notes

Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.

Timings
1: US 287 & Dawson Dr.

Year 2043 Background + Site AM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	42	151	192	1185	1515	202
Future Volume (vph)	42	151	192	1185	1515	202
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	8.0	8.0	20.0	20.0	20.0
Total Split (s)	20.0	19.0	19.0	70.0	51.0	51.0
Total Split (%)	22.2%	21.1%	21.1%	77.8%	56.7%	56.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effect Green (s)	9.6	26.3	15.2	66.7	46.5	46.5
Actuated g/C Ratio	0.12	0.33	0.19	0.82	0.57	0.57
v/c Ratio	0.44	0.50	0.88	0.43	0.90	0.29
Control Delay	41.0	24.6	62.6	3.4	24.1	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	24.6	62.6	3.4	24.1	2.1
LOS	D	C	E	A	C	A
Approach Delay	28.8			14.6	20.9	
Approach LOS	C			B	C	

Intersection Summary

Cycle Length: 90
 Actuated Cycle Length: 80.9
 Natural Cycle: 90
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.90
 Intersection Signal Delay: 19.2
 Intersection LOS: B
 Intersection Capacity Utilization 65.8%
 ICU Level of Service C
 Analysis Period (min) 15

Splits and Phases: 1: US 287 & Dawson Dr.



Queues

Year 2043 Background + Site AM

1: US 287 & Dawson Dr.

















Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	91	260	291	1247	1825	301
v/c Ratio	0.44	0.50	0.88	0.43	0.90	0.29
Control Delay	41.0	24.6	62.6	3.4	24.1	2.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	41.0	24.6	62.6	3.4	24.1	2.1
Queue Length 50th (ft)	45	102	151	82	422	0
Queue Length 95th (ft)	44	96	#180	141	511	6
Internal Link Dist (ft)	337			2575	3810	
Turn Bay Length (ft)		210	270			465
Base Capacity (vph)	353	520	331	2917	2078	1053
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.26	0.50	0.88	0.43	0.88	0.29

Intersection Summary

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

HCM 6th Signalized Intersection Summary 1: US 287 & Dawson Dr.

Year 2043 Background + Site AM

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations				 	 	
Traffic Volume (veh/h)	42	151	192	1185	1515	202
Future Volume (veh/h)	42	151	192	1185	1515	202
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	91	260	291	1247	1825	301
Peak Hour Factor	0.46	0.58	0.66	0.95	0.83	0.67
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	281	522	305	2668	1897	846
Arrive On Green	0.16	0.16	0.17	0.75	0.53	0.53
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	91	260	291	1247	1825	301
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	4.0	11.5	14.2	11.8	43.1	9.6
Cycle Q Clear(g_c), s	4.0	11.5	14.2	11.8	43.1	9.6
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	281	522	305	2668	1897	846
V/C Ratio(X)	0.32	0.50	0.95	0.47	0.96	0.36
Avail Cap(c_a), veh/h	325	561	305	2676	1905	850
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	32.7	23.6	36.0	4.2	19.6	11.8
Incr Delay (d2), s/veh	0.7	0.7	39.4	0.1	12.8	0.3
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.8	10.7	9.0	2.0	17.1	2.8
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	33.4	24.3	75.4	4.3	32.4	12.0
LnGrp LOS	C	C	E	A	C	B
Approach Vol, veh/h				1538	2126	
Approach Delay, s/veh				17.8	29.5	
Approach LOS				B	C	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		69.8		17.9	19.0	50.8
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		66.0		16.0	15.0	47.0
Max Q Clear Time (g_c+1), s		13.8		13.5	16.2	45.1
Green Ext Time (p_c), s		10.4		0.3	0.0	1.7
Intersection Summary						
HCM 6th Ctrl Delay			24.7			
HCM 6th LOS			C			

HCM 6th TWSC 1: US 287 & Dawson Dr.

Scenario 1

Intersection						
Int Delay, s/veh	38.2					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	83	175	100	1560	1220	62
Future Vol, veh/h	83	175	100	1560	1220	62
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	210	270	-	-	465
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	46	58	66	95	83	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	180	302	152	1642	1470	93

Major/Minor	Minor2	Major1	Major2			
Conflicting Flow All	2595	735	1563	0	-	0
Stage 1	1470	-	-	-	-	-
Stage 2	1125	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 20	362	419	-	-	-
Stage 1	~ 178	-	-	-	-	-
Stage 2	272	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 13	362	419	-	-	-
Mov Cap-2 Maneuver	~ 78	-	-	-	-	-
Stage 1	~ 113	-	-	-	-	-
Stage 2	272	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	298.1	1.6	0
HCM LOS	F		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	419	-	78	362	-	-
HCM Lane V/C Ratio	0.362	-	2.313	0.833	-	-
HCM Control Delay (s)	18.4	-	\$ 714.5	49.1	-	-
HCM Lane LOS	C	-	F	E	-	-
HCM 95th %tile Q(veh)	1.6	-	16.8	7.5	-	-

Notes			
-:	Volume exceeds capacity	\$:	Delay exceeds 300s
+	Computation Not Defined	*	All major volume in platoon

Timings
2: US 287 & Lookout Rd.

Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR	
Lane Configurations												
Traffic Volume (vph)	165	80	231	15	25	104	1366	10	40	1126	35	
Future Volume (vph)	165	80	231	15	25	104	1366	10	40	1126	35	
Turn Type	Perm	NA	Perm	Perm	NA	pm+pt	NA	Perm	pm+pt	NA	Perm	
Protected Phases		4			8	5	2		1	6		
Permitted Phases	4		4	8		2		2	6		6	
Detector Phase	4	4	4	8	8	5	2	2	1	6	6	
Switch Phase												
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	8.0	20.0	20.0	8.0	20.0	20.0	
Total Split (s)	20.0	20.0	20.0	20.0	20.0	8.0	32.0	32.0	8.0	32.0	32.0	
Total Split (%)	33.3%	33.3%	33.3%	33.3%	33.3%	13.3%	53.3%	53.3%	13.3%	53.3%	53.3%	
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	
Lead/Lag							Lead	Lag	Lag	Lead	Lag	
Lead-Lag Optimize?							Yes	Yes	Yes	Yes	Yes	
Recall Mode	None	None	None	None	None	None	Max	Max	None	Max	Max	
Act Effect Green (s)	12.2	12.2	12.2	12.2	12.2	34.6	33.1	33.1	32.9	29.8	29.8	
Actuated g/C Ratio	0.22	0.22	0.22	0.22	0.22	0.61	0.59	0.59	0.58	0.53	0.53	
v/c Ratio	0.62	0.22	0.53	0.06	0.14	0.42	0.71	0.01	0.17	0.65	0.04	
Control Delay	29.4	19.0	11.9	17.2	11.6	10.1	13.6	0.0	6.4	13.1	0.4	
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	
Total Delay	29.4	19.0	11.9	17.2	11.6	10.1	13.6	0.0	6.4	13.1	0.4	
LOS	C	B	B	B	B	B	B	A	A	B	A	
Approach Delay		19.1			12.9		13.3			12.5		
Approach LOS		B			B		B			B		

Intersection Summary

Cycle Length: 60	
Actuated Cycle Length: 56.3	
Natural Cycle: 60	
Control Type: Semi Act-Uncoord	
Maximum v/c Ratio: 0.71	
Intersection Signal Delay: 13.9	Intersection LOS: B
Intersection Capacity Utilization 66.9%	ICU Level of Service C
Analysis Period (min) 15	












Splits and Phases: 2: US 287 & Lookout Rd.



Queues

Scenario 1

2: US 287 & Lookout Rd.

											
Lane Group	EBL	EBT	EBR	WBL	WBT	NBL	NBT	NBR	SBL	SBT	SBR
Lane Group Flow (vph)	179	87	251	16	54	113	1485	11	43	1224	38
v/c Ratio	0.62	0.22	0.53	0.06	0.14	0.42	0.71	0.01	0.17	0.65	0.04
Control Delay	29.4	19.0	11.9	17.2	11.6	10.1	13.6	0.0	6.4	13.1	0.4
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	29.4	19.0	11.9	17.2	11.6	10.1	13.6	0.0	6.4	13.1	0.4
Queue Length 50th (ft)	55	24	24	4	7	12	136	0	5	155	0
Queue Length 95th (ft)	108	54	78	17	30	32	#390	0	15	248	3
Internal Link Dist (ft)		780			675		3810			512	
Turn Bay Length (ft)	250		250	250		285		465	500		500
Base Capacity (vph)	383	531	568	372	510	267	2078	967	248	1873	881
Starvation Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.47	0.16	0.44	0.04	0.11	0.42	0.71	0.01	0.17	0.65	0.04
























Intersection Summary

95th percentile volume exceeds capacity, queue may be longer.

Queue shown is maximum after two cycles.

HCM 6th Signalized Intersection Summary 2: US 287 & Lookout Rd.

Scenario 1

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	165	80	231	15	25	25	104	1366	10	40	1126	35
Future Volume (veh/h)	165	80	231	15	25	25	104	1366	10	40	1126	35
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	179	87	251	16	27	27	113	1485	11	43	1224	38
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	375	384	326	306	176	176	353	1916	854	268	1827	815
Arrive On Green	0.21	0.21	0.21	0.21	0.21	0.21	0.06	0.54	0.54	0.04	0.51	0.51
Sat Flow, veh/h	1350	1870	1585	1042	858	858	1781	3554	1585	1781	3554	1585
Grp Volume(v), veh/h	179	87	251	16	0	54	113	1485	11	43	1224	38
Grp Sat Flow(s),veh/h/ln	1350	1870	1585	1042	0	1716	1781	1777	1585	1781	1777	1585
Q Serve(g_s), s	6.8	2.1	8.1	0.7	0.0	1.4	1.6	18.0	0.2	0.6	13.9	0.7
Cycle Q Clear(g_c), s	8.2	2.1	8.1	2.8	0.0	1.4	1.6	18.0	0.2	0.6	13.9	0.7
Prop In Lane	1.00		1.00	1.00		0.50	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	375	384	326	306	0	353	353	1916	854	268	1827	815
V/C Ratio(X)	0.48	0.23	0.77	0.05	0.00	0.15	0.32	0.78	0.01	0.16	0.67	0.05
Avail Cap(c_a), veh/h	494	549	466	398	0	504	377	1916	854	336	1827	815
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	21.1	18.0	20.4	19.2	0.0	17.7	7.7	9.9	5.8	8.6	9.8	6.6
Incr Delay (d2), s/veh	0.9	0.3	4.9	0.1	0.0	0.2	0.5	3.1	0.0	0.3	2.0	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.8	3.2	0.2	0.0	0.5	0.3	4.6	0.0	0.1	3.6	0.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	22.1	18.3	25.3	19.3	0.0	17.9	8.2	13.1	5.9	8.9	11.8	6.7
LnGrp LOS	C	B	C	B	A	B	A	B	A	A	B	A
Approach Vol, veh/h		517			70			1609			1305	
Approach Delay, s/veh		23.0			18.3			12.7			11.5	
Approach LOS		C			B			B			B	
Timer - Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	33.4		15.2	7.3	32.0		15.2				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	28.0		16.0	4.0	28.0		16.0				
Max Q Clear Time (g_c+I1), s	2.6	20.0		10.2	3.6	15.9		4.8				
Green Ext Time (p_c), s	0.0	5.3		1.0	0.0	6.0		0.2				
Intersection Summary												
HCM 6th Ctrl Delay				13.9								
HCM 6th LOS				B								

Timings 3: US 287 & Jasper Rd.



Lane Group	EBT	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations	↕		↕	↕	↕	↕	↕	↕	↕
Traffic Volume (vph)	0	45	0	57	5	1693	100	73	1397
Future Volume (vph)	0	45	0	57	5	1693	100	73	1397
Turn Type	NA	Perm	NA	Perm	Perm	NA	Perm	Perm	NA
Protected Phases	4		8			2			6
Permitted Phases		8		8	2		2	6	
Detector Phase	4	8	8	8	2	2	2	6	6
Switch Phase									
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0
Total Split (s)	20.0	20.0	20.0	20.0	40.0	40.0	40.0	40.0	40.0
Total Split (%)	33.3%	33.3%	33.3%	33.3%	66.7%	66.7%	66.7%	66.7%	66.7%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0		4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag									
Lead-Lag Optimize?									
Recall Mode	None	None	None	None	Min	Min	Min	Min	Min
Act Effect Green (s)	7.6		7.6	7.6	40.4	40.4	40.4	40.4	40.4
Actuated g/C Ratio	0.15		0.15	0.15	0.77	0.77	0.77	0.77	0.77
v/c Ratio	0.02		0.24	0.25	0.03	0.67	0.09	0.54	0.56
Control Delay	0.2		24.2	19.0	3.2	6.1	1.0	25.6	4.7
Queue Delay	0.0		0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.2		24.2	19.0	3.2	6.1	1.0	25.6	4.7
LOS	A		C	B	A	A	A	C	A
Approach Delay	0.2		21.3			5.8			5.8
Approach LOS	A		C			A			A

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 52.4
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.67
 Intersection Signal Delay: 6.3
 Intersection Capacity Utilization 70.0%
 Analysis Period (min) 15
 Intersection LOS: A
 ICU Level of Service C

Splits and Phases: 3: US 287 & Jasper Rd.



Queues
3: US 287 & Jasper Rd.
























Lane Group	EBT	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Group Flow (vph)	5	49	62	5	1840	109	79	1518
v/c Ratio	0.02	0.24	0.25	0.03	0.67	0.09	0.54	0.56
Control Delay	0.2	24.2	19.0	3.2	6.1	1.0	25.6	4.7
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	0.2	24.2	19.0	3.2	6.1	1.0	25.6	4.7
Queue Length 50th (ft)	0	18	16	0	134	0	9	93
Queue Length 95th (ft)	0	38	38	3	244	10	#80	165
Internal Link Dist (ft)	660	1067			1890			2575
Turn Bay Length (ft)				290		290	425	
Base Capacity (vph)	534	444	513	199	2720	1242	146	2720
Starvation Cap Reductn	0	0	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0	0	0
Reduced v/c Ratio	0.01	0.11	0.12	0.03	0.68	0.09	0.54	0.56

Intersection Summary

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

HCM 6th Signalized Intersection Summary 3: US 287 & Jasper Rd.

Scenario 1

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	0	0	5	45	0	57	5	1693	100	73	1397	0
Future Volume (veh/h)	0	0	5	45	0	57	5	1693	100	73	1397	0
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	0	0	5	49	0	0	5	1840	109	79	1518	0
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	0	0	70	229	0		374	2721	1214	287	2721	0
Arrive On Green	0.00	0.00	0.04	0.04	0.00	0.00	0.77	0.77	0.77	0.77	0.77	0.00
Sat Flow, veh/h	0	0	1585	1315	0	1585	344	3554	1585	226	3647	0
Grp Volume(v), veh/h	0	0	5	49	0	0	5	1840	109	79	1518	0
Grp Sat Flow(s),veh/h/ln	0	0	1585	1315	0	1585	344	1777	1585	226	1777	0
Q Serve(g_s), s	0.0	0.0	0.1	1.5	0.0	0.0	0.3	10.6	0.7	11.0	7.4	0.0
Cycle Q Clear(g_c), s	0.0	0.0	0.1	1.6	0.0	0.0	7.6	10.6	0.7	21.6	7.4	0.0
Prop In Lane	0.00		1.00	1.00		1.00	1.00		1.00	1.00		0.00
Lane Grp Cap(c), veh/h	0	0	70	229	0		374	2721	1214	287	2721	0
V/C Ratio(X)	0.00	0.00	0.07	0.21	0.00		0.01	0.68	0.09	0.28	0.56	0.00
Avail Cap(c_a), veh/h	0	0	601	702	0		404	3034	1353	307	3034	0
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.00	0.00	1.00	1.00	0.00	0.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	0.0	0.0	19.3	20.1	0.0	0.0	3.6	2.4	1.2	7.6	2.0	0.0
Incr Delay (d2), s/veh	0.0	0.0	0.4	0.5	0.0	0.0	0.0	0.5	0.0	0.5	0.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.1	0.5	0.0	0.0	0.0	0.2	0.0	0.2	0.1	0.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	0.0	0.0	19.7	20.5	0.0	0.0	3.6	2.9	1.3	8.2	2.2	0.0
LnGrp LOS	A	A	B	C	A		A	A	A	A	A	A
Approach Vol, veh/h		5			49			1954			1597	
Approach Delay, s/veh		19.7			20.5			2.8			2.5	
Approach LOS		B			C			A			A	
Timer - Assigned Phs		2		4		6		8				
Phs Duration (G+Y+Rc), s		36.3		5.9		36.3		5.9				
Change Period (Y+Rc), s		4.0		4.0		4.0		4.0				
Max Green Setting (Gmax), s		36.0		16.0		36.0		16.0				
Max Q Clear Time (g_c+I1), s		12.6		2.1		23.6		3.6				
Green Ext Time (p_c), s		14.7		0.0		8.7		0.1				
Intersection Summary												
HCM 6th Ctrl Delay			2.9									
HCM 6th LOS			A									
Notes												
Unsignalized Delay for [WBR] is excluded from calculations of the approach delay and intersection delay.												

Timings
1: US 287 & Dawson Dr.

Year 2043 Background + Site PM



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (vph)	83	175	100	1560	1220	62
Future Volume (vph)	83	175	100	1560	1220	62
Turn Type	Prot	pm+ov	Prot	NA	NA	Perm
Protected Phases	4	5	5	2	6	
Permitted Phases		4				6
Detector Phase	4	5	5	2	6	6
Switch Phase						
Minimum Initial (s)	4.0	4.0	4.0	4.0	4.0	4.0
Minimum Split (s)	20.0	8.0	8.0	20.0	20.0	20.0
Total Split (s)	20.0	10.0	10.0	40.0	30.0	30.0
Total Split (%)	33.3%	16.7%	16.7%	66.7%	50.0%	50.0%
Yellow Time (s)	3.5	3.5	3.5	3.5	3.5	3.5
All-Red Time (s)	0.5	0.5	0.5	0.5	0.5	0.5
Lost Time Adjust (s)	0.0	0.0	0.0	0.0	0.0	0.0
Total Lost Time (s)	4.0	4.0	4.0	4.0	4.0	4.0
Lead/Lag		Lead	Lead		Lag	Lag
Lead-Lag Optimize?		Yes	Yes		Yes	Yes
Recall Mode	None	None	None	Min	Min	Min
Act Effect Green (s)	10.7	18.0	6.2	37.2	25.8	25.8
Actuated g/C Ratio	0.21	0.35	0.12	0.72	0.50	0.50
v/c Ratio	0.50	0.55	0.72	0.65	0.84	0.11
Control Delay	24.3	16.7	49.5	7.8	19.6	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.3	16.7	49.5	7.8	19.6	3.1
LOS	C	B	D	A	B	A
Approach Delay	19.5			11.3	18.6	
Approach LOS	B			B	B	

Intersection Summary

Cycle Length: 60
 Actuated Cycle Length: 52
 Natural Cycle: 60
 Control Type: Actuated-Uncoordinated
 Maximum v/c Ratio: 0.84
 Intersection Signal Delay: 15.3
 Intersection LOS: B
 Intersection Capacity Utilization 54.4%
 ICU Level of Service A
 Analysis Period (min) 15

Splits and Phases: 1: US 287 & Dawson Dr.



Queues

Year 2043 Background + Site PM

1: US 287 & Dawson Dr.



Lane Group	EBL	EBR	NBL	NBT	SBT	SBR
Lane Group Flow (vph)	180	302	152	1642	1470	93
v/c Ratio	0.50	0.55	0.72	0.65	0.84	0.11
Control Delay	24.3	16.7	49.5	7.8	19.6	3.1
Queue Delay	0.0	0.0	0.0	0.0	0.0	0.0
Total Delay	24.3	16.7	49.5	7.8	19.6	3.1
Queue Length 50th (ft)	53	70	49	142	208	0
Queue Length 95th (ft)	47	71	#89	275	#345	10
Internal Link Dist (ft)	337			2575	3810	
Turn Bay Length (ft)		210	270			465
Base Capacity (vph)	562	554	210	2529	1827	862
Starvation Cap Reductn	0	0	0	0	0	0
Spillback Cap Reductn	0	0	0	0	0	0
Storage Cap Reductn	0	0	0	0	0	0
Reduced v/c Ratio	0.32	0.55	0.72	0.65	0.80	0.11

Intersection Summary

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

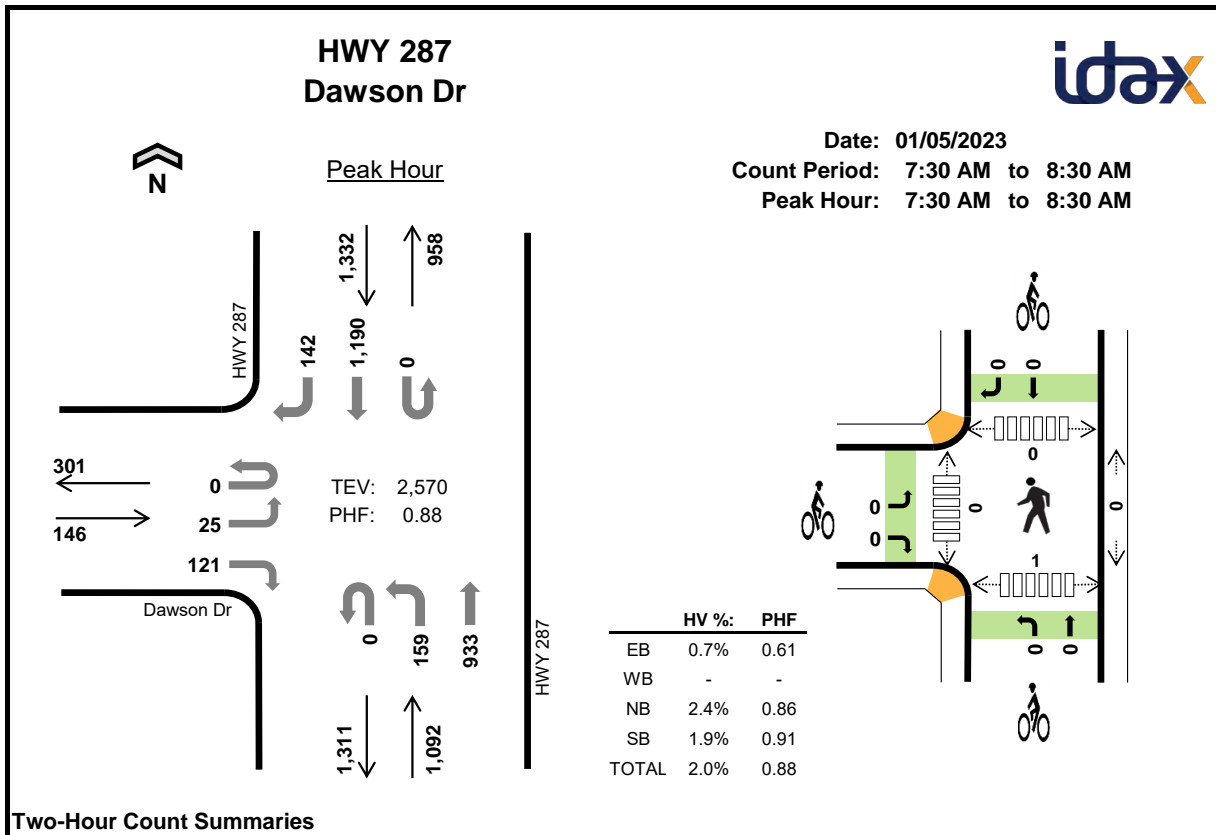
HCM 6th Signalized Intersection Summary 1: US 287 & Dawson Dr.

Year 2043 Background + Site PM



Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Volume (veh/h)	83	175	100	1560	1220	62
Future Volume (veh/h)	83	175	100	1560	1220	62
Initial Q (Qb), veh	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach	No			No	No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	180	302	152	1642	1470	93
Peak Hour Factor	0.46	0.58	0.66	0.95	0.83	0.67
Percent Heavy Veh, %	2	2	2	2	2	2
Cap, veh/h	377	507	192	2281	1638	731
Arrive On Green	0.21	0.21	0.11	0.64	0.46	0.46
Sat Flow, veh/h	1781	1585	1781	3647	3647	1585
Grp Volume(v), veh/h	180	302	152	1642	1470	93
Grp Sat Flow(s),veh/h/ln	1781	1585	1781	1777	1777	1585
Q Serve(g_s), s	4.9	8.8	4.6	16.8	20.8	1.8
Cycle Q Clear(g_c), s	4.9	8.8	4.6	16.8	20.8	1.8
Prop In Lane	1.00	1.00	1.00			1.00
Lane Grp Cap(c), veh/h	377	507	192	2281	1638	731
V/C Ratio(X)	0.48	0.60	0.79	0.72	0.90	0.13
Avail Cap(c_a), veh/h	521	634	195	2336	1687	753
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	18.9	15.6	23.8	6.5	13.6	8.4
Incr Delay (d2), s/veh	0.9	1.1	19.2	1.1	6.7	0.1
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	7.9	2.6	2.6	6.8	0.4
Unsig. Movement Delay, s/veh						
LnGrp Delay(d),s/veh	19.9	16.8	43.0	7.6	20.2	8.5
LnGrp LOS	B	B	D	A	C	A
Approach Vol, veh/h	482			1794	1563	
Approach Delay, s/veh	17.9			10.6	19.6	
Approach LOS	B			B	B	
Timer - Assigned Phs		2		4	5	6
Phs Duration (G+Y+Rc), s		39.2		15.6	9.9	29.2
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0
Max Green Setting (Gmax), s		36.0		16.0	6.0	26.0
Max Q Clear Time (g_c+1), s		18.8		10.8	6.6	22.8
Green Ext Time (p_c), s		10.2		0.8	0.0	2.4
Intersection Summary						
HCM 6th Ctrl Delay			15.2			
HCM 6th LOS			B			

Traffic Count Data



Two-Hour Count Summaries

Interval Start	Dawson Dr				n/a				HWY 287				HWY 287				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:30 AM	0	2	0	5	0	0	0	0	0	16	242	0	0	0	340	17	622	0	
7:45 AM	0	5	0	47	0	0	0	0	0	81	236	0	0	0	305	60	734	0	
8:00 AM	0	10	0	50	0	0	0	0	0	36	231	0	0	0	276	34	637	0	
8:15 AM	0	8	0	19	0	0	0	0	0	26	224	0	0	0	269	31	577	2,570	
Count Total	0	25	0	121	0	0	0	0	0	159	933	0	0	0	1,190	142	2,570	0	
Peak Hour	All	0	25	0	121	0	0	0	0	0	159	933	0	0	0	1,190	142	2,570	0
	HV	0	0	0	1	0	0	0	0	0	3	23	0	0	0	20	5	52	0
	HV%	-	0%	-	1%	-	-	-	-	-	2%	2%	-	-	-	2%	4%	2%	0

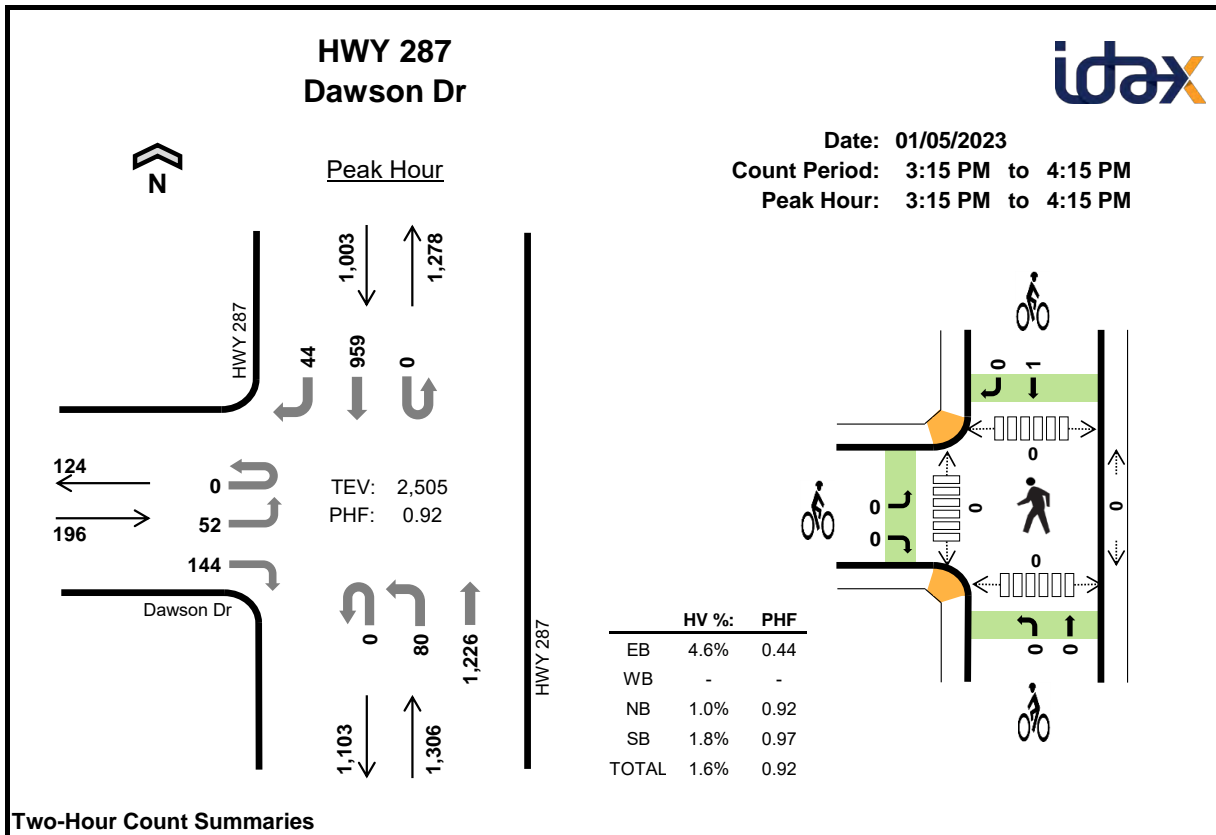
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:30 AM	0	0	4	3	7	0	0	0	0	0	0	0	0	1	1
7:45 AM	0	0	6	9	15	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	4	9	13	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	12	4	17	0	0	0	0	0	0	0	0	0	0
Count Total	1	0	26	25	52	0	0	0	0	0	0	0	0	1	1
Peak Hr	1	0	26	25	52	0	0	0	0	0	0	0	0	1	1

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Dawson Dr				n/a				HWY 287				HWY 287				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:30 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	3	0	7	0
7:45 AM	0	0	0	0	0	0	0	0	0	3	3	0	0	0	5	4	15	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	4	0	0	0	8	1	13	0
8:15 AM	0	0	0	1	0	0	0	0	0	0	12	0	0	0	4	0	17	52
Count Total	0	0	0	1	0	0	0	0	0	3	23	0	0	0	20	5	52	0
Peak Hour	0	0	0	1	0	0	0	0	0	3	23	0	0	0	20	5	52	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Dawson Dr			n/a			HWY 287			HWY 287			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0			
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0			

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



Two-Hour Count Summaries

Interval Start	Dawson Dr				n/a				HWY 287				HWY 287				15-min Total	Rolling One Hour	
	Eastbound				Westbound				Northbound				Southbound						
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
3:15 PM	0	7	0	5	0	0	0	0	0	31	277	0	0	0	232	18	570	0	
3:30 PM	0	21	0	90	0	0	0	0	0	26	285	0	0	0	243	15	680	0	
3:45 PM	0	15	0	39	0	0	0	0	0	9	347	0	0	0	249	5	664	0	
4:00 PM	0	9	0	10	0	0	0	0	0	14	317	0	0	0	235	6	591	2,505	
Count Total	0	52	0	144	0	0	0	0	0	80	1,226	0	0	0	959	44	2,505	0	
Peak Hour	All	0	52	0	144	0	0	0	0	0	80	1,226	0	0	0	959	44	2,505	0
	HV	0	4	0	5	0	0	0	0	0	2	11	0	0	0	17	1	40	0
	HV%	-	8%	-	3%	-	-	-	-	-	3%	1%	-	-	-	2%	2%	2%	0

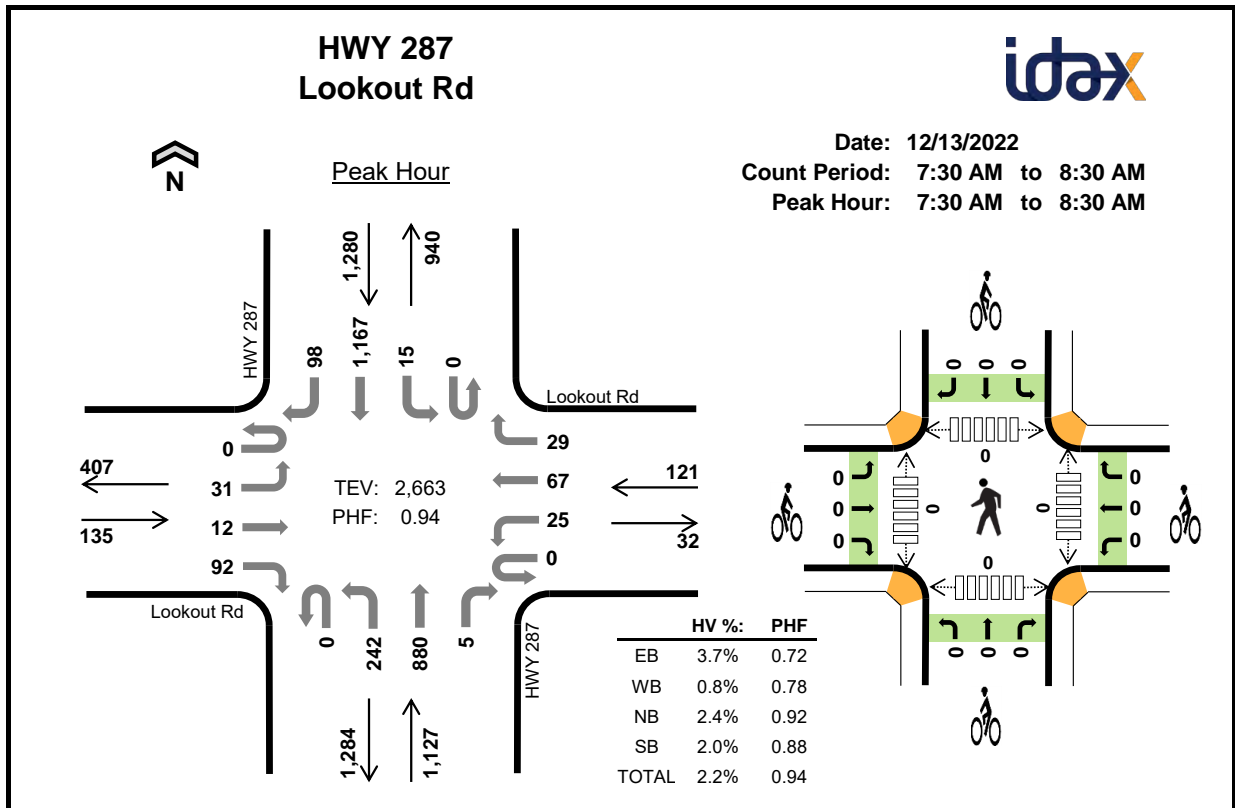
Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:15 PM	0	0	2	6	8	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	2	4	6	0	0	0	1	1	0	0	0	0	0
3:45 PM	8	0	5	6	19	0	0	0	0	0	0	0	0	0	0
4:00 PM	1	0	4	2	7	0	0	0	0	0	0	0	0	0	0
Count Total	9	0	13	18	40	0	0	0	1	1	0	0	0	0	0
Peak Hr	9	0	13	18	40	0	0	0	1	1	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Dawson Dr				n/a				HWY 287				HWY 287				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:15 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	6	0	8	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	4	0	6	0
3:45 PM	0	4	0	4	0	0	0	0	0	1	4	0	0	0	5	1	19	0
4:00 PM	0	0	0	1	0	0	0	0	0	1	3	0	0	0	2	0	7	40
Count Total	0	4	0	5	0	0	0	0	0	2	11	0	0	0	17	1	40	0
Peak Hour	0	4	0	5	0	0	0	0	0	2	11	0	0	0	17	1	40	0

Two-Hour Count Summaries - Bikes																	
Interval Start	Dawson Dr			n/a			HWY 287			HWY 287			15-min Total	Rolling One Hour			
	Eastbound			Westbound			Northbound			Southbound							
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT					
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1
Count Total	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	
Peak Hour	0	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	

Note: U-Turn volumes for bikes are included in Left-Turn, if any.



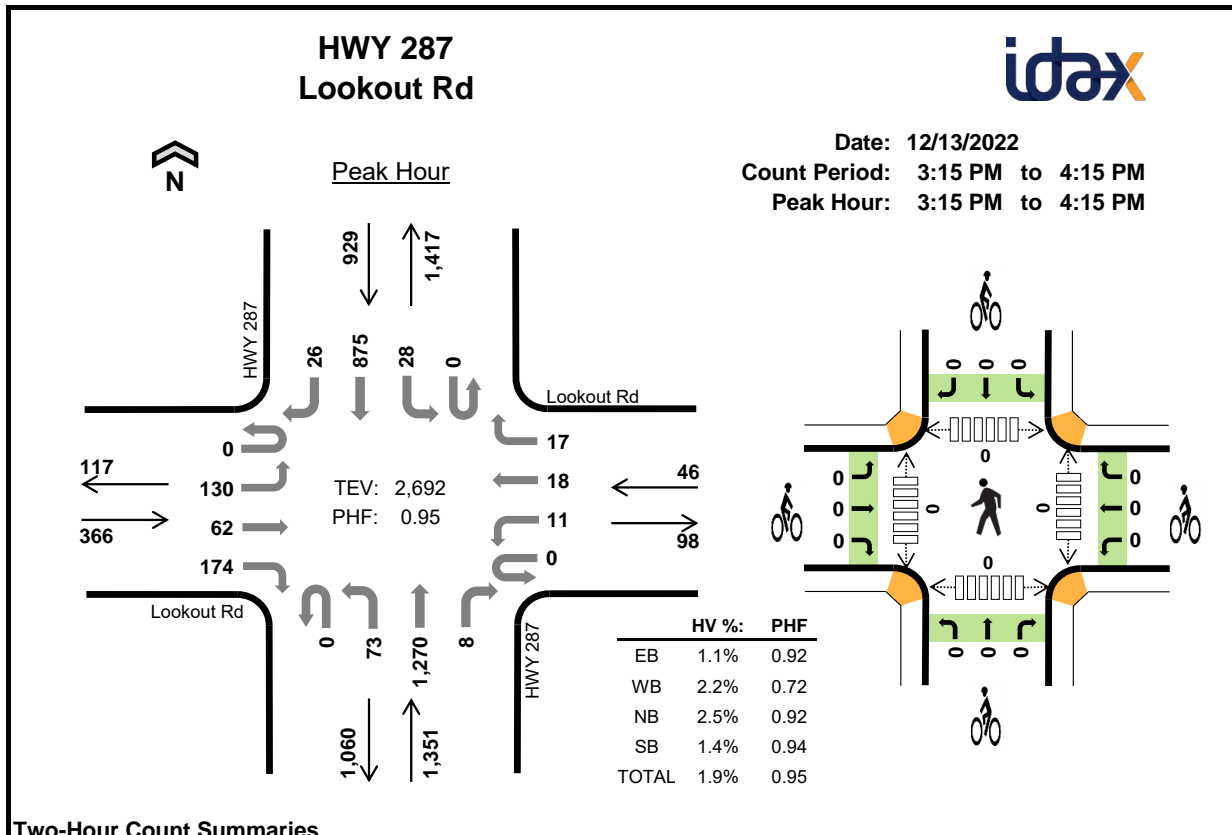
Two-Hour Count Summaries

Interval Start	Lookout Rd Eastbound				Lookout Rd Westbound				HWY 287 Northbound				HWY 287 Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:30 AM	0	9	2	12	0	2	20	8	0	61	222	0	0	3	341	21	701	0	
7:45 AM	0	12	3	32	0	10	22	7	0	57	247	2	0	1	296	22	711	0	
8:00 AM	0	6	6	25	0	6	17	8	0	59	224	1	0	6	277	31	666	0	
8:15 AM	0	4	1	23	0	7	8	6	0	65	187	2	0	5	253	24	585	2,663	
Count Total	0	31	12	92	0	25	67	29	0	242	880	5	0	15	1,167	98	2,663	0	
Peak Hour	All	0	31	12	92	0	25	67	29	0	242	880	5	0	15	1,167	98	2,663	0
	HV	0	1	0	4	0	1	0	0	0	4	23	0	0	2	22	1	58	0
	HV%	-	3%	0%	4%	-	4%	0%	0%	-	2%	3%	0%	-	13%	2%	1%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:30 AM	1	0	8	8	17	0	0	0	0	0	0	0	0	0	0
7:45 AM	3	0	8	5	16	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	1	3	8	12	0	0	0	0	0	0	0	0	0	0
8:15 AM	1	0	8	4	13	0	0	0	0	0	0	0	0	0	0
Count Total	5	1	27	25	58	0	0	0	0	0	0	0	0	0	0
Peak Hour	5	1	27	25	58	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Lookout Rd				Lookout Rd				HWY 287				HWY 287				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:30 AM	0	0	0	1	0	0	0	0	0	1	7	0	0	1	6	1	17	0
7:45 AM	0	1	0	2	0	0	0	0	0	0	8	0	0	0	5	0	16	0
8:00 AM	0	0	0	0	0	1	0	0	0	0	3	0	0	1	7	0	12	0
8:15 AM	0	0	0	1	0	0	0	0	0	3	5	0	0	0	4	0	13	58
Count Total	0	1	0	4	0	1	0	0	0	4	23	0	0	2	22	1	58	0
Peak Hour	0	1	0	4	0	1	0	0	0	4	23	0	0	2	22	1	58	0
Two-Hour Count Summaries - Bikes																		
Interval Start	Lookout Rd			Lookout Rd			HWY 287			HWY 287			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		



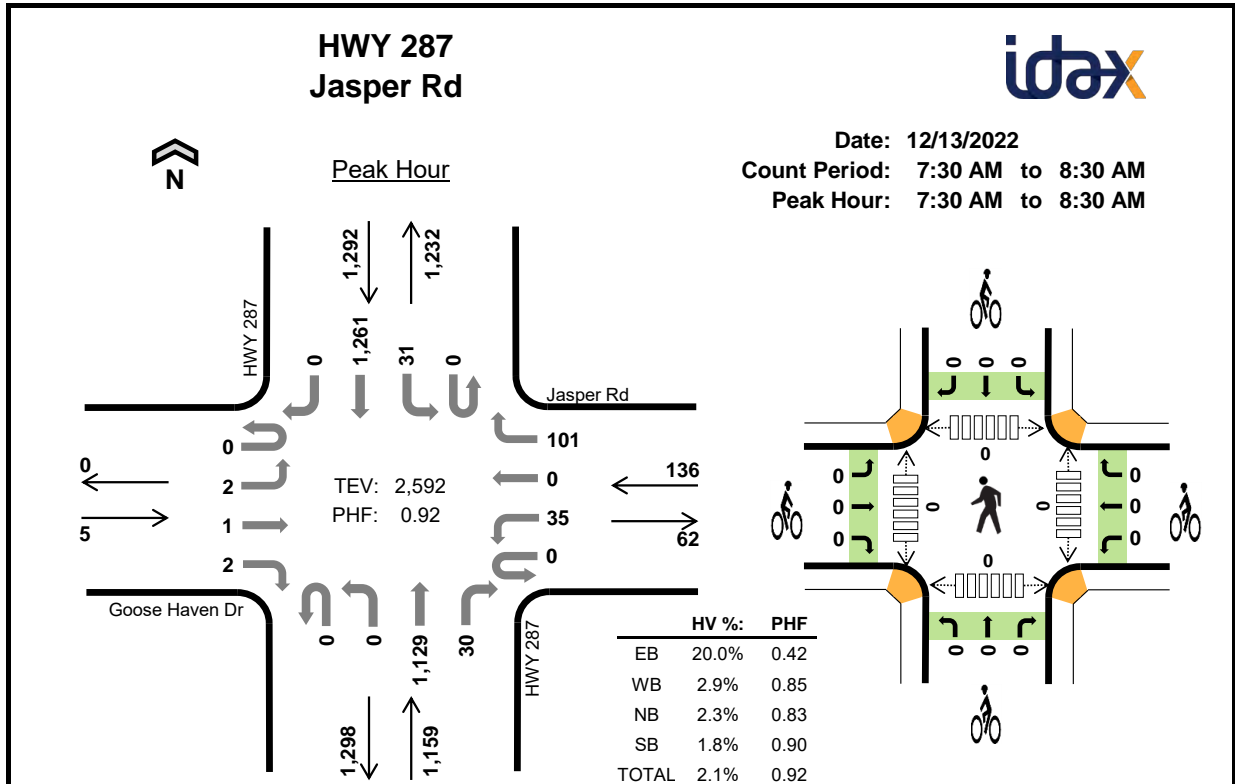
Two-Hour Count Summaries

Interval Start	Lookout Rd Eastbound				Lookout Rd Westbound				HWY 287 Northbound				HWY 287 Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
3:15 PM	0	31	15	47	0	3	5	3	0	17	310	2	0	12	217	7	669	0	
3:30 PM	0	34	13	41	0	1	4	3	0	22	281	2	0	4	226	5	636	0	
3:45 PM	0	37	13	36	0	3	3	5	0	16	347	3	0	6	196	10	675	0	
4:00 PM	0	28	21	50	0	4	6	6	0	18	332	1	0	6	236	4	712	2,692	
Count Total	0	130	62	174	0	11	18	17	0	73	1,270	8	0	28	875	26	2,692	0	
Peak Hour	All	0	130	62	174	0	11	18	17	0	73	1,270	8	0	28	875	26	2,692	0
	HV	0	2	0	2	0	0	0	1	0	5	29	0	0	1	12	0	52	0
	HV%	-	2%	0%	1%	-	0%	0%	6%	-	7%	2%	0%	-	4%	1%	0%	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:15 PM	2	0	9	4	15	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	9	4	13	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	9	1	10	0	0	0	0	0	0	0	0	0	0
4:00 PM	2	1	7	4	14	0	0	0	0	0	0	0	0	0	0
Count Total	4	1	34	13	52	0	0	0	0	0	0	0	0	0	0
Peak Hour	4	1	34	13	52	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Lookout Rd				Lookout Rd				HWY 287				HWY 287				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:15 PM	0	1	0	1	0	0	0	0	0	0	9	0	0	0	4	0	15	0
3:30 PM	0	0	0	0	0	0	0	0	0	1	8	0	0	0	4	0	13	0
3:45 PM	0	0	0	0	0	0	0	0	0	4	5	0	0	0	1	0	10	0
4:00 PM	0	1	0	1	0	0	0	1	0	0	7	0	0	1	3	0	14	52
Count Total	0	2	0	2	0	0	0	1	0	5	29	0	0	1	12	0	52	0
Peak Hour	0	2	0	2	0	0	0	1	0	5	29	0	0	1	12	0	52	0
Two-Hour Count Summaries - Bikes																		
Interval Start	Lookout Rd			Lookout Rd			HWY 287			HWY 287			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		



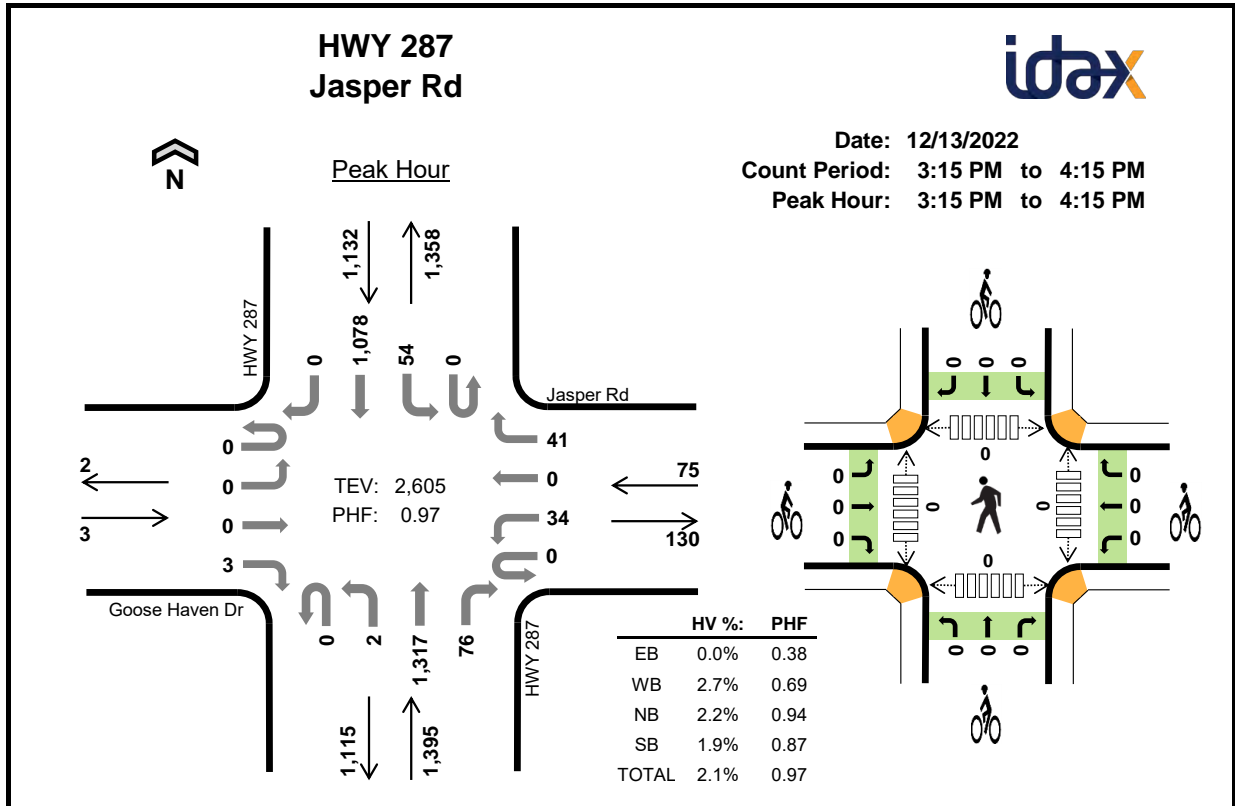
Two-Hour Count Summaries

Interval Start	Goose Haven Dr				Jasper Rd				HWY 287 Northbound				HWY 287 Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
7:30 AM	0	1	1	1	0	5	0	35	0	0	269	4	0	7	352	0	675	0	
7:45 AM	0	1	0	0	0	7	0	22	0	0	344	5	0	9	319	0	707	0	
8:00 AM	0	0	0	0	0	12	0	21	0	0	269	10	0	9	304	0	625	0	
8:15 AM	0	0	0	1	0	11	0	23	0	0	247	11	0	6	286	0	585	2,592	
Count Total	0	2	1	2	0	35	0	101	0	0	1,129	30	0	31	1,261	0	2,592	0	
Peak Hour	All	0	2	1	2	0	35	0	101	0	0	1,129	30	0	31	1,261	0	2,592	0
	HV	0	1	0	0	0	0	0	4	0	0	27	0	0	0	23	0	55	0
	HV%	-	50%	0%	0%	-	0%	-	4%	-	-	2%	0%	-	0%	2%	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
7:30 AM	1	1	8	8	18	0	0	0	0	0	0	0	0	0	0
7:45 AM	0	1	10	3	14	0	0	0	0	0	0	0	0	0	0
8:00 AM	0	0	2	8	10	0	0	0	0	0	0	0	0	0	0
8:15 AM	0	2	7	4	13	0	0	0	0	0	0	0	0	0	0
Count Total	1	4	27	23	55	0	0	0	0	0	0	0	0	0	0
Peak Hour	1	4	27	23	55	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Goose Haven Dr				Jasper Rd				HWY 287				HWY 287				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
7:30 AM	0	1	0	0	0	0	0	1	0	0	8	0	0	0	8	0	18	0
7:45 AM	0	0	0	0	0	0	0	1	0	0	10	0	0	0	3	0	14	0
8:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	0	0	8	0	10	0
8:15 AM	0	0	0	0	0	0	0	2	0	0	7	0	0	0	4	0	13	55
Count Total	0	1	0	0	0	0	0	4	0	0	27	0	0	0	23	0	55	0
Peak Hour	0	1	0	0	0	0	0	4	0	0	27	0	0	0	23	0	55	0
Two-Hour Count Summaries - Bikes																		
Interval Start	Goose Haven Dr			Jasper Rd			HWY 287			HWY 287			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
7:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
8:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0				
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		



Two-Hour Count Summaries

Interval Start	Goose Haven Dr				Jasper Rd				HWY 287 Northbound				HWY 287 Southbound				15-min Total	Rolling One Hour	
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT			
3:15 PM	0	0	0	0	0	11	0	16	0	0	332	17	0	17	236	0	629	0	
3:30 PM	0	0	0	1	0	9	0	6	0	0	292	25	0	20	304	0	657	0	
3:45 PM	0	0	0	0	0	4	0	10	0	1	352	17	0	11	254	0	649	0	
4:00 PM	0	0	0	2	0	10	0	9	0	1	341	17	0	6	284	0	670	2,605	
Count Total	0	0	0	3	0	34	0	41	0	2	1,317	76	0	54	1,078	0	2,605	0	
Peak Hour	All	0	0	0	3	0	34	0	41	0	2	1,317	76	0	54	1,078	0	2,605	0
	HV	0	0	0	0	0	0	0	2	0	0	30	0	0	0	22	0	54	0
	HV%	-	-	-	0%	-	0%	-	5%	-	0%	2%	0%	-	0%	2%	-	2%	0

Note: Two-hour count summary volumes include heavy vehicles but exclude bicycles in overall count.

Interval Start	Heavy Vehicle Totals					Bicycles					Pedestrians (Crossing Leg)				
	EB	WB	NB	SB	Total	EB	WB	NB	SB	Total	East	West	North	South	Total
3:15 PM	0	0	7	7	14	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	6	4	10	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	7	5	12	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	2	10	6	18	0	0	0	0	0	0	0	0	0	0
Count Total	0	2	30	22	54	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	2	30	22	54	0	0	0	0	0	0	0	0	0	0

Two-Hour Count Summaries - Heavy Vehicles																		
Interval Start	Goose Haven Dr				Jasper Rd				HWY 287				HWY 287				15-min Total	Rolling One Hour
	Eastbound				Westbound				Northbound				Southbound					
	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT	UT	LT	TH	RT		
3:15 PM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	7	0	14	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	6	0	0	0	4	0	10	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	7	0	0	0	5	0	12	0
4:00 PM	0	0	0	0	0	0	0	2	0	0	10	0	0	0	6	0	18	54
Count Total	0	0	0	0	0	0	0	2	0	0	30	0	0	0	22	0	54	0
Peak Hour	0	0	0	0	0	0	0	2	0	0	30	0	0	0	22	0	54	0
Two-Hour Count Summaries - Bikes																		
Interval Start	Goose Haven Dr			Jasper Rd			HWY 287			HWY 287			15-min Total	Rolling One Hour				
	Eastbound			Westbound			Northbound			Southbound								
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT						
3:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
4:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Count Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Hour	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
<i>Note: U-Turn volumes for bikes are included in Left-Turn, if any.</i>																		