



Exterior CMU Pattern Notes

CMU Pattern A:
Description/Pattern: Running Bond Custom Pattern
Manufacture: Basalite Concrete Products
Product Line: Solid Concrete Block 4"x12"x16"
Color/Finish: (MA-3) Premium Line Color 832, Shot Blast Face (Dark Color)
Color/Finish: (MA-4) Premium Line Color 1162, Shot Blast Face (Medium Color)
Color/Finish: (MA-5) Premium Line Color 1162, Ground Face (Light Color)

MA-3

MA-4

MA-5

CMU Pattern B:
Description/Pattern: Running Bond (MA-1) Field with (MA-2) Accent Banding
Manufacture: Basalite Concrete Products
Product Line: Basalite Solid Concrete Block 4"x12"x16"
Color/Finish: (MA-1) Premium Line Color 112D, Shot Blast Face
Product Line: Basalite Solid Concrete Block 4"x12"x16"
Color/Finish: (MA-2) Premium Line Color 112D, Ground Face

MA-1

MA-2

1 Development Agreement - East Elevation
3/64" = 1'-0"

Vertical Batten Metal Wall Panel - Color: Medium Blue (MTL-2)
Mechanical Screen Wall - Vertical Batten Metal Wall Panel - Color: Warm Gray (MTL-3)
Roof Access - Inside of Mechanical Screen Wall - Smooth Metal Wall Panel - Color: Warm Gray (MTL-1)
8" CMU - Color: Pattern A, See Pattern Notes
8" and 4" CMU - Color: Pattern B, See Pattern Notes
Metal Shade Canopy - Color: Dark Gray
Primary Windows/Doors Level 1 - Aluminum Storefront System East/South/West - Frame Color: Black Anodized - Glazing: Low-E Coating On Crystal Gray
Windows Levels 2 and 3 - Aluminum Window System East/South/West - Frame Color: Black Anodized - Glazing: Low-E Coating On Crystal Gray
Vertical Batten Metal Wall Panel - Color: Medium Blue (MTL-2)
8" CMU - Color: Pattern A, See Pattern Notes
8" and 4" CMU - Color: Pattern B, See Pattern Notes
TOW Theater Fly - 52'-4"
N Parapet - Music - 26' - 0"
N Theater Mezzanine - 15' - 9"
Level 1 - 0' - 0"

2 Development Agreement - North Elevation
3/64" = 1'-0"

Upper Gym and Theater Volumes - 8" CMU - Color: Pattern A, See Pattern Notes
Mechanical Screening - Vertical Batten Metal Wall Panel - Color: Warm Gray (MTL-3)
N Parapet - Music - 26' - 0"
N Parapet - High - 35' - 4"
N Parapet - Mid - 22' - 0"
N Parapet - Low - 16' - 0"
Level 1 - 0' - 0"

Exterior Material Notes

Metal Panel:
Description: Flush Metal Panel W/Concealed Fastener
Color/Finish: (MTL-1) Warm Gray

MTL-1

Metal Panel:
Description: Vertical Batten Metal Panel W/Concealed Fastener
Color/Finish: (MTL-2) Medium Blue

MTL-2

Metal Panel:
Description: Vertical Batten Metal Panel W/Concealed Fastener
Color/Finish: (MTL-3) Warm Gray

MTL-3

3 Development Agreement - West Elevation
3/64" = 1'-0"

Upper Gym and Theater Volumes - 8" CMU - Color: Pattern A, See Pattern Notes
Mechanical Screening - Vertical Batten Metal Wall Panel - Color: Warm Gray (MTL-3)
N Parapet - High - 35' - 4"
N Parapet - Music - 26' - 0"
N Parapet - Mid - 22' - 0"
N Parapet - Low - 16' - 0"
Level 1 - 0' - 0"

4 Development Agreement - South Elevation
3/64" = 1'-0"

Mechanical Screen Wall - Vertical Batten Metal Wall Panel - Color: Warm Gray (MTL-3)
Accent Wall / Soffit Material - Vertical Batten Metal Wall Panel - Color: Medium Blue (MTL-2)
Primary Windows/Doors Level 1 - Aluminum Storefront System East/South/West - Frame Color: Black Anodized - Glazing: Low-E Coating On Crystal Gray
Windows Levels 2 and 3 - Aluminum Window System East/South/West - Frame Color: Black Anodized - Glazing: Low-E Coating On Crystal Gray
Column Wraps - Smooth Metal Wall Panel - Color: Warm Gray (MTL-1)
Upper Volume - Level 2-3 - 8" CMU - Color: Pattern A, See Pattern Notes
Base Volume - Level 1 - 8" and 4" CMU - Color: Pattern B, See Pattern Notes
Accent Wall / Parapet Material - Vertical Batten Metal Wall Panel - Color: Medium Blue (MTL-2)
Metal Shade Canopy - Color: Dark Gray
TOW - 61'-0"
TOW - 50'-8"
Level 3 - 32' - 0"
Level 2 - 18' - 0"
Level 1 - 0' - 0"

Exhibit 2

Development Agreement
Site Submittal Package
PRELIMINARY
Not For Construction

Professional Seal
Date
Revision

Consultant

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Architecture, Inc.
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Wildcreek Area High School
Washoe County School District
Sullivan Lane
Sparks, Nevada 89431

Overall Rendered Exterior
Elevations

February 20, 2019
H+K Project No: 1733

A301

Exhibit 3



Traffic Engineering, Transportation Planning & Forensic Services

January 31, 2019

Adam T. Searcy, P.E.
Washoe County School District
14101 Old Virginia Road
Reno, NV 89521

RECEIVED-CITY OF SPARKS
FEB 22 2019
COMMUNITY SERVICES
ADMINISTRATION

Parking Analysis for the High School at Wildcreek Project

Dear Mr. Searcy,

This letter report summarizes the results of a parking analysis conducted for the High School at Wildcreek project. The purpose of this analysis is to determine the amount of parking that should be provided at the proposed high school to adequately accommodate typical school days and special events. Parking demand data was collected from multiple sources including the Institute of Transportation Engineers (ITE), City of Sparks Development Standards, Washoe County Development Code, and new count data collected at Washoe County School District (WCSD) high schools. The proposed project consists of a high school that would serve 2,125 students and approximately 150 faculty located north of North McCarran Boulevard and east of Sullivan Lane on a portion of the existing Wildcreek Golf Course property.

PARKING GENERATION RATES

Parking Generation, ITE

Parking Generation, 4th Edition, published by the Institute of Transportation Engineers, includes parking rates to determine the number of parking spaces recommended for different land use types. The following rates are provided for a High School in a suburban setting during the average weekday peak period:

- Average Peak Period Parking Demand: 0.23 vehicles per student
- Range: 0.14 – 0.31 vehicles per student
- 85th Percentile: 0.25 vehicles per student

The ITE data is based on eight (8) study sites with an average of 1,170 students per site.

Based on the average peak parking demand and a projection of 2,125 students, the proposed project would need to provide approximately 489 parking spaces.

City of Sparks and City of Reno

The *City of Sparks Code of Ordinances* includes Development Standards established for all development in the City. Section 20.04.009C provides the “Number of Off-Street Parking Spaces Required” based on land use type. Additionally, the City of Reno’s *Land Development Code* includes Off-Parking Requirements for new development projects. The following number of parking spaces are required by the City of Sparks and the City of Reno for a High School:

- 1 space for each 1.5 students, faculty, and staff based on design capacity (i.e. 0.67 spaces per student, faculty, and staff)

Based on this data and a projection of 2,125 students and 150 faculty, the proposed project would need to provide approximately 1,517 parking spaces. This is over one thousand more spaces than recommended by ITE data.

Washoe County

Table 110.410.10.1 - Off-Street Parking Space Requirements of the *Washoe County Development Code* includes the following parking space requirements for different types of land uses. The “Education” category is split into two subcategories – “College/University” and “Elementary/Secondary.” The parking space requirements for an Elementary/Secondary school are as follows:

- 1 space per employee during peak employment shift
- 0.25 spaces per student of driving age

Based on this data and a projection of 1,594 students (assuming 3/4 of the students are of driving age) and 150 faculty, the proposed project would need to provide approximately 549 parking spaces.

DATA COLLECTION

Parking data was collected at several WCSD high schools during typical school days and during special events such as open houses and football games to develop WCSD specific parking rates. The following data was collected.

Typical School Day

Data was collected at the following three high schools during the middle of a mid-week day when classes were in session and the majority of students would be present. We did not collect data during the beginning or end of the school day, as some students may have periods off.

- Damonte Ranch HS – Thursday, September 6, 2018
- Spanish Springs HS – Wednesday, September 12, 2018
- North Valleys HS – Thursday, September 13, 2018

Special Events

Data was also collected during five special events including two open houses/parent nights, and three football games, including two Homecoming games. The football games were selected based on anticipated maximum attendance (i.e. Homecoming games and games against local teams). We tried to avoid counting football games against teams from far away locations where visitor attendance would likely be minimal. Parking utilization data was collected at the following events:

- Galena HS Open House – Wednesday, August 22, 2018
- Damonte Ranch HS Open House – Wednesday, August 29, 2018
- Damonte Ranch HS Homecoming Football Game (vs. Spanish Springs HS) – Friday, September 7, 2018
- McQueen HS Football Game (vs. Carson HS) – Friday, September 7, 2018
- North Valleys HS Homecoming Football Game (vs. Winnemucca) – Friday, September 21, 2018

WCSD SPECIFIC PARKING RATES

Parking rates were calculated based on the data collection listed above. **Table 1** summarizes the data and detailed calculations are provided in **Attachment A**.

Table 1: WCSD Parking Data

High School	Event/Day	# of Cars Parked	Student Enrollment	Parking Rate (Cars Parked per Student)
Damonte Ranch	Typical Weekday	400	1818	0.22
Spanish Springs	Typical Weekday	469	2439	0.19
North Valleys	Typical Weekday	352	2086	0.17
Galena	Open House	481	1451	0.33
Damonte Ranch	Open House	417	1818	0.23
Damonte Ranch	Football Game (Homecoming)	634	1818	0.35
McQueen	Football Game	501	1709	0.29
North Valleys	Football Game (Homecoming)	389	2086	0.19

As shown in the table, the parking rates range from 0.17 to 0.35 vehicles per student which is well below the City of Sparks' requirement of 0.67 spaces per student, faculty, and staff. The parking utilization at WCSD high schools was found to be very similar to ITE identified rates. The parking rates in **Table 1** account for associated staff/faculty as staff was present and utilizing parking spaces when the data was collected.

CONCLUSIONS & RECOMMENDATIONS

The following is a list of our key findings and recommendations:

- Based on the data collected at WCSD sites, special events typically result in higher parking demand than an average school day.
- Based on the data presented above, a parking supply rate of at least 0.35 spaces per student is recommended for the proposed project. This fits within the typical parking supply range for other WCSD high schools. As shown in **Attachment A**, WCSD typical parking supply rates range from 0.16 to 0.48 spaces per student. The range of parking supply rates for the newer schools of similar size/capacity to the proposed project is 0.32 to 0.41 spaces per student (highlighted in green).
- Based on a parking demand rate of 0.35 spaces per student and a projection of 2,125 students, a *minimum* of 744 parking spaces should be provided.
- A parking rate of 0.35 would provide more spaces than what is required by Washoe County Development Code and more than recommended by ITE.
- Although less than what is required by the City of Sparks and the City of Reno, a parking rate of 0.35 (i.e. minimum of 744 parking spaces) is expected to adequately accommodate the parking needs based on WCSD high school specific data.
- To be conservative and provide a buffer for any extraordinarily large events, we recommend adding a 20% buffer in the planned parking supply. This additional 20% results in a total recommended parking supply of 893 spaces.

Sincerely,
TRAFFIC WORKS, LLC



Loren E. Chilson, PE
Principal

Attachments: A – WCSD Specific Parking Data Calculations

Average Weekday Peak Period Parking

Location	Event/Day	# of Cars Parked	Enrollment	Cars Parked per Student	% of Spaces Filled
Damonte Ranch	Typical Weekday	400	1818	0.22	45%
Spanish Springs	Typical Weekday	469	2439	0.19	60%
North Valleys	Typical Weekday	352	2086	0.17	48%
				Average	0.19
				85th Percentile	0.21
				Maximum	0.22

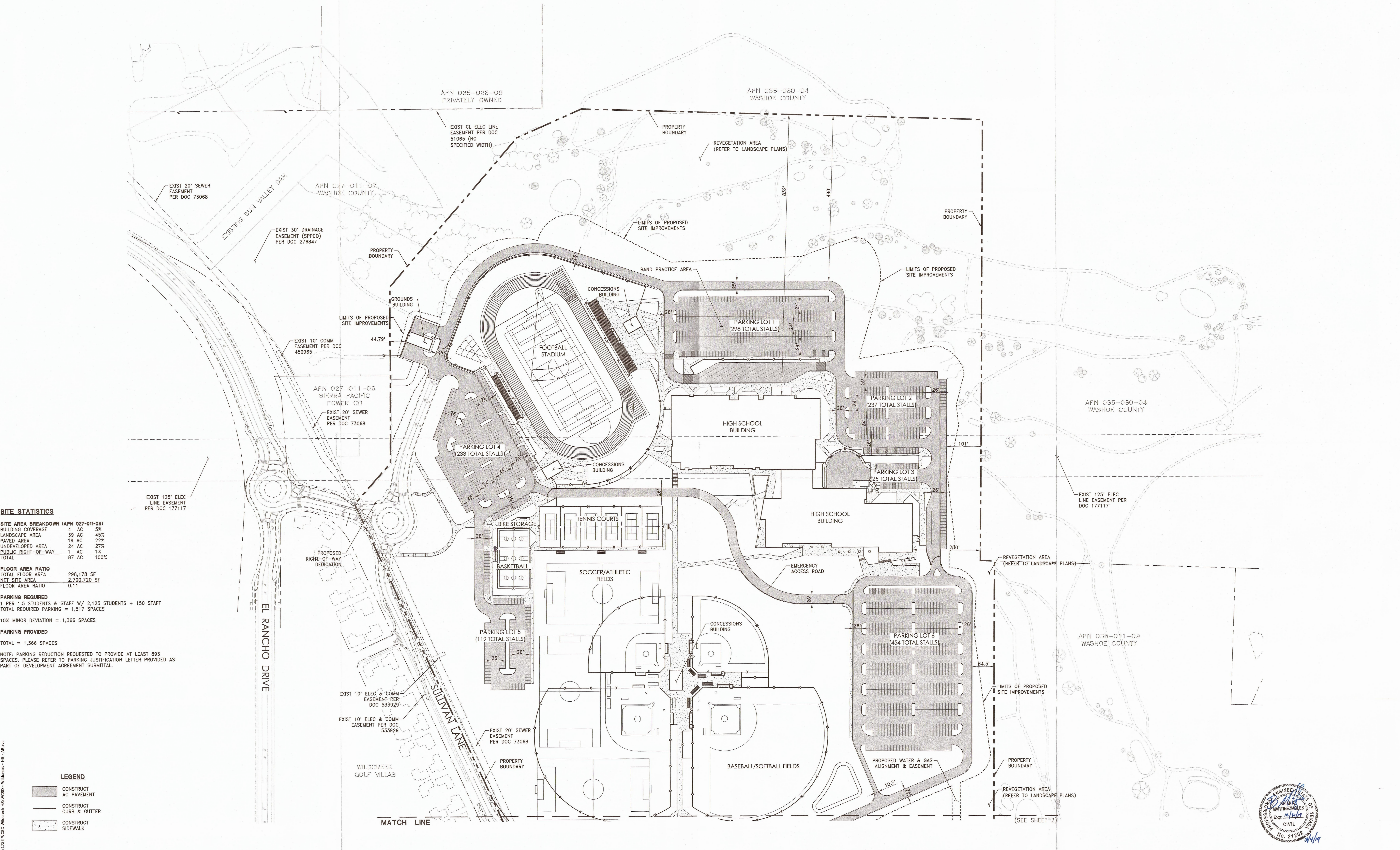
Event Parking

Location	Event	# of Cars Parked	Enrollment	Cars Parked per Student	% of Spaces Filled
Galena	Open House (Parent Night)	481	1451	0.33	73%
Damonte Ranch	Open House (Parent Night)	417	1818	0.23	47%
Damonte Ranch	Football Game (Homecoming)	634	1818	0.35	71%
McQueen	Football Game	501	1709	0.29	80%
North Valleys	Football Game (Homecoming)	389	2086	0.19	49%
				Average	0.28
				85th Percentile	0.34
				Maximum	0.35

Existing WCSD Data as of October 2018

School	Parking Spaces			Enrollment	Capacity	Faculty	Parking Spaces per Student Capacity
	Regular	Handicapped	Total				
Damonte Ranch	855	33	888	1818	2170	128	0.41
Galena	637	22	659	1451	1893	103	0.35
Hug	374	14	388	1503	1904	161	0.20
Incline	137	4	141	290	882	44	0.16
McQueen	607	19	626	1709	1717	120	0.36
North Valley	701	26	727	2086	2282	154	0.32
Reed	1107	17	1124	2088	2330	157	0.48
Reno	460	12	472	1716	2162	115	0.22
Spanish Springs	768	19	787	2439	2312	163	0.34
Sparks	320	4	324	1188	1567	107	0.21
Wooster	542	17	559	1608	1796	142	0.31

Exhibit 4



SITE STATISTICS

SITE AREA BREAKDOWN (APN 027-011-08)

BUILDING COVERAGE	4 AC	5%
LANDSCAPE AREA	39 AC	45%
PAVED AREA	19 AC	22%
UNDEVELOPED AREA	24 AC	27%
PUBLIC RIGHT-OF-WAY	1 AC	1%
TOTAL	87 AC	100%

FLOOR AREA RATIO

TOTAL FLOOR AREA	298,178 SF
NET SITE AREA	2,700,720 SF
FLOOR AREA RATIO	0.11

PARKING REQUIRED

1 PER 1.5 STUDENTS & STAFF W/ 2,125 STUDENTS + 150 STAFF
TOTAL REQUIRED PARKING = 1,517 SPACES

10% MINOR DEVIATION = 1,366 SPACES

PARKING PROVIDED

TOTAL = 1,366 SPACES

NOTE: PARKING REDUCTION REQUESTED TO PROVIDE AT LEAST 893 SPACES. PLEASE REFER TO PARKING JUSTIFICATION LETTER PROVIDED AS PART OF DEVELOPMENT AGREEMENT SUBMITTAL.

LEGEND

- CONSTRUCT AC PAVEMENT
- CONSTRUCT CURB & GUTTER
- CONSTRUCT SIDEWALK

Professional Seal Date Revision

Development Agreement
Site Submittal Package

PRELIMINARY
Not For Construction

4/22/2018 4:22:49 PM

0 50 100 200

NORTH

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Wildcreek Area High School
Washoe County School District
Sullivan Lane
Sparks, Nevada 89431

SITE PLAN
SHEET 1 OF 2
02/20/2019
H+K Project No: 1733

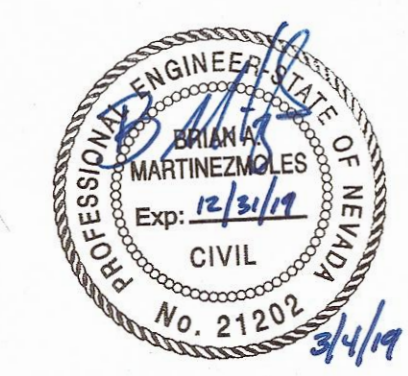


Exhibit 5

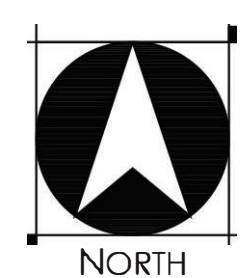


GENERAL NOTES

- 1) ALL PLANTING AND IRRIGATION SHALL BE INSTALLED PER LOCAL GOVERNING CODES.
- 2) FINAL PLANT SELECTION AND LAYOUT WILL BE BASED ON SOUND HORTICULTURAL PRACTICES RELATING TO MICRO-CLIMATE, SOIL, AND WATER REGIMES. ALL TREES WILL BE STAKED SO AS TO REMAIN UPRIGHT AND PLUMB FOLLOWING INSTALLATION. PLANT SIZE AND QUALITY AT TIME OF PLANTING WILL BE PER THE CURRENT EDITION OF AMERICAN STANDARD FOR NURSERY STOCK (ANSI Z60.1).
- 3) ALL SHRUB BEDS WILL RECEIVE 4" DEPTH MULCH WITH WEED CONTROL.
- 4) ALL LANDSCAPING WILL BE AUTOMATICALLY IRRIGATED WITH RECLAIMED WATER. TURF GRASS WILL BE IRRIGATED USING SPRAY, ROTARY, AND/OR IMPACT HEADS. CONTAINER PLANTINGS WILL BE DRIP IRRIGATED BASED ON THE SPECIFIC HORTICULTURAL REQUIREMENTS OF EACH SPECIES. A REDUCED-PRESSURE-TYPE BACKFLOW PREVENTOR WILL BE PROVIDED ON THE IRRIGATION SYSTEM AS REQUIRED PER CODE.
- 5) TREES AND SHRUBS TO BE PLANTED PER CITY OF SPARKS ZONING CODE AS FOLLOWS:
 - EVERGREEN TREES TO BE 6" TALL MIN.
 - DECIDUOUS TREE TO BE 50% 1" CALIPER MIN. AND 50% TO BE 2" CALIPER MIN.
 - SHRUBS TO BE 60% 5 GALLON MIN. AND 40% TO BE 1 GALLON MIN.

NOTE: PLAN IS CONCEPTUAL. PLANT QUANTITIES INDICATED ARE PER CITY OF SPARKS CODE REQUIREMENTS. PLANT LOCATIONS AND SPECIES SELECTION SHALL BE DETERMINED UPON DEVELOPMENT OF THE FINAL CONSTRUCTION DOCUMENTS.

EXISTING TREES ON SITE THAT ARE OUTSIDE OF CONSTRUCTION/ GRADING DISTURBANCE LIMITS TO REMAIN SHALL BE PROTECTED DURING CONSTRUCTION.



0' 100' 200' 300'

Scale in Feet



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L.A. Studio*Nevada*
the landscape architecture studio

1552 C Street Sparks, NV 89431 (775) 323-2223 NV PLA #440
www.lastudionevada.com LA Studio Job No. 631-501-08-16

**Development Agreement
Site Submittal Package**

PRELIMINARY
Not For Construction

Professional Seal | Date _____ Revision _____[illegible]

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Consultant



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**Wildcreek Area High School
Washoe County School District**

Sullivan Lane
Sparks, Nevada 89431

LANDSCAPE DATA - PRELIMINARY

SITE PROPERTY AREA: 87.2 ACRES
DEVELOPMENT AREA APPROX. 61.61 ACRES (2,683,731 SF)

REQUIRED LANDSCAPE AREA: 536,746 SF (12.3 AC) (20% OF DEVELOPMENT AREA)

PROVIDED LANDSCAPE AREA: APPROX. 1,939,846 SF (44.5 AC)
-INCLUDES AREAS TO BE SPORTS FIELDS:793,972 SF (18 ACRES)

TREES REQUIRED: 1,220
1,073 (1 TREE PER 500 SF OF REQ. LS AREA, EXCLUDING PARKING AREA)
147 (1 TREE PER 10 PARKING SPACES)

TREES PROVIDED: 945
-TREES PROVIDED IS BASED ON CALCULATIONS NOT INCLUDING SPORTS FIELDS

SHRUBS REQUIRED 6,440
(6 SHRUBS PER REQ'D LANDSCAPE TREE + 5 SHRUBS PER REQ'D PERIMETER TREES)

SHRUBS PROVIDED 6,440 MIN.

NOTE: ACTUAL DISTURBANCE & LANDSCAPE AREA TO BE DETERMINED UPON FINAL DEVELOPMENT.

02/20/2019
H+K Project No: 1733



Exhibit 6



February 22, 2019

Mr. Adam Searcy, P.E.
Washoe County School District
14101 Old Virginia Road
Reno, Nevada 89521

**Re: Sanitary Sewer Demand
Proposed High School at Wildcreek**

Dear Adam;

At your request, we have had our subconsultant, Atkins, perform a preliminary evaluation of the City of Sparks sewer model and potential impacts related to the proposed sewer demand for the proposed high school at the Wildcreek site adjacent to Sullivan Lane in Sparks, Nevada.

The City of Sparks model was analyzed for the existing and buildout, or post-project, condition to determine if the proposed high school campus will negatively impact the existing system. Based on the proposed buildings, areas, and uses the project is anticipated to contribute an average daily flow of 0.0061 million gallons per day (MGD). The buildout condition included the following:

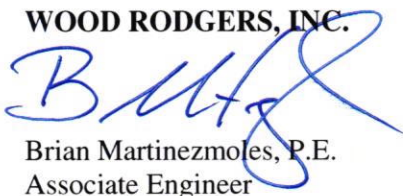
- ☐ High School (285,000 SF)
- ☐ Home Stadium Concession Building (1,685 SF)
- ☐ Visitor Stadium Concession Building (1,980 SF)
- ☐ Existing Golf Clubhouse
- ☐ Grounds/Maintenance Building (2,440 SF)

The Atkin's study identified existing City of Sparks sewer system deficiencies in the existing condition in the 18th Street, Tyler Way, and Greenbrae sewer systems; many of these area and currently planned to be completed prior to the project connection date and those CIPs have been included in the project buildout model. Furthermore, it was determined that the increase (0.0061 MDG) resulting for the project was insignificant compared to the values of the existing system and the project alone would not trigger any of the identified capital improvement projects.

If you have any questions or need additional information, please do not hesitate to ask.

Sincerely,

WOOD RODGERS, INC.



Brian Martinezmoles, P.E.
Associate Engineer

Attachments: Capacity Analysis for the High School at Wildcreek Project

RECEIVED-CITY OF SPARKS
FEB 22 2019
COMMUNITY SERVICES
ADMINISTRATION

Memo

To: Brian Martinezmoles, P.E.
Wood Rodgers

From: Brian Janes, P.E., Atkins

Date: February 7, 2019

Subject: Wildcreek Project - Capacity Analysis
City of Sparks Sewer Model Update (Revision 1)

Revision 1

- The square footages noted in Table 1 for home and visitor's stadium were previously misstated and have been corrected. The flows identified and results of the analysis were correct.
- Analysis has been revised to include CIPs 1 and 2 as an existing condition at the request of the City of Sparks.

Per the request of Wood Rogers, Atkins performed a preliminary capacity analysis of the existing sanitary sewer system downstream of the proposed Wildcreek Project (herein referred to as the "Project"). The purpose of this analysis was to determine the potential impacts to the existing sanitary sewer system resulting from the anticipated Project. This potential redevelopment project is planned to encompass multiple parcels (APNs: 027-011-05 and 035-080-04) at the current location of the Wildcreek Golf Course, located north of North McCarran Boulevard and east of Sullivan Lane (see attached **Figure 1**). These sewer flows enter the hydraulic model at manhole SSN029855. This memorandum summarizes the preliminary findings.

Wastewater Flows and Hydraulic Model

In modeling the wastewater generated from the proposed development, Atkins used specific historical water use data for similar properties around the City and assumptions on return-to-sewer ratios. This approach differs from the methods used in other post-master plan capacity analysis memorandums due to the specific and unique nature of the proposed development plan. **Table 1** below summarizes the estimated wastewater flows generated from the new development and compares to the estimated flows generated from these parcels under the planned land use designation reflected in the buildout model of the *2016 Sewer Model Update Technical Report* (2016 SMU). In the sewer model, the current development was classified as Park/Open Space and was assumed to not contribute flow to the sewer system, as the sewage flows from the golf course clubhouse were considered relatively negligible. As shown in **Table 1**, the Project's updated development plan increases the average daily buildout flow by approximately 0.0061 MGD compared to the original buildout land use.

Table 1 Wastewater Generation Model Loading Comparison

Proposed Development Land Use ¹	Average Daily Flow (gpd) ²	2016 SMU Planned Land Use	Average Daily Flow (gpd)
High School (285,000 sqft.)	5,486	Park/Open Space (330.8 ac)	0
Home Stadium Building - concessions (1,685 sqft.)	31		
Visitor Stadium Building - concessions (1,980 sqft.)	38		
Golf Course/ Clubhouse	500		
Grounds Maintenance Building (2440 sqft)	22		
Total ADWF =		6077	Total ADWF = 0

Memo

Notes:

¹ Buildout land use area data based on an estimate provided by Wood Rogers

² Average daily flow estimates based on historical winter-use water use data (assuming 100% return-to-sewer flows) for comparable developments in the Truckee Meadows:

- High School - used Spanish Springs High School SSHS water use data as comparable. Used the 3rd quartile (9th highest value of 11) monthly value from 2015 and assumed SSHS to be 400,000 sqft. Calculated ADWF per square foot.
- Home Stadium Building – assumed some flow generated from concessions and used SSHS ADWF per square foot.
- Visitor Stadium Building – assumed some flow generated from concessions and used SSHS ADWF per square foot.
- Golf Course/Clubhouse - used current Wild Creek Golf Course clubhouse as comparable. Used the 3rd quartile (9th highest value of 11) monthly value from 2015 and calculated ADWF per square foot.
- Grounds Maintenance Building- used Industrial ADWF generation rate recommended in Table 3-7 of the 2016 Sewer Model Update Technical Report
- ADWF = average daily dry weather flow

These wastewater flows were loaded into the current version of a City of Sparks InfoSWMM hydraulic model (originally completed by Atkins, November 3, 2016 as part of the 2016 SMU). The following model scenarios were simulated to determine the impact of the project: (1) existing condition dry weather flow (DWF) and wet weather flow (WWF) models (including the anticipated flows from the Project) and (2) buildout condition dry and wet weather flow models (including the anticipated flows from the Project).

This study is a revision to the Wildcreek Project-Capacity Analysis study, completed for the City of Sparks in 2017 and again for Wood Rodgers on January 18, 2019. The 2017 Wildcreek study had a larger development footprint, with an ADWF of 0.0392 MGD. In comparison, this study has a smaller development footprint, with an ADWF of 0.0061 MGD. The ADWF has been significantly reduced and the Project will have a lesser effect on the capacity of the sewer system, compared to the 2017 Wildcreek study.

Additionally, at a meeting with the City of Sparks on February 1, 2019 CIPs 1 and 2 from the 2016 SMU were discussed. It was determined that CIP 1 had already been constructed and that CIP 2 would be constructed in FY2020. Considering that the Wildcreek Project construction is scheduled for FY2022, both CIPs were added to the modelling as an existing condition. CIPs 3 and 4 were not added as their construction is more uncertain and are scheduled in FY2021-22. A brief summary of the CIPs are as follows:

- CIP 1 (see Figure 5-2 in the 2016 SMU): CIP 1 includes upsizing the existing sewer in El Rancho Drive to 12-inch and 15-inch PVC and ultimately connecting a new system to the Reno Sparks Joint Interceptor near G Street. Included in this CIP is the abandonment of the connection between the El Rancho sewer system and the Greenbrae sewer system, which alleviates pressure on the downstream Greenbrae system and ultimately reduces the number of CIP improvements required in the Greenbrae system. Although this CIP is technically not downstream of the proposed development, it is required to help reduce CIPs and free up capacity in the sewer system downstream of the proposed development. This CIP is estimated at approximately \$1,477,810.
- CIP 2 (see Figure 5-2 in the 2016 SMU): CIP 2 includes upsizing the 18th Street and Tyler Way sewers to 15-inch PVC. This CIP is estimated at approximately \$871,640.
- CIP 3 (see Figure 5-4 in the 2016 SMU): CIP 3 includes upsizing the Quail Street and Boise Drive sewers to 24-inch PVC. The abandonment of the connection to the Probasco Way sewer system is also included in this CIP to alleviate pressure on the Probasco system and reduces the magnitude of improvements required in the downstream portions of the Probasco system. This CIP is estimated at approximately \$888,235.
- CIP 4 (see Figure 5-4 in the 2016 SMU): CIP 4 includes upsizing the Prater Way sewer to 15-inch or 18-inch PVC and upsizing the N McCarran Boulevard sewer to 30-inch PVC. This CIP is estimated at approximately \$1,974,105.

Memo

Existing Condition Model Results

Figure 2 compares the d/D modeling results for the sewer system between the existing condition scenario in the 2016 SMU and the existing condition plus the proposed development with CIPs 1 and 2 scenario to determine the potential downstream capacity impacts from the development. The existing condition plus the proposed development scenario includes the estimated ADWF of 0.0061 MGD from the Project in the model simulation. The criteria used to evaluate the sewer system are listed in Table 4-6 of the 2016 SMU.

The top half of **Figure 2** summarizes the d/D results for the existing condition without project condition from the 2016 SMU and shows approximately 2,800 linear feet of criteria violations in the 18th Street and Tyler Way sewer systems with additional criteria violations further downstream in the Greenbrae system (approximately 7,000 linear feet).

The construction/addition of CIPs 1 and 2 and the added 0.0061 MGD from the Project are shown in the bottom half of **Figure 2**. The criteria violations within the 18th Street and Tyler Way areas are no longer present with one exception. At this location the violation is minor and an improvement of approximately 0.1 d/D from the existing condition. Note that this remaining minor criteria violation is expected to be eliminated in FY2021-22 with the construction of CIPs 3 and 4. The additional flow from the Project does not impact this pipe segment. A model run performed showed an increase of 0.002 d/D from the Project which is negligible and within the uncertainty associated with the modelling software.

Buildout Condition Model Results

Figure 3 compares the d/D modeling results for the sewer system between the original buildout condition scenario in the 2016 SMU and the buildout condition with the proposed development with CIPs 1 and 2 scenario to determine the potential future downstream capacity impacts from the development. The criteria used to evaluate the sewer system are listed in Table 4-6 of the 2016 SMU.

Similar to the existing condition scenario, **Figure 3** shows that the criteria violations in the 18th Street and Tyler Way area have been eliminated with the exception of two pipe segments where minor violations remain, but are an improvement from the base buildout condition of approximately 0.1 d/D. Again, these remaining two minor criteria violations are expected to be eliminated in FY2021-22 with the construction of CIPs 3 and 4. The additional flow from the Project does not impact these pipe segments either as a model run performed showed an increase of 0.001 d/D from the Project which is negligible and within the uncertainty associated with the modelling software.

Conclusions

Addition of the identified project as described does not violate criteria or increase the d/D values in the downstream system. The remaining criteria violations noted in all scenarios are primarily due to existing sewer capacity deficiencies noted in the 2016 SMU.

Notes:

1. CIPs noted in the 2016 SMU are at the planning level stage and require thorough engineering design to determine more accurate costs, alignments and other design components. The combination of these four CIPs are expected to resolve the existing condition violations for the system downstream of the development.
2. In the buildout scenario, the 2016 SMU also identifies CIPs 17 and 19 (see Figure 5-12 and Figure 5-13, respectively) for this region, however this proposed development alone would not trigger either of those CIPs. CIPs 17 and 19 are needed for the regional development.
3. The Wildcreek Project does not cause any new criteria violations, and the negligible increases in d/D values are within the modelling software uncertainty.

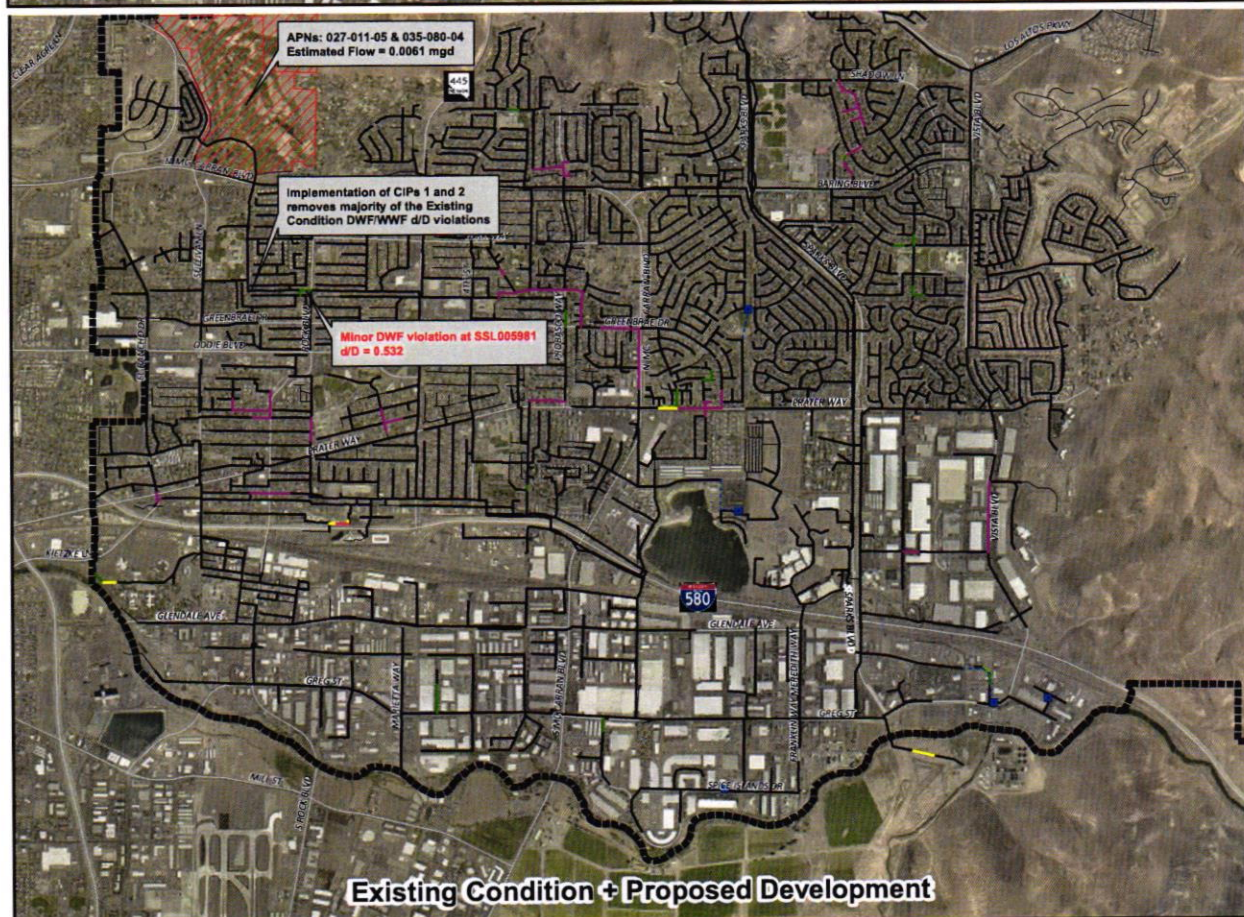
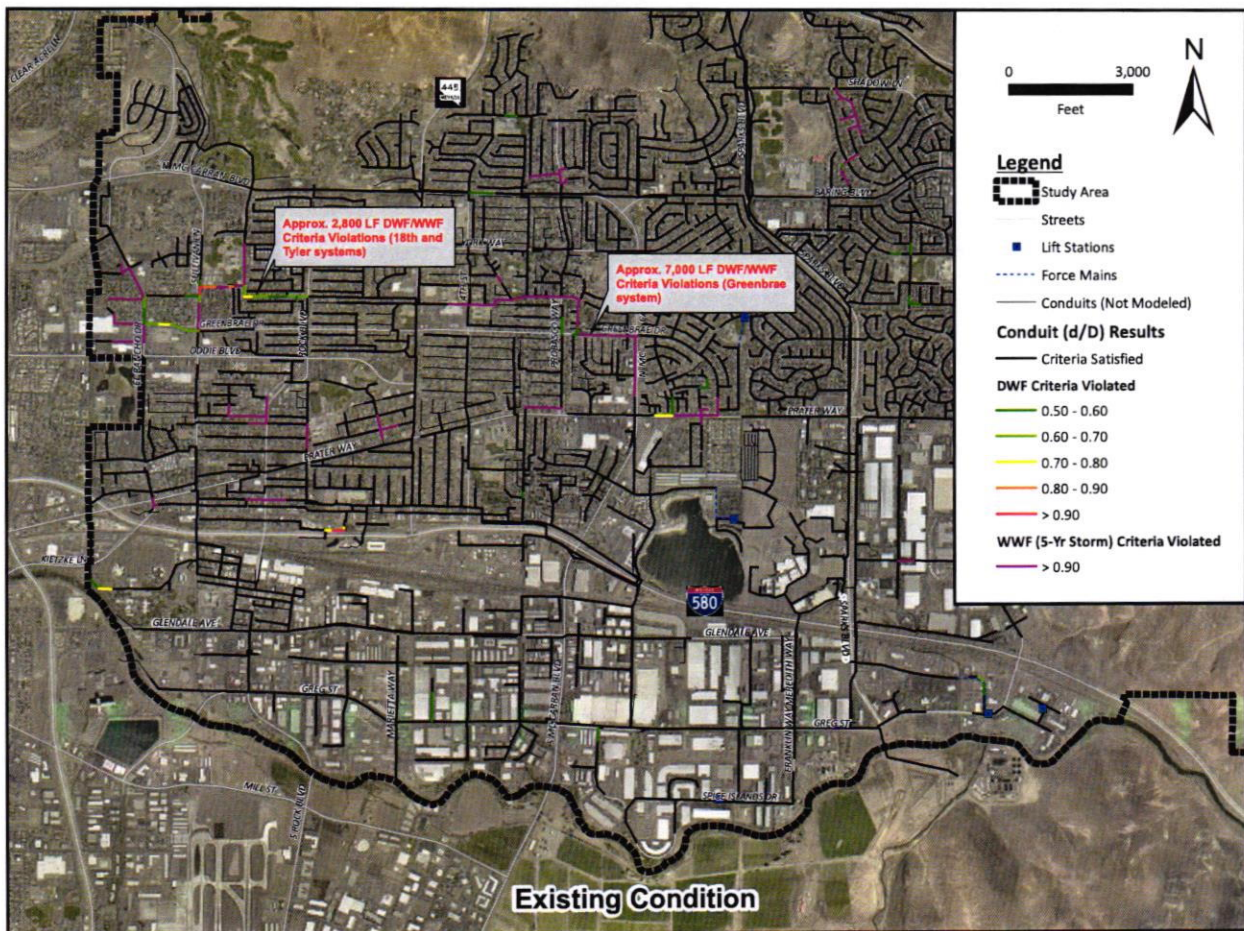


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City of
Sparks

Sewer Model Update
Wildcreek Development Project - Vicinity Map

**Figure
1**



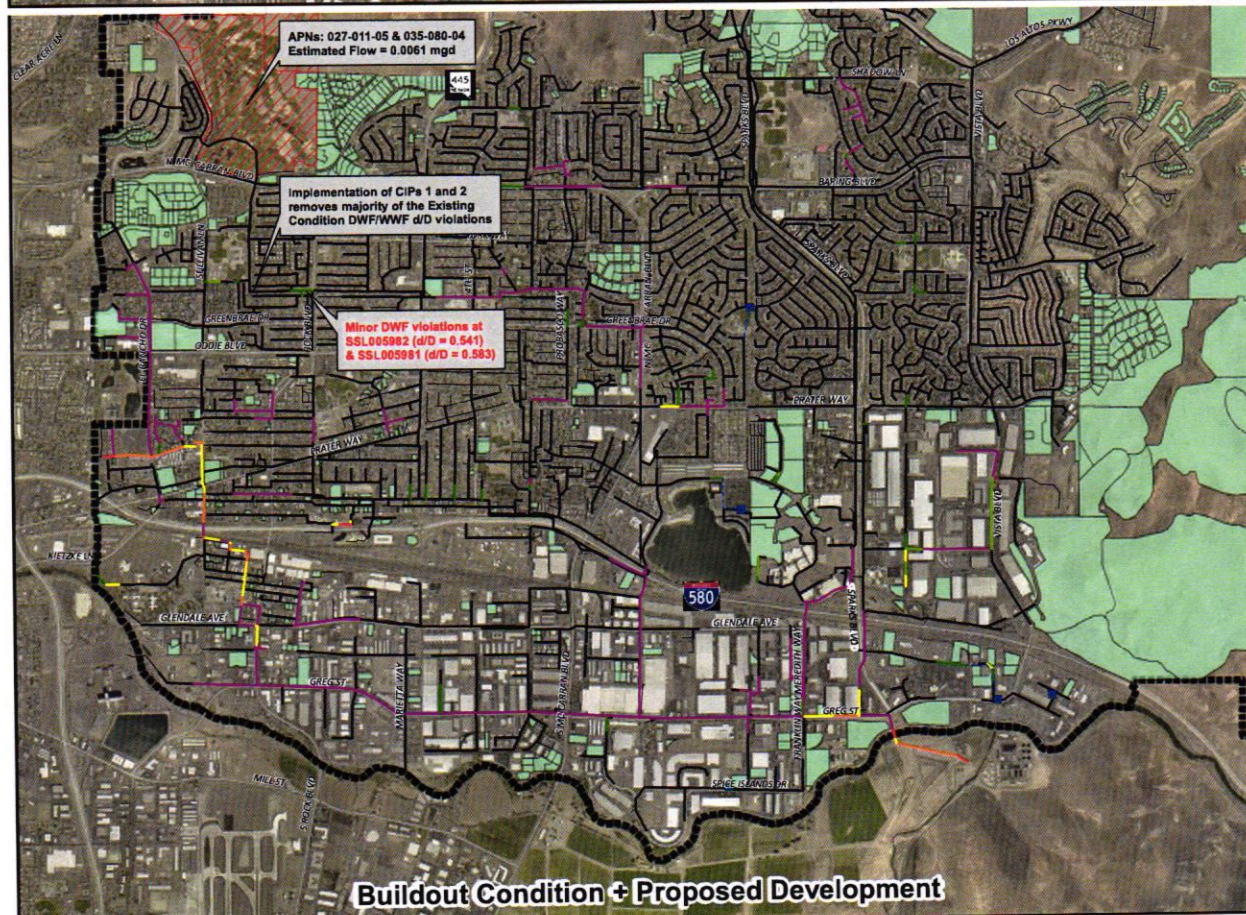
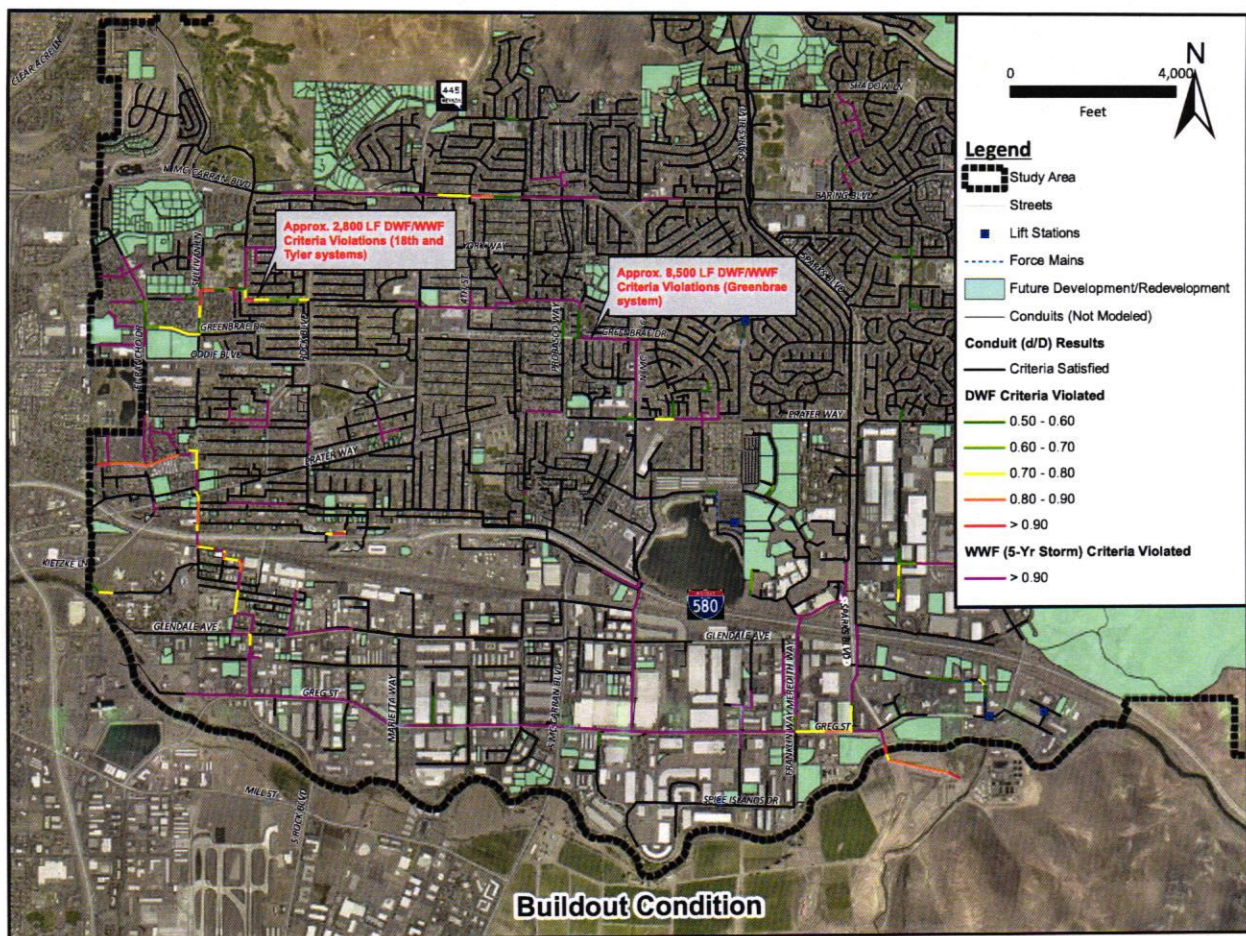
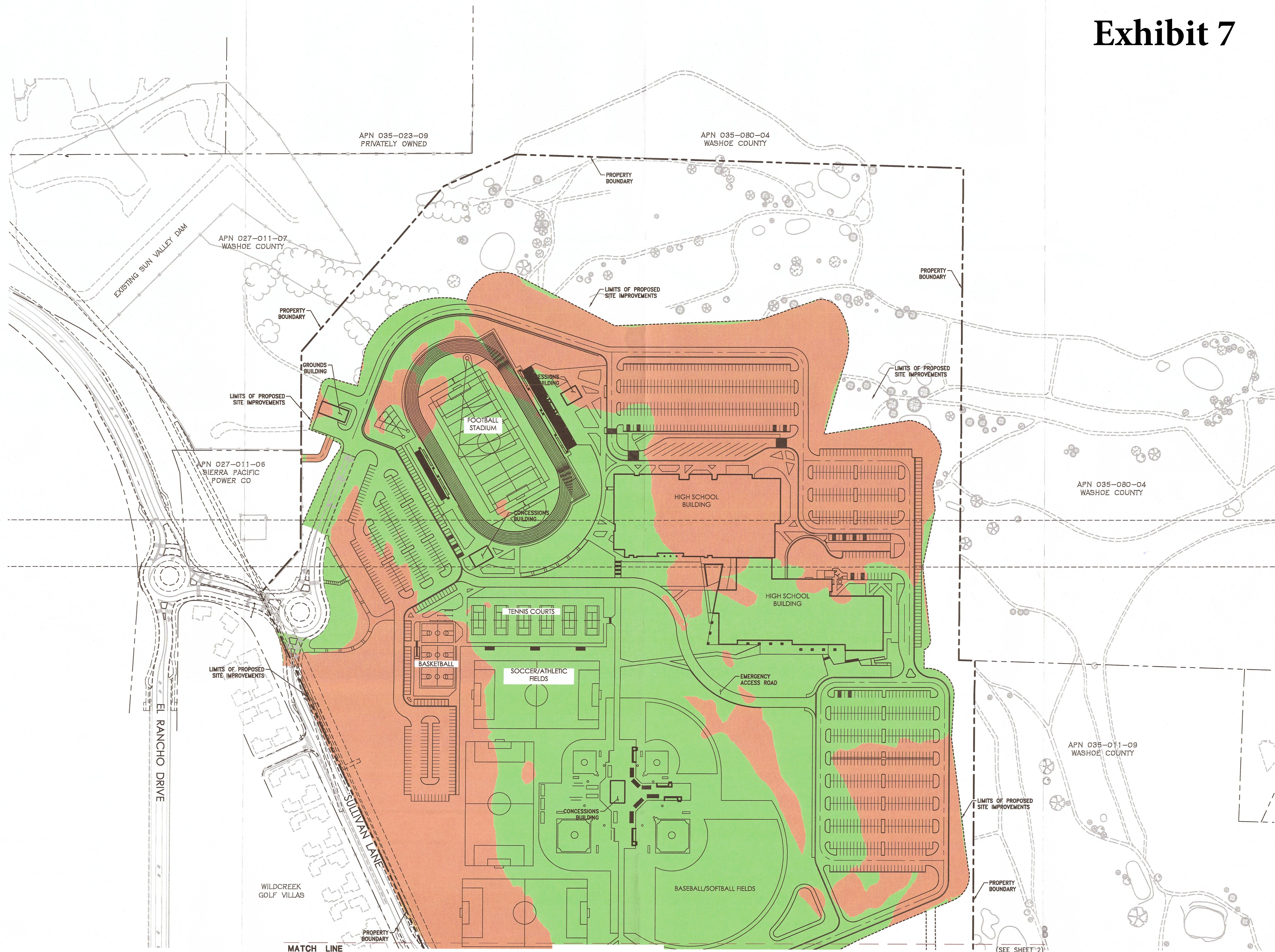
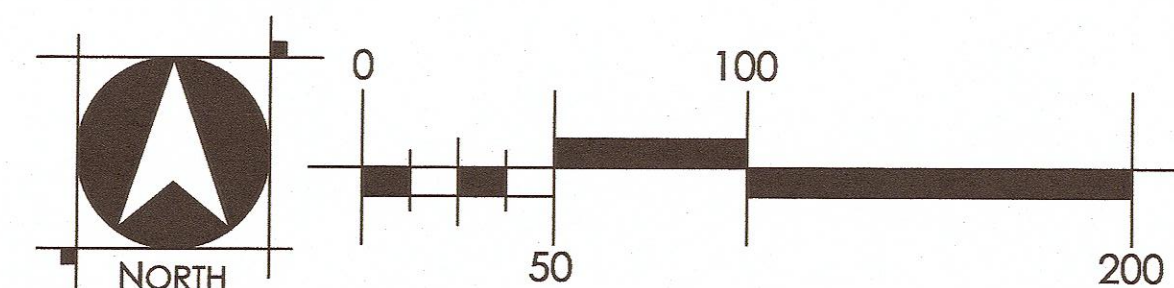


Exhibit 7



LEGEND

CUT
FILL



Development Agreement
Site Submittal Package

PRELIMINARY
Not For Construction

Professional Seal
Date Revision

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Architect of Record

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Washoe County School District

Sullivan Lane
Sparks, Nevada 89431

GRADING CUT/FILL AREAS
SHEET 1 OF 2

02/20/2019
H+K Project No: 1733





(SEE SHEET 1)

MATCH LINE

PROPERTY BOUNDARY

PROPOSED SOUTH ENTRANCE

PROPOSED SANITARY SEWER ALIGNMENT & EASEMENT

PROPOSED ORR DITCH IMPROVEMENTS

PROPOSED ORR DITCH IMPROVEMENTS

PROPOSED DETENTION BASIN

EXIST. CLUB HOUSE

EXIST. MAINTENANCE BLDG

WILD CREEK GOLF COURSE

APN 027-011-09
WASHOE COUNTY

PROPOSED WATER & GAS ALIGNMENT & EASEMENT

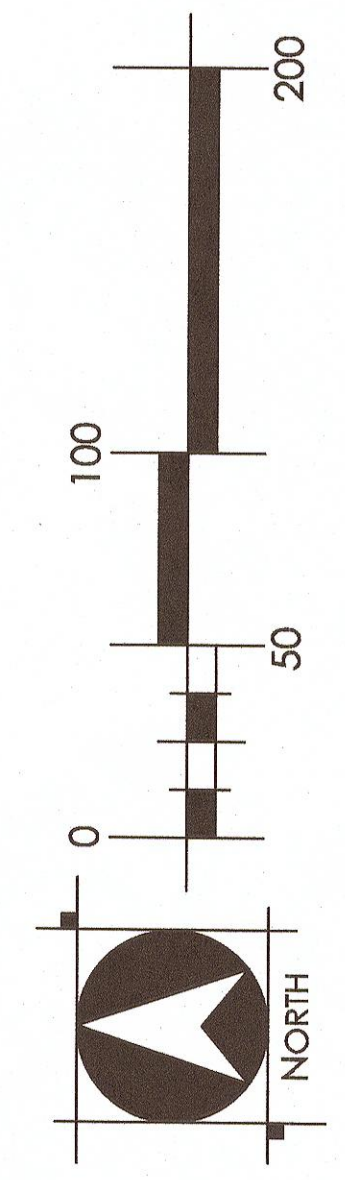
WEEKIND ROAD

MCCARRAN BLVD

SULLIVAN LANE

LEGEND

CUT
FILL



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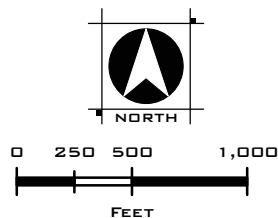
GRADING CUT/FILL AREAS
SHEET 2 OF 2
02/20/2019
H+K Project No: 1733



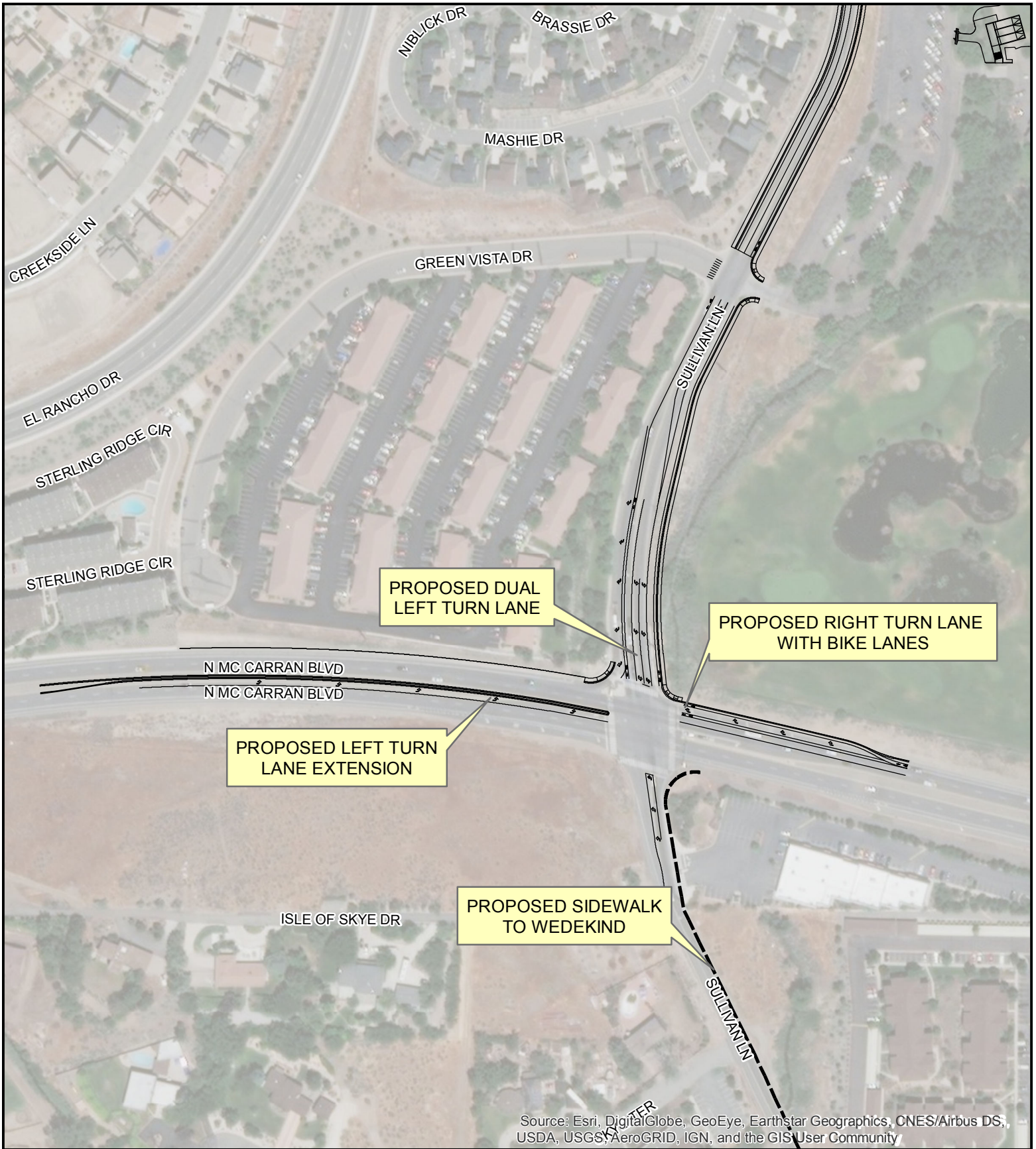


OVERALL IMPROVEMENTS
HIGH SCHOOL AT WILDCREEK
RENO, NV
MARCH, 2019

Exhibit 8

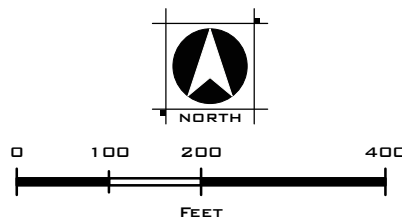



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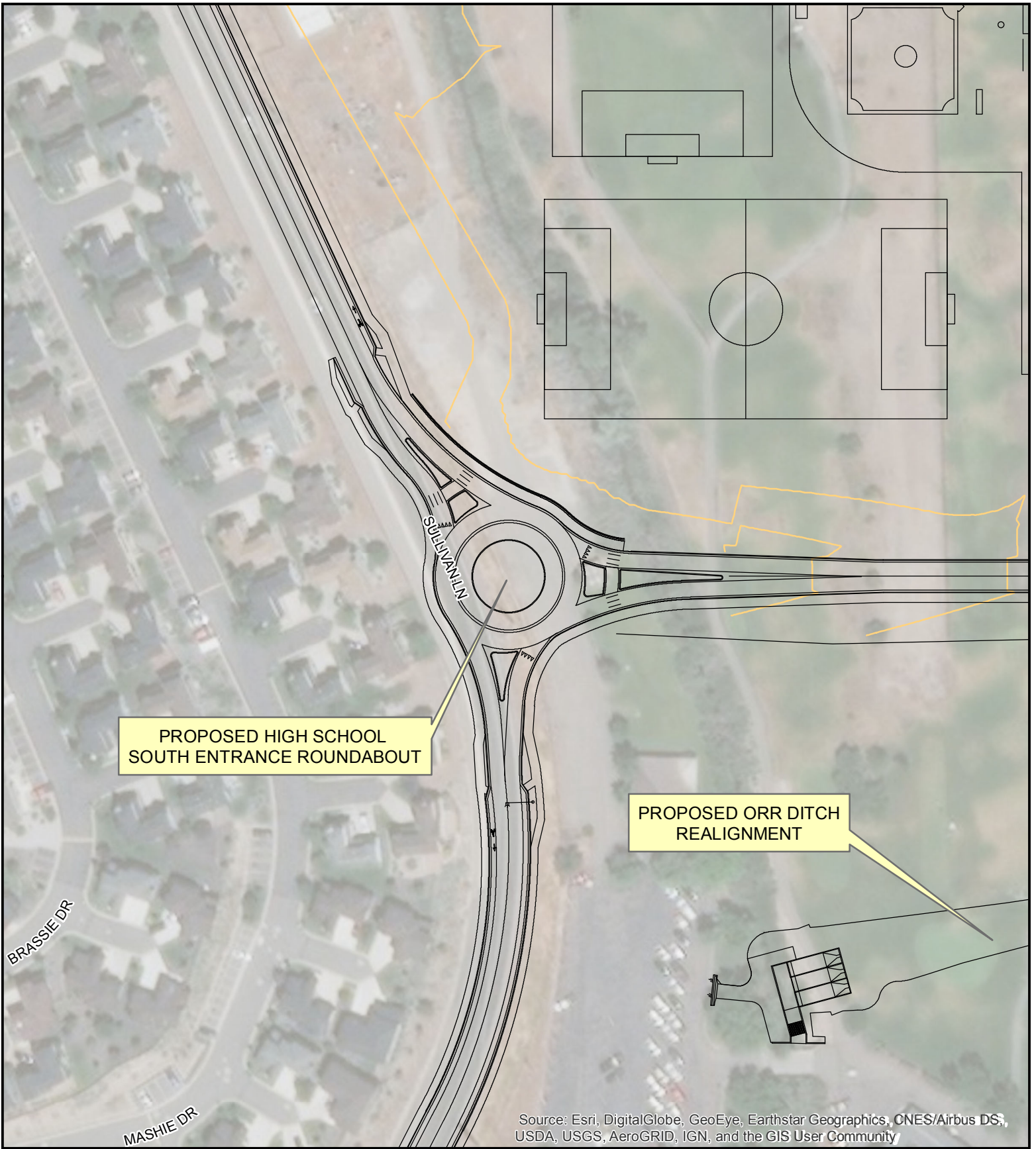


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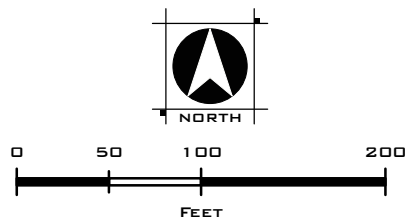
LOCATION: A
HIGH SCHOOL AT WILDCREEK
RENO, NV
MARCH, 2019



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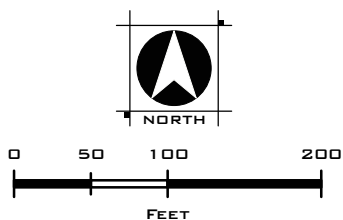
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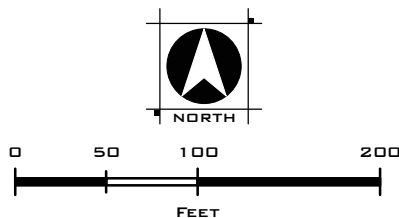


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LOCATION: E
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MARCH, 2019



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