Agenda Item No: 25.B

STAFF REPORT

Report To: Board of Supervisors **Meeting Date:** July 18, 2019

Staff Contact: Hope Sullivan, AICP, Planning Manager

Agenda Title: For Possible Action: Discussion and possible action regarding a request for a Tentative Subdivision Map to create a 103 lot single family subdivision within the Lompa Ranch Specific Plan Area and within the Blackstone Ranch Specific Plan Area on property zoned Single Family 6,000 and located at the east end of Railroad Drive, APN 010-051-44. (Hope Sullivan, hsullivan@carson.org)

Staff Summary: The applicant is proposing to subdivide a 26.89 acre property to create 103 residential lots, a roadway system, open space, and trails. Lot sizes are proposed to range from 6000 square feet to 15,803 square feet, with an overall average lot size of approximately 7,712 square feet. Road access is proposed to be from Railroad Drive and from East 5th Street. The Board of Supervisors is authorized to approve the Tentative Map. The Planning Commission voted to recommend approval of the map by a vote of 4 – 2, 1 absent.

Agenda Action: Formal Action / Motion **Time Requested:** 25 Minutes

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Proposed Motion

I move to approve TSM-19-054, based on the ability to make the required findings in the affirmative and subject to the conditions of approval recommended by the Planning Commission.

Board's Strategic Goal

Quality of Life

Previous Action

June 26, 2019: The Planning Commission recommended approval by a vote of 4 - 2, 1 absent, 0 abstention.

Background/Issues & Analysis

The Planning Commission conducted a public hearing on the requested tentative map at its meeting of June 26, 2019. During that hearing, six residents spoke. Public comment focused on the noise impact of the freeway on future homes, the adequacy of the noticing, input from FEMA and Army Corps of Engineers, directing construction traffic to access the site from East 5th Street, the adequacy of the open space, and consultation with Nevada Department of Transportation relative to the intersection at E. 5th Street.

By a vote of 4 – 2, 1 absent, the Planning Commission voted to recommend approval of the proposed tentative map based on the ability to make the required findings as stated in the staff report, and subject to the conditions of approval recommended by staff with the additional condition stating:

"The applicant shall consult with the Army Corps of Engineers relative to the wetlands, and all recommendations and requirements of the Army Corps shall be incorporated into the construction plans to protect the recharge area."

The two Commissioners who voted against approval stated that they did not think it was appropriate to develop in the floodplain.

Please see the attached staff report to the Planning Commission.

Applicable Statute, Code, Policy, Rule or Regulation
CCMC 17.07 (Findings); CCMC 17.05 (Tentative Maps); NRS 278.330.

Financial Information
Is there a fiscal impact? No

If yes, account name/number:

Is it currently budgeted? No

Explanation of Fiscal Impact:

Alternatives
Approve the Tentative Subdivision Map subject to conditions different than the Planning Commission.

Deny the Tentative Subdivision Map, identifying which finding cannot be made.

Attachments:
PC SR & Att TSM-19-054.pdf

TSM-19-054 DelinAquatic rpt 18-208.1BlackstoneDev - w app 26 acres.pdf

Board Action Taken:

Motion: _____	1) _____	Aye/Nay
	2) _____	_____
		_____
		_____
		_____
		_____

_____
(Vote Recorded By)

STAFF REPORT FOR THE PLANNING COMMISSION MEETING OF JUNE 26, 2019

FILE NO: TSM-19-054 **AGENDA ITEM: G-4**

STAFF CONTACT: Hope Sullivan, AICP, Planning Manager

AGENDA TITLE: For Possible Action: Discussion and possible action regarding a Tentative Subdivision Map to create a 103 lot single family residential subdivision within the Lompa Ranch Specific Plan Area, and within the Blackstone Ranch Specific Plan Area, zoned Single Family 6,000 and located at the east end Railroad Drive and Saliman Road, APN 010-051-44.

STAFF SUMMARY: The applicant is proposing to subdivide a 26.89 acre property to create 103 residential lots, a roadway system, open space, and trails. Lot sizes are proposed to range from 6,000 square feet to 15,803 square feet, with an overall average lot size of approximately 7,712 square feet. Road access is proposed to be from Railroad Drive and from 5th Street. The Board of Supervisors is authorized to approval a Tentative Map. The Planning Commission makes a recommendation to the Board.

RECOMMENDED MOTION: "I move to recommend approval of Tentative Subdivision Map TSM-19-054 based on the ability to make the required findings and subject to the conditions of approval."

VICINITY MAP:

RECOMMENDED CONDITIONS OF APPROVAL

The following are general conditions of approval:

The following are conditions of approval required per CCMC 18.02.105.5:

1. All final maps shall be in substantial accord with the approved tentative map.

2. Prior to submittal of any final map, the Development Engineering Department shall approve all on-site and off-site improvements. The applicant shall provide construction plans to the Development Engineering Department for all required on-site and off-site improvements, prior to any submittals for approval of a final map. The plan must adhere to the recommendations contained in the project soils and geotechnical report.

3. Lots not planned for immediate development shall be left undisturbed and mass grading and clearing of natural vegetation shall not be allowed. Any and all grading shall comply with City standards. A grading permit from the Nevada Division of Environmental Protection shall be obtained prior to any grading. Noncompliance with this provision shall cause a cease and desist order to halt all grading work.

4. All lot areas and lot widths shall meet the zoning requirements approved as part of this tentative map with the submittal of any final map.

5. With the submittal of any final maps, the applicant shall provide evidence to the Planning and Community Development Department from the Health and Fire Departments indicating the agencies' concerns or requirements have been satisfied. Said correspondence shall be included in the submittal package for any final maps and shall include approval by the Fire Department of all hydrant locations.

6. The following note shall be placed on all final maps stating:

   "These parcels are subject to Carson City's Growth Management Ordinance and all property owners shall comply with provisions of said ordinance."

7. Placement of all utilities, including AT&T Cablevision, shall be underground within the subdivision. Any existing overhead facilities shall be relocated prior to the submittal of a final map.

8. The applicant must sign and return the Notice of Decision for conditions for approval within ten (10) days of receipt of notification after the Board of Supervisors meeting. If the Notice of Decision is not signed and returned within ten (10) days, then the item may be rescheduled for the next Planning Commission meeting for further consideration.

9. Hours of construction will be limited to 7:00 a.m. to 7:00 p.m., Monday through Friday, and 7:00 a.m. to 5:00 p.m. on Saturday and Sunday. If the hours of construction are not adhered to, the Carson City Building Department will issue a warning for the first violation, and upon a second violation, will have the ability to cause work at the site to cease immediately.

10. The applicant shall adhere to all City standards and requirements for water and sewer systems, grading and drainage, and street improvements.

11. The applicant shall obtain a dust control permit from the Nevada Division of Environmental Protection. The site grading must incorporate proper dust control and erosion control measures.

12. A detailed storm drainage analysis, water system analysis, and sewer system analysis shall be submitted to the Development Engineering Department prior to approval of a final map.

13. Prior to the recordation of the final map for any phase of the project, the improvements associated with the project must either be constructed and approved by Carson City, or the specific performance of said work secured, by providing the City with a proper surety in the amount of one hundred fifty percent (150%) of the engineer's estimate. In either case, upon acceptance of the improvements by the City, the developer shall provide the City with a proper surety in the amount of ten percent (10%) of the engineer's estimate to secure the developer's obligation to repair defects in workmanship and materials which appear in the work within one (1) year of acceptance by the City. Improvements associated with the Conditional Letter of Map Revision (CLOMR) must be constructed and may not be secured for in lieu of construction.

14. A "will serve" letter from the water and wastewater utilities shall be provided to the Nevada Health Division prior to approval of a final map.

15. The District Attorney's Office shall approve any Covenants, Conditions & Restrictions (CC&R's) prior to recordation of the first final map.

Other Conditions of Approval

16. Construction plans shall demonstrate compliance with the Design Standards and Guidelines of the Specific Plan, including but not limited to guidelines for architecture, grading, landscaping, lighting, and walls and fencing.

17. The extension of Railroad Drive north of the City's linear park can be initially constructed to the City's roadway section for rural roads provided construction includes a minimum four inch asphalt section on eight inch base (collector roadway). This portion of roadway must be improved to the City's standard for urban roads, with a minimum four inch asphalt section on eight inch base (collector roadway), at seventy five percent buildout. Bonding in lieu of the improvements is permissible provided that the improvements are completed prior to full buildout.

18. All construction and improvements must meet the requirements of Carson City Standard Details and Development Standards (CCDS) including the following:
    - The proposed 50 foot right-of-way will only accommodate the standard section for a street with parking on only one side. No Parking signs and red curb paint must be installed along one side of these streets.
    - The site design must incorporate storm water detention, so that post development runoff will not exceed pre-development runoff leaving the site, per CCDS 14.4.1, or must provide calculations to justify a lack of detention.
    - Onsite drainage basins and LID facilities must be labeled as private on the improvement plans, must be accessible for maintenance, and must be privately maintained.
    - A final version of the geotechnical report including site investigation must be provided with the application for site improvements, and the design requirements

and recommendations of that report must be met.

19. The applicant shall be responsible to enter into an improvement agreement to pay for 3.53% of the cost required to install a traffic control device at the intersection of E 5th Street and Railroad Drive in an amount not to exceed $35,300. The surety for this agreement must be in the form of cash, must be paid prior to recording the first final map, shall be held by the City and shall be used by a subsequent developer to pay for the construction of a traffic control device at E 5th Street and Railroad Drive, or held for a period of no more than 10 years. If the funds are not utilized for said traffic control device within 10 years, the cash shall be released back to the parties that paid the surety. In the event that 3.53% of the cost of the traffic control device is less than $35,300, the remainder of the surety shall be released back to the parties that paid the surety.

20. The extension of Railroad Drive to 5th Street must be constructed at least to a rural street section standard prior to recording any Final Map for a phase of the subdivision. This section of road must be upgraded to a full urban street section prior to recording any Final Map for a phase of the subdivision that would result in a total number of residential lots equal to 78 or more including a "remainder" parcel.

21. The extension of Railroad Drive to 5th Street must be built to collector roadway dimensions with a minimum asphalt thickness of 4 inches, or per the geotechnical report recommendations, whichever is greater.

22. There is a low spot proposed at the connection of the existing Railroad Drive to the proposed improvements on Railroad Drive. If the project shall require an open channel to divert flows, the channel must be on a parcel to be dedicated to the City. The parcel width must be equivalent to the width of the channel plus 15 feet for access maintenance. There is also an existing storm drain and an existing sewer main adjacent to this location. The required open channel parcel must extend at least 15 feet east of these mains. If an open channel is not utilized for drainage at this location, an exclusive 15 foot storm drain and sewer main easement must be granted, and a fence built at the edge of the easement with the site improvement plans. In either case a 12 foot wide 4 inch thick compacted aggregate base access road must be installed for maintenance of these features with the first site improvement permit.

23. The site improvement plans must incorporate 12 foot wide 4 inch thick compacted aggregate base access roads along the south side of the linear ditch and over the existing reclaimed water main south of the linear ditch. The easements for these features must meet the minimum width prescribed by the Carson City Development Standards.

24. Applicant shall provide special construction details for all utilities crossing the linear ditch for the construction permit.

25. A water sampling tap is required in a common area near one of the entrances. The sampling tap must be Kupferle Eclipse #88 or approved equivalent.

26. A CLOMR for the proposed extension of Railroad Drive and a CLOMR-F for the subdivision must be approved by FEMA prior to approval of any construction permits which depend on that approval.

27. The CC&R's must clearly state that a Home Owners Association (HOA) or similar entity

is responsible for maintaining private storm drain infrastructure including any basins and LID infrastructure.

28. Low impact development (LID) practices are required as part of the storm drain design.

29. All streets must have a minimum asphalt thickness of 4 inches or per the geotechnical engineer's recommendations, whichever is thicker.

30. Lots adjacent to FEMA AH, AE, or AO flood zones will need to meet the 2 feet freeboard requirement.

31. The linear ditch trail crossing must be perpendicular to the road center line.

32. The existing easement across the linear ditch property must be moved to align with the proposed extension of Railroad Drive.

33. The Unified Pathways Master Plan identifies an existing off-street/paved/multi-use path on the City's Linear Park property and a proposed off-street/shared/paved path in NDOT's freeway right-of-way east of the proposed development. Any damage to the existing Linear Park path outside the 60' road easement or the future NDOT right-of way path will be the responsibility of the applicant to repair to the City's satisfaction. The path connection to the proposed NDOT's freeway paved will require a permanent public access easement on the development's final map.

34. Bike lanes and sidewalks shall be incorporated into the Spine Road's alignment to match the urban design cross section on the City's Linear Park property.

35. The applicant shall provide civil engineering plans and details for the path's road crossing at the intersection of the Spine Road and Linear Park path. The road's path crossing shall be designed to meet MUTCD standards and shall be approved by Development Engineering and Parks, Recreation & Open Space Department.

36. Chapter 7 in the Unified Pathway Master Plan provides the City's sidewalk policies and implementation strategies for pedestrian connectivity within the development, to the two trail systems, and to the City's sidewalk system from the development. The design for the development's sidewalk system must be approved by the Parks, Recreation & Open Space Department and Development Engineering.

37. The development will be subject to the collection of Residential Construction Tax (RCT), compliant with Nevada Revised Statutes and Carson City Municipal Code.

38. No site grading, soil storage/stock pile areas, construction parking or any construction activities, shall occur on City property except within the easement. The applicant shall survey the easement's boundaries and install fencing to identify the limits of construction. The fencing material shall be approved by the City.

39. The applicant will be required to maintain all common landscape/open space areas and the drainage channel buffer within the development through an HOA or similar legal entity in perpetuity.

40. The applicant will be required to incorporate "best management practices" into their construction documents and specifications to reduce the spread of noxious weeds onto

adjacent City property. The Parks, Recreation & Open Space Department is willing to assist the applicant with this aspect of their project

41. The property in question is situated adjacent to Carson City property and there are various State of Nevada listed noxious weeds on the project site. These weeds include but are not limited to musk thistle (*Carduus nutans*), perennial pepperweed (Lepidium latifolium), and hoary cress (*Cardaria draba*). As a result, the applicant will be required to do the following:
a. Carson City Municipal Code 8.08.060, 8.08.070 and Nevada Revised Statutes 555.150 requires that land owners treat noxious weeds on their property. Without treatment, development activities during construction may contribute to the spread of noxious weeds onto City or neighboring properties.
b. A noxious weed management plan will be developed addressing the extent of the noxious weed infestations and proposed treatment methods. This plan needs to be approved by the Parks, Recreation, and Open Space Department prior to the beginning of construction activities.
c. The applicant will develop two revegetation seed mixes (dryland & aquatic) that reflects the native species within the project area. These seed mixes will be applied to disturbed areas within the road easement on City property and the drainage channel/ buffer on the project site. The applicant shall work with Carson City Parks, Recreation, & Open Space Department's Senior Natural Resource Specialist to develop an approved seed mix for these areas as well as recommended site preparation and application methods.

42. The applicant has three years post-application of the revegetation seed mixes to demonstrate an overall plant density of 0.3-2.0 plants per square foot of desirable vegetation has been established (Guidelines for Determining Stand Establishment on Pasture, Range and Conservation Seedings, USDA Technical Note Plant Materials No. 12). If less than 0.3 plants per square foot have established after three years, the applicant shall apply the seed mixtures a second time. Colonization of noxious weeds is not desirable and will therefore not be an acceptable form of revegetation. Should noxious weeds establish, applicant is required to eradicate such weeds as per NRS 555.150 working in accordance with the noxious weed management plan developed by applicant. Applicant shall work with the City's Senior Natural Resource Specialist to determine the effectiveness of seeding the disturbed areas.

43. The plan relies on the relocation of an existing easement across the City's linear park. The road must be designed so that the area allocated to the new roadway easement is not larger in area than the .6 acres allocated to the existing easement, and is subject to review and approval by the Director of Parks, Recreation and Open Space.

44 Carson City is now a Bee City, USA City. As a result, the applicant shall use approximately 50% pollinator friendly plant material for any required landscape or open space areas on the project site. The Parks, Recreation & Open Space Department is willing to provide the applicant's design team with a recommended tree and shrub species list. Also, the project's remaining landscape plant material selection needs to be consistent with the City's approved tree species list or other tree species, as approved by the City.

45. Prior to recordation of the final map, the applicant shall provide the School District with enrollment estimates.

46. Prior to recordation of the final map, a HOA or similar entity shall be formed so that open space can be dedicated to the HOA, and covenants recorded obligating the homeowners association to the maintenance of all common areas. The final map shall identify areas that are subject to maintenance by the HOA, and the CC&R's shall further identify the responsibility of the HOA to maintain private common areas.

47. As part of the final map, access ways to the City's linear path and to the future path on the eastside of the subject property shall be recorded as public access easements.

48. As part of the construction plans, the applicant must demonstrate that the portion of road crossing the linear park property will not flood from storm water, to the satisfaction of the City Engineer.

LEGAL REQUIREMENTS: CCMC 17.05 (Tentative Maps); CCMC 17.07 (Findings); NRS 278.330

MASTER PLAN DESIGNATION: Blackstone Ranch Specific Plan; Medium Density Residential (MDR)

ZONING DISTRICT: Single Family-6000 square feet (SF6)

KEY ISSUES: Is the Tentative Map consistent with the Specific Plan? Does the proposal meet the Tentative Map requirements and other applicable requirements?

SURROUNDING ZONING AND LAND USE INFORMATION
NORTH: Public Community (PC) / Linear Park
SOUTH: Limited Industrial / Vacant
WEST: Single Family 21,000 square feet Planned Unit Development (SF-21 P) / Single Family homes
EAST: Agriculture / Interstate 580

ENVIRONMENTAL INFORMATION:
FLOOD ZONE: Zone X (area of minimal flooding) and AH (100 year flood plain)
SLOPE/DRAINAGE: Generally flat
SEISMIC ZONE: Zone II (Moderate)
FAULT: within 500 feet

SITE DEVELOPMENT INFORMATION:
SUBJECT SITE AREA: 26.89 Acres
EXISTING LAND USE: Vacant

SITE HISTORY:
MPA-17-185 (September 20, 2018): Adoption of the Blackstone Ranch Specific Plan

ZMA-17-186 (October 4, 2018): Adoption of Ordinance 2018-14 amending the zoning map to Single Family 6000.

BACKGROUND / DISCUSSION:
Consistent with Chapter 8 of the Master Plan, Lompa Ranch is one of four areas of the City that is subject to a Specific Plan designation. The Specific Plan designation requires development proposals within the area to be reviewed in a comprehensive manner. The policies contained in the specific plan provide a framework for development in the area.

The Blackstone Ranch Specific Plan, which encompasses 26.89 acres, was adopted on September 20, 2018. From a land use perspective, the Specific Plan is exclusively medium density residential. The Specific Plan addresses design standards including grading, landscaping, lighting, walls and fencing, and architectural standards and guidelines. The Specific Plan also addresses public services including Parks, Open Space and Trails, Sanitary Sewer, Water Service, Storm Water Management, Utility Services, Roadways and Traffic, and Schools.

An area of focus during the Specific Plan adoption was transportation and vehicular traffic. In response to these concerns, the adopted Specific Plan requires "an additional access that does not rely on the portion of Railroad Street from Saliman Road to the western boundary of the Blackstone Specific Plan area must be improved in advance of any final subdivision map approval. The additional access can be initially constructed to the City's roadway section for rural roads provided construction includes a minimum four inch asphalt section on six inch base (local roadway) or minimum four inch asphalt section on eight inch base (collector roadway). The additional access must be improved to the City's standard for urban roads, with a minimum four inch asphalt section on six inch base (local roadway) or minimum four inch asphalt section on eight inch base (collector roadway), at seventy five percent buildout. Bonding in lieu of the improvements is permissible provided that the improvements are completed prior to full buildout."

The proposed plans include 103 residential lots, and, consistent with the Specific Plan, extends Railroad as a collector roadway from the western boundary of the subject property to Fifth Street, where it will intersect with the "spine road" that is part of Lompa north. The plan also includes trail access to the City's linear park, and trail access to the future trail that will run along the west side of US 395. A 100 foot wide drainage buffer is proposed along the northern property line between the rear property line of the lots and the linear park.

The extension of Railroad Drive will cross the linear park. There is currently an "easement" on the linear part to allow for vehicular traffic from the subject property to the property to the north. However, the location of this "easement" does not meet the Fire Code requirements for separation of points of access. Therefore, the location of this "easement" is proposed to be moved in an easterly direction. Staff has consulted with both Nevada State Parks staff and United States National Park Service staff and been advised orally that as long as the easement does not grow in size, the relocation will be acceptable. Given that sign off from these agencies will be required, staff is recommending a condition of approval that states "The plan relies on the relocation of an existing easement across the City's linear park. The road must be designed so that the area allocated to the new roadway easement is not larger in area than the .6 acres allocated to the existing easement, and is subject to review and approval by the Director of Parks, Recreation and Open Space." The Parks and Recreation Director will consult with State Parks and National Park Service upon receipt of construction drawings to obtain official approval.

Per CCMC 17.05, the Board of Supervisors is authorized to approve a tentative map. The Planning Commission conducts a public hearing and advises the Board if the proposed tentative map is consistent with the provisions of the municipal code and NRS 278.320.

PUBLIC COMMENTS: Public notices were mailed to 48 property owners within 600 feet of the subject site pursuant to the provisions of NRS and CCMC for the Tentative Subdivision Map application. As of the completion of this staff report, three public comments have been received. Any written comments that are received after this report is completed will be

submitted prior to or at the Planning Commission meeting on June 26, 2019 depending upon their submittal date to the Planning Division.

OTHER CITY DEPARTMENT OR OUTSIDE AGENCY COMMENTS: The following comments were received from City departments. Recommendations have been incorporated into the recommended conditions of approval, where applicable.

Engineering Division:
The Engineering Division has no preference or objection to the tentative map request.

The Engineering Division has reviewed the application within our areas of purview relative to adopted standards and practices and to the provisions of CCMC 17.07.005. The Engineering Division offers the following conditions of approval:

- All construction and improvements must meet the requirements of Carson City Standard Details and Development Standards including the following:
    - The proposed 50 foot right-of-way will only accommodate the standard section for a street with parking on only one side. No Parking signs and red curb paint must be installed along one side of these streets.
    - The site design must incorporate storm water detention, so that post development runoff will not exceed pre-development runoff leaving the site, per CCDS 14.4.1, or must provide calculations to justify a lack of detention.
    - Onsite drainage basins and LID facilities must be labeled as private on the improvement plans, must be accessible for maintenance, and must be privately maintained.
    - A final version of the geotechnical report including site investigation must be provided with the application for site improvements, and the design requirements and recommendations of that report must be met.
- The applicant shall be responsible to enter into an improvement agreement to pay for 3.53% of the cost required to install a traffic control device at the intersection of E 5th Street and Railroad Drive in an amount not to exceed $35,300. The surety for this agreement must be in the form of cash, must be paid prior to recording the first final map, shall be held by the City, and shall be used by a subsequent developer to pay for the construction of a traffic control device at E 5th Street and Railroad Drive, or held for a period of no less than 10 years. If the funds are not utilized for said traffic control device within 10 years, the cash shall be released back to the parties that paid the surety. In the event that 3.53% of the cost of the traffic control device is less than $35,300, the remainder of the surety shall be released back to the parties that paid the surety.
- The extension of Railroad Drive to 5th Street must be constructed at least to a rural street section standard prior to recording any Final Map for a phase of the subdivision. This section of road must be upgraded to a full urban street section prior to recording any Final Map for a phase of the subdivision that would result in a total number of residential lots equal to 78 or more including a “remainder” parcel.
- The extension of Railroad Drive to 5th Street must be built to collector roadway dimensions with a minimum asphalt thickness of 4 inches, or per the geotechnical report recommendations, whichever is greater.
- There is a low spot proposed at the connection of the existing Railroad Drive to the proposed improvements on Railroad Drive. If the project shall require an open channel to divert flows, the channel must be on a parcel to be dedicated to the City. The parcel width must be equivalent to the width of the channel plus 15 feet for access maintenance. There is also an existing storm drain and an existing sewer main

adjacent to this location. The required parcel must extend at least 15 feet east of these mains. If an open channel is not utilized for drainage at this location an exclusive storm drain and sewer main easement must be granted to within 15 feet of the storm drain and sewer mains, and a fence built at the edge of the easement with the site improvement plans. In either case a 12 foot wide 4 inch thick compacted aggregate base access road must be installed for maintenance of these features with the first site improvement permit.

- The site improvement plans must incorporate 12 foot wide 4 inch thick compacted aggregate base access roads along the south side of the linear ditch and over the existing reclaimed water main south of the linear ditch. The easements for these features must meet the minimum width prescribed by the Carson City Development Standards.
- Applicant shall provide special construction details for all utilities crossing the linear ditch for the construction permit.
- A water sampling tap is required in a common area near one of the entrances. The sampling tap must be Kupferle Eclipse #88 or approved equal.
- A Conditional Letter of Map Revision (CLOMR) for the proposed extension of Railroad Drive, and a CLOMR-F for the subdivision must be approved by FEMA prior to approval of any construction permits which depend on that approval.
- The CC&R's must clearly state that a Home Owners Association (HOA) or similar entity is responsible for maintaining private storm drain infrastructure including any basins and LID infrastructure.
- Low impact development (LID) practices are required as part of the storm drain design.
- All streets must have a minimum asphalt thickness of 4 inches or per the geotechnical engineer's recommendations, whichever is thicker.
- Lots adjacent to FEMA AH, AE, or AO flood zones will need to meet the 2 feet freeboard requirement.
- The linear ditch trail crossing must be perpendicular to the road center line.
- The existing easement across the linear ditch property must be moved to align with the proposed extension of Railroad Drive.

The following Tentative Map Findings by the Engineering Division are based on approval of the above conditions of approval:

1. *Environmental and health laws and regulations concerning water and air pollution, the disposal of solid waste, facilities to supply water, community or public sewage disposal and, where applicable, individual systems for sewage disposal.*
   The existing infrastructure has been found sufficient to supply the water and sanitary sewer needs of the subdivision, and the City has the capacity to meet the water and sewer demand.

2. *The availability of water which meets applicable health standards and is sufficient in quantity for the reasonably foreseeable needs of the subdivision.*
   The City has sufficient system capacity and water rights to meet the required water allocation for the subdivision.

3. *The availability and accessibility of utilities.*
   Water and sanitary sewer utilities are available and accessible.

4. *The availability and accessibility of public services such as schools, police protection, transportation, recreation and parks.*

The road network necessary for the subdivision is available and accessible. New roads will be constructed with the subdivision. Please see finding 8 for a discussion on streets and intersections.

5. *Access to public lands. Any proposed subdivision that is adjacent to public lands shall incorporate public access to those lands or provide an acceptable alternative.*
   A public access easement and trail connector is proposed to provide access to the future freeway trail.

6. *Conformity with the zoning ordinance and land use element of the city's master plan.*
   Development engineering has no comment on this finding.

7. *General conformity with the city's master plan for streets and highways.*
   The development is in conformance with the city's engineering related master plans.

8. *The effect of the proposed subdivision on existing public streets and the need for new streets or highways to serve the subdivision*.
   The intersection of E 5th Street and Railroad Drive will have a passing level of service with current background traffic volumes. With increase in population the intersection level of service will eventually fail by an average delay of about 10 seconds. The side street volumes, however, are not anticipated to meet the warrant thresholds given by the Manual on Uniform Traffic Control Devices (MUTCD) for installing traffic signals. The MUTCD states that a traffic control signal should not be installed unless one or more of the warrants of chapter 4C is met. None of the warrants are met with this project, therefore a signal is not required with this project. However, a pro rata contribution to a future signal is required per the proposed conditions of approval. The estimated cost of the traffic control device at this location was taken to be $1 Million, which differs from the amount proposed by the Traffic Impact Study that was provided.

   The existing infrastructure is sufficient to meet the additional demand imposed by the subdivision if conditions of approval are met.

9. *The physical characteristics of the land such as flood plains, earthquake faults, slope and soil.*
   The site is near an active earthquake fault; recommendations of a final geotechnical report must be met. There is also a FEMA flood zone that will be adjusted through the CLOMR process.

10. *The recommendations and comments of those entities reviewing the subdivision request pursuant to NRS 278.330 thru 278.348, inclusive.*
    Development engineering has no comment on this finding.

11. *The availability and accessibility of fire protection including, but not limited to, the availability and accessibility of water and services for the prevention and containment of fires including fires in wild lands.*
    The subdivision has sufficient secondary access, and sufficient fire water flows.

12. *Recreation and trail easements*.
    An easement is proposed to connect to the future freeway path.

These comments are based on the tentative map plans and reports submitted. All applicable code requirements will apply whether mentioned in this letter or not.

Parks, Recreation and Open Space (PROS)

1. The Unified Pathways Master Plan identifies an existing off-street/paved/multi-use path on the City's Linear Park property and a proposed off-street/shared/paved path in NDOT's freeway right-of-way east of the proposed development. Any damage to the existing Linear Park path outside the 60' road easement or the future NDOT right-of way path will be the responsibility of the applicant to repair to the City's satisfaction. The path connection to the proposed NDOT's freeway paved will require a permanent public access easement on the development's final map.
2. Bike lanes and sidewalks shall be incorporated into the Spine Road's alignment to match the urban design cross section on the City's Linear Park property.
3. The applicant shall provide civil engineering plans and details for the path's road crossing at the intersection of the Spine Road and Linear Park path. The road's path crossing shall be designed to meet MUTCD standards and shall be approved by Development Engineering and Parks, Recreation & Open Space Department.
4. Chapter 7 in the Unified Pathway Master Plan provides the City's sidewalk policies and implementation strategies for pedestrian connectivity within the development, to the two trail systems, and to the City's sidewalk system from the development. The design for the development's sidewalk system must be approved by the Parks, Recreation & Open Space Department and Development Engineering.
5. The development will be subject to the collection of Residential Construction Tax (RCT), compliant with Nevada Revised Statutes and Carson City Municipal Code.
6. No site grading, soil storage/stock pile areas, construction parking or any construction activities, shall occur on City property except within the easement. The applicant shall survey the easement's boundaries and install fencing to identify the limits of construction. The fencing material shall be approved by the City.
7. The applicant will be required to maintain all common landscape/open space areas and the drainage channel buffer within the development through a HOA or similar legal entity in perpetuity.
8. The applicant will be required to incorporate "best management practices" into their construction documents and specifications to reduce the spread of noxious weeds onto adjacent City property. The Parks, Recreation & Open Space Department is willing to assist the applicant with this aspect of their project
9. The property in question is situated adjacent to Carson City property and there are various State of Nevada listed noxious weeds on the project site. These weeds include but are not limited to musk thistle (*Carduus nutans*), perennial pepperweed (Lepidium latifolium), and hoary cress (*Cardaria draba*). As a result, the applicant will be required to do the following:

a. Carson City Municipal Code 8.08.060, 8.08.070 and Nevada Revised Statutes 555.150 requires that land owners treat noxious weeds on their property. Without treatment, development activities during construction may contribute to the spread of noxious weeds onto City or neighboring properties.

b. A noxious weed management plan will be developed addressing the extent of the noxious weed infestations and proposed treatment methods. This plan needs to be approved by the Parks, Recreation, and Open Space Department prior to the beginning of construction activities.

c. The applicant will develop two revegetation seed mixes (dryland & aquatic) that reflects the native species within the project area. These seed mixes will be applied to disturbed areas within the road easement on City property and the drainage channel/ buffer on the project site. The applicant shall work with Carson City Parks, Recreation, & Open Space Department's Senior Natural Resource Specialist to develop an approved seed mix for these areas as well as recommended site preparation and application methods.

10. The applicant has three years post-application of the revegetation seed mixes to demonstrate an overall plant density of 0.3-2.0 plants per square foot of desirable vegetation has been established (Guidelines for Determining Stand Establishment on Pasture, Range and Conservation Seedings, USDA Technical Note Plant Materials No. 12). If less than 0.3 plants per square foot have established after three years, the applicant shall apply the seed mixtures a second time. Colonization of noxious weeds is not desirable and will therefore not be an acceptable form of revegetation. Should noxious weeds establish, applicant is required to eradicate such weeds as per NRS 555.150 working in accordance with the noxious weed management plan developed by applicant. Applicant shall work with the City's Senior Natural Resource Specialist to determine the effectiveness of seeding the disturbed areas.
11. The plan relies on the relocation of an existing easement across the City's linear park. The road must be designed so that the area allocated to the new roadway easement is not larger in area than the .6 acres allocated to the existing easement, and is subject to review and approval by the Director of Parks, Recreation and Open Space."
12. Carson City is now a Bee City, USA City. As a result, the applicant shall use approximately 50% pollinator friendly plant material for any required landscape or open space areas on the project site. The Parks, Recreation & Open Space Department is willing to provide the applicant's design team with a recommended tree and shrub species list. Also, the project's remaining landscape plant material selection needs to be consistent with the City's approved tree species list or other tree species, as approved by the City.

Fire Department
Project must comply with the currently adopted International Fire Code and Northern NV Fire Code Amendments as adopted by Carson City.

School District
The School district is in constant concern mode these days with continued development and our current inability to raise enough funds to build schools. The majority of our schools are currently at capacity and rezoning would be the next option to address overcrowding of schools. We don't see this project affecting capacity for a few years and we are hopeful that we will have a solution by then. We are very pleased that Firebox Road will not be immediately effected and that the Spine Road to 5th Street will be the first option.

TENTATIVE MAP FINDINGS: Staff recommends approval of the Tentative Subdivision Map based on the findings below and in the information contained in the attached reports and documents, pursuant to CCMC 17.05 (Tentative Maps); 17.07 (Findings) and NRS 278.349, subject to the recommended conditions of approval, and further substantiated by the applicant's written justification. In making findings for approval, the Planning Commission and Board of Supervisors must consider:

1. Environmental and health laws and regulations concerning water and air pollution, the disposal of solid waste, facilities to supply water, community or public sewage disposal and, where applicable, individual systems for sewage disposal.

The development is required to comply with all applicable environmental and health laws concerning water and air pollution and disposal of solid waste. A copy of the proposed tentative map was submitted to the Nevada Division of Water Resources and the Nevada Division of Environmental Protection on April 19, 2019. No comments from either agency have been provided.

2. The availability of water which meets applicable health standards and is sufficient in quantity for the reasonably foreseeable needs of the subdivision.

Water supplied to the development will meet applicable health standards. Carson City's water supply will not be exceeded by final approval of this development.

3. The availability and accessibility of utilities.

All utilities are available in the area to serve this development.

4. The availability and accessibility of public services such as schools, police protection, transportation, recreation and parks.

The project is located within an existing neighborhood that is served by parks and recreation. The staff is not recommending additional facilities, but rather is requesting collection of the Residential Construction Tax at the time of building permit. The School District has advised "The School district is in constant concern mode these days with continued development and our current inability to raise enough funds to build schools. The majority of our schools are currently at capacity and rezoning would be the next option to address overcrowding of schools. We don't see this project effecting capacity for a few years and we are hopeful that we will have a solution by then. We are very pleased that Firebox Rd will not be immediately effected and that the Spine road to 5th street will be the first option."

The applicant has analyzed the traffic impacts. The City's standard requires that all intersections function at a level of service D or better. Based on the analysis, the intersection of Railroad Drive and Fifth Street will drop to the level of service E when modeled for buildout of the subject property, the Lompa property north of the linear park, and property to the north of Fifth Street. To address this, staff is recommending that the applicant pay its pro-rata share towards traffic improvement at this intersection. All other analyzed intersections will function at a level of service D or better.

5. Access to public lands. Any proposed subdivision that is adjacent to public lands shall incorporate public access to those lands or provide an acceptable alternative.

The proposed tentative map includes pedestrian / bike access to the City's linear park, and pedestrian / bike access to the future City's trail east of property's boundary.

6. Conformity with the zoning ordinance and land use element of the City's Master Plan.

The proposed subdivision creates lots that meet the required dimensional criteria of the Single Family 6000 zoning district. The subject property is part of the Blackstone Ranch Specific Plan area. Per that Specific Plan, the following standards must be met.

1.4.1.a The Blackstone Ranch SPA is envisioned to include single-family residential uses on lots consisting of a minimum of 6,000 square feet.

The proposed tentative map is for single family residential use, and consists of lots that are at least 6000 square feet.

1.4.1.b Land use is determined based on zoning. Zoning adopted with this Specific Plan shall be reviewed and approved by the Carson City Planning Commission and Board of Supervisors and deemed to be appropriate for the site.

The zoning map was amended to Single Family 6000 on October 4, 2018.

1.4.1.c Uses within Blackstone Ranch shall conform to the underlying zoning district assigned to the individual parcels as outlined in Title 18 of the Carson City Municipal Code.

The proposed single family residential use is an allowed use in the Single Family 6000 zoning district.

1.4.1.d Supplemental review required for specific use within zoning categories such as Special Use Permits shall remain in effect per the Carson city Municipal code.

No uses requiring special use permits are currently contemplated.

1.4.1.e The Specific Plan shall not grant any special privileges or waivers in terms of public review or entitlements otherwise required under the Carson City Municipal code in terms of allowed uses or supplemental review.

The proposed plan is being reviewed as required under the Carson City Municipal Code, and no special privileges or waivers are being considered.

2.1.1.a Densities within single family areas will average approximately 4 – 7 dwelling units per acre.

The proposed density is 3.83 units per acre.

2.1.1.b Neighborhood density shall properly relate to adjoining developed areas and provide for transition between neighborhood types. Proper transitions can include feathering of density / lot size, landscape buffers, or walls/ fences that serve to identify community boundaries.

Lots bordering Railroad Drive, Trolley Way, and Jacques Way all exceed 6000 square feet, thus allowing for a transition between neighborhoods.

2.1.1.c The Blackstone Ranch SPA boundary may create its own sense of identify through the use of entry features that include distinctive signage, entry treatments, landscape improvements, water features, etc.

No entryway features are proposed with the tentative map.

2.1.1.d The density found within the Blackstone Ranch SPA can encourage varied product types including single family detached homes, patio homes, clustered houses, etc. Additionally, new urbanism design principles such as house forward designs with residential alleyways are permitted within the SPA.

The tentative map will accommodate single family detached homes.

2.1.1.e A single architectural style is encouraged throughout the SPA in order to provide a cohesive neighborhood identify to the Blackstone Ranch.

Architectural design is not proposed as part of the tentative map.

3.1.2.a Trails, pathways, and sidewalks not specifically called out within this section shall conform to the standards outlined in Section 6 of the Carson City Unified Pathways Master Plan.

Trails, pathways, and sidewalks shall comply with Section 6 of the Carson City Unified Pathways Master Plan.

3.1.2.b The Unified Pathways Master Plan (UPMP) identifies two non-motorized path systems adjacent to the subject property. Future development plans will provide for path connectivity from the proposed development to the City's Linear Park multi-use path along the west side of the Carson City Freeway. These two neighborhood access corridors shall be approximately 30 feet wide and have ten foot wide multi-use paths located in them. A public access easement or similar legal instrument will be utilized to grant public access in perpetuity for these two neighborhood access corridors. The applicant will prepare the legal documents and record with final map.

The tentative map shows path connectivity between the proposed subdivision and the linear park multi-use path to the north, and to the future multi-use path along the east side of Interstate 580. As part of the final map, these access ways will be dedicated as public access easements.

3.1.2.c Chapter 7 in the UPMP provides the City's sidewalk policies and implementation strategies for pedestrian connectivity with development and between project sites and the City's existing sidewalk / path systems. The design of the sidewalk system, including pedestrian crosswalks, connections to the adjacent residential neighborhood, and connections to the City's non-motorized path system will be reviewed for consistency with the UPMP at the time development is proposed.

The proposed tentative map has been reviewed for compliance with Chapter 7 of the UPMP, and conditions of approval are recommended to ensure compliance with the City's strategies for pedestrian connectivity.

3.1.3.a Drainage channels shall be incorporated into any private open space areas.

A 100 foot wide drainage buffer is located to the north of the site.

3.1.3.b Open space areas shall be maintained through a private homeowners' association (HOA).

A condition of approval is recommended that prior to recordation of the final map, a homeowners association must be formed so that open space can be dedicated to the homeowners association, and covenants must be recorded obligating the homeowners association to maintenance of the open space.

3.1.3.c Landscape medians, parkways, corridors, etc. included within common or open space areas shall be maintained by a private homeowner's association (HOA).

A condition of approval is recommended to require that the final map reflect this maintenance responsibility, and that the covenants, certificates, and restrictions (CC&Rs) also reflect this responsibility.

3.1.3.d Any open space areas that remain private shall not include public access (if privately owned) and shall be maintained by a private homeowner's association (HOA).

A condition of approval is recommended to require this information to appear on the final map as well as in the CC&Rs.

3.1.4.a No public parks will be located within the Blackstone Ranch neighborhood.

A public park is not proposed.

3*.1.4.b Development of the Blackstone Ranch neighborhood is subject to collection of Residential Construction Tax compliant with Carson City Municipal Code Section 15.60.*

The Residential Construction Tax will be collected at the time of building permit.

3.1.4.c Best management practices are required to be included in construction documents along with specification to reduce the spread of noxious weeds onto Carson City property.

Conditions of approval are recommended requiring weed treatment, a weed management plan, and re-seeding of disturbed areas.

3.1.4.d Small private parks or pocket parks may be permitted within individual subdivisions but shall be maintained by an HOA.

No private parks or pocket parks are proposed.

3.2.a All new development within the Blackstone Ranch SPA shall be required to connect to municipal sanitary sewer service.

The proposed development will connect to municipal sanitary sewer.

3.2.b A final sewer report demonstrating capacity to serve the development shall be submitted with each individual project within the SPA boundary.

As part of the application for tentative map, the applicant submitted a sewer report demonstrating capacity to serve the development.

3.2.c The site has no known constrains which would impact the ability to be served by a gravity fed extension of the public sewer.

The proposed plans do not indicate pumping for public sewer.

3.3.a All new development within the Lompa Ranch SPA shall be required to connect to municipal water service in a looped fashion acceptable to the City of Carson City.

The proposed development will connect to municipal water and the system will be looped.

3.3.b The sizing of water lines is to be sufficient to accommodate ultimate buildout without a trunk line running in Railroad Drive.

At the time of site improvement review, staff will verify that water lines are sufficiently sized. Water lines in Railroad Drive will accommodate looping.

3.3.c All new development shall be required to pay applicable water connection fees and demonstrate that adequate water supply is available to serve the project and dedicated for use.

The applicant has demonstrated that adequate water supply is available to serve the project. Water connection fees will be collected at the time of construction permit.

3.3.d Separate irrigation meters will be employed in accordance with the guidelines present at the time of connection.

Separate irrigation meters will be required at the time of construction permit as applicable.

3.4.a Drainage channels shall be designed to contain the existing off-site watershed discharges as well as the existing discharges from the SPA area.

The preliminary drainage plan demonstrates the design contains the off-site watershed discharges as well as the existing discharges.

3.4.b Existing drainage patterns shall be maintained.

The preliminary drainage plan demonstrated that existing drainage patterns are maintained.

3.4.c The linear park to the north of the property shall not be used for detention. However, a drainage easement may be requested to convey storm water flows to the linear ditch.

The preliminary drainage plan does not use the linear park for detention. A condition of approval requires a drainage easement to convey storm water to the drainage facility south of the linear ditch.

3.4.d A comprehensive drainage impact analysis for the overall Blackstone Ranch SPA shall be reviewed and approved with the final map and/or permit request. The analysis shall provide estimates of project impacts at buildout along with required upgrades, improvements, etc.as well as with triggers for when these improvements are required.

A preliminary drainage plan for all of Blackstone Ranch SPA has been prepared and accepted by the City Engineer. As appropriate, conditions of approval are recommended clarifying the drainage improvements and timing of improvements.

3.4.e Prior to the recordation of the final map, a Conditional Letter of Map Revision (CLOMR) must be approved with design recommendations for the channel to accommodate one-hundred-year peak flows.

A condition of approval is recommended requiring a CLOMR for the proposed extension of Railroad Drive, and a CLOMR-F for the subdivision. The map revision must be approved by FEMA prior to approval of any construction permits which depend on that approval.

3.4.f Low Impact Development (LID) practices and Best Management Practices (BMP) shall be implemented to identify storm water mitigation measures intended to control erosion and storm water pollution as close to the source as possible. Potential sources of pollution shall be infiltrated, evapotranspiration, captured and used, and/or treated through LID measures to mitigate adverse impact to downstream and adjacent properties.

A condition of approval is recommended to require low impact development practices as part of the storm drain design.

3.4.g The northern extension of Railroad Drive across the ditch/linear park shall be designed in such a way to avoid flooding from storm water to the satisfaction of the City of Carson City as part of the final map design.

As part of the construction plan review of the extension of Railroad Drive, the applicant must demonstrate that the road is designed to avoid flooding from storm water to the satisfaction of the City Engineer.

3.4.h A wetland delineation is currently planned for Spring of 2018. The completion deadline is June 30, 2018. No development shall occur within the Blackstone Ranch SPA until the wetland delineation has been completed.

A wetland delineation has been completed.

3.5.a All utility services within the Blackstone Ranch SPA shall be underground. Overhead power lines shall be prohibited.

All utility services within the Blackstone Ranch SPA shall be underground.

3.5.b Plans for electrical, natural gas, telephone, and cable service shall be reviewed and approved by the applicable purveyor (i.e. NV Energy, Southwest Gas, ATT, etc.) prior to the issuance of a building permit.

As part of the construction plan review, the applicant will provide utility providers the proposed plans for review and approval.

3.6.a All roadways within the Blackstone Ranch SPA shall comply with the standards and requirements included within the Carson City Municipal Code.

Conditions of approval are included which address the base and asphalt depths of the roadway. In addition, as part of the construction plan review, staff will verify that all roads are designed to meet City standards.

3.6.b Railroad Street will be extended as a collector street to the northern boundary of the Linear Park. All development plans, including construction plans will reflect this improvement and the road will be constructed at the time of site improvement.

Consistent with the Lompa Ranch SPA the intent of the collector street is to connect Railroad Street to 5th Street.

The proposed tentative map extends Railroad Drive through the linear park to 5th Street as a collection.

3.6.c An additional access that does not rely on the portion of Railroad Street from Saliman Road to the western boundary of the Blackstone Specific Plan area must be improved in advance of any final subdivision map approval. The additional access can be initially constructed to the City's roadway section for rural roads provided construction includes a minimum four inch asphalt section on six inch base (local roadway) or minimum four inch asphalt section on eight inch base (collector roadway). The additional access must be improved to the City's standard for urban roads, with a minimum four inch asphalt section on six inch base (local roadway) or minimum four inch asphalt section on eight inch base (collector roadway) at seventy five percent buildout. Bonding in lieu of improvements is permissible provided that improvements are completed prior to full buildout.

The proposed tentative map extends Railroad Drive through the linear park to 5th Street as a collection, thus providing a secondary access. Roadway construction details will be reviewed as part of the construction plan review of the site improvements.

3.7.a A comprehensive traffic impact analysis for the overall Blackstone Ranch SPA shall be reviewed and approved with the tentative map. The analysis shall provide estimates of the project impacts at buildout along with the required upgrades, improvements, etc. along with triggers for when these improvements are required. This traffic study shall focus on vehicular access management to and from the proposed Blackstone Ranch SPA community and discuss the location of the north/south collector connection and the location and provision of the project's local road network along with potential improvements in the vicinity of the project.

A comprehensive traffic impact analysis was reviewed as part of the tentative map. Due to anticipated impacts at the intersection of Railroad Drive and Fifth Street, the applicant shall pay its pro-rata share towards traffic improvements prior to final map recordation.

3.7.b Updates to the master traffic impact analysis shall be provided for any project generating more than 80 peak hour trips to determine if roadway upgrades/improvements are triggered.

A comprehensive traffic impact analysis was prepared as part of the tentative map application. Improvements based on the analysis will need to be incorporated into the construction plans for site improvements.

3.8 All residential development within the Blackstone Ranch SPA shall be required to provide estimated student enrollment projections to the Carson City School District for review.

City staff has advised the school district of the tentative map and obtained comment. Prior to approval of a final map, the applicant shall formally advise the school district of the estimated student enrollment. Note it is not anticipated that the applicant for the tentative map will be the home builder.

3.9 The Blackstone Ranch will be developed in one phase, with all improvements, infrastructure, and construction being done together.

The tentative map does not include any phasing, thus the development will occur in a single phase.

7. General conformity with the City's Master plan for streets and highways.

Subject to compliance with the proposed conditions of approval, the proposed subdivision conforms to the City's master plan for streets.

8. The effect of the proposed subdivision on existing public streets and the need for new streets or highways to serve the subdivision.

The proposed tentative map will take extend Railroad Drive to Fifth Street. This will be a new street section that is necessary to ensure compliance with both City code and Fire code. The applicant will be responsible for construction of the extension of Railroad Drive from its existing terminus to Fifth Street as a collector road. The proposed development will increase trips on existing Railroad Drive. However, the extension of Railroad Drive will disperse the trips.

9. The physical characteristics of the land such as flood plains, earthquake faults, slope and soil.

The physical characteristics of the site currently do preclude the development as proposed. Per the specific plan, prior to the first construction permit, the development must have a CLOMR approved by Carson City and FEMA. The improvements associated with the approved CLOMR, per the proposed conditions of approval, must be constructed with the improvement plans associated with the subject project.

10. The recommendations and comments of those entities reviewing the subdivision request pursuant to NRS 278.330 thru 278.348, inclusive.

The proposed tentative map has been routed to the Nevada Department of Environmental Protection and the Nevada Division of Water Resources. No comments have been received from either agency.

11. The availability and accessibility of fire protection including, but not limited to, the availability and accessibility of water and services for the prevention and containment of fires including fires in wild lands.

The proposed tentative map includes secondary access. There are sufficient fire water flows.

12. Recreation and trail easements.

Public access easements will be incorporated to provide access to the City's Linear Path and to the future City trail located to the east of the subject property.

City Comments
Public Comments
Tentative Map Application (TSM-19-054)

TSM-19-054 / PROS Department Comments

PARKS AND RECREATION - Contact Vern L. Krahn, Senior Park Planner, 887-2262 Ext. 7343

1. The Unified Pathways Master Plan identifies an existing off-street/paved/multi-use path on the City's Linear Park property and a proposed off-street/shared/paved path in NDOT's freeway right-of-way east of the proposed development. Any damage to the existing Linear Park path outside the 60' road easement or the future NDOT right-of way path will be the responsibility of the applicant to repair to the City's satisfaction. The path connection to the proposed NDOT's freeway paved will require a permanent public access easement on the development's final map.

2. Bike lanes and sidewalks shall be incorporated into the Spine Road's alignment to match the urban design cross section on the City's Linear Park property.

3. The applicant shall provide civil engineering plans and details for the path's road crossing at the intersection of the Spine Road and Linear Park path. The road's path crossing shall be designed to meet MUTCD standards and shall be approved by Development Engineering and Parks, Recreation & Open Space Department.

4. Chapter 7 in the Unified Pathway Master Plan provides the City's sidewalk policies and implementation strategies for pedestrian connectivity within the development, to the two trail systems, and to the City's sidewalk system from the development. The design for the development's sidewalk system must be approved by the Parks, Recreation & Open Space Department and Development Engineering.

5. The development will be subject to the collection of Residential Construction Tax (RCT), compliant with Nevada Revised Statutes and Carson City Municipal Code.

6. No site grading, soil storage/stock pile areas, construction parking or any construction activities, shall occur on City property except within the easement. The applicant shall survey the easement's boundaries and install fencing to identify the limits of construction. The fencing material shall be approved by the City.

7. The applicant will be required to maintain all common landscape/open space areas and the drainage channel buffer within the development through a Home Owner's association or similar legal entity in perpetuity.

8. The applicant will be required to incorporate "best management practices" into their construction documents and specifications to reduce the spread of noxious weeds onto adjacent City property. The Parks, Recreation & Open Space Department is willing to assist the applicant with this aspect of their project

9. The property in question is situated adjacent to Carson City property and there are various Nevada State listed noxious weeds on the project site. These weeds include but are not limited to musk

thistle (*Carduus nutans*), perennial pepperweed (Lepidium latifolium), and hoary cress (*Cardaria draba*). As a result, the applicant will be required to do the following:

a. Carson City Municipal Code 8.08.060, 8.08.070 and Nevada Revised Statutes 555.150 requires that land owners treat noxious weeds on their property. Without treatment, development activities during construction may contribute to the spread of noxious weeds onto City or neighboring properties.

b. A noxious weed management plan will be developed addressing the extent of the noxious weed infestations and proposed treatment methods. This plan needs to be approved by the Parks, Recreation, and Open Space Department prior to the beginning of construction activities.

c. The applicant will develop two revegetation seed mixes (dryland & aquatic) that reflects the native species within the project area. These seed mixes will be applied to disturbed areas within the road easement on City property and the drainage channel/ buffer on the project site. The applicant shall work with Carson City Parks, Recreation, & Open Space Department's Senior Natural Resource Specialist to develop an approved seed mix for these areas as well as recommended site preparation and application methods.

10. The applicant has three years post-application of the revegetation seed mixes to demonstrate an overall plant density of 0.3-2.0 plants per square foot of desirable vegetation has been established (Guidelines for Determining Stand Establishment on Pasture, Range and Conservation Seedings, USDA Technical Note Plant Materials No. 12). If less than 0.3 plants per square foot have established after three years, the applicant shall apply the seed mixtures a second time. Colonization of noxious weeds is not desirable and will therefore not be an acceptable form of revegetation. Should noxious weeds establish, applicant is required to eradicate such weeds as per NRS 555.150 working in accordance with the noxious weed management plan developed by applicant. Applicant shall work with the City's Senior Natural Resource Specialist to determine the effectiveness of seeding the disturbed areas.

11. Hope is working on this condition..... The applicant is requesting a relocation of the road easement identified in Exhibit A.

12. Carson City is now a Bee City, USA City. As a result, the applicant shall use approximately 50% pollinator friendly plant material for any required landscape or open space areas on the project site. The Parks, Recreation & Open Space Department is willing to provide the applicant's design team with a recommended tree and shrub species list. Also, the project's remaining landscape plant material selection needs to be consistent with the City's approved tree species list or other tree species, as approved by the City.

Engineering Division
Planning Commission Report
File Number TPUD-19-052

TO: Hope Sullivan - Planning Department

FROM Stephen Pottéy, P.E – Development Engineering Department

DATE: June 19, 2019

SUBJECT:

Action to consider an application for Tentative Subdivision Map for TSM-19-054 Railroad Dr - Saliman Rd (Blackstone Development Group Subdivision, apns 000-000-00.)

RECOMMENDATION:

The Engineering Division has no preference or objection to the tentative map request.

CONDITIONS OF APPROVAL:

The Engineering Division has reviewed the application within our areas of purview relative to adopted standards and practices and to the provisions of CCMC 17.07.005. The Engineering Division offers the following condition of approval:

- All construction and improvements must meet the requirements of Carson City Standard Details and Development Standards including the following:
    - The proposed 50 foot right-of-way will only accommodate the standard section for a street with parking on only one side. No Parking signs and red curb paint must be installed along one side of these streets.
    - The site design must incorporate storm water detention, so that post development runoff will not exceed pre-development runoff leaving the site, per CCDS 14.4.1, or must provide calculations to justify a lack of detention.
    - Onsite drainage basins and LID facilities must be labeled as private on the improvement plans, must be accessible for maintenance, and must be privately maintained.
    - A final version of the geotechnical report including site investigation must be provided with the application for site improvements, and the design requirements and recommendations of that report must be met.
- The applicant shall be responsible to enter into an improvement agreement to pay for 3.53% of the cost required to install a traffic control device at the intersection of E 5th Street and Railroad Drive in an amount not to exceed $35,300. The surety for this agreement must be in the form of cash, must be paid prior to recording the first final map, shall be held by the City, and shall be used by a subsequent developer to pay for the construction of a traffic control device at E 5th Street and Railroad Drive, or held for a period of no less than 10 years. If the funds are not utilized for said traffic control device within 10 years, the cash shall be released back to the parties that paid the surety. In the event that 3.53% of the cost of the traffic control device is less than

$35,300, the remainder of the surety shall be released back to the parties that paid the surety.

- The extension of Railroad Drive to 5th Street must be constructed at least to a rural street section standard prior to recording any Final Map for a phase of the subdivision. This section of road must be upgraded to a full urban street section prior to recording any Final Map for a phase of the subdivision that would result in a total number of residential lots equal to 78 or more including a "remainder" parcel.
- The extension of Railroad Drive to 5th Street must be built to collector roadway dimensions with a minimum asphalt thickness of 4 inches, or per the geotechnical report recommendations, whichever is greater.
- There is a low spot proposed at the connection of the existing Railroad Dr to the proposed improvements on Railroad Drive. If the project shall require an open channel to divert flows, the channel must be on a parcel to be dedicated to the City. The parcel width must be equivalent to the width of the channel plus 15 feet for access maintenance. There is also an existing storm drain and an existing sewer main adjacent to this location. The required open channel parcel must extend at least 15 feet east of these mains.
- If an open channel is not utilized for drainage at this location an exclusive 15 foot storm drain and sewer main easement must be granted, and a fence built at the edge of the easement with the site improvement plans. In either case a 12 foot wide 4 inch thick compacted aggregate base access road must be installed for maintenance of these features with the first site improvement permit.
- The site improvement plans must incorporate 12 foot wide 4 inch thick compacted aggregate base access roads along the south side of the linear ditch and over the existing reclaimed water main south of the linear ditch. The easements for these features must meet the minimum width prescribed by the Carson City Development Standards.
- Applicant shall provide special construction details for all utilities crossing the linear ditch for the construction permit.
- A water sampling tap is required in a common area near one of the entrances. The sampling tap must be Kupferle Eclipse #88 or approved equal.
- A conditional Letter of Map Revision (CLOMR) for the proposed extension of Railroad Dr, and a CLOMR-F for the subdivision must be approved by FEMA prior to approval of any construction permits which depend on that approval.
- The CC&R's must clearly state that a Home Owners Association (HOA) or similar entity is responsible for maintaining private storm drain infrastructure including any basins and LID infrastructure.
- Low impact development (LID) practices are required as part of the storm drain design.
- All streets must have a minimum asphalt thickness of 4 inches or per the geotechnical engineer's recommendations, whichever is thicker.
- Lots adjacent to FEMA AH, AE, or AO flood zones will need to meet the 2 feet freeboard requirement.
- The linear ditch trail crossing must be perpendicular to the road center line.
- The existing easement across the linear ditch property must be moved to align with the proposed extension of Railroad Dr.

FINDINGS:

The following Tentative Map Findings by the Engineering Division are based on approval of the above conditions of approval:

1. *Environmental and health laws and regulations concerning water and air pollution, the disposal of solid waste, facilities to supply water, community or public sewage disposal and, where applicable, individual systems for sewage disposal.*
   The existing infrastructure has been found sufficient to supply the water and sanitary sewer needs of the subdivision, and the City has the capacity to meet the water and sewer demand.

2. *The availability of water which meets applicable health standards and is sufficient in quantity for the reasonably foreseeable needs of the subdivision.*
   The City has sufficient system capacity and water rights to meet the required water allocation for the subdivision.

3. *The availability and accessibility of utilities.*
   Water and sanitary sewer utilities are available and accessible.

4. *The availability and accessibility of public services such as schools, police protection, transportation, recreation and parks.*
   The road network necessary for the subdivision is available and accessible. New roads will be constructed with the subdivision. Please see finding 8 for a discussion on streets and intersections.

5. *Access to public lands. Any proposed subdivision that is adjacent to public lands shall incorporate public access to those lands or provide an acceptable alternative.*
   A public access easement and trail connector is proposed to provide access to the future freeway trail.

6. *Conformity with the zoning ordinance and land use element of the city's master plan.*
   Development engineering has no comment on this finding.

7. *General conformity with the city's master plan for streets and highways.*
   The development is in conformance with the city's engineering related master plans.

8. *The effect of the proposed subdivision on existing public streets and the need for new streets or highways to serve the subdivision.*
   The intersection of E 5th Street and Railroad Drive will have a passing level of service with current background traffic volumes. With increase in population the intersection level of service will eventually fail by an average delay of about 10 seconds. The side street volumes, however, are not anticipated to meet the warrant thresholds given by the Manual on Uniform Traffic Control Devices (MUTCD) for installing traffic signals. The MUTCD states that a traffic control signal should not be installed unless one or more of the warrants of chapter 4C is met. None of the warrants are met with this project, therefore a signal is not required with this project. However, a pro rata contribution to a future signal is required per the proposed conditions of approval. The estimated cost of the traffic control device at this location was taken to be $1 Million, which differs from the amount proposed by the Traffic Impact Study that was provided.

The existing infrastructure is sufficient to meet the additional demand imposed by the subdivision if conditions of approval are met.

9. *The physical characteristics of the land such as flood plains, earthquake faults, slope and soil.*
   The site is near an active earthquake fault; recommendations of a final geotechnical report must be met. There is also a FEMA flood zone that will be adjusted through the CLOMR process.

10. *The recommendations and comments of those entities reviewing the subdivision request pursuant to NRS 278.330 thru 278.348, inclusive.*
    Development engineering has no comment on this finding.

11. *The availability and accessibility of fire protection including, but not limited to, the availability and accessibility of water and services for the prevention and containment of fires including fires in wild lands.*
    The subdivision has sufficient secondary access, and sufficient fire water flows.

12. *Recreation and trail easements*.
    An easement is proposed to connect to the future freeway path.

These comments are based on the tentative map plans and reports submitted. All applicable code requirements will apply whether mentioned in this letter or not.

TO: Carson City Planning Division

FROM: Carole Lee Challender

RE: Railroad Drive/Lompa Park South/Blackstone Development

At one of the last meetings with Blackstone a mandate was set out that they had to build a secondary access road off of their new portion of Railroad Drive and that secondary access had to be built FIRST (no curbs or gutters) before any construction of houses could start. ALL construction traffic would use that secondary access NOT our little 4 blocks of Railroad Drive.

The Developer came back after that mandate declaring Firebox to be the secondary access. ABSURD! Firebox is the entrance to the (expanding) Freemont Elementary School. Depot would have made sense. No homes front on Depot and it's North of the elementary school. (Better yet would be to extend up to Fifth where it could connect later to New Spine Road going to E. William.)

Now they come back with a total extension of our Railroad Drive East by the freeway to 5th with no – real – secondary way to get in and out. Sorry, but I look at that map and I think of the Paradise fire and everyone bottlenecked trying to exit and burning up in their cars!

If it were built the way it's being presented now most of those cars will be coming out on our existing four blocks of Railroad Drive to turn left to Fairview to the freeway or right up to E. Williams past the Freemont Elementary School and the High School. BAD.

IF you feel compelled to approve the way it's being presented would you state that the construction of the extension of Railroad MUST START from 5th street and that ALL construction traffic MUST enter and exit from E. Fifth NOT our little four blocks of Railroad – our only way in and out of our subdivision. PLEASE.

Consider if you lived in our 64-65 unit subdivision would you approve construction traffic – two trailer dirt trucks, lumber trucks, construction workers etc. to run up and down the four blocks that is your only entrance and exit to your home? I think not.

My belief is that Blackstone is picking this particular area to jump start homes in Lompa Park South because of our existing road – heh, it's there and it's FREE and they want their homes built before any competition from North Lompa. Please don't let them do this.

Furthermore, it is so important that you look at the WHOLE BIG PICTURE of the area you're allowing to develop. Ryder Homes building 500+ homes and apartments behind the High School and the Morman Church. I believe there is another project of 185-200 homes approved for Blackstone there and more to come. Add the Capstone project being built on Little Lane east of the Post Office. If they want to go to the freeway they'll go to Salimon and right to Fairview past the elementary school. Figure TWO cars to every home – WOW! Traffic jams and road rage issues being created. At least you or the Board of

Supervisors required other access roads (New Spine Road and another) in North Lompa. PLEASE look at the big picture and do the same for this South section . Require a secondary access road to be built for the safety of all and to be used exclusively by all construction traffic and leave our little four blocks of RR alone. (If they can't buy the necessary land now to do this properly then – sorry – you have to wait!)

Thanks for listening.

Bless you.

Carole Lee Challender

1416 Caboose Drive

(775) 671-4438

Side Note: I was told that the Planning Departments notification went out only to people within a certain 100 feet of Railroad when EVERYONE in that subdivision is affected because that 4 blocks is their only way in and out of their homes too. That rule should be amended.

Also, the map that went out with that letter was not clear. I couldn't read the fine print with my glasses on.

To: Hope Sullivan, Carson City Planning Manager
From: Kelly Clark, Carson City resident, 1910 Jacques Way
Re: Blackstone Railroad Drive Tentative Map Application
Date: May 20, 2019

Dear Hope Sullivan:

I am writing to comment on the Blackstone Railroad Drive Tentative Map Application. I live at 1910 Jacques Way adjacent to the new subdivision.

I have a few general questions on the tentative map and then specific questions regarding the application from Blackstone itself.

General Questions:

1)Right of way agreements: The description in the application and the site plan itself show that a roadway from Railroad north to Fifth Street is planned. According to Carson City Municipal Code Title 12.6, the Right of way and easements

> "All necessary right of way or easement acquisition outside the boundaries of a subdivision or development, including agreements as to access, ownership and maintenance, will be completed at the time of submittal of application for a development permit."

I do not see an agreement with Sam Lompa Senior regarding access and/or maintenance for the section of roadway required to cross his private property, the north pasture, to reach 5th St. Has this agreement been signed? If so, where is the record of it? If not, how can the application be considered complete?

2)Open Space and Trails:

The Carson City Municipal Code requires 150 square feet per home as open space, including "soft scape" green areas. No such areas are shown in the tentative in spite of public comments during the community meeting requesting pocket parks.

The application states that the proposed plan provides "enhanced trails to open space" and that "open space serves as access point to trails and undeveloped areas" but all of the open space shown in the plan is located in the 100-foot-wide storm water channel, which is also delineated on the flood plain map as Zone AH Flooding level and is a required mitigation area for 100 year flooding. It would appear to me that the storm water channel area is not a buildable area, and does not meet the intent of open space, for all recognizable purposes. Do we want to encourage children to play along the ditch? For practical purposes the storm water channel should not be considered open space for this project

Similarly, there are no significant trails in the tentative plan. There are two connector trail points identified on the site map, one to the farthest northeast corner of the development which is not easy for bike access from the development, and another site point, but without any set-aside easement shown on the tentative site map, going east from the development to the city's proposed bike trail. IN FACT, No additional open space or trails will result from this development and it is a misnomer to state that it will.

Specific Questions on the Application

In my opinion the application submitted by the developer is insufficient, does not comply with Carson City Municipal Code, does not meet the intent previously directed by the Planning Commission and Board of Supervisors, and intentionally does not accurately describe existing conditions.

Page 5 of The Application: The statement that "Lastly, a secondary emergency access will be constructed to the north, roughly paralleling Interstate 580, connecting to East Fifth Street" is incorrect: The Board of Supervisors stated that secondary access was required prior to construction to ensure that residents in the existing subdivision were not impacted by noise and construction traffic. It is not "emergency" access. Where is the agreement stating there is through access to the north Lompa pasture owned by Sam Lompa Senior? Without that agreement, the plan is in violation of CC Municipal Code 12.6 (see above General 1.)

Page 6: The comprehensive traffic report cited evaluated afternoon traffic of 4-6 p.m. as the Peak Time. As discussed at length at prior Planning Commission meetings and Supervisors' meetings, because of Fremont school letting out between 2:30-3:15 p.m., Peak Time is not the usual commute time. It should also be noted that between 2017-2019 traffic volume has already increased 5 percent.

Page 10: The project does not retain significant open space, other than the space along the 100-year storm water channel, which is not buildable.

Page 11: The proposed site is **NOT** outside of the primary floodplain. The application states this is **"not applicable"** – which is incorrect: the FEMA flood plain delineation map shows that multiple parcels on Railroad Drive adjacent to the Linear Ditch watershed are currently zoned AH – for flooding --that is an EXISTING CONDITION. The project application does NOT include the flood plain map or the Drainage Study Appendix 2 in its hard copy report. This appears to be an intentional attempt to not describe the fact that a portion of the development **will** occur in a floodplain.

Until these general and specific questions can be answered, this application is incomplete and insufficient. I believe Carson City should reject the application until Blackstone provides a complete and accurate application.

Kelly K. Clark

Kelly K. Clark

1910 Jacques Way

Carson City, NV

89701

(775) 315-2719

TSM-19-054

RECEIVED
MAY 21 2019
CARSON CITY
PLANNING DIVISION

TO: HOPE SULLIVAN, Planning Manager

FROM: LEE HARTER 5/21/2019

Re: Blackstone Ranch/Railroad Drive Tentative Map Application
(Please furnish the entirety to the Commission)

24 of the proposed 103 house are located on the Eastern edge of the development, immediately adjacent to the 580 freeway; unlike most of the freeway through retail, commercial and residential Carson City, there is no sound barrier between the proposed houses and the traffic noise from the freeway. I took numerous sound measurements where the houses would be and the AVERAGE SOUND LEVELS [measured in decibels - dB(A)] ranged from 64 dB(A) to 78 dB(A) with Peak levels ranging from 80 dB(A) to 99 dB(A). There is extensive scientific research in the literature on the effect of traffic noise on health and mental development in children. Traffic noise greater than 60+ dB(A) range is related to higher blood pressure readings, heart attacks, obesity, , increased symptoms of anxiety and raised hormone levels indicating physiological stress. Approval of the tentative map will place residents of these 24 homes in an unhealthy environment.
I am asking the Planning Commission to postpone action on this application until/unless the developer proves that no adverse effects from noise will occur.

AUTHORITY OF THE PLANNING COMMISSION:

The purpose of the entire Municipal Code governing development and zoning is "to promote the health, safety and general welfare" of residents. (emphasis supplied, Title 18.02.015. Thus, the Planning Commission has the authority to require a developer to mitigate noise from an off-site source if such noise does not promote health, i.e., development would adversely affects citizens. Carson Municipal Code section 18.02.025 states: [All of the standards in the code] shall be minimum standards and shall not be construed as limiting the legislative discretion of the board to further restrict the permissive uses or to withhold or revoke permits for uses when the PROTECTION OF THE PUBLIC HEALTH ...is necessary. (emphasis added) If the Board of Supervisors have this discretion, certainly the Commission can recommend withholding approval of the tentative map.

SOUND MEASUREMENT STUDY
Using the phone app DecibelX-pro on my Samsung JV3 phone, I took measurements at 3 locations along the NDOT freeway fence. Measurements were taken approximately 15-20 feet west of the fence (to accommodate a possible multi-use path) One location was at the south end of the development ("Lompa post), one in the north ("Low spot") (See photos at note), and one in between. ("sign") Data was collected between May 13 and 17, 2019. The app measures minimum, maximum, peak, and average decibel levels. The results show consistent high average decibel levels, high maximum and high peak values.

RESULTS

Location	Average dB(A)	Peak dB(A)
North End (Low) 5/13	64.8 dB(A)	80.5 dB(A)
Mid-point (Sign) 5/16	78.1 dB(A)	99.8 dB(A)
South End (Lompa post)	71.4 dB(A)	83.4 dB(A)
Mid-Point (Sign) 5/17	69.8 dB(A)	90.8 dB(A)
North End (Lompa post) 5/17	70.2 dB(A)	87.3 dB(A)

OVERWHELMING SCIENTIFIC EVIDENCE SHOWS NOISE LEVELS OF THE MAGNITUDE FOUND ABOVE WILL ADVERSELY AFFECT HEALTH.

Since we are not scientists, let's start out simple. A lay article in the Los Angeles Times describes several studies with low decibel levels. 45+dB(A), increased waistline; 60+ dB(A), shorter life expectancy The attached Research Summary by the University of Texas Institute of Public Health shows 60+ dB(A) (daytime), increased hypertension; 45+dB(A) (Nightime) increased hypertension; 60+dB(A), increased heart attacks,; 55+dB(A) learning difficulties in school children. For the more scientific oriented, a Google search of "Traffic Noise and Health" shows well over 10 pages of articles, many of the original source studies.
Interestingly, our Carson Health Department saw no problems with this project, but the Health Department had no clue as to the level of noise at that location. **NOISE WAS NEVER CONSIDERED**. Apparently nobody on the City staff actually walked that area. (Listening to noise levels from the end of Railroad [about 1 ½ blocks from the freeway] or from Jacques [1 block and behind a rise] is not a meaningful indicator of noise adjacent to the freeway.) Just to find the "annoyance" level of the noise, staff should walk the route trying to have a normal level discussion or telephone call.

REQUESTED PLANNING COMMISSION ACTION:
My measurements and the scientific evidence show traffic noise at the levels found will cause adverse health consequences. The burden of proof and persuasion that this Railroad Drive development is a healthy addition to Carson's housing stock rests on the developer. The tentative map application should be rejected until/unless evidence from a qualified sound engineer disputes my findings and/or recommends suitable mitigation. (A mix of deciduous and conifer trees (irrigated) would be nice). The time to fix the noise problem is now; NDOT won't; the City won't; individual homeowners cannot efficiently reduce the noise in their backyard. Only the developer can.

See 2 page note

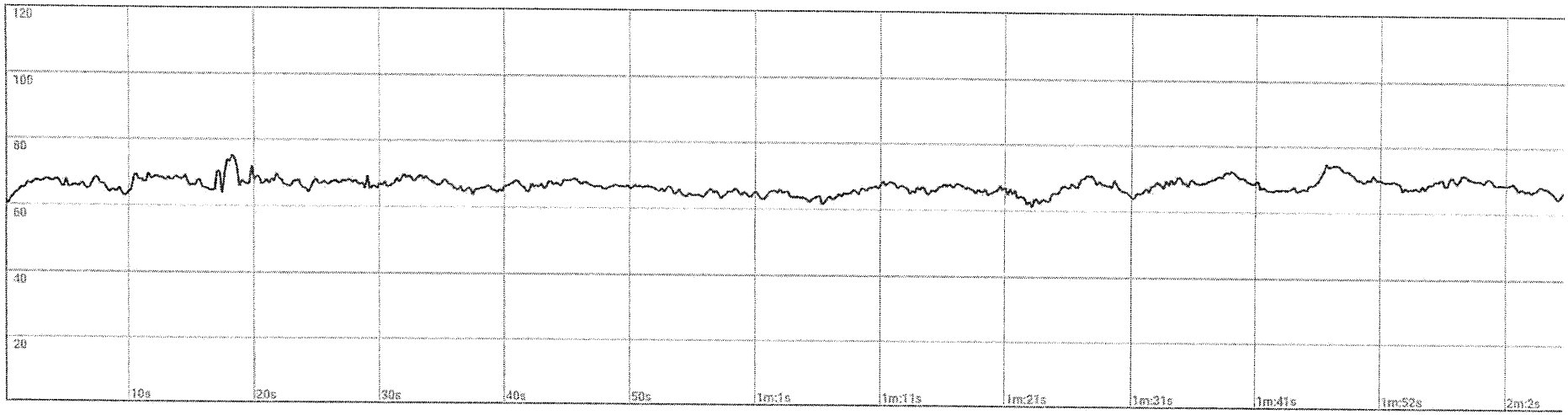
Attachments –
5 Pages of graphs
LA Times
University of Texas Institute of Public Health Research Summary

NOTE: LOW SPOT – NORTH END

A view north showing the change in grade – low spot at NE corner.

NOTE: LOW SPOT – NORTH END - BELOW THE FREEWAY

At approximately lots 47-49, this is 8-10 feet below the freeway. With only plans to raise the grade on these lots a few feet, that increase and a six-foot wooden fence will mean residents will only see the top of the truck tire from their windows.



5/13 start 8:40 a.m.

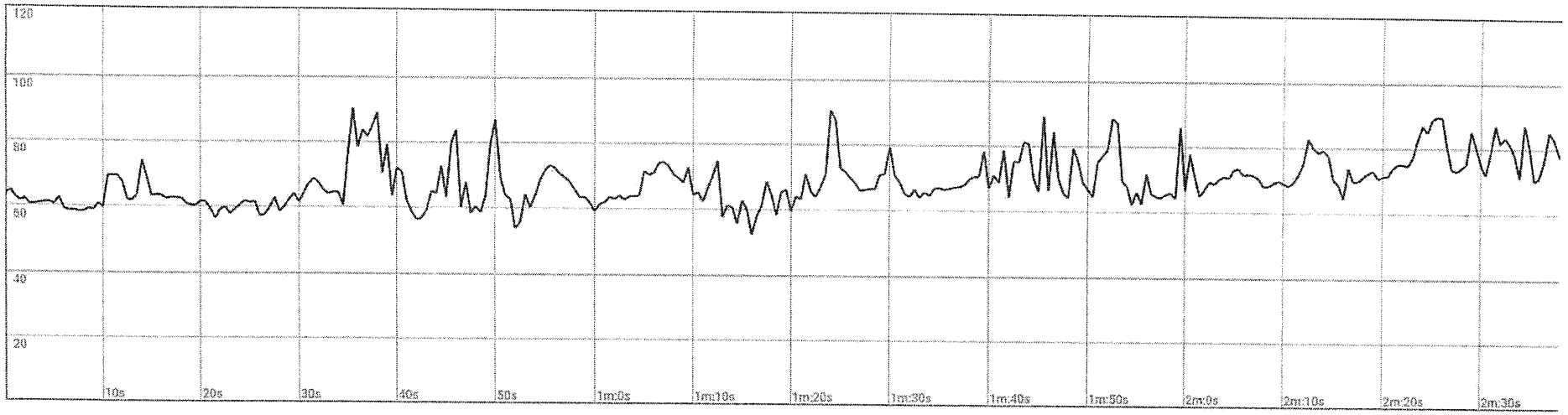
South End, Lompa Point

Average 64.8

min 60.3

Max 75.4

peak 80.5

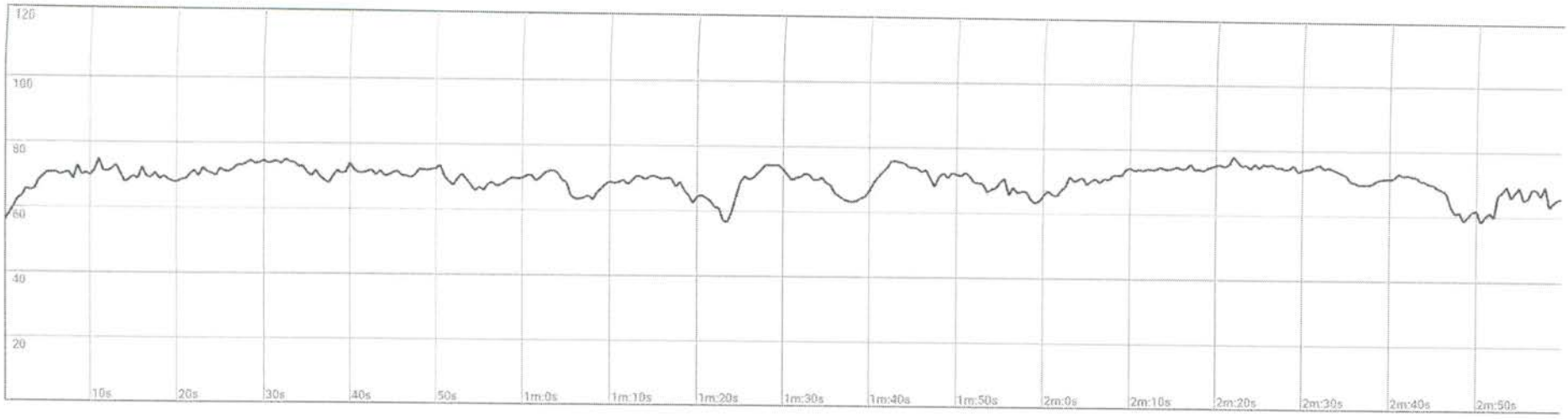


5/16/2019
at sign post

Duration 2min 39sec

Average 78.1
min. 52.5
max. 90.9
Peak 99.8

40



5/17 Post 11:00 am approx

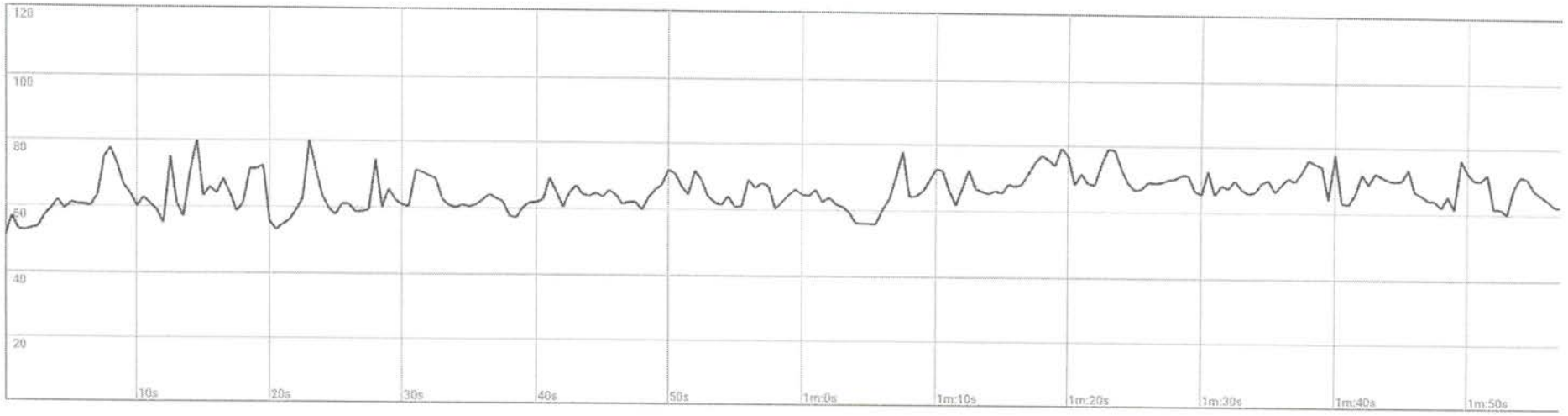
3min 1s

Average 71.4

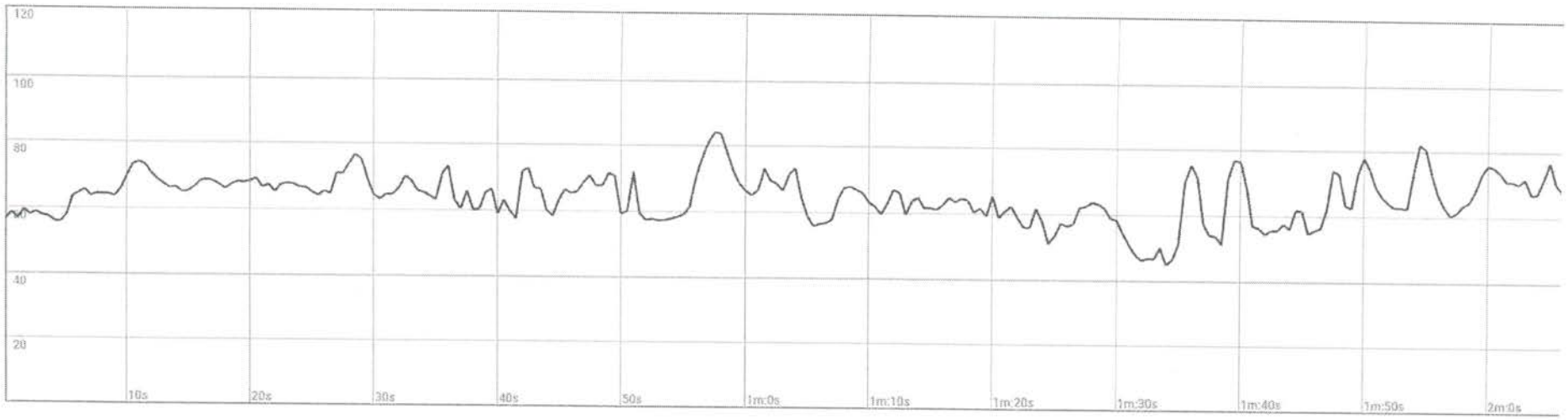
min 55.8

max 78.2

peak 83.4



5/17 Sign
1 min 58 sec
Average 69.8
min 50.8
max 80.4
peak 90.8



5/17 Low Spot 11:00a.m.

2min 7sec

Average 70.2

Min 45.2

Max 84.2

Peak 87.3

LA Times 11/9/2016

Living in a city like Los Angeles means being exposed to honking horns, revving engines and loud traffic on a pretty much constant basis. You know this; what you might not know is that living in the vicinity of road noise, or spending too much time on the noisy freeway, might be endangering your health. New international research is shedding light on the unique problems that this kind of noise pollution can present:

•Researchers at the London School of Hygiene & Tropical Medicine in partnership with Imperial College London and King's College London found that long-term exposure to moderately loud or very loud traffic sounds during the daytime — the kind you'd experience after months to years of city dwelling — contributed to the risk of a shorter life expectancy. "In this study, we observed that the risk of death from any cause was increased by 4% in areas with noise level over 60 decibels when compared to quieter areas," said study co-author Jaana Halonen. "Risk of death from ischemic heart disease was also increased by 3% in adults and 4% in the elderly in areas with daytime noise levels of 55-60 decibels, when compared to areas with noise levels under 55 decibels."

The researchers believe this happens because traffic noise can cause spikes in blood pressure and increased levels of stress hormones such as cortisol and noradrenaline, which can increase stress and sleep problems.

And all of these factors can raise your risk of cardiovascular conditions.

•A new study by Swedish researchers, published in the journal Occupational & Environmental Medicine, found that being immersed on a daily basis in road noise — as well as noise from a nearby airport or rail station — can widen your waistline. Sixty-two percent of subjects regularly exposed to 45 decibels or higher of road, airport or rail noise had a 25% to 50% larger waist measurement than those not exposed to this noise. The researchers also found that road, airport and rail noises increase the body's production of the stress hormone cortisol, which affects metabolism.

•Ongoing research by Danish scientist Mette Sorensen indicates that people 65 or older who live in high road noise areas were 27% more likely to suffer a stroke; what's more, Sorensen believes her results could indicate that up to 19% of all stroke cases could be due in whole or part to traffic noise. The damage is cumulative — the longer you live near the noise, the higher your stroke risk. Interestingly too, Sorensen found the main factor contributing to these strokes is Type 2 diabetes. Her findings indicate this is because road noise lowers one's ability to get quality sleep, which causes decreased glucose tolerance.

So is it time to move?

Keep the research in perspective, experts say. Individual responses to road noise is not universal.

"For some people, daily exposure to road noise may not be so stressful — these people can habituate to that stress effect much better than others," says Dr. Emeran Mayer, professor and director of the Oppenheimer Family Center for Neurobiology of Stress at UCLA. "Their brains may be more resilient in that way. Other people, especially those whose genetic makeup may

Environmental Noise and Non-Aural Health Effects – A Research Summary

The University of Texas School of Public Health
Institute for Health Policy
Research Into Action Initiative
www.KTExchange.org

Summary

A systematic search of the peer-reviewed scientific literature that examines the relationship between environmental noise and non-aural health effects identified 35 relevant studies published since 2001. Twenty-five of these report unique findings on long term exposure to transportation noise from road, rail or air traffic; three others report on acute exposures, two in the sleep laboratory and another in an occupational setting. The remaining seven are literature reviews – two of these reviews (Babisch, 2008; Kaltenbach, et al., 2008) quantify the evidence linking chronic noise to adverse health impacts in a dose-effect relationship.

Overall, the evidence from these studies supports the hypothesis of certain adverse health effects from environmental noise. The strongest evidence links exposure to noise above 60 dB(A) in the daytime and above 45 dB(A) at night to an increased incidence of arterial hypertension. Results also link noise above 60 dB(A) to an increased risk of myocardial infarction; at 70 dB(A) the risk is over 20% higher than in the unexposed population. Daytime exposure above 55 dB(A) is linked to learning difficulties in school children. The chief mediating mechanisms for these effects are sleep disturbance and physiological stress responses.

A more detailed description of these findings appears below. Appendix 1 includes details on the design, measurement and methods of 16 key studies. The World Health Organization in 2009 released their recommendations on night-time exposure thresholds. We concur with their assessment of the strength of the research evidence. Their summary tables appear in Appendix 2.

Cardiovascular Effects

Noise-induced cardiovascular effects have been extensively studied in occupational settings as well as at community levels. It has been concluded that prolonged exposure to occupational and/or environmental noise (at sound levels of 60-85 dB(A)) can contribute to increased risk for cardiovascular disease (Babisch, Beule, Schust, Kersten, & Ising, 2005; Babisch, 2008; Kaltenbach, Maschke, & Klinke, 2008; Stansfeld & Matheson, 2003). Noise-induced cardiovascular effects include: elevated blood pressure level, prevalence of hypertension, myocardial infarction (MI), abnormalities in the electrocardiogram, more heartbeat irregularities, faster pulse rate, total cholesterol, total triglycerides, blood viscosity, slower recovery of vascular constriction, and increased consumption of cardiovascular medications (Babisch et al., 2005; Jarup et al., 2008; Kaltenbach et al., 2008; Stansfeld & Matheson, 2003)

Arterial Hypertension

In a major retrospective cohort study examining hypertension (HT), Sbihi followed 10,842 sawmill workers for eight years, identifying 828 cases from physician-billing and hospital discharge records (Sbihi, Davies, & Demers, 2008). Noise exposure was estimated from predictive models based on 1,900 personal dosimetry measurements. The study reported a statistically significant exposure response for noise and HT reaching a relative risk (RR), after adjustment for potential confounders, of 1.5 after 30 years of exposure over 85 dB(A). Lusk et al. also examined ambulatory blood pressure (BP) and heart rate (HR) in 46 automobile engine assembly plant workers. The study used mixed-effect modeling because of the repeated blood pressure (BP) measures (taken at 10 minute intervals). Logged noise dosimetry allowed the calculation of short-term exposure metrics over the same intervals. After controlling for a large number of personal cardiovascular disease (CVD) risk factors, they found noise associated with three physiological measures (systolic and

diastolic blood pressure and heart rate) and showed a possible difference in mechanisms between BP (that they showed was correlated to average acute noise) and HR (which was correlated to peaks)(Lusk, Gillespie, Hagerty, & Ziemba, 2004).

Several recent studies examined the effect of noise (from a range of sources) on hypertension in community settings. Leon Bluhm, et al. (Bluhm, Berglind, Nordling, & Rosenlund, 2007) studied self-reported HT for 667 adults in a municipality near Stockholm, Sweden. Road noise was modeled for major roads (55-65 dB) and the rest (n=513) estimated by expert judgment. Thirteen percent of subjects were diagnosed with HT. There was a linear exposure response relation between traffic noise and prevalence of HT with an adjusted odds ratio (OR_{ADj}) of 1.38 per 5 dB(A). The authors also showed interactions for time in residence, bedroom orientation, glazing and older homes. Another Swedish study carried out around Stockholm's major airport assessed the prevalence of (self-reported doctor-diagnosed) high blood pressure by postal questionnaire. An exposure response association between aircraft noise and high blood pressure was found with relative risks ranging between 1.1 and 2.1 for noise levels between approximately energy-averaged levels (FBN) = 53 to 63 dB(A)(Rosenlund, Berglind, Pershagen, Järup, & Bluhm, 2001). When noise categories were combined, the effect was significant for FBN > 55 dB(A). The trend analysis resulted in a relative risk of 1.3 (95% CI = 0.8-2.2) per 5 dB(A).

A prospective study carried out around Stockholm's major airport investigated the association between aircraft noise and high blood pressure. Subjects exposed to FBN above 50 dB(A) had a significant relative risk of 1.2 for the development of hypertension over the 10-year follow-up period, compared with less exposed (Eriksson et al., 2007). The increase in risk per 10 dB(A) was 1.2 (95% CI = 1.0-1.2). The effect was particularly found in older people, which may reflect longer years of residence.

In a new multi-centered study carried out around six European airports, a significant increase in the risk of hypertension of 1.14 (95% CI = 1.01-1.29) for a 10 dB(A) difference of aircraft noise during the night (L_{night}) was found (Jarup et al., 2008). Hypertension was determined by a combination of three criteria: measured resting blood pressure (systolic/diastolic blood pressure >140/90 mmHg), self-reported doctor-diagnosed hypertension, and anti-hypertensive medication (ATC coding). No linear association was found with respect to the exposure during the day, possibly due to exposure misclassification (time spent away from home). Thus, a smaller relative risk was found for the 24-hour noise indicator L_{den} of 1.1 (95% CI = 0.9-1.3) per 20 dB(A). The same study reported a significant (54%) increase in the odds of being hypertensive for men who are exposed to the highest level (>65 dB(A)) of road traffic noise (Jarup et al., 2008).

In a Swedish municipality partly affected by noise from a highway (20,000 vehicles/24 hours) and a railway (200 trains/24 hours), men who lived there for more than 10 years and were exposed to the highest level of noise (56-70 dB(A)) had a relative risk of hypertension almost three times that of the unexposed population (OR=2.9, 95%CI: 1.4-6.2) (Barregard, Bonde, & Ohrstrom, 2009).

Ischemic Heart Disease

Babisch, et al. (Babisch et al., 2005) examined incidents of myocardial infarction (MI) between 1998 and 2001, recruiting patients with confirmed MIs at 32 Berlin hospitals. A sophisticated noise assessment was conducted, utilizing noise maps for roads with volumes over 6,000 vehicles per day, with lower volume roads characterized as "quiet." This assumption was

validated. Subjects' addresses were further checked and their exposures reassigned if they lived near a main road that was noisier than their own road.

In adjusted multivariate analyses there was a slight increase in risks for males only. This was strengthened when analysis was restricted to those who had lived in residence for >10 years (RR_{adj}=1.3 >65 dB(A); 1.8 >70 dB(A)). There was no effect in females. Noise annoyance was linked to MI in males (for traffic noise at night, RR=1.1) and females (for aircraft noise at night, RR=1.3) and noise sensitivity was an increased risk in males (RR=1.14). The authors suggested that these gender differences might be due to difference in sex hormones, contraceptive use, different time/activity patterns, or sample size.

A recent large population-based cohort study of 57,053 people living in the Copenhagen and Aarhus areas of Denmark examined the relation between exposure to road traffic noise and risk for stroke. 1881 cases of first-ever strokes were identified in national hospital register between 1993-1997 and 2006 (Sorensen et al., 2011). Exposure to road traffic noise and air pollution during the same period was estimated for all cohort members from residential address history. Using the Cox regression model with stratification for gender and calendar year and adjustment for air pollution and other potential confounders, the authors found an incidence rate ratio (IRR) of 1.14 for stroke (95%CI: 1.03-1.25) per 10 dB higher level of road traffic noise. There was a statistically significant interaction with age ($P < 0.001$), with a strong association between road traffic noise and stroke among cases over 64.5 years (IRR: 1.27; 95% CI: 1.13-1.43) and no association for those under 64.5 years (IRR: 1.02; 95% CI: 0.91-1.14).

A recent meta-analysis (Babisch, 2008) of two descriptive (cross-sectional) and five analytical (case-control and cohort) studies calculated a pooled dose-effect curve for the association between road traffic noise levels and the risk of myocardial infarction. No increase in risk was found below 60 dB(A) for the average A-weighted sound pressure levels during the day. An increase in risk was found with increasing noise levels above 60 dB(A), thus showing a dose-response relationship. Another review article (Kaltenbach et al., 2008) of 10 primary epidemiological studies from 2000 and 2007 reported similar dose-response relationship for aircraft noise, too. In residential areas, outdoor aircraft noise-induced equivalent noise levels of 60 dB(A) in the daytime and 45 dB(A) at night are associated with an increased incidence of hypertension. It has been estimated that approximately 2-3% of ischemic heart diseases in the general population can be attributed to the traffic noise (Babisch, 2002).

Mental Health Disorders

Community-based studies suggest that high levels of environmental noise are associated with subsyndromal states (psychiatric symptoms, anxiety) more than with specific syndromes (depression) (Stansfeld, Haines, Berry, & Burr, 2009). A cross-sectional study among the residents living in the vicinity of Elmas Airport in Sardinia, Italy showed an increased risk for long-lasting syndromal anxiety states (Generalized Anxiety Disorder and Anxiety Disorder NOS), thus supporting the hypothesis of a sustained central autonomic arousal due to chronic exposure to noise (Hardoy et al., 2005).

Children

Several epidemiological studies have shown that road traffic noise positively associated with increased risk of arterial hypertension in adults who live in areas with daytime average sound pressure level exceeding 65 dB(A) (Babisch, 2006). However the results of the studies on noise

exposure and children's blood pressure are less consistent. This association was found to be negative and significant in the London and Amsterdam study (van Kempen et al., 2006); positive and borderline significant in the Inn Valley study (Evans, Lercher, Meis, Ising, & Kofler, 2001), and positive and significant in the Belgrade study (Belojevic, Jakovljevic, Stojanov, Paunovic, & Ilic, 2008).

The Inn Valley study (Evans et al., 2001) reported marginal and borderline significant effects of noise on elevated resting systolic blood pressure in fourth-grade children who were exposed to high noise level (>60 dB) from road and railway noise, compared to less exposed children (<50 dB). The London and Amsterdam study (Van Kempen et al., 2006) showed negative and significant association between daytime road traffic noise at schools and systolic blood pressure. However, nighttime aircraft noise was significantly and positively associated with blood pressure. A recent study in Belgrade (Belojevic et al., 2008) investigated the effects of urban road- traffic noise on children's blood pressure and heart rate using nighttime noise exposure at children's residences and daytime noise at kindergartens. This is a cross-sectional study performed on 328 pre-school children (174 boys and 154 girls) aged 3–7 years who attended 10 public kindergartens in Belgrade. Equivalent noise levels (Leq) were measured overnight in front of the children's residences and during the day in front of kindergartens. A residence was regarded as noisy if Leq exceeded 45 dB(A) during the night and quiet if the Leq was ≤45 dB (A). Noisy and quiet kindergartens were those with daily LeqN60 dB(A) and ≤60 dB(A), respectively. Children's blood pressure was measured with a mercury sphygmomanometer. Heart rate was counted by radial artery palpitation for one minute. The prevalence of children with hypertensive values of blood pressure was 3.96% (13 children, eight boys and five girls), with a higher prevalence in children from noisy residences (5.70%) compared to children from quiet residences (1.48%). The difference was borderline significant (p=0.054). Systolic pressure was significantly higher (5mmHg, on average) among children from noisy residences and kindergartens, compared to children from both quiet environments (p<0.01). Heart rate was significantly higher (2 beats/min on average) in children from noisy residences, compared to children from quiet residences (p<0.05). Multiple regression, after allowing for possible confounders, showed a significant correlation between noise exposure and children's systolic blood pressure (B=1.056; p=0.009).

There are several possible reasons for inconsistency in the results of the studies on road traffic noise and blood pressure in children: noise exposure was assessed in different settings, either at home or at school or at kindergartens; the children were of different ages (ranging from pre-school to school age); road traffic noise was sometimes combined with other sources of noise (aircraft, railway); and daytime noise level was predominantly used as a noise exposure indictor at home instead of nighttime noise level.

Most evidence in relation to aircraft noise on children is derived from school studies carried out in the Munich airport study (Evans et al., 2001), the Sydney airport study (Job RFS, Carter N, Hatfield J, Morrell S, Peploe P, Taylor R, 2000), and the RANCH study (van Kempen et al., 2006). The cross-sectional study around the old Munich airport revealed a borderline significant effect of two mmHg higher systolic blood pressure readings in schoolchildren from noise-exposed areas (Leq, 24hr = 68 dB(A)), as compared to unexposed children (Leq, 24hr = 59 dB(A)). No noise effect was found with regard to diastolic blood pressure (Evans et al., 2001). Longitudinal studies carried out around the new airport showed a two to four mmHg larger increase in BP readings in exposed children than in their counterparts from the quiet areas 18 months after the opening of the new airport. However, the well-matched children from the exposed and the control group had the same

absolute blood pressure. The higher change in blood pressure was due to lower values at the beginning of the follow-up.

The cross-sectional study around the Sydney airport revealed non-insignificant relation between aircraft noise and diastolic and systolic blood pressure in children (Job RFS, Carter N, Hatfield J, Morrell S, Peploe P, Taylor R, 2000). In a cross-sectional study carried out around Schiphol and Heathrow airports on schoolchildren (the RANCH study), non-insignificant relationship was found between aircraft exposure at school (L_{Aeq}, 7 a.m.-11 pm) and measured systolic blood pressure, diastolic blood pressure and heart rate after adjustment for relevant confounders.(van Kempen et al., 2006). However, aircraft noise at home (expressed as L_{Aeq}, 7 a.m.-11 p.m.) was significantly related to higher systolic (0.10 mmHg/dB(A)) and diastolic (0.19 mmHg/dB(A)) blood pressure. Chronic aircraft noise exposure during the night (L_{Aeq}, 11 p.m.-7 a.m.) at home was also positively associated with blood pressure. This latter association was significant only for systolic blood pressure. In the pooled data-set, an increase of 0.09 mmHg/dB(A) was found.

Due to significant differences in noise effects between the two centers, no unequivocal conclusions about the association between aircraft noise exposure and blood pressure in children could be drawn (van Kempen et al., 2006). Explanations put forward concern differences in flight pattern variation and the aircraft fleets. Also, differences in schooling systems and teachers' attitudes towards noise might have differential effects on the children's reactions to noise. None of these could be tested on the available data. Finally, even though the results were adjusted for ethnic differences and diet, residual confounding due to these factors might explain the differences (Babisch & Kamp, 2009).

Mediating Effects

Stress

Noise-induced annoyances are experienced by both children and adults. Noise causes a release of stress hormones that can adversely affect health. Similar to other stressors, noise disturbs the homeostasis of the cardiovascular, endocrine and immune systems in the body to cope with the environmental or perceived demands of the individual. The imbalance between the demand and the individual's resources to cope determine the individual's ability to deal with noise-induced stress. The body's inability to cope with overstimulation can lead to adverse stress reactions (Prasher, 2009).

The glucocortcoid hormone, cortisol, is the main secretory product of the neuroendocrine cascade and a valid indicator of stress. The cortisol profile normally shows a diurnal variation, high in the morning and low at night. Studies have shown elevated cortisol level in relation to noise. After long-time stressful exposure, the ability to down-regulate cortisol may be inhibited (Babisch et al., 2009)(Babisch et al., 2009; Bjork et al., 2006; Ohrstrom et al., 2007). In models of noise, stress and disease, cortisol plays a key role in hypothalamic-pituitary-adrenal (HPA) axis activity and was examined in three recent studies of nighttime noise exposure. In an observational study, researchers obtained salivary cortisol samples from 68 children who had had recent physician contact for bronchitis (Ising, Lange-Asschenfeldt, Moriske, Born, & Eilts, 2004). They found that night-time noise levels above 53 dB(A) were associated with increased morning cortisol levels and were thought to lead, in the long term, to the aggravation of bronchitis in children.

In a laboratory-based sleep study measuring salivary cortisol, low frequency noise (40 dB(A), ≤125 Hz) was associated with an attenuated cortisol response after waking. Cortisol levels had not yet peaked at 30 minutes post-waking, as it did in controls (N_{TOT}=12) (Waye, Clow, Edwards, Hucklebridge, & Rylander, 2003). In a second laboratory study, exposure to simulated vehicle backup alarms (60-80 dB(A), 1000 Hz) failed to elicit change in cortisol concentration profiles in the days afterward (Michaud et al., 2006). Interpretation of cortisol measurement data remains complex in noise research (Babisch, 2003). However, there may be several factors that influence the variability seen in cortisol response in noise simulation, including timing or measurement, type of stressor, controllability, individual response characteristics and individual psychiatric sequalae (Miller, Chen, & Zhou, 2007).

Sleep Disturbance

There is both objective and subjective evidence for sleep disturbance by noise. Exposure to noise disturbs sleep proportional to the amount of noise experienced in terms of an increased rate of changes in sleep stages and in number of awakenings (Gitanjali & Ananth, 2003). Noise exposure during sleep may increase blood pressure, heart rate and finger pulse amplitude as well as body movements. There may also be after-effect during the day following disturbed sleep; perceived sleep quality, mood and performance in terms of reaction time all decreased following sleep disturbed by road traffic noise. Studies on noise abatement show that, if indoor noise level can be reduced, the amount of REM sleep and slow wave sleep can be increased (Stansfeld & Matheson, 2003). Exposure to environmental noise is also associated with the increased use of sleep medication (Franssen, van Wiechen, Nagelkerke, & Lebret, 2004).

Economic Costs of Noise

A large number of studies in Europe have examined the question of the external costs of noise to society, especially transport noise. The estimates range from 0.2% to 2% of gross domestic product (GDP), which represents an annual cost to society of over 12-120 billion euro (€1=$1.36 as of Nov. 11, 2010). A study from Germany showed that, on average, an individual would be prepared to pay around 10 euro per 1 dB(A) improvement per person, per year if the noise levels exceed 43 dB(A). On this basis, the annual costs of traffic noise in Germany were estimated to be 7.8 - 9.6 billion Euro.

- Willingness to pay based on surveys
- Change of the market value of properties
- Cost of the abatement measures
- Cost of avoidance or prevention
- Cost of medical care and production losses

A study (Gjestland, 2007) in Norway took a different approach to assess the economic impact of noise, a noise annoyance index (SPI). SPI is the product of noise annoyance score and number of people exposed to that annoyance. Using simple linear approximation noise annoyance score can be calculated as a function of time-weighted noise level (in dB) and noise source dependent correction factor. They assess the economical cost of noise (by different sources) at community level. For example, a community of 500 residents is exposed to two different noise sources: aircraft noise at 55 dB(A) and road traffic at 60 dB(A). The aircraft noise source at 55 dB(A) can be substituted by an *equally annoying* road traffic noise source at 61 dB(A), based on the fact that there is a six dB aircraft malus when compared with road traffic noise.

These two road traffic noise sources, at 60 and 61 dB(A), are added (energy) to give a total level of 63.5 dB(A). The annoyance score associated with this level is 0.38, and the total noise annoyance index for this area is (500 x 0.38) = 190 SPI. Considering factors (psycho-physiological effects, stress, sleep disturbances and resulting productivity loss, communication problems and possible hearing damage) that influence the "cost," in Norway, the "cost" of one extremely annoyed person (1 SPI) has been estimated to be approximately €1600 per year. The annoyance index for Norway caused by road traffic noise, 503,388 SPI, corresponds to a cost of more than 800 million Euros.

In a study among U.S. Navy sailors, Tufts, Weathersby and Rodriguez (Tufts, Weathersby, & Rodriguez, 2010), found that the nominal noise-exposure case (93 dB(A) for six years) yielded a total expected lifetime cost of $13,472, with a range of $2,500 to $26,000 per sailor. Starting with the nominal case, a decrease of 50% in exposure level or duration would yield cost savings of approximately 23% and 19%, respectively.

A Swiss study (Riethmuller, Muller-Wenk, Knoblauch, & Schoch, 2008) assessing the monetary value of disturbed sleep due to road traffic noise concluded that the value of noise-free sleep was 7.45-23.81 Swiss francs (CHF) per night (CHF 1=$1.02 as of Nov. 11, 2010).

A 1999 United Kingdom Department of Transportation review of 64 studies on valuation of noise used three strategies to set a "price" on noise: cost per decibel, average percentage change in property prices per decibel, and percentage of GDP. The review concluded that the ranges of costs are:

- £15-£30 per decibel per household per year
- 0.08-2.30% change in property value per decibel
- 0.02-2.27% GDP

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Carson City Planning Division
108 E. Proctor Street· Carson City NV 89701
Phone: (775) 887-2180 • E-mail: planning@carson.org

FOR OFFICE USE ONLY:

CCMC 17.06 and 17.07

TENTATIVE SUBDIVISION MAP

FEE*: $3,500.00 + noticing fee
*Due after application is deemed complete by staff

FILE # TSM - 19 - 054

APPLICANT	PHONE #
Blackstone Development Group	520-400-4845
MAILING ADDRESS, CITY, STATE, ZIP	
439 W. Plumb Ln. Reno, NV 89509	
EMAIL	
jgm@blackstonedevelopmentgroup.com	
PROPERTY OWNER	PHONE #
D & SL V LLC	
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1840 E. Fifth St. Carson City, NV 89701	
EMAIL	
lcranch36@yahoo.com	
APPLICANT AGENT/REPRESENTATIVE	PHONE #
Blackstone Development Group	520-305-5343
MAILING ADDRESS, CITY, STATE, ZIP	
439 W. Plumb Ln. Reno, NV 89509	
EMAIL	
scott@blackstonedevelopmentgroup.com	
Project's Assessor Parcel Number(s)	
010-051-044	
Project's Street Address	
eastern terminus of Railroad Drive	
Nearest Major Cross Street(s)	
Railroad Drive and Saliman Road	
Project's Master Plan Designation	
Specific Plan	
Project's Current Zoning	
SF-6	

- ☐ **SUBMITTAL PACKET – 5 Complete Packets (1 Unbound Original and 4 Copies) including:**
  - Application Form including Applicant's Acknowledgment
  - ☐ Property Owner Affidavit
  - ☐ Copy of Conceptual Subdivision Map Letter
  - ☐ Detailed Written Project Description
  - ☐ Proposed Street Names
  - ☐ Master Plan Policy Checklist
  - ☐ Wet Stamped Tentative Map (24" x 36")
  - ☐ Reduced Tentative Map (11" x 17")
  - ☐ Conceptual Drainage Study
  - ☐ Geotechnical Report
  - ☐ Traffic Study (if applicable)
  - ☐ Documentation of Taxes Paid to Date
- ☐ **CD or USB DRIVE with complete application in PDF**
- ☐ **STATE AGENCY SUBMITTAL including:**
  - ☐ 2 Wet-stamped copies of Tentative Map (24" x 36")
  - ☐ Check made out to NDEP for $400.00 + $3/lot
  - ☐ Check made out to Division of Water Resources for $180.00 + $1/lot

Application Reviewed and Received By:

Submittal Deadline: Refer to the Planning Commission application submittal schedule.

Note: Submittals must be of sufficient clarify and detail for all departments to adequately review the request. Additional information may be required.

Project Name
Blackstone Ranch/Railroad Drive Tentative Map

Total Project Area	Number of Lots	Smallest Parcel Size
26.89 acres	103	6,000 square feet

Please provide a brief description of your proposed project below. Provide additional pages to describe your request in more detail.

Please refer to attached supplemental planning report.

NOTE: If your project is located within the Historic District or airport area, it may need to be scheduled before the Historic Resources Commission or the Airport Authority in addition to being scheduled for review by the Planning Commission. Planning staff can help you make this determination.

ACKNOWLEDGMENT OF APPLICANT: (a) I certify that the foregoing statements are true and correct to the best of my knowledge and belief; (b) I agree to fulfill all conditions established by the Board of Supervisors.

Applicant's Signature

Date 4/18/19

PROPERTY OWNER'S AFFIDAVIT

I, SAMUEL A. LOMPA JR (Print Name), being duly deposed, do hereby affirm that I am the record owner of the subject property located at APN 010-051-44 (Property Address and APN), and that I have knowledge of, and I agree to, the filing of this Tentative Subdivision Map application.

Samuel A. Lompa Jr
Signature

1840 E. 5th St. Carson City NV 89701
Address

4/19/19
Date

Use additional page(s) if necessary for other names.

STATE OF NEVADA)
COUNTY CARSON)

On April 19, 2019, personally appeared before me, a notary public, SAMUEL A LOMPA JR., personally known (or proved) to me to be the person whose name is subscribed to the foregoing document and who acknowledged to me that he/she executed the foregoing document.

Nina Wright
Notary Public

NINA WRIGHT
Notary Public, State of Nevada
Appointment No. 03-81388-5
My Appt. Expires Feb 5, 2023

BLACKSTONE RANCH/ RAILROAD DRIVE

Tentative Map Application

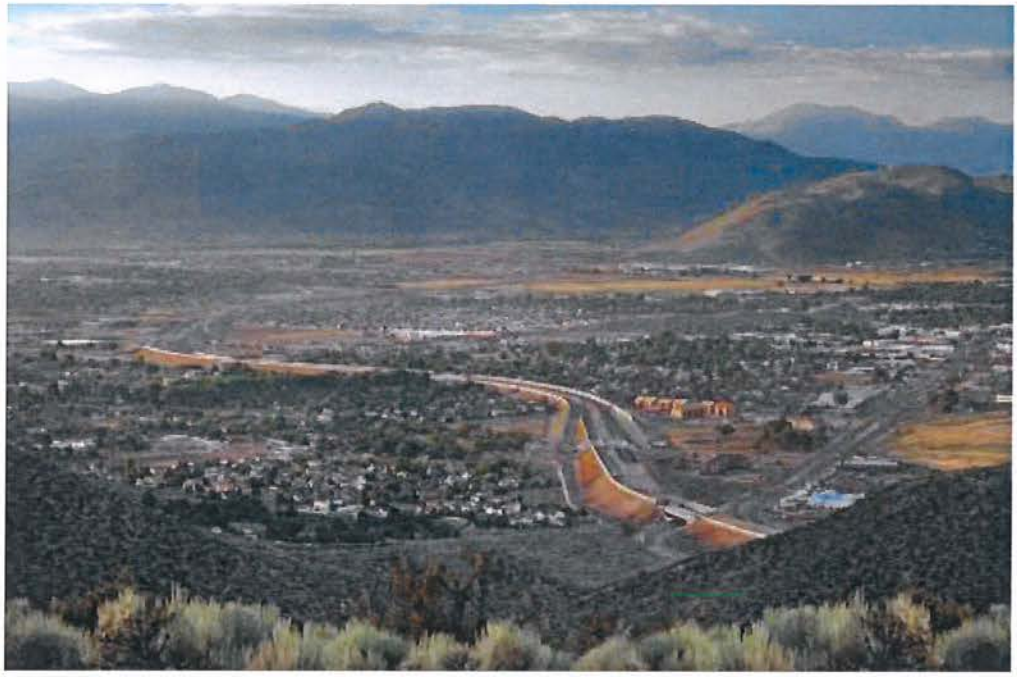

Photo Credit: Scott Smith/gr8rdeal.com

Prepared by:

RUBICON Design Group

April 18, 2019

RAILROAD DRIVE TENTATIVE MAP

TENTATIVE MAP APPLICATION

Prepared for:

Blackstone Development Group, Inc.

439 W. Plumb Lane

Reno, Nevada 89509

Prepared by:

Rubicon Design Group, LLC

1610 Montclair Avenue, Suite B

Reno, Nevada 89509

(775) 425-4800

April 18, 2019

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Preliminary Engineering Plans
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Property Tax Documentation

RAILROAD DRIVE TENTATIVE MAP

Introduction

This application includes the following request:

- A **Tentative Map Application** for the consideration of a 103-unit single family residential subdivision within the Blackstone Ranch Specific Plan.

Project Location

The proposed subdivision is located within the recently adopted Blackstone Ranch Specific Plan. Blackstone Ranch (APN # 010-051-44) consists of 26.89± acres. The Blackstone Ranch Specific Plan Area is located west of Interstate 580, north of Fairview Drive, at the east end of Railroad Drive. Figure 1 (below) depicts the project location.

Figure 1 – Vicinity Map

Existing Conditions

Currently, the project site is vacant. The property is surrounded by more vacant land to the north, Interstate 580 to the east, a commercial/industrial building to the south, and single-family residential to the west. Figures 2 (below) and 3 (following page) depict the existing onsite conditions.

Looking east from the end of Railroad Street

Looking north from the end of Railroad Street

Figure 2 – Existing Conditions

Looking south from the end of Railroad Street

Looking west from Interstate 580

Figure 3 – Existing Conditions

As noted previously, the subject property is located within the Blackstone Ranch Specific Plan (SPA). The SPA designates the project site zoning as SF-6 (zoning). Figure 4 (below) depicts the adopted zoning.

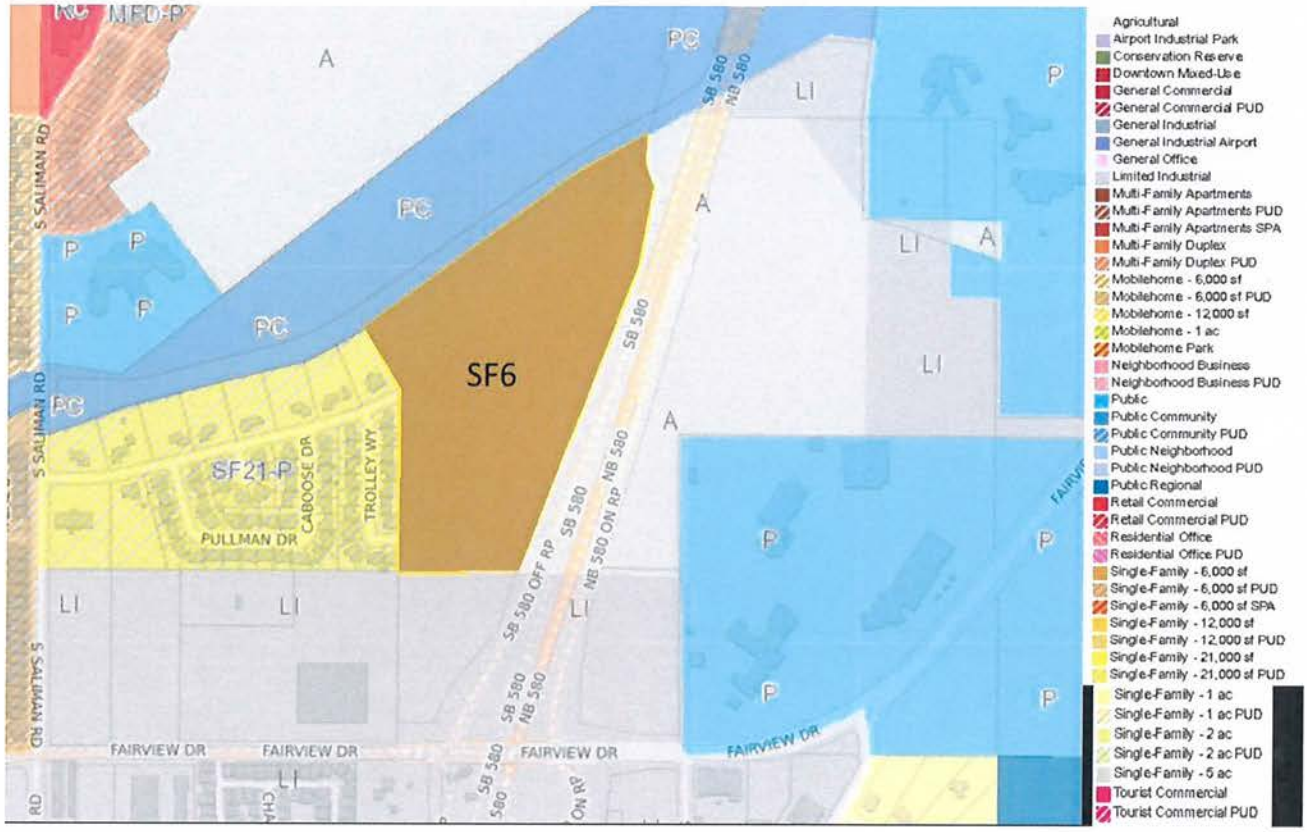


Figure 4 – Existing Zoning

Surrounding land use includes existing single family homes to the west, vacant land to the north and south, and Interstate 580 to the east. Access to the property is from Railroad Drive via a connection with Saliman Road to the west. Based on agreements made during the Blackstone Ranch Specific Plan process, a secondary access will be provided to the north, extending to Fifth Street. The extension of secondary access to Fifth Street was a direct result of neighborhood concerns and requests received at a community meeting hosted by the applicant. Originally, secondary access was proposed from Firebox Labe, just north of the project site.

Project Description

This Tentative Map application is for the overall development of the adopted Blackstone Ranch Specific Plan area. The project is being called the "Railroad Drive" project in order to avoid the potential for confusion with the Blackstone Ranch Phase 2 project located further north within the Lompa Ranch Specific Plan.

The Railroad Dive plan is proposed for 103 single family units. As previously noted, primary access to the development will be via an extension of Railroad Avenue. A secondary connection to Jacques Way is proposed at the southwestern portion of the site. Lastly, a secondary emergency access will be constructed to the north, roughly paralleling Interstate 580, connecting to East Fifth Street. Based on input received from neighbors and the Board of Supervisors, this roadway will be open to the public but will be constructed to a rural standard.

Consistent with the existing SF-6 zoning, lot sizes will range from 6,000± square feet to 15,803± square feet, with an overall average lot size of 7,712± square feet. At this time, final home plans (including elevations and floor plans) have not been completed. However, building envelopes are shown on the Tentative Map. Elevations must comply with the standards included within the Specific Plan. This includes the use of varied materials and a minimum of three different elevation options for each model. Additionally, "staggered" setbacks are required to ensure that a monotonous streetscape does not occur.

The Carson City Municipal Code requires that a minimum of 150 square feet of open space area be provided for each individual unit. Based on 103 units, a total of 15,450 square feet of open space is required. As proposed, a total of 126,656± square feet of open space is provided. A homeowners' association along with covenants, conditions and restrictions (CC&R's) will be created for the project and will be responsible for the maintenance of all open space/common areas.

The following table provides an overall project summary:

Development Standard	Proposed with Railroad Drive Tentative Map
Total Project Area	26.89± acres
Total Units	103
Total Lot Area	18.28± acres
Right-of-Way Area	5.62± acres
Common Area/Open Space	2.99± acres
Project Density	3.83 dwelling units per acre
Minimum Lot Size	6,000± square feet
Maximum Lot Size	15,803± square feet
Average Lot Size	7,712± square feet

Figure 4 (following page) depicts the preliminary site plan developed for the Railroad Drive project area.

Consistent with the Blackstone Ranch Specific Plan standards, a pedestrian trail will be constructed to provide connection to the linear park to the north. The trail(s) will be paved and constructed to the Unified Pathways Master Plan standards.

In terms of impacts, the Blackstone Ranch/Railroad Drive project is compatible with the surrounding area and will not unduly burden existing public services and infrastructure. A comprehensive traffic impact analysis has been completed by Headway Transportation and is included as an attachment to this report. The traffic report estimates that the Railroad Drive Tentative Map will generate approximately 972 average daily trips (ADT) with 76 am peak hour trips and 102 pm peak hour trips. The traffic impact analysis describes all necessary mitigation measures and/or improvements that will be made to ensure appropriate levels of service are maintained.

B

RAILROAD DRIVE TENTATIVE MAP

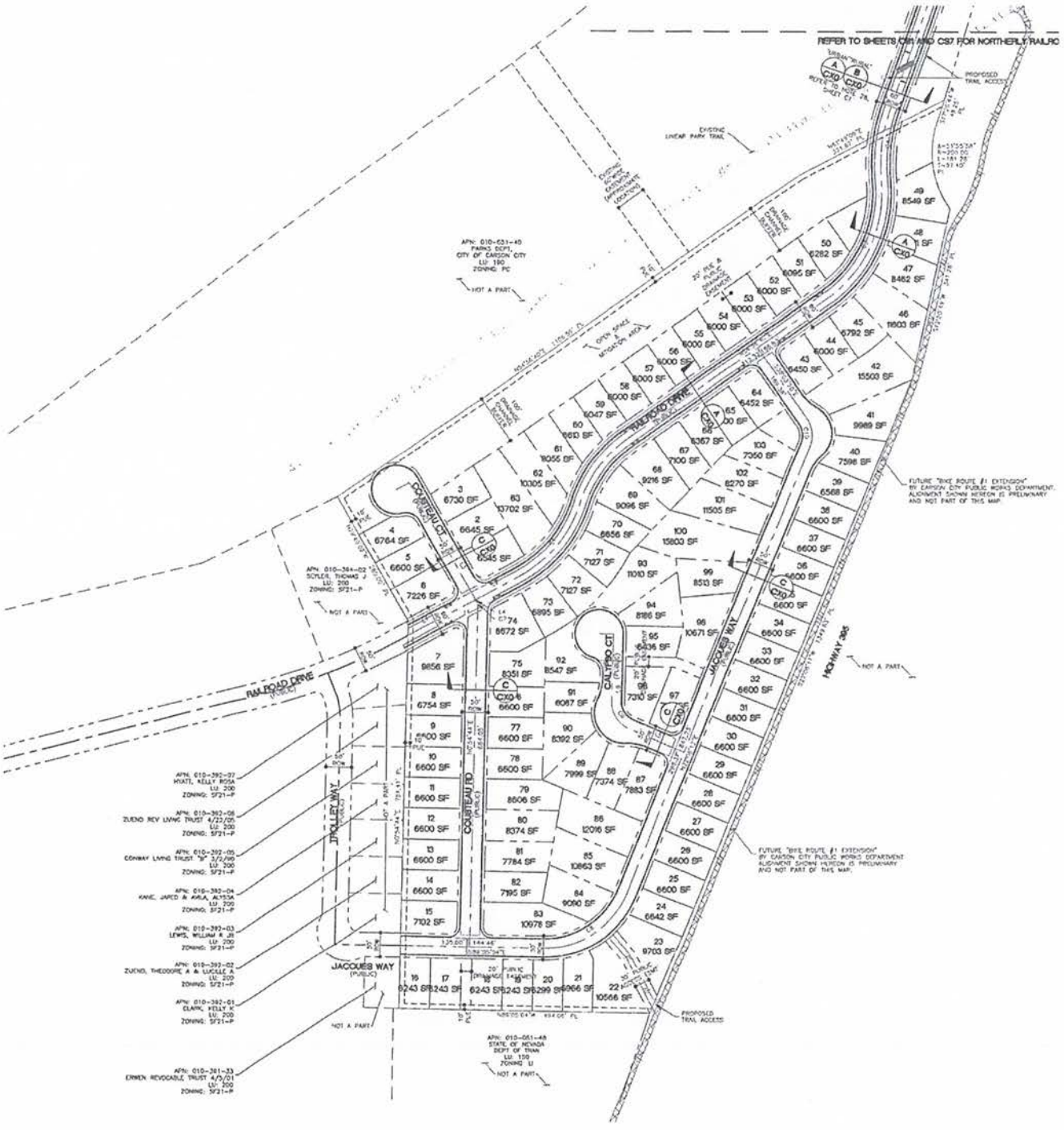


Figure 5 – Preliminary Site Plan

Figure 6 (below) depicts the full secondary access connection (Railroad Drive extension) to East Fifth Street.

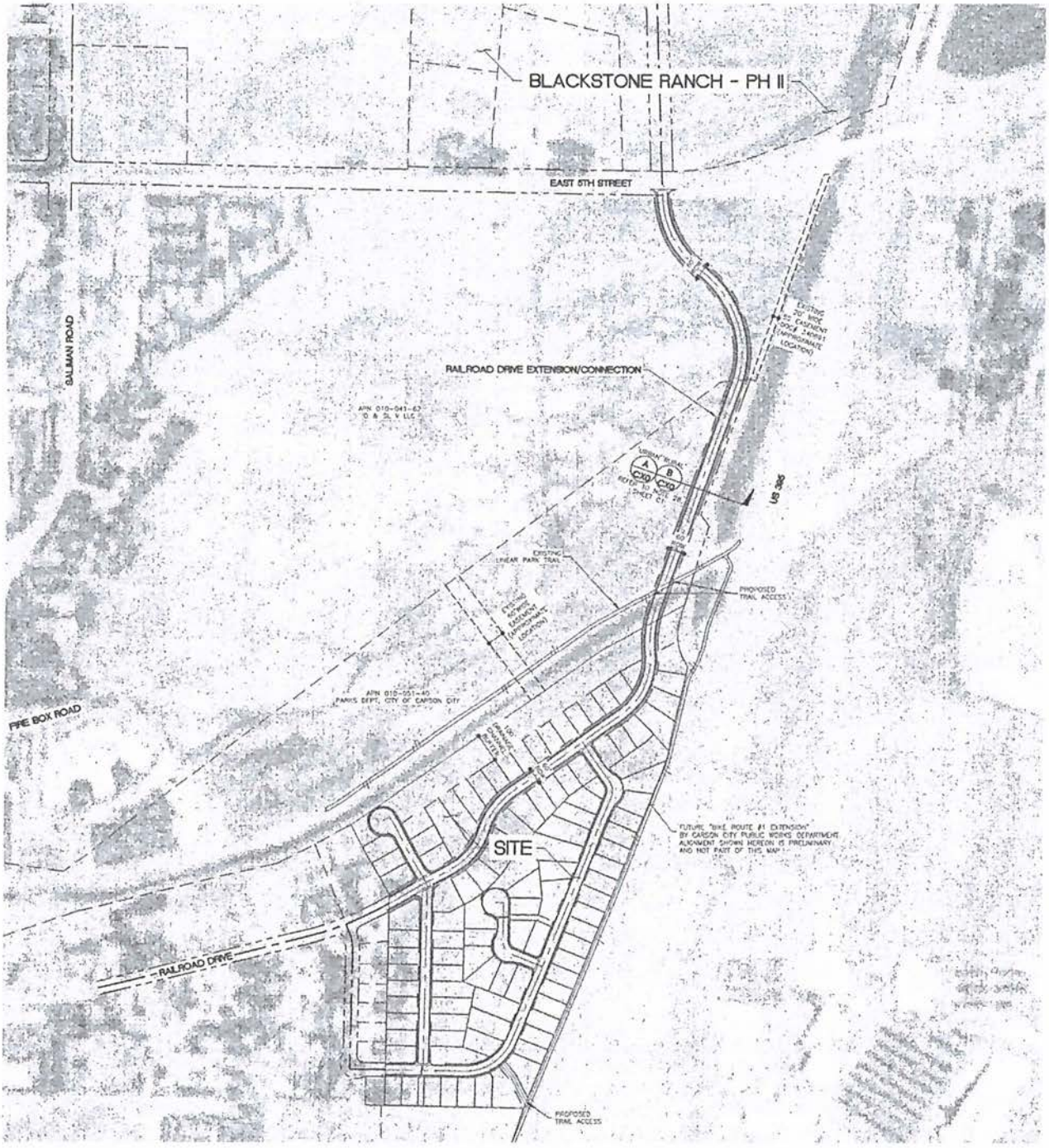


Figure 6 – Secondary Access/Railroad Drive Extension

As an infill development, emergency services are already occurring within the area. The project is not anticipated to unduly impact existing levels of service. The project will be required to pay all applicable impact and connection fees at the time of final map(s).

Master Plan Policy Checklist

Consistent with Carson City Tentative Subdivision Map application requirements, this section is taken directly from Carson City documents and forms part of the ***Tentative Map*** application process. Responses to the checklist questions are included in this section and are printed in **bold** type.

PURPOSE

The purpose of a development checklist is to provide a list of questions that address whether a development proposal is in conformance with the goals and objectives of the 2006 Carson City Master Plan that are related to Master Plan Map Amendments and Zoning Map Amendments. This checklist is designed for developers, staff, and decision-makers and is intended to be used as a guide only.

Development Name:
Reviewed By:
Date of Review:

DEVELOPMENT CHECKLIST

The following five themes are those themes that appear in the Carson City Master Plan and which reflect the community's vision at a broad policy level. Each theme looks at how a proposed Master Plan or Zoning Map Amendment can help achieve the goals of the Carson City Master Plan. A check mark indicates that the proposed amendment meets the applicable Master Plan policy. The Policy Number is indicated at the end of each policy statement summary. Refer to the Comprehensive Master Plan for complete policy language.

CHAPTER 3: A BALANCED LAND USE PATTERN

The Carson City Master Plan seeks to establish a balance of land uses within the community by providing employment opportunities, a diverse choice of housing, recreational opportunities, and retail services.

Is or does the proposed amendment:

- ✔ Consistent with the Master Plan Land Use Map in location and density?

As proposed, the Blackstone Ranch/Railroad Drive is in direct compliance with the existing Medium Density Residential Master Plan designation and SF6 zoning. Additionally, the project is in full compliance with the standards and requirements included within the Blackstone Ranch Specific Plan.

✔ Meet the provisions of the Growth Management Ordinance (1.1d, Municipal Code 18.12)?

This project meets the provisions of the Growth Management Ordinance by locating housing in an area that is adjacent to existing roadways and services. The project is an infill development and serves to better maximize the use of Carson City's infrastructure. Infill residential is encouraged within the Master Plan. The project has convenient access to all community services and is appealing to a wide range of potential residents.

✔ Encourage the use of sustainable building materials and construction techniques to promote water and energy conservation (1.1e and f)?

New development must comply with the standards included within the Blackstone Ranch Specific Plan which include energy efficient building materials as well as locating building envelopes with solar orientation in mind (to the extent possible).

Located in a priority infill development area (1.2a)?

The project site is not in a priority infill area but it is an infill project.

✔ Provide pathway connections and easements consistent with the adopted Unified Pathways Master Plan and maintain access to adjacent public lands (1.4a)?

This project will tie-in to the overall Lompa Ranch project will comprehensive trail network. Additionally, a connection to the linear park will occur with the first phase of development.

✔ Encourage cluster development techniques, particularly at the urban interface with surrounding public lands, as appropriate, and protect distinctive site features (1.4b and c, 3.2a)?

The project clusters development and retains significant open space. This open space then serves as an access point to trails and undeveloped areas and exceeds the required minimum by over 7 times.

At adjacent county boundaries, coordinated with adjacent existing or planned development with regards to compatibility, access, and amenities (1.5a)?

The site is not located along a county boundary.

✔ Located to be adequately served by City services including fire and sheriff services, and coordinated with the School District to ensure the adequate provision of schools (1.5d)?

As an infill parcel, the site is bordered by existing development and is within existing service boundaries. City and area services are already occurring within the area and can be provided to this site as well.

In identified Mixed-Use areas, promote mixed-use development patterns as appropriate for the surrounding context consistent with the land use descriptions of the applicable Mixed-Use designation, and meet the intent of the Mixed-Use Evaluation Criteria (2.1b, 2.2b, 2.3b, Land Use Districts, Appendix C)?

The site is not within an identified mixed-use area. However, the overall Blackstone Ranch project will be a highly integrated into the Lompa Ranch to the north which is a mixed use development. This is simply the first phase in a much larger overall development.

✔ Provide a variety of housing models and densities within the urbanized area appropriate to the development size, location and surrounding neighborhood context (2.2a, 9.1a)?

The project will provide new housing options in east Carson City and serves to fill a defined demand for new homes in the area. New homes will incorporate design standards from Blackstone Ranch Specific Plan and overall density/lot size is consistent with existing single family uses to the west.

Protect environmentally sensitive areas through proper setbacks, dedication, or other mechanisms (3.1b)?

There are no environmentally sensitive areas on the site.

If at the urban interface, provide multiple access points, maintain defensible space (for fires) and are constructed of fire resistant materials 3.3b)?

The site is not within an urban/wildlife interface area.

Site outside the primary floodplain and away from geologic hazard areas or follow the required setbacks or other mitigation measures (3.3d, e)?

Not applicable.

✔ Provide for levels of services (i.e. water, sewer, road improvements, sidewalks, etc) consistent with the Land Use designation and adequate for the proposed development (Land Use table descriptions)?

The project proposes to provide levels of service consistent with what is seen in the area now. As an infill site, it is possible to coordinate the project design with development that adjoins the site. Roads, sidewalks, and utilities will therefore be commensurate with what the neighborhood enjoys now. Trail connections and open space will be improved.

If located within an identified Specific Plan Area (SPA), meet the applicable policies of that SPA (Land Use Map, Chapter 8)?

The project, as proposed, is in full compliance with the Blackstone Ranch Specific Plan.

CHAPTER 4: EQUITABLE DISTRIBUTION OF RECREATIONAL OPPORTUNITIES

The Carson City Master Plan seeks to continue providing a diverse range of park and recreational opportunities to include facilities and programming for all ages and varying interests to serve both existing and future neighborhoods.

Is or does the proposed amendment:

✔ Provide park facilities commensurate with the demand created and consistent with the City's adopted standards (4.1b)?

The project will provide substantial open space area that will benefit the neighborhood. The project is therefore proposing amenities well above what is required by Code and by normal planning practice.

✔ Consistent with the Open Space Master Plan and Carson River Master Plan (4.3a)?

This project advances the goals of the Open Space Master Plan through its use of an infill site and through the provision of open space areas and connections to the linear park. The project does not extend development into wildland areas.

CHAPTER 5: ECONOMIC VITALITY

The Carson City Master Plan seeks to maintain its strong diversified economic base by promoting principles which focus on retaining and enhancing the strong employment base, include a broader range of retail services in targeted areas, and include the roles of technology, tourism, recreational amenities, and other economic strengths vital to a successful community.

Is or does the proposed amendment:

✔ Incorporating public facilities and amenities that will improve residents' quality of life (5.5e)?

As detailed above, the project will provide public amenities in the form of enhanced trails and open space.

Promote revitalization of the Downtown core (5.6a)?

Not applicable.

Incorporate additional housing in and around the Downtown, including lofts, condominiums, duplexes, live-work units (5.6c)?

Not applicable.

CHAPTER 6: LIVABLE NEIGHBORHOODS AND ACTIVITY CENTERS

The Carson City Master Plan seeks to promote safe, attractive and diverse neighborhoods, compact mixed-use activity centers, and a vibrant, pedestrian-friendly Downtown.
Is or does the proposed amendment:

✔ Provide variety and visual interest through the incorporation of varied lot sizes, building styles and colors, garage orientation and other features (6.1b)?

As required per the Specific Plan, new homes will be required to provide a mix of building materials in order to provide for more diverse architecture. This, coupled with staggered setbacks will ensure a visually appealing streetscape. Also, all floor plans will be required to have a minimum of 3 distinct elevations. This ensures that the neighborhood has visual interest and that all of the homes will not look alike.

✔ Provide variety and visual interest through the incorporation of well-articulated building facades, clearly identified entrances and pedestrian connections, landscaping and other features consistent with the Development Standards (6.1c)?

The Blackstone Ranch Specific Plan standards far exceed the requirements of the Carson City Municipal Code. This ensures that there will be enhanced landscaping, distinctive entry monuments, upscale architecture, etc.

✔ Provide appropriate height, density and setback transitions and connectivity to surrounding development to ensure compatibility with surrounding development for infill projects or adjacent to existing rural neighborhoods (6.2a, 9.3b 9.4a)?

The project will be complementary to surrounding development in terms of height, setbacks, and use and will therefore be directly compatible.

If located in an identified Mixed-Use Activity Center area, contain the appropriate mix, size and density of land uses consistent with the Mixed-Use district policies (7.1a, b)?

The project is not in a mixed-use activity center.

If located Downtown:

o Integrate an appropriate mix and density of uses (8.1a, e)?

Not applicable.

o Include buildings at the appropriate scale for the applicable Downtown Character Area (8.1b)?

The project is not located downtown.

o Incorporate appropriate public spaces, plazas and other amenities (8.1d)?

The project is not located downtown however it does include public spaces.

CHAPTER 7: A CONNECTED CITY

The Carson City Master Plan seeks promote a sense of community by linking its many neighborhoods, employment areas, activity centers, parks, recreational amenities and schools with an extensive system of interconnected roadways, multi-use pathways, bicycle facilities, and sidewalks.

Is or does the proposed amendment:

✔ Promote transit-supportive development patterns (e.g. mixed-use, pedestrian-oriented, higher density) along major travel corridors to facilitate future transit (11.2b)?

The project is located along existing streets and is within walking distance of schools and commercial uses. Also, the site is within walking distance of existing transit stops.

✔ Maintain and enhance roadway connections and networks consistent with the Transportation Master Plan (11.2c)?

The project is accessed by the existing roadway network. It will also fill some existing gaps in the roadway network by providing additional improvements as depicted on the attached plans.

✔ Provide appropriate pathways through the development and to surrounding lands, including parks and public lands, consistent with the Unified Pathways Master Plan and the proposed use and density (12.1a, c)?

The project will provide for a pedestrian path as called out in the Specific Plan, consistent with the Unified Pathways Master Plan.

TENTATIVE MAP

FOR

BLACKSTONE RANCH SOUTH

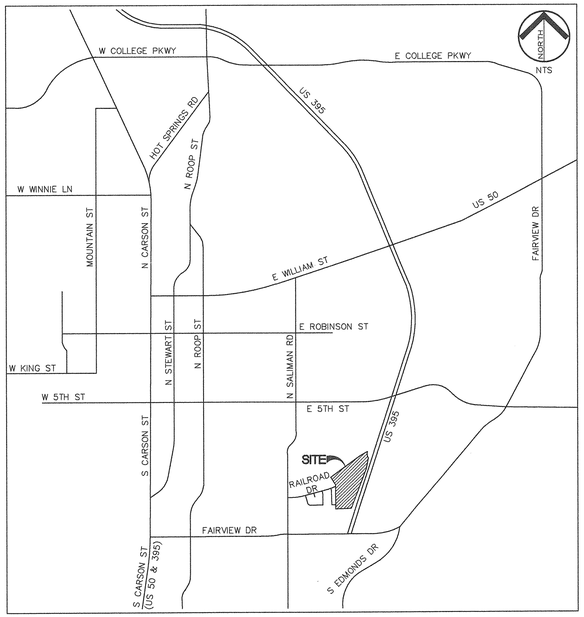
CARSON CITY, NEVADA

ABBREVIATIONS

AC	ASPHALTIC CONCRETE
BC	BACK OF CURB
BCR	BEGIN CURB RETURN
BM	BENCHMARK
BSW	BACK OF SIDEWALK
BVC	BEGIN VERTICAL CURVE
CL OR ℄	CENTERLINE
CMP	CORRUGATED METAL PIPE
CO	SANITARY SEWER CLEANOUT
CONC	CONCRETE
CY	CUBIC YARD
DCDA	DOUBLE CHECK DETECTOR ASSEMBLY
EC	EDGE OF CONCRETE
EOP	EDGE OF PAVEMENT
EVC	END VERTICAL CURVE
EX	EXISTING
FC	FACE OF CURB
FDC	FIRE DEPARTMENT CONNECTION
FF	FINISHED FLOOR
FG	FINISH GRADE
FH	FIRE HYDRANT
FL	FLOWLINE
GB	GRADE BREAK
HGL	HYDRAULIC GRADE LINE
HP/LP	HIGH POINT /LOW POINT
INV	INVERT ELEVATION
LS	LANDSCAPE
MH	MANHOLE
PUE	PUBLIC UTILITY EASEMENT
NTS	NOT TO SCALE
OHP	OVERHEAD POWER
PC	POINT OF CURVATURE
PIV	POST INDICATOR VALVE
PL	PROPERTY LINE
PP	POWER POLE
PRC	POINT OF REVERSE CURVE
PRV	PRESSURE REDUCING VALVE
PT	POINT OF TANGENCY
PVC	POLY VINYL CHLORIDE
PVI	POINT OF VERTICAL INTERSECTION
RCB	REINFORCED CONCRETE BOX
RCP	REINFORCED CONCRETE PIPE
RPPA	REDUCED PRESSURE PRINCIPLE ASSEMBLY
S	SLOPE
SD	STORM DRAIN LINE
SF	SQUARE FEET
SL	STREET LIGHT
SS	SANITARY SEWERLINE
SSMH	SANITARY SEWER MANHOLE
STA	STATION
SVRZ	SIGHT VISIBILITY RESTRICTION ZONE
SW	SIDEWALK
SY	SQUARE YARD
TC	TOP OF CURB
TOE	TOE OF SLOPE
TRW	TOP RETAINING WALL
TYP	TYPICAL
VG	VALLEY GUTTER
WM	WATER MAIN OR WATER METER

SHEET INDEX

VICINITY MAP NTS



MAPPING REFERENCE

THE PROJECT SITE BOUNDARY SHOWN ON THIS TENTATIVE MAP IS BASED ON A LEGAL DESCRIPTION PROVIDED BY THAT CERTAIN, PRELIMINARY TITLE REPORT PREPARED BY CAPITAL TITLE COMPANY OF NEVADA, NO. 10017417-006-KB, DATED MAY 5TH, 2017. ALL OFFSITE BOUNDARIES AND EASEMENTS ARE TO BE CONSIDERED APPROXIMATE AS THEY HAVE NOT BEEN VERIFIED BY RECORD OR BOUNDARY SURVEY. THE RED LTD. ASSUMES NO RESPONSIBILITY OR LIABILITY FOR THE COMPLETENESS OR ACCURACY OF SAID REPORT, BOUNDARIES, OR EASEMENTS.

BASIS OF BEARINGS

NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, NORTH AMERICAN DATUM OF 1983/1994 (NAD 83/94). BEARINGS AND DISTANCES HEREON REFLECT GRID COORDINATES MULTIPLIED BY A COMBINED GRID TO GROUND FACTOR OF 1.0002 (ALSO KNOWN AS CARSON CITY MODIFIED).

BASIS OF ELEVATION

DATUM: NAVD 88
PROJECT BENCHMARK = CARSON CITY CONTROL MONUMENT NO. CC017 HAVING AN ELEVATION OF 4654.59'

PROJECT LOCATION

A PORTION OF THE NORTHWEST QUARTER (NW 1/4) OF SECTION 21, TOWNSHIP 15 NORTH, RANGE 20 EAST, M.D.M.

OWNER

D & SL V, LLC
1840 E FIFTH ST
CARSON CITY, NV 89701

DEVELOPER

BLACKSTONE DEVELOPMENT GROUP
439 PLUMB LANE
RENO, NV 89509
CONTACT: JOSHUA MYERS
PHONE: (775) 352-4200
FAX: N/A

LANDSCAPE ARCHITECT

JOHN JONES LANDSCAPE ARCHITECT
8275 SOUTH EASTERN AVENUE, SUITE 200
LAS VEGAS, NEVADA 89123
CONTACT: JOHN JONES
JOHN@JOHNJONESLANDSCAPE.COM
PHONE: (702) 403-4320
FAX: N/A

CIVIL ENGINEER

THE RED LTD
8894 SPANISH RIDGE AVENUE
LAS VEGAS, NEVADA 89148
CONTACT: MARK A STEFL
MSTEFL@THEREDLTD.COM
PHONE: (702) 728-7804
FAX: (702) 946-0865

ENGINEER'S STATEMENT

I, MARK A. STEFL, DO HEREBY CERTIFY THAT THIS MAP HAS BEEN COMPLETED BY ME, OR UNDER MY SUPERVISION AND WAS COMPLETED ON THIS 16th DAY OF APRIL, 2019.

PROFESSIONAL ENGINEER-STATE OF NEVADA
MARK A STEFL
EXP.: 6/30/2020
CIVIL
No. 21261

MARK A STEFL, PE, PLS — PE/PLS #21261

PROJECT DATA

ASSESSOR PARCEL NUMBER(S)	: 010-051-44
LAND USE CODE	: 600
CURRENT ZONING CODE	: A (AGRICULTURAL)
PROPOSED/APPROVED ZONING	: SF6 (SINGLE-FAMILY 6,000 SF)
LOT DATA	
TOTAL LOTS AND SIZE	: 103 TOTAL LOTS (6,000 SF MIN.)
ALLOWABLE DENSITY	: 3-8 DU/ACRE
PROPOSED DENSITY	: 3.83 DU/ACRE
SUMMATION OF GROSS AND NET LAND AREA	
"PROPOSED SITE" GROSS AREA	: 26.89 ACRES
TOTAL LOT AREA	: 18.28 ACRES
PROPOSED RIGHT-OF-WAY	: 5.62 ACRES
OPEN SPACE REQUIRED	: 0.35 ACRES | 15,450 SF (150 SF OPEN SPACE/DU)
OPEN SPACE PROPOSED	: 2.99 ACRES | 126,656 SF (1,265 SF OPEN SPACE/DU)
FLOOD ZONE DESIGNATION	
FEMA FLOOD HAZARD ZONE	: REFERENCE SHEET CF0 "FLOODZONE DESIGNATION"

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E | ENGINEERING
D | DEVELOPMENT

PROFESSIONAL ENGINEER-STATE OF NEVADA
MARK A STEFL
EXP.: 6/30/2020
CIVIL
No. 21261
4/16/19

CLIENT:
BLACKSTONE DEVELOPMENT GROUP
439 PLUMB LANE
RENO, NV 89509
CONTACT: JOSHUA MYERS
PHONE: (775) 352-4200

DATE	NO.	REVISIONS	APPROVED

TITLE SHEET

BLACKSTONE RANCH SOUTH — CARSON CITY NEVADA

PCI JOB NO.	PE3088
DESIGNED BY	EL/MS
DRAWN BY	AC/EL/MS
CHECKED BY	MS
DATE	2019 04 16

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GENERAL NOTES

1. CONSISTENT WITH THE SPECIFIC PLAN, GARAGES SHOULD NOT BE THE DOMINANT FEATURE OF THE BUILDING, AND SHOULD BE OFF-SET.

2. PROJECT TO COMPLY WITH THE 2018 INTERNATIONAL FIRE CODE AND NORTHERN NEVADA FIRE CODE AMENDMENTS AS ADOPTED BY CARSON CITY.

3. NO SITE GRADING, SOIL STORAGE/STOCK PILE AREAS, CONSTRUCTION PARKING, OR ANY CONSTRUCTION ACTIVITIES, SHALL OCCUR ON CITY PROPERTY EXCEPT IN THE EASEMENT CONSISTENT WITH THE TERMS OF THE EASEMENT.

4. COMMON OPEN SPACE, LANDSCAPE, THE DRAINAGE CHANNEL BUFFER, AND IRRIGATION SYSTEM MAINTENANCE MUST BE PROVIDED BY AN HOA OR A LMD.

5. FOUNDATION STYLE OF THE HOUSES SHALL BE SLAB-ON-GRADE.

6. MAINTENANCE OF PRIVATE STORM DRAINAGE MUST BE DONE BY AN LMD OR SIMILAR.

7. ALL CONSTRUCTION WORK MUST BE TO CARSON CITY DEVELOPMENT STANDARDS (CCDS) AND MEET THE REQUIREMENTS OF THE CARSON CITY STANDARD DETAILS.

8. FRESH WATER MUST BE USED FOR DUST CONTROL. CONTACT RIT PALMER AT PUBLIC WORKS AT 283-7382 FOR MORE INFORMATION.

9. A PRIVATE TESTING AGREEMENT WILL BE NECESSARY FOR THE COMPACTION AND MATERIAL TESTING IN THE STREET RIGHT OF WAY. THE FORM CAN BE OBTAINED THROUGH CARSON CITY PERMIT ENGINEERING.

10. ANY IRRIGATION SERVICE WILL NEED A REDUCED PRESSURE BACKFLOW PREVENTER IF A VACUUM BREAKER SYSTEM CANNOT BE DESIGNED TO OPERATE PROPERLY.

11. NEW ELECTRICAL SERVICE MUST BE UNDERGROUND.

12. ANY WORK PERFORMED IN THE STREET RIGHT OF WAY WILL REQUIRE A TRAFFIC CONTROL PLAN AND A TIME LINE TYPE SCHEDULE TO BE SUBMITTED BEFORE THE WORK CAN BEGIN. A MINIMUM OF ONE WEEK NOTICE MUST BE GIVEN BEFORE ANY WORK CAN BEGIN IN THE STREET RIGHT OF WAY.

13. A STORMWATER POLLUTION PREVENTION PERMIT (SWPPP) FROM THE NEVADA DIVISION OF ENVIRONMENTAL PROTECTION (NDEP) WILL BE REQUIRED FOR THE CONSTRUCTION OF THIS PROJECT.

14. A DUST CONTROL PERMIT FROM NDEP WILL BE REQUIRED FOR ANY PROJECT 5 ACRES OR GREATER.

15. A SEWER AND WATER CONNECTION FEE FORM MUST BE INCLUDED IN THE FIRST SUBMITTAL CONSTRUCTION PERMIT SUBMITTAL.

16. NV ENERGY TO PROVIDE/DESIGN SERVICE TO ALL ELECTRICAL NEEDS ASSOCIATED WITH THIS PROJECT. THE NEW SERVICE AND THE RESOLUTION OF ANY CONFLICTS WILL BE ACCOMPLISHED PURSUANT TO THE NEVADA PUBLIC UTILITY COMMISSION'S RULES AND REGULATIONS.

17. ALL FENCING ABUTTING OPEN SPACE SHALL BE OPEN.

18. FRONT YARD SETBACKS VARY FROM 15' TO 20'.

19. THESE PARCELS ARE SUBJECT TO CARSON CITY'S GROWTH MANAGEMENT ORDINANCE AND ALL PROPERTY OWNERS SHALL COMPLY WITH PROVISIONS OF SAID ORDINANCE.

20. ALL DECIDUOUS AND EVERGREEN TREE SIZES WILL CONFORM TO CCMC DEVELOPMENT STANDARDS IN TITLE 18.3.5 LANDSCAPE DESIGN STANDARDS. THESE STANDARDS REQUIRE ALL DECIDUOUS TREES TO BE A 2" CALIPER (MINIMUM) AND ALL EVERGREEN TREES TO BE 6' TALL (MINIMUM).

21. A KUPFERLE ECLIPSE #88 OR APPROVED EQUAL SAMPLING TAP SHALL BE INCLUDED IN A COMMON AREA OF THE PROJECT NEAR ONE OF THE ENTRANCES.

22. NOT USED

23. TREES MUST BE AT LEAST 10 FEET FROM WATER AND SEWER MAINS AND MUST NOT OBSTRUCT TURNING SIGHT DISTANCE.

24. LOCAL ROADS SHALL HAVE A MINIMUM ACC PAVEMENT THICKNESS OF 4".

25. EXTRA CARE WILL BE TAKEN WITH RESPECT TO LIQUEFACTION DUE TO HIGH GROUNDWATER IN THE AREA.

26. ALL ENGINEERING WORK DONE ON THIS PROJECT MUST BE WET STAMPED AND SIGNED BY AN ENGINEER LICENSED IN NEVADA. THIS WILL INCLUDE SITE, GRADING, UTILITY, AND EROSION CONTROL PLANS AS WELL AS STANDARD DETAILS.

27. LOT ACCESS IS NOT PERMITTED FROM THE SIDE(S) OR REAR OF LOTS.

28. ADDITIONAL ACCESS TO THE PROJECT THAT DOES NOT RELY ON THE PORTION OF RAILROAD STREET FROM SALIMAN ROAD TO THE WESTERN BOUNDARY OF THE BLACKSTONE SPECIFIC PLAN AREA MUST BE IMPROVED IN ADVANCE OF ANY FINAL SUBDIVISION MAP APPROVAL. THE ADDITIONAL ACCESS CAN BE INITIALLY CONSTRUCTED TO CARSON CITY'S ROADWAY SECTION FOR RURAL ROADS, PROVIDED CONSTRUCTION INCLUDES A MINIMUM FOUR INCH ASPHALT SECTION ON SIX INCH BASE (LOCAL ROADWAY) OR MINIMUM FOUR INCH ASPHALT SECTION ON EIGHT INCH BASE (COLLECTOR ROADWAY). THE ADDITIONAL ACCESS MUST BE IMPROVED TO CARSON CITY'S ROADWAY STANDARD FOR URBAN ROADS, PROVIDED CONSTRUCTION INCLUDES A MINIMUM FOUR INCH ASPHALT SECTION ON SIX INCH BASE (LOCAL ROADWAY) OR MINIMUM FOUR INCH ASPHALT SECTION ON EIGHT INCH BASE (COLLECTOR ROADWAY). AT SEVENTY-FIVE PERCENT BUILDOUT. BONDING IN LIEU OF IMPROVEMENT IS PERMISSIBLE PROVIDED THAT IMPROVEMENTS ARE COMPLETED PRIOR TO FULL BUILDOUT.

29. THE DEVELOPMENT IS SUBJECT TO THE COLLECTION OF RESIDENTIAL CONSTRUCTION TAX (RCT), COMPLIANT WITH NEVADA REVISED STATUTES AND CARSON CITY MUNICIPAL CODE.

31. BEST MANAGEMENT PRACTICES MUST BE INCORPORATED INTO THE CONSTRUCTION DOCUMENTS AND SPECIFICATIONS TO REDUCE THE SPREAD OF NOXIOUS WEEDS ONTO THE ADJACENT CITY PROPERTY.

32. THE FOLLOWING NEVADA STATE LISTED, NOXIOUS WEEDS ON THIS SITE INCLUDE, BUT ARE NOT LIMITED TO, MUSK THISTLE (CARDUUS NUTANS), PERENNIAL PEPPERWEED (LEPIDIUM LATIFOLIUM), AND HOARY CRESS (CARDARIA DRABA). AS A RESULT THE APPLICANT WILL BE REQUIRED TO DO THE FOLLOWING:

A. PER CARSON CITY MUNICIPAL CODE 8.08.060, 8.08.070, AND NEVADA REVISED STATUTE 555.150, LAND OWNERS MUST TREAT NOXIOUS WEEDS ON THEIR PROPERTY. WITHOUT TREATMENT, DEVELOPMENT ACTIVITIES DURING CONSTRUCTION MAY CONTRIBUTE TO THE SPREAD OF NOXIOUS WEEDS ONTO CITY PROPERTY.

B. A NOXIOUS WEED MANAGEMENT PLAN MUST BE DEVELOPED ADDRESSING THE EXTENT OF THE NOXIOUS WEEDS INFESTATIONS AND PROPOSED TREATMENT METHODS. THIS PLAN MUST BE APPROVED BY THE PARKS, RECREATION, AND OPEN SPACE DEPARTMENT PRIOR TO THE BEGINNING OF CONSTRUCTION ACTIVITIES.

C. A REVEGETATION SEED MIX (DRYLAND & AQUATIC) MUST BE DEVELOPED FOR THE DISTURBED AREAS WITHIN THE ROAD EASEMENT THAT PASSES THROUGH CITY PROPERTY AND FOR THE DRAINAGE CHANNEL BUFFER ON THE PROJECT SITE. THE APPLICANT SHALL WORK WITH CARSON CITY PARKS, RECREATION, AND OPEN SPACE DEPARTMENT'S SENIOR NATURAL RESOURCE SPECIALIST TO DEVELOP AN APPROVED SEED MIX FOR THESE AREAS.

33. APPROXIMATELY 50% POLLINATOR FRIENDLY PLANT MATERIAL MUST BE USED FOR ANY REQUIRED LANDSCAPE OR OPEN SPACE AREAS ON THIS SITE. THE PROJECT'S REMAINING LANDSCAPE PLANT SELECTION MUST BE CONSISTENT WITH THE CITY'S APPROVED TREE SPECIES LIST OR OTHER TREE SPECIES, AS APPROVED BY THE CITY.

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D | DEVELOPMENT

PROFESSIONAL ENGINEER STATE OF NEVADA
MARK A STEFL
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439 PLUMB LANE
RENO, NV 89509
CONTACT: JOSHUA MYERS
PHONE: (775) 352-4200

DATE	NO.	REVISIONS	APPROVED

GENERAL NOTES

BLACKSTONE RANCH SOUTH
CARSON CITY NEVADA

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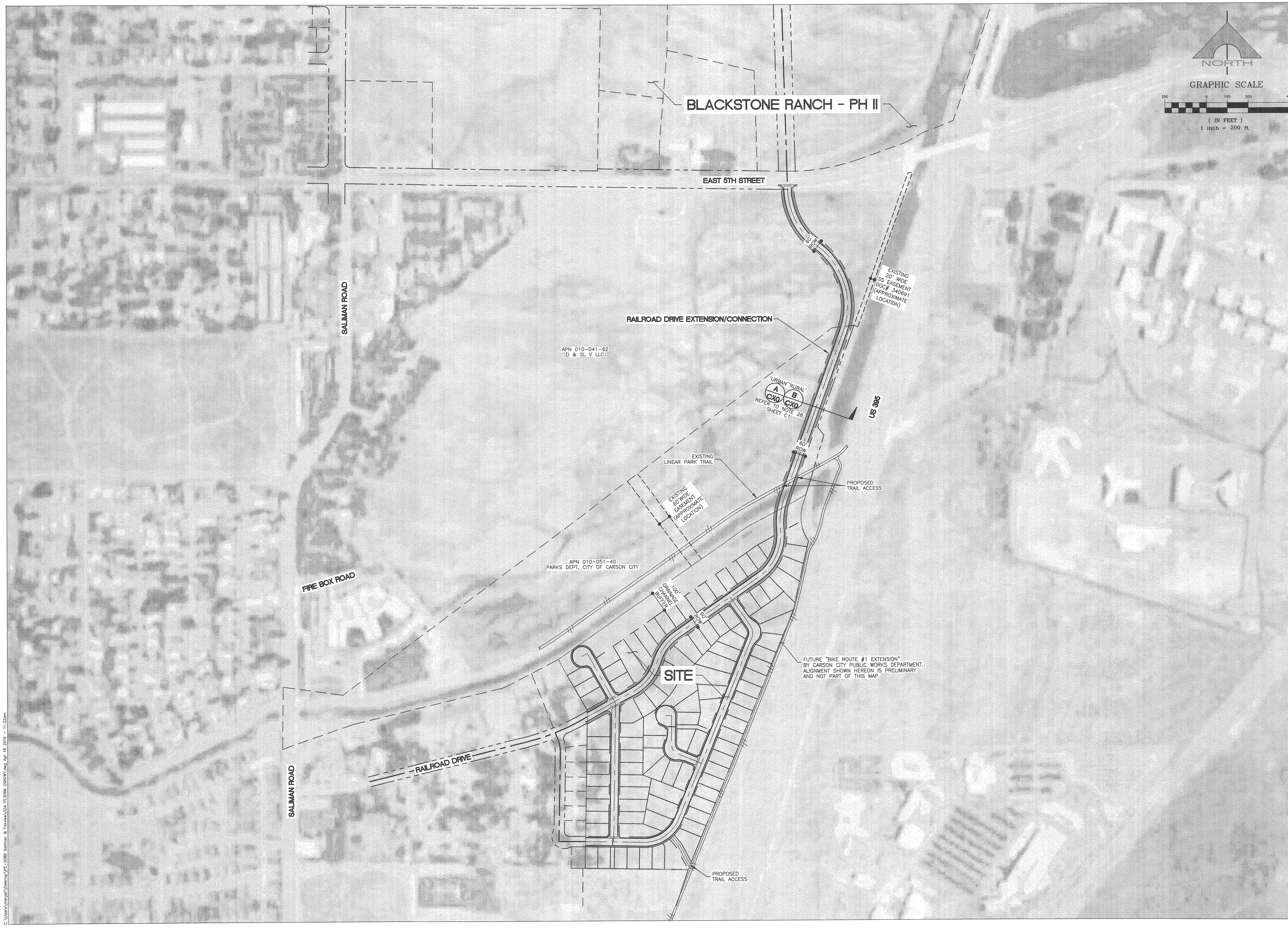

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RAILROAD DRIVE ALIGNMENT

BLACKSTONE RANCH SOUTH

CARSON CITY NEVADA

PCI JOB NO.	PE3088
DESIGNED BY	EL/MS
DRAWN BY	AC/EL/MS
CHECKED BY	MS
DATE	2019 04 16

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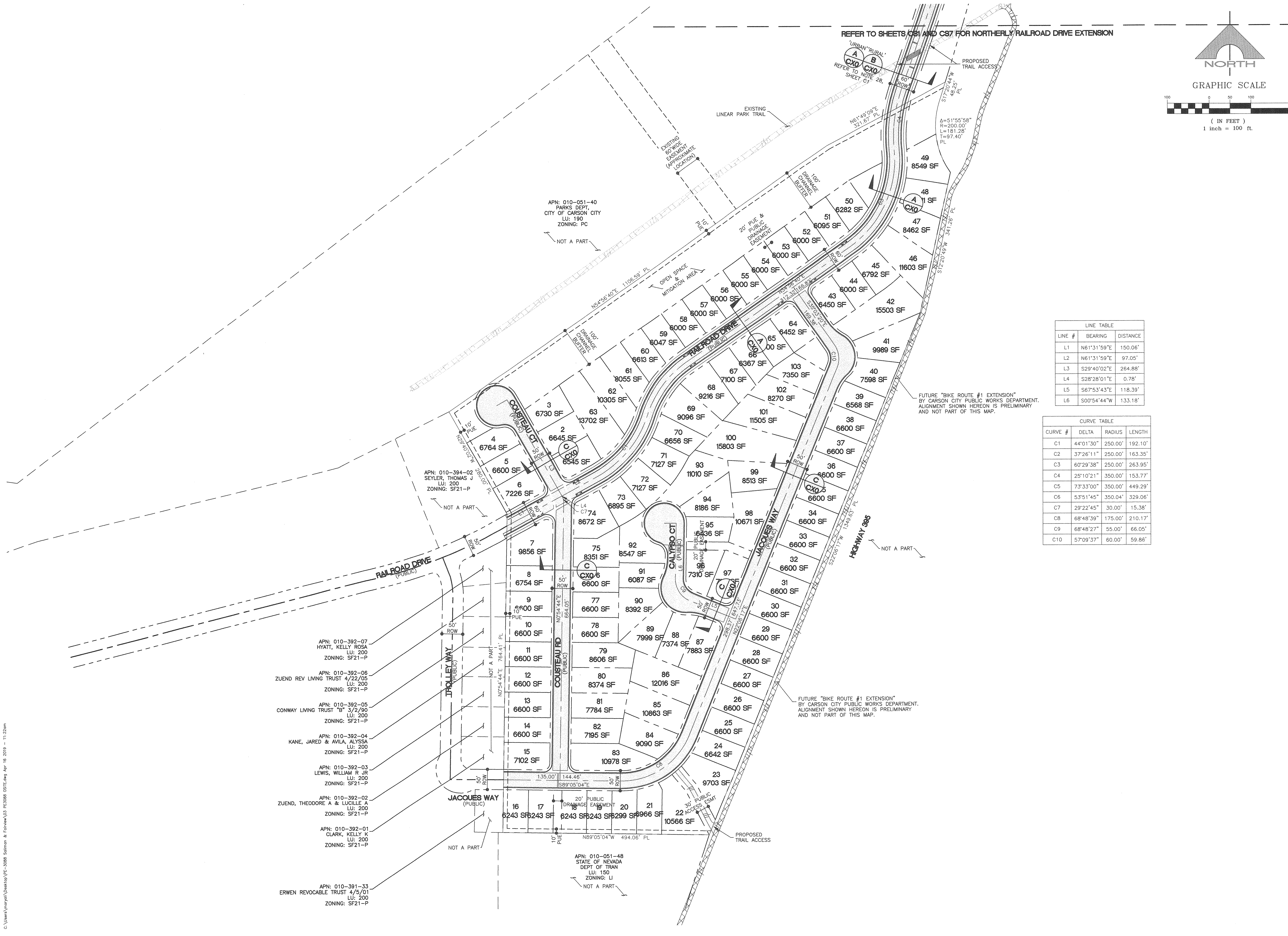

LINE TABLE		
LINE #	BEARING	DISTANCE
L1	N61°31'59"E	150.06'
L2	N61°31'59"E	97.05'
L3	S29°40'02"E	264.88'
L4	S28°28'01"E	0.78'
L5	S67°53'43"E	118.39'
L6	S00°54'44"W	133.18'

CURVE TABLE			
CURVE #	DELTA	RADIUS	LENGTH
C1	44°01'30"	250.00'	192.10'
C2	37°26'11"	250.00'	163.35'
C3	60°29'38"	250.00'	263.95'
C4	25°10'21"	350.00'	153.77'
C5	73°33'00"	350.00'	449.29'
C6	53°51'45"	350.04'	329.06'
C7	29°22'45"	30.00'	15.38'
C8	68°48'39"	175.00'	210.17'
C9	68°48'27"	55.00'	66.05'
C10	57°09'37"	60.00'	59.86'

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OVERALL SITE PLAN

BLACKSTONE RANCH SOUTH
CARSON CITY NEVADA

PCI JOB NO. PE3088
DESIGNED BY EL/MS
DRAWN BY AC/EL/MS
CHECKED BY MS
DATE 2019 04 16

SHT 4 of 29
CS0

MATCHLINE SHEET CS7

RAILROAD DRIVE (PUBLIC)

S18°37'24"W 854.25'

'URBAN' 'RURAL'
A CX0 | B CX0
REFER TO NOTE 28, SHEET CT

APN: 010-051-40
PARKS DEPT.
CITY OF CARSON CITY
LU: 190
ZONING: PC

NOT A PART

60' ROW

PROPOSED TRAIL ACCESS W/ FLASHING PEDESTRIAN CROSSING SIGNALIZATION PER DETAIL D, SHEET CX0

'URBAN' 'RURAL'
A CX0 | B CX0
REFER TO NOTE 28, SEE SHEET CT

EXISTING LINEAR PARK TRAIL

N61°49'09"E 321.67' PL

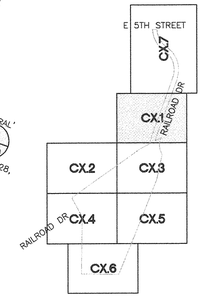
S17°20'44"W 48.25' PL

10' PUE

C4

FUTURE "BIKE ROUTE #1 EXTENSION" BY CARSON CITY PUBLIC WORKS DEPARTMENT. ALIGNMENT SHOWN HEREON IS PRELIMINARY AND NOT PART OF THIS MAP.

MATCHLINE SHEET CS3



KEY MAP
NTS

NORTH

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 inch = 30 ft.

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DATE	NO.	REVISIONS	APPROVED

SITE PLAN (1 OF 7)

BLACKSTONE RANCH SOUTH
CARSON CITY NEVADA

PCJOB NO.	PE3088
DESIGNED BY	EL/MS
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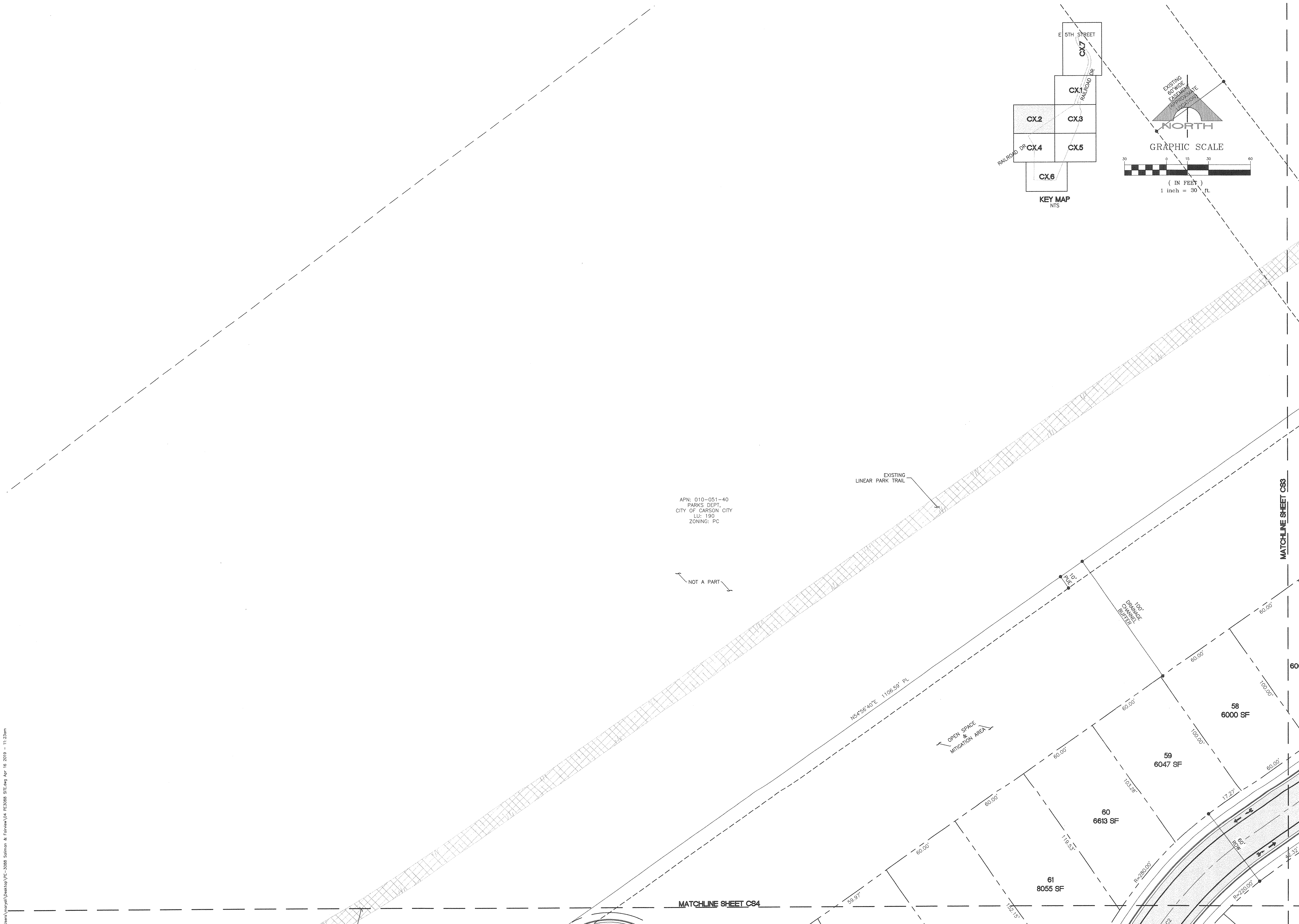
DATE	2019 04 16

SHT 5 of 29
CS1



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SITE PLAN (2 OF 7)

BLACKSTONE RANCH SOUTH
CARSON CITY NEVADA

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DATE	2019 04 16

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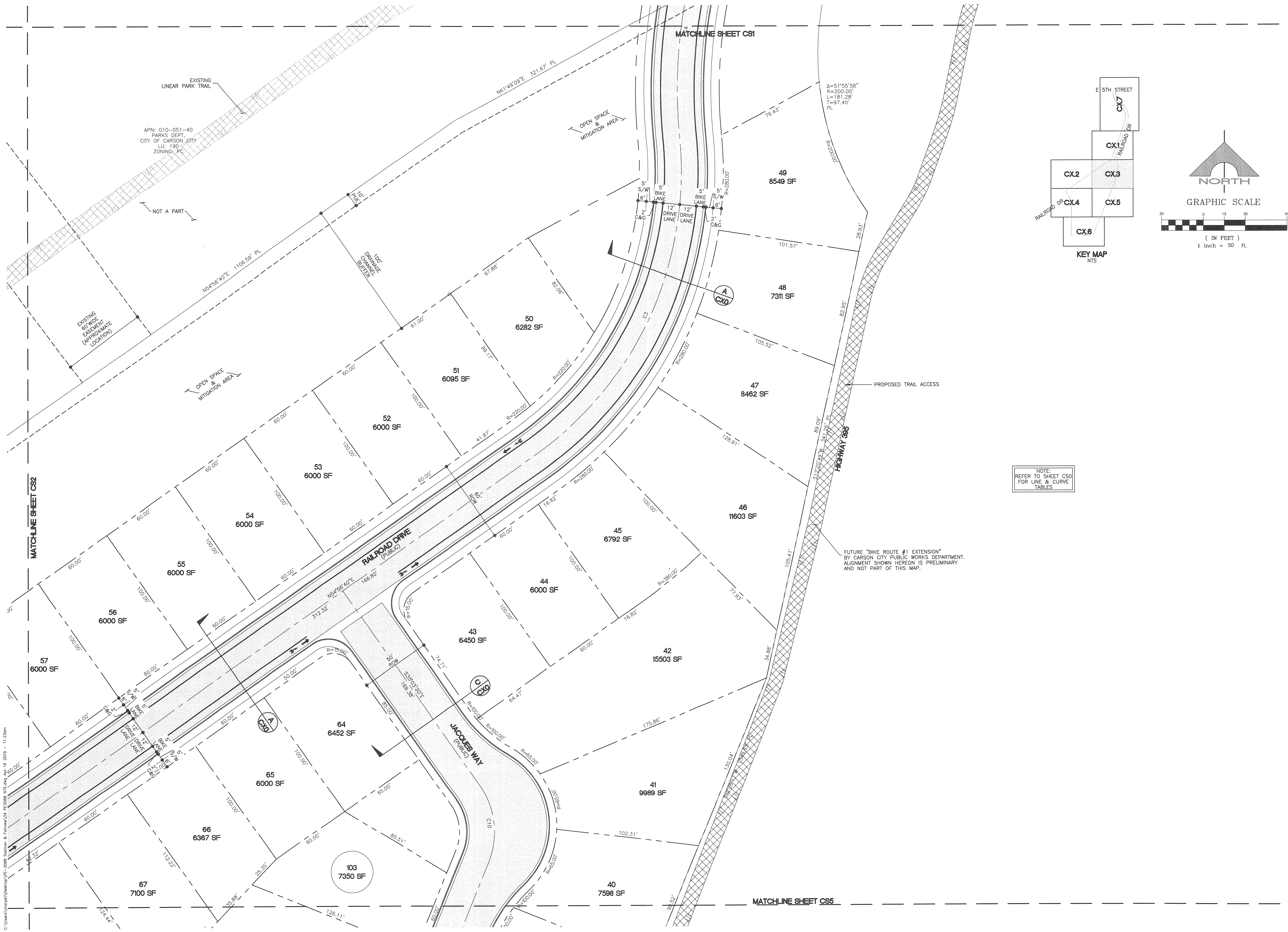
CS2


MATCHLINE SHEET CS1
MATCHLINE SHEET CS2
MATCHLINE SHEET CS5
EXISTING LINEAR PARK TRAIL
APN: 010-051-40
PARKS DEPT.
CITY OF CARSON CITY
LU: 190
ZONING: PC
NOT A PART
N61°49'09"E 321.67' PL
N54°56'40"E 1106.59' PL
OPEN SPACE & MITIGATION AREA
EXISTING 60' WIDE EASEMENT (APPROXIMATE LOCATION)
100' DRAINAGE CHANNEL BUFFER
10' PUE
Δ=51°55'58"
R=200.00'
L=181.28'
T=97.40'
PL
5' S/W
5' BIKE LANE
12' DRIVE LANE
2' C&G
6'
RAILROAD DRIVE
(PUBLIC)
JACQUES WAY
(PUBLIC)
60' ROW
50' ROW
N54°56'40"E
S35°03'20"E
49
8549 SF
48
7311 SF
47
8462 SF
46
11603 SF
45
6792 SF
44
6000 SF
43
6450 SF
42
15503 SF
41
9989 SF
40
7598 SF
50
6282 SF
51
6095 SF
52
6000 SF
53
6000 SF
54
6000 SF
55
6000 SF
56
6000 SF
57
6000 SF
64
6452 SF
65
6000 SF
66
6367 SF
67
7100 SF
103
7350 SF
A
CX0
C
CX0
PROPOSED TRAIL ACCESS
HIGHWAY 395
FUTURE "BIKE ROUTE #1 EXTENSION" BY CARSON CITY PUBLIC WORKS DEPARTMENT. ALIGNMENT SHOWN HEREON IS PRELIMINARY AND NOT PART OF THIS MAP.
NOTE:
REFER TO SHEET CS0 FOR LINE & CURVE TABLES
E 5TH STREET
RAILROAD DR
CX.7
CX.1
CX.2
CX.3
CX.4
CX.5
CX.6
KEY MAP
NTS
NORTH
GRAPHIC SCALE
(IN FEET)
1 inch = 30 ft.

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SITE PLAN (3 OF 7)

BLACKSTONE RANCH SOUTH

CARSON CITY NEVADA

PCI JOB NO.	PE3088
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SHT 7 of 29
CS3

MATCHLINE SHEET CS2

EXISTING LINEAR PARK TRAIL

APN: 010-051-40
PARKS DEPT,
CITY OF CARSON CITY
LU: 190
ZONING: PC

NOT A PART

N54°56'40"E 1106.59' PL

10' PUE

APN: 010-394-02
SEYLER, THOMAS J
LU: 200
ZONING: SF21-P

NOT A PART

APN: 010-392-07
HYATT, KELLY ROSA
LU: 200
ZONING: SF21-P

NOT A PART

APN: 010-392-06
ZUEND REV
LIVING TRUST 4/22/05
LU: 200
ZONING: SF21-P

NOT A PART

APN: 010-392-05
CONWAY
LIVING TRUST "B" 3/2/90
LU: 200
ZONING: SF21-P

COUSTEAU CT (PUBLIC)

RAILROAD DRIVE (PUBLIC)

COUSTEAU RD (PUBLIC)

TROLLEY WAY (PUBLIC)

CALYPSO CT (PUBLIC)

50' ROW

20' PUBLIC DRAINAGE EASEMENT

1 6545 SF
2 6645 SF
3 6730 SF
4 6764 SF
5 6600 SF
6 7226 SF
7 9856 SF
8 6754 SF
9 6600 SF
10 6600 SF
62 10305 SF
63 13702 SF
69 9096 SF
70 6656 SF
71 7127 SF
72 7127 SF
73 6895 SF
74 8672 SF
75 8351 SF
76 6600 SF
77 6600 SF
78 6600 SF
8055 SF
93 11010 SF
92 8547 SF
91 6087 SF
90 8392 SF
96 7310 SF
89 7999 SF
88 7374 SF
87 7883 SF

5' S/W
6' BIKE LANE
2' C&G
12' DRIVE LANE

MATCHLINE SHEET CS6

MATCHLINE SHEET CS5

E 5TH STREET
RAILROAD DR
CX.1 CX.2 CX.3 CX.4 CX.5 CX.6 CX.7

KEY MAP
NTS

NORTH

GRAPHIC SCALE
30 0 15 30 60
(IN FEET)
1 inch = 30 ft.

NOTE:
REFER TO SHEET CS0
FOR LINE & CURVE
TABLES

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PE3088 | EL/MS | AC/EL/MS | MS | 2019 04 16
PCI JOB NO. | DESIGNED BY | DRAWN BY | CHECKED BY | DATE

SITE PLAN (4 OF 7)

BLACKSTONE RANCH SOUTH
CARSON CITY NEVADA

SHT 8 of 29
CS4

MATCHLINE SHEET CS3

7100 SF

7598 SF

68
9216 SF

102
8270 SF

39
6568 SF

101
11505 SF

38
6600 SF

100
15803 SF

37
6600 SF

93
11010 SF

99
8513 SF

36
6600 SF

MATCHLINE SHEET CS4

94
8186 SF

35
6600 SF

98
10671 SF

34
6600 SF

95
6436 SF

33
6600 SF

96
7310 SF

97
7114 SF

32
6600 SF

31
6600 SF

30
6600 SF

29
6600 SF

87
7883 SF

MATCHLINE SHEET CS6

JACQUES WAY (PUBLIC)

50' ROW

CALYPSO CT (PUBLIC)

50' ROW

20' PUBLIC DRAINAGE EASEMENT

HIGHWAY 395

FUTURE "BIKE ROUTE #1 EXTENSION" BY CARSON CITY PUBLIC WORKS DEPARTMENT. ALIGNMENT SHOWN HEREON IS PRELIMINARY AND NOT PART OF THIS MAP.

NOTE:
REFER TO SHEET CS0 FOR LINE & CURVE TABLES

E 5TH STREET

RAILROAD DR

CX.1 CX.2 CX.3 CX.4 CX.5 CX.6 CX.7

KEY MAP
NTS

NORTH

GRAPHIC SCALE

30 0 15 30 60

(IN FEET)
1 inch = 30 ft.

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SITE PLAN (5 OF 7)

BLACKSTONE RANCH SOUTH
CARSON CITY NEVADA

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SHT 9 of 29

CS5

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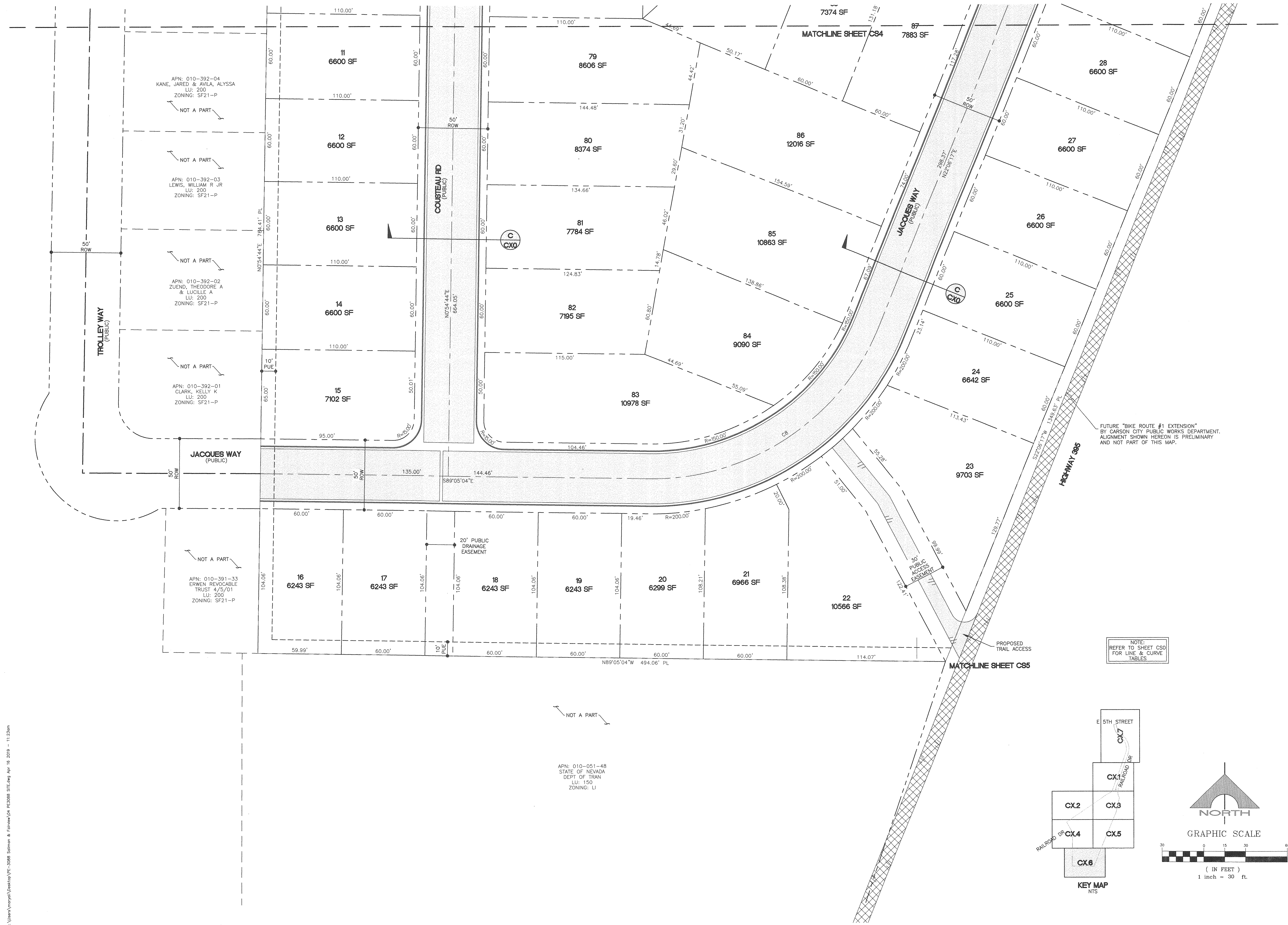

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SITE PLAN (6 OF 7)

BLACKSTONE RANCH SOUTH

CARSON CITY NEVADA

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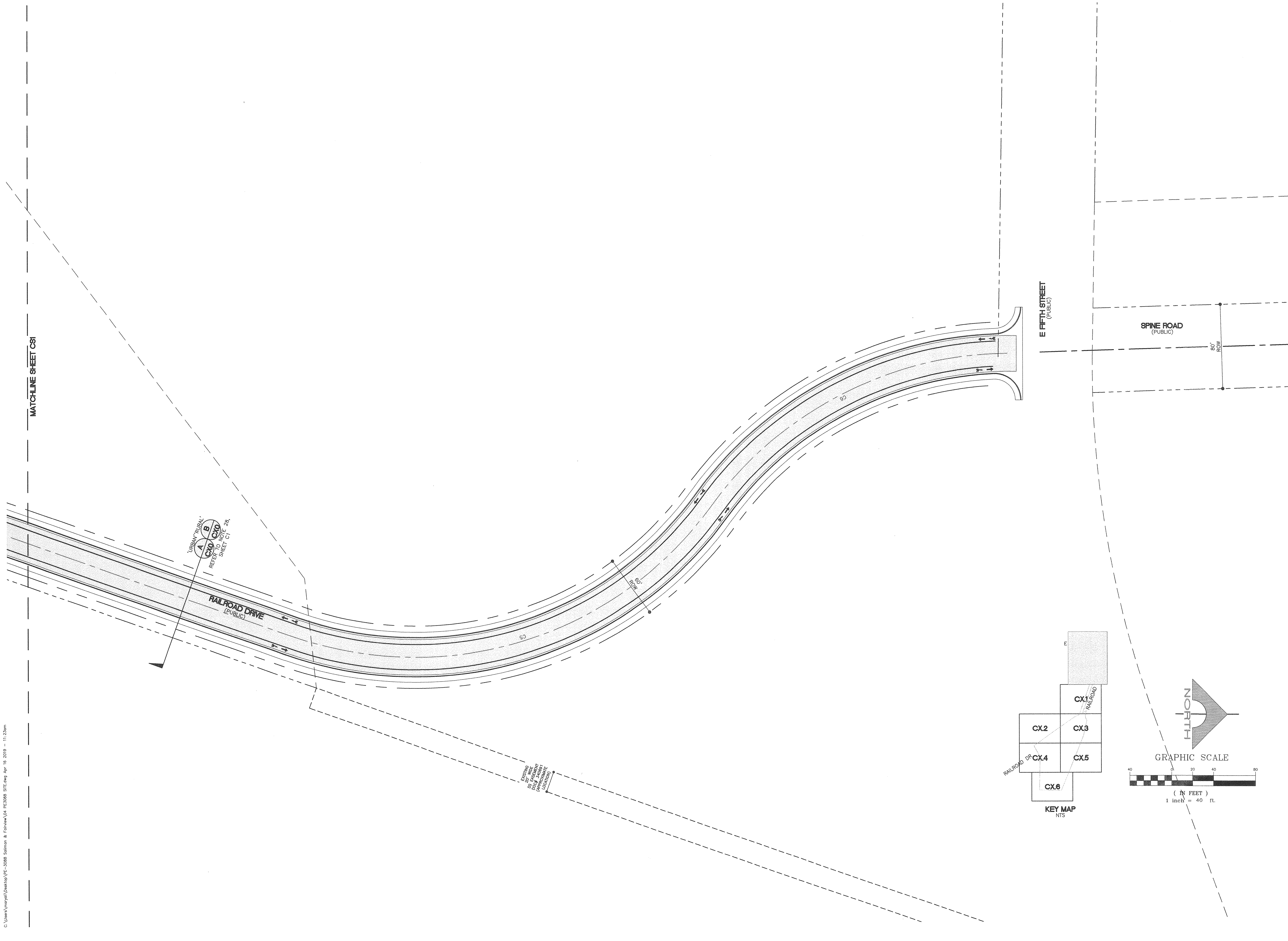
SHT 10 of 29
CS6



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BLACKSTONE RANCH SOUTH

CARSON CITY NEVADA

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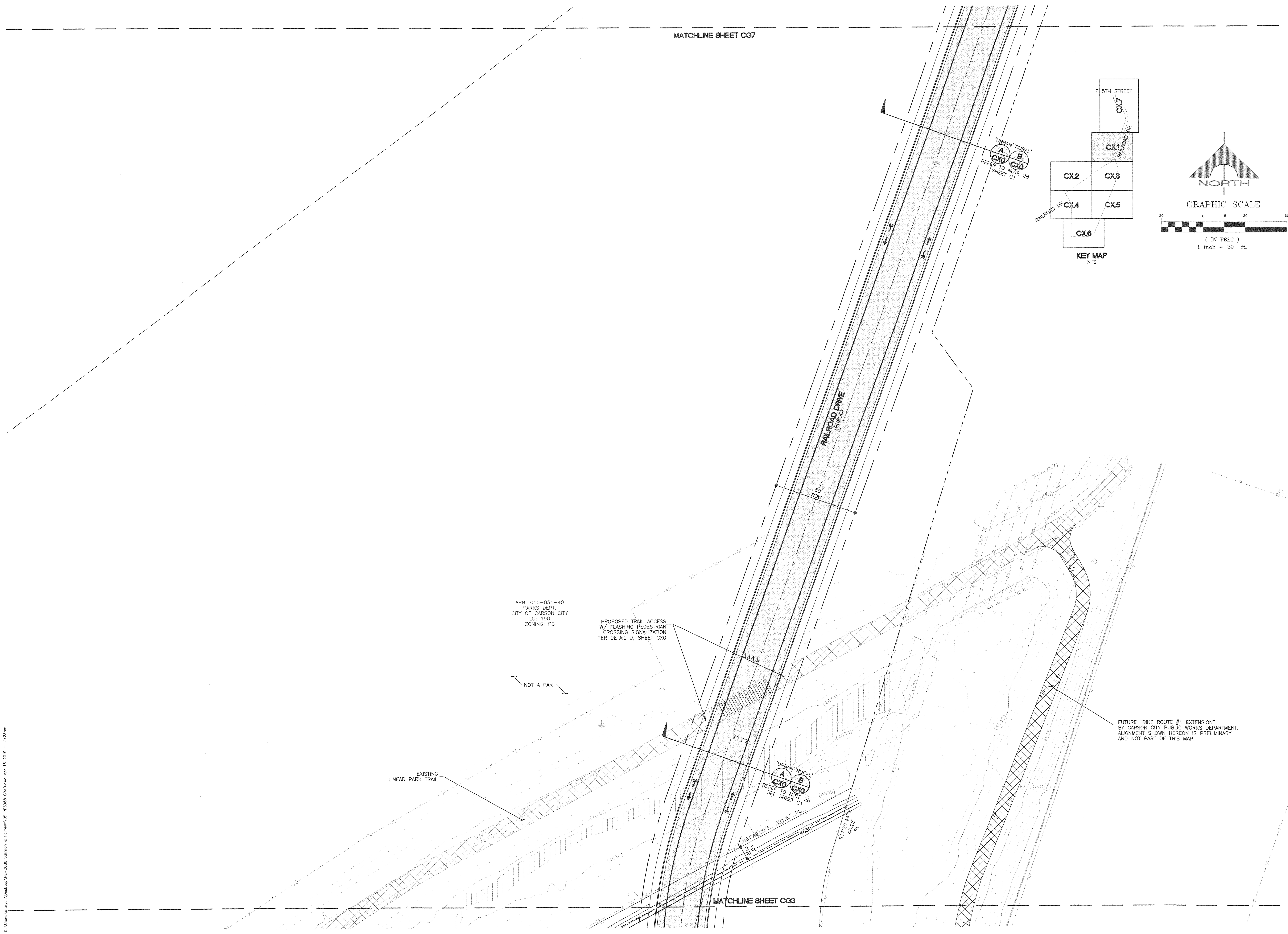
CS7



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BLACKSTONE RANCH SOUTH

CARSON CITY NEVADA

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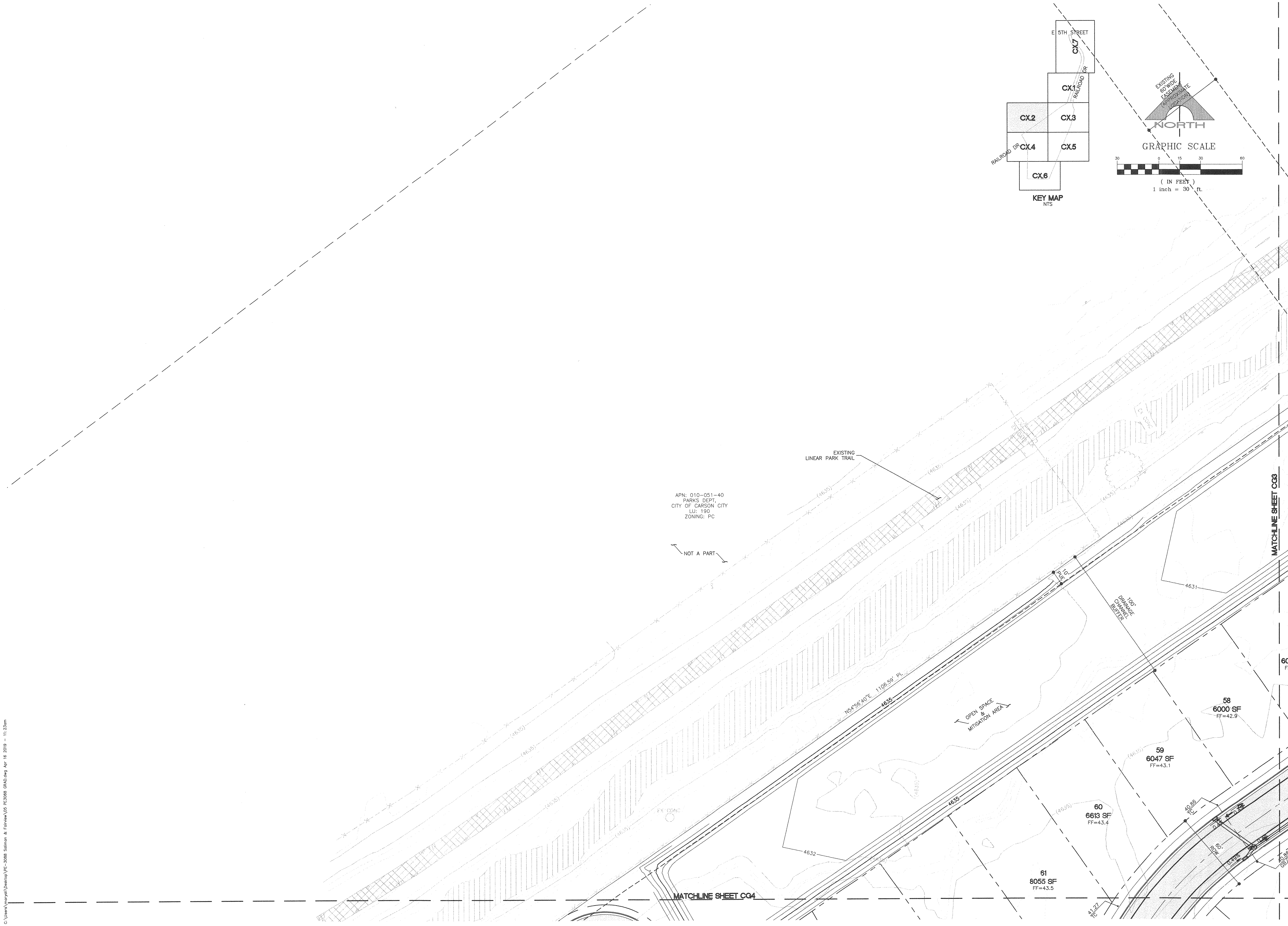
SHT 12 of 29
CG1



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GRADING PLAN (2 OF 7)

BLACKSTONE RANCH SOUTH

CARSON CITY NEVADA

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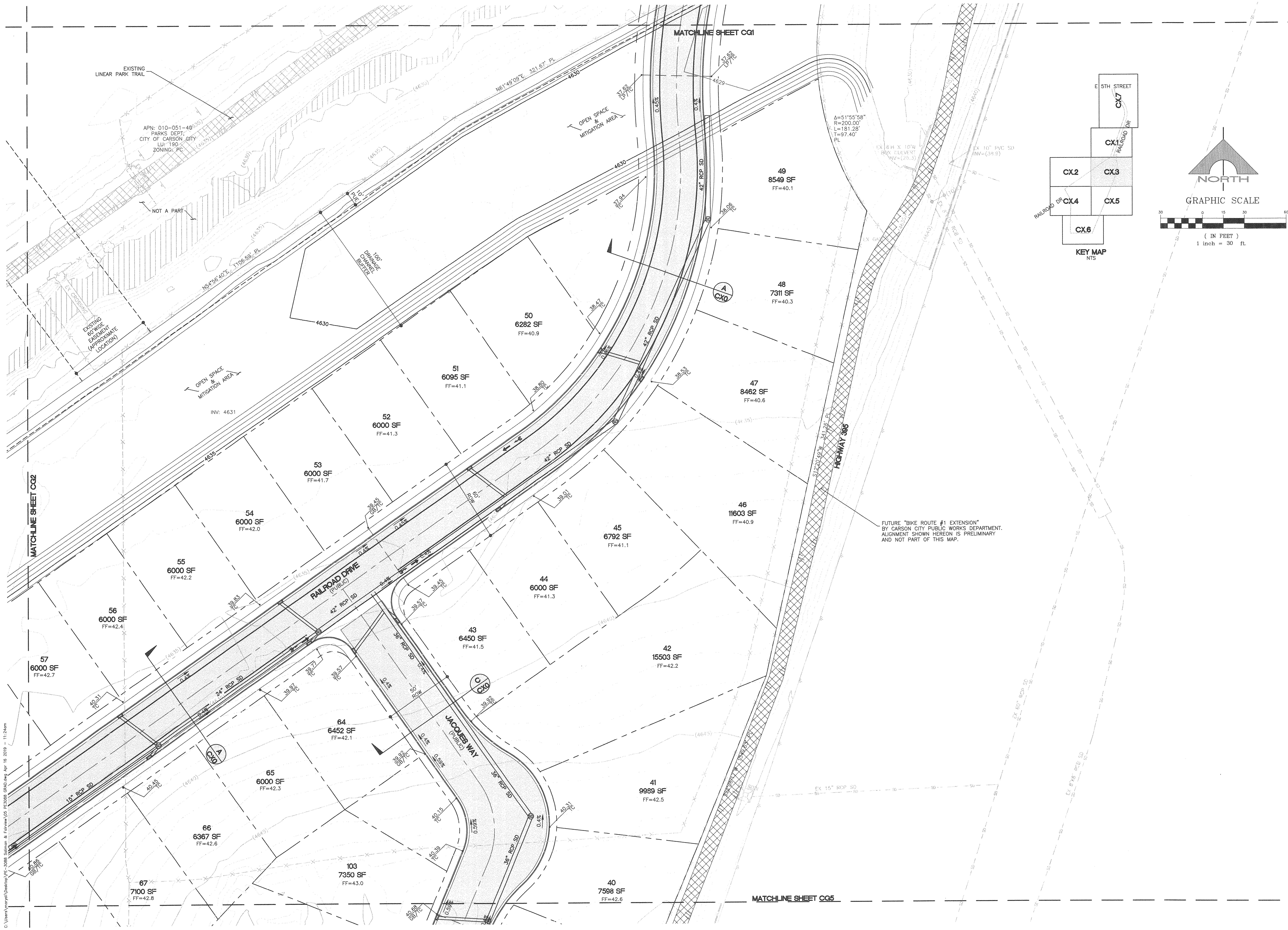
SHT 13 of 29
CG2



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BLACKSTONE RANCH SOUTH

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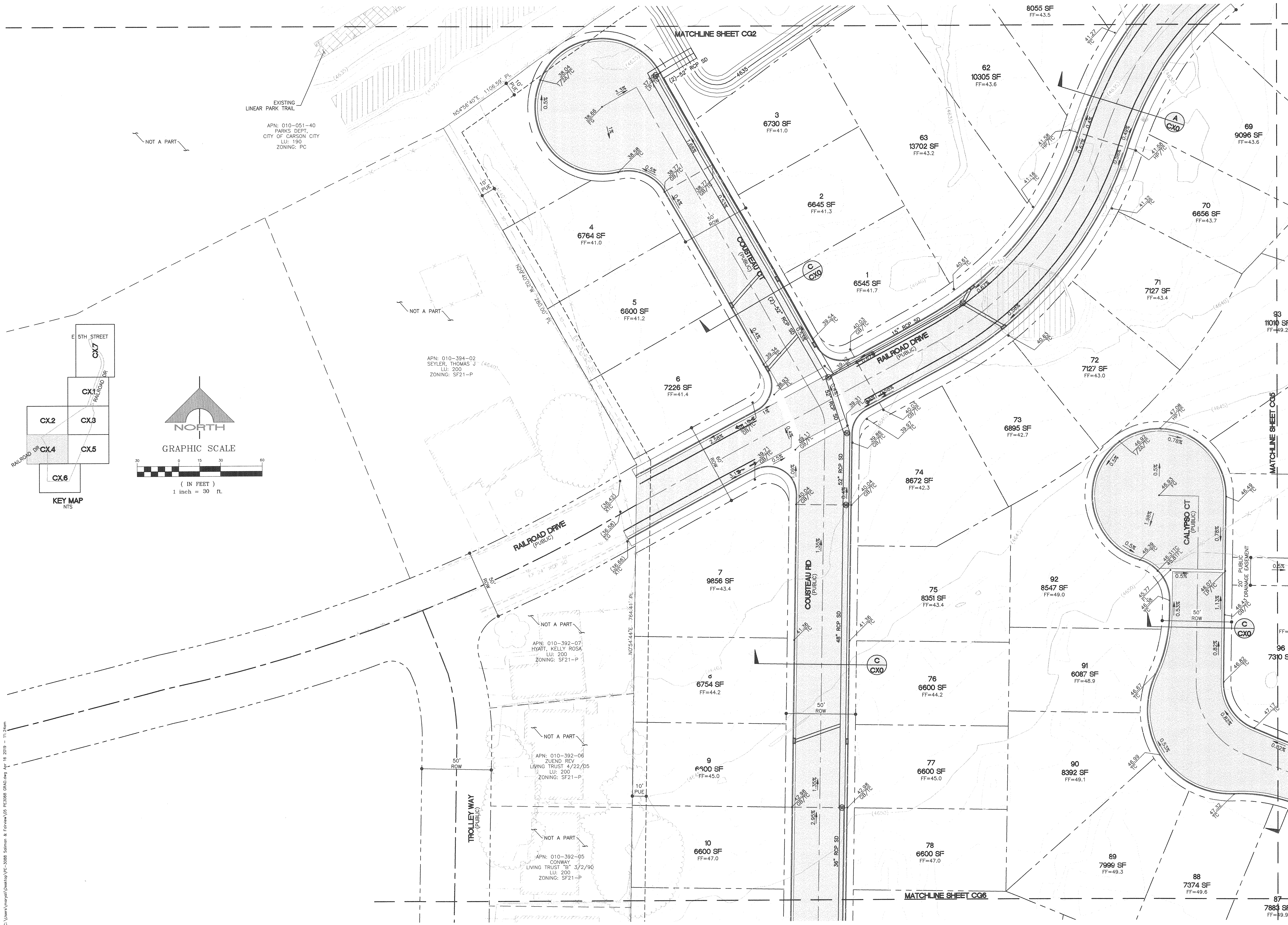

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GRADING PLAN (4 OF 7)

BLACKSTONE RANCH SOUTH

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SHT 15 of 29

CG4

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MATCHLINE SHEET CG3

7100 SF
FF=42.8

7598 SF
FF=42.6

68
9216 SF
FF=43.1

102
8270 SF
FF=43.6

39
6568 SF
FF=43.0

101
11505 SF
FF=44.2

38
6600 SF
FF=43.7

100
15903 SF
FF=44.9

37
6600 SF
FF=44.3

93
11010 SF
FF=49.2

99
8513 SF
FF=45.5

36
6600 SF
FF=44.9

35
6600 SF
FF=45.5

94
8186 SF
FF=48.9

MATCHLINE SHEET CG4

98
10671 SF
FF=47.2

34
6600 SF
FF=46.1

95
6436 SF
FF=48.7

33
6600 SF
FF=46.8

20' PUBLIC DRAINAGE EASEMENT

FF=49.6

96
7310 SF

97
7114 SF

32
6600 SF
FF=47.4

31
6600 SF
FF=48.0

30
6600 SF
FF=48.6

29
6600 SF
FF=49.2

87
7883 SF
FF=49.9

MATCHLINE SHEET CG6

30" RCP SD

50' ROW

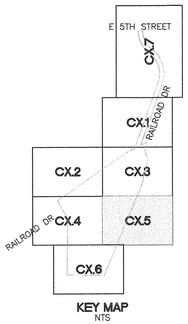
JACQUES WAY (PUBLIC)

CALYPSO CT (PUBLIC)

HIGHWAY 395

S27°08'17"W 1349.63' PL

FUTURE "BIKE ROUTE #1 EXTENSION" BY CARSON CITY PUBLIC WORKS DEPARTMENT. ALIGNMENT SHOWN HEREON IS PRELIMINARY AND NOT PART OF THIS MAP.



KEY MAP
NTS

NORTH

GRAPHIC SCALE

30 0 15 30 60

(IN FEET)
1 inch = 30 ft.

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GRADING PLAN (5 OF 7)

BLACKSTONE RANCH SOUTH
CARSON CITY NEVADA

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DATE 2019 04 16

SHT 16 of 29
CG5

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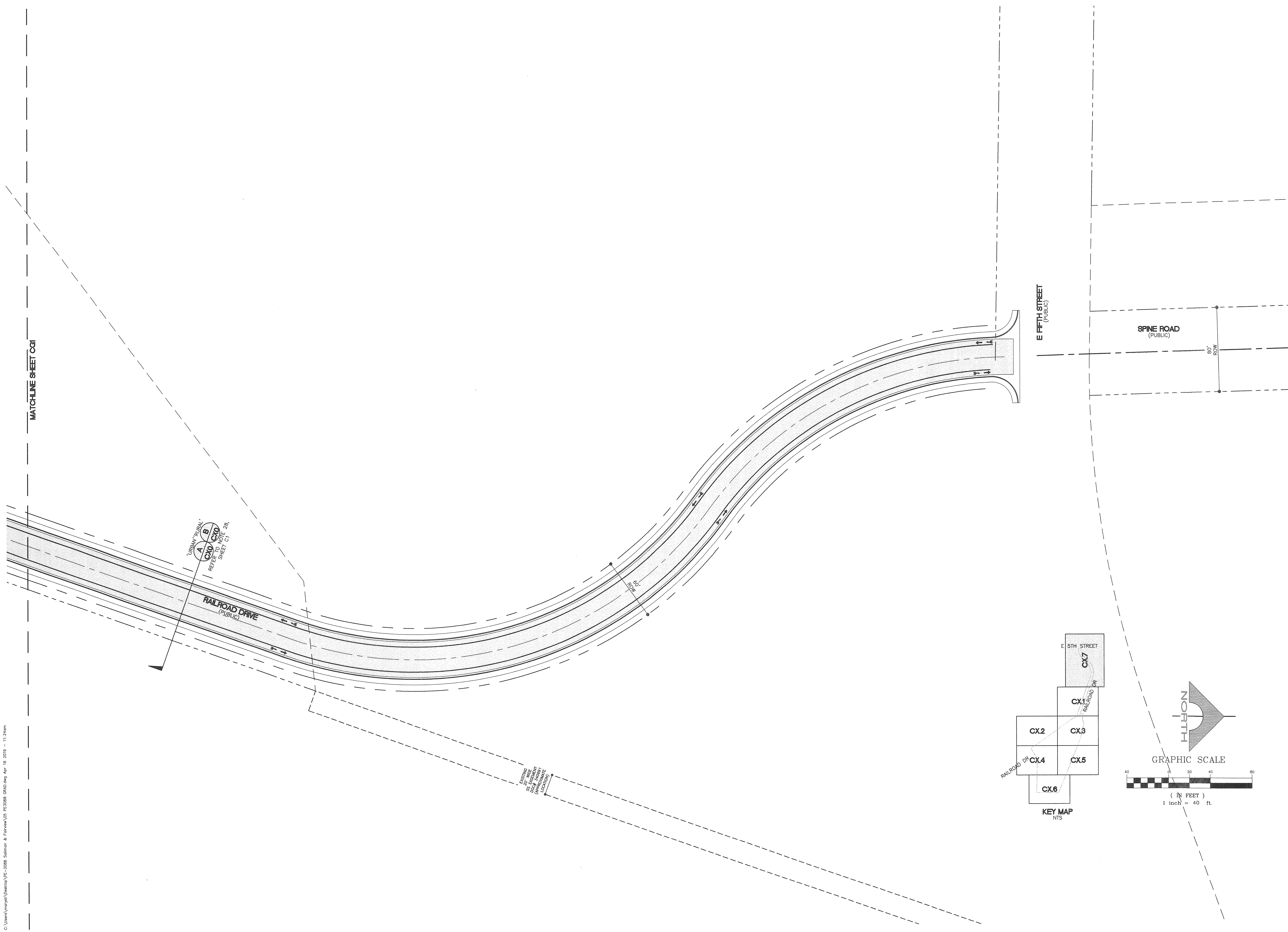
GRADING PLAN (6 OF 7)

BLACKSTONE RANCH SOUTH
CARSON CITY NEVADA

PCI JOB NO.	PE3088
DESIGNED BY	EL/MS
DRAWN BY	AC/EL/MS
CHECKED BY	MS
DATE	2019 04 16

SHT 17 of 29
CG6



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GRADING PLAN (7 OF 7)

BLACKSTONE RANCH SOUTH

CARSON CITY NEVADA

PCI JOB NO.	PE3088
DESIGNED BY	EL/MS
DRAWN BY	AC/EL/MS
CHECKED BY	MS
DATE	2019 04 16

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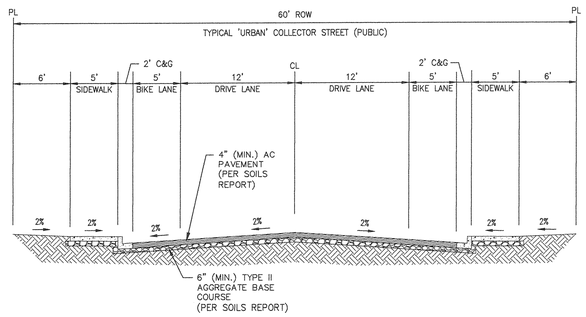

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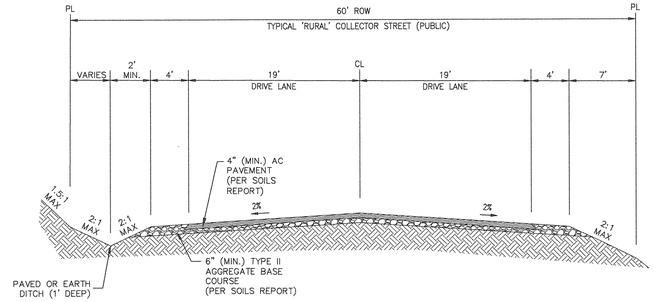

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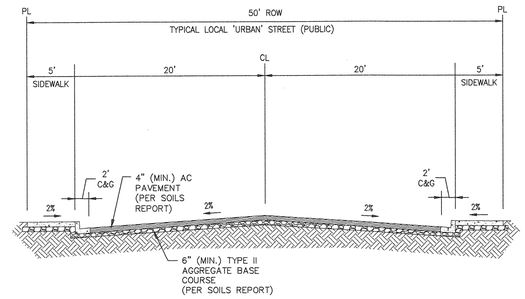

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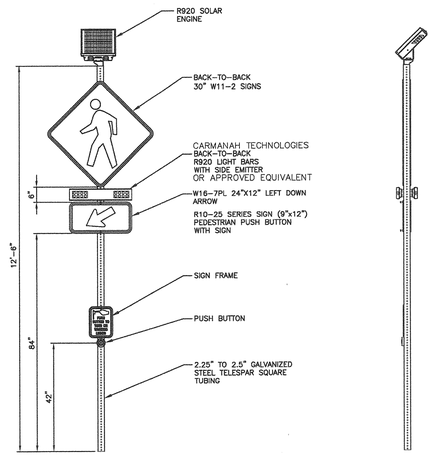

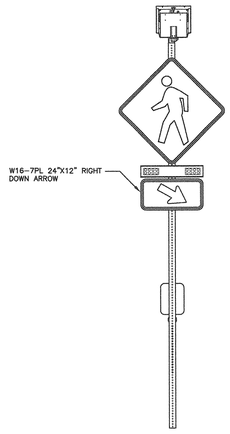

NOTES:

1. FOR GENERAL DIMENSIONAL REFERENCE ONLY.
2. LIGHT BAR COVER COLOR VARIES BY PRODUCT CONFIGURATION – BLACK SHOWN.
3. SOLAR ENGINE CHASSIS COLOR VARIES BY PRODUCT CONFIGURATION – NATURAL ALUMINUM FINISH SHOWN.
4. LIGHT BARS CAN BE CONFIGURED FOR 1, 2 OR NO SIDE EMITTER.

D FLASHING PEDESTRIAN SIGNAL CROSSING NOT TO SCALE

E NOT USED NOT TO SCALE

F NOT USED

G NOT USED NOT TO SCALE

H NOT USED NOT TO SCALE

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MARK A STEFL
EXP.: 6/30/2020
CIVIL
No. 21261
4/16/19

CLIENT:
BLACKSTONE DEVELOPMENT GROUP
439 PLUMB LANE
RENO, NV 89509
CONTACT: JOSHUA MYERS
PHONE: (775) 352-4200

NO.	DATE	APPROVED

CROSS SECTIONS / DETAILS

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CARSON CITY NEVADA

PCI JOB NO. PE3088
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CHECKED BY MS
DATE 2019 04 16

SHT 19 of 29
CX0

REFER TO SHEETS CU1 AND CU7 FOR NORTHERLY RAILROAD DRIVE EXTENSION

NORTH

GRAPHIC SCALE

100 0 50 100 200

(IN FEET)
1 inch = 100 ft.

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OVERALL UTILITY PLAN

BLACKSTONE RANCH SOUTH
CARSON CITY NEVADA

PCI JOB NO.	PE3088
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CHECKED BY	MS
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CU0

REFER TO GRADING PLANS FOR STORM DRAIN IMPROVEMENTS

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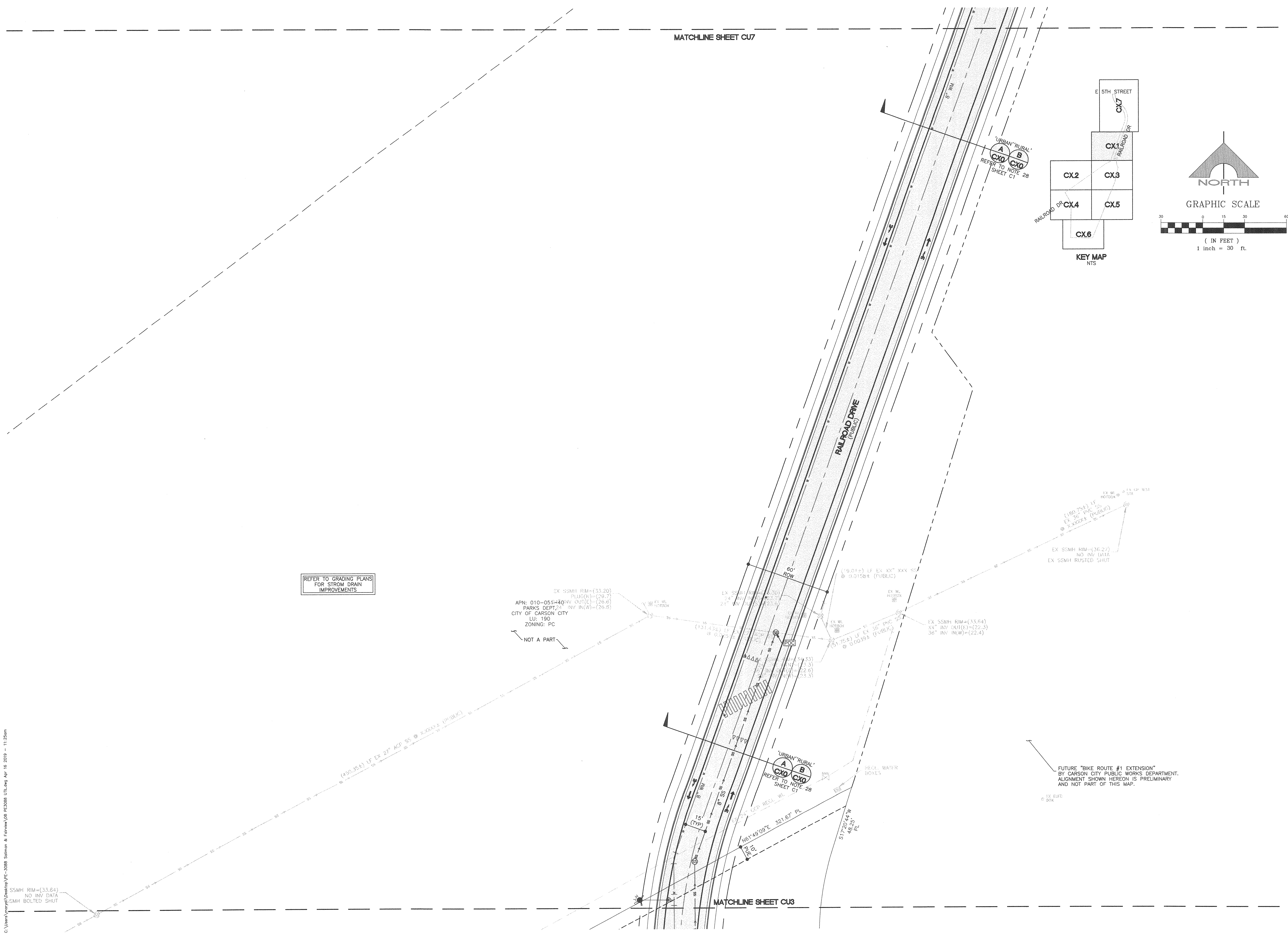

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UTILITY PLAN (1 OF 7)

BLACKSTONE RANCH SOUTH

CARSON CITY NEVADA

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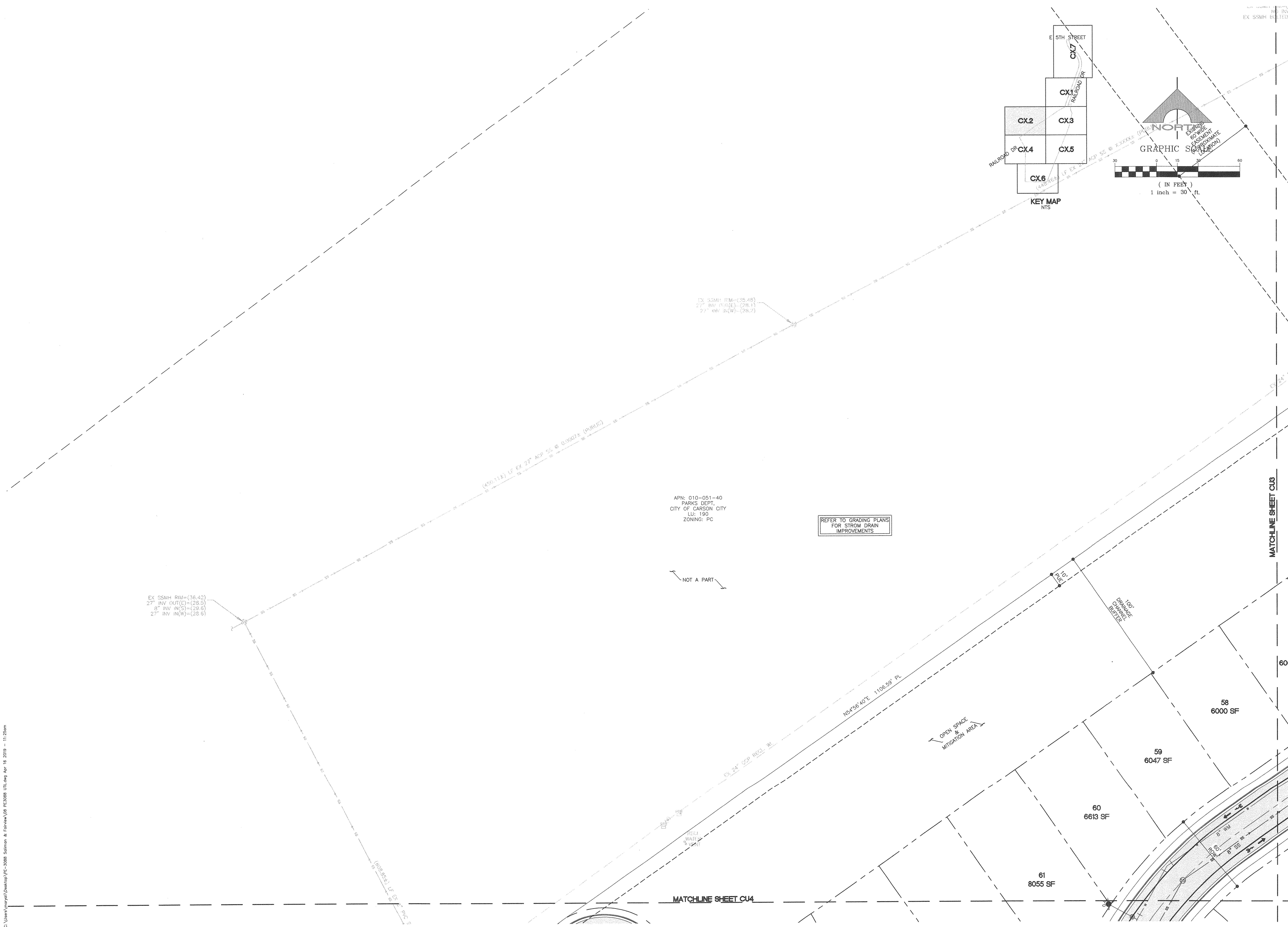
CU1



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UTILITY PLAN (2 OF 7)

BLACKSTONE RANCH SOUTH
CARSON CITY NEVADA

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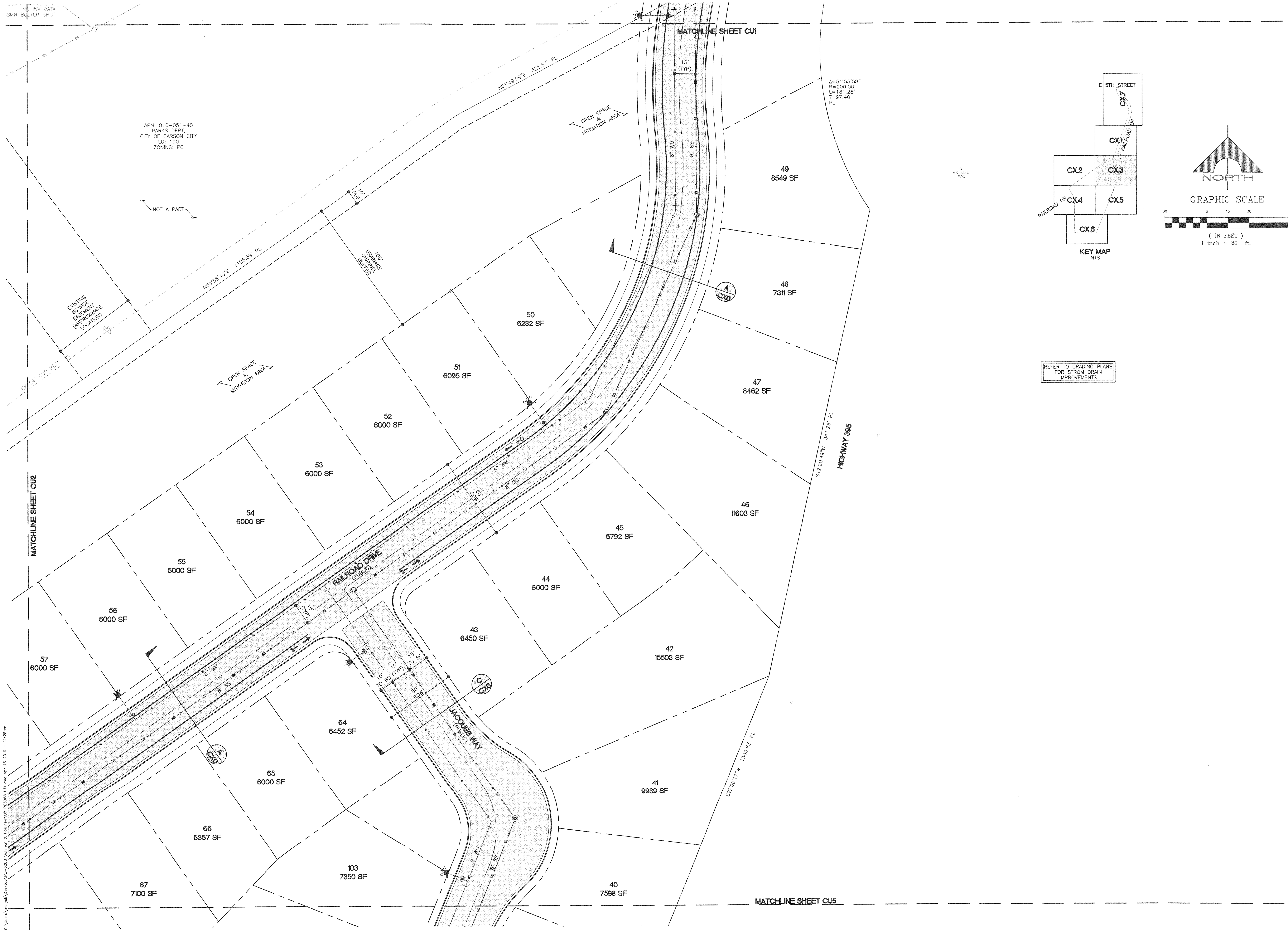
CU2



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UTILITY PLAN (3 OF 7)

BLACKSTONE RANCH SOUTH
CARSON CITY NEVADA

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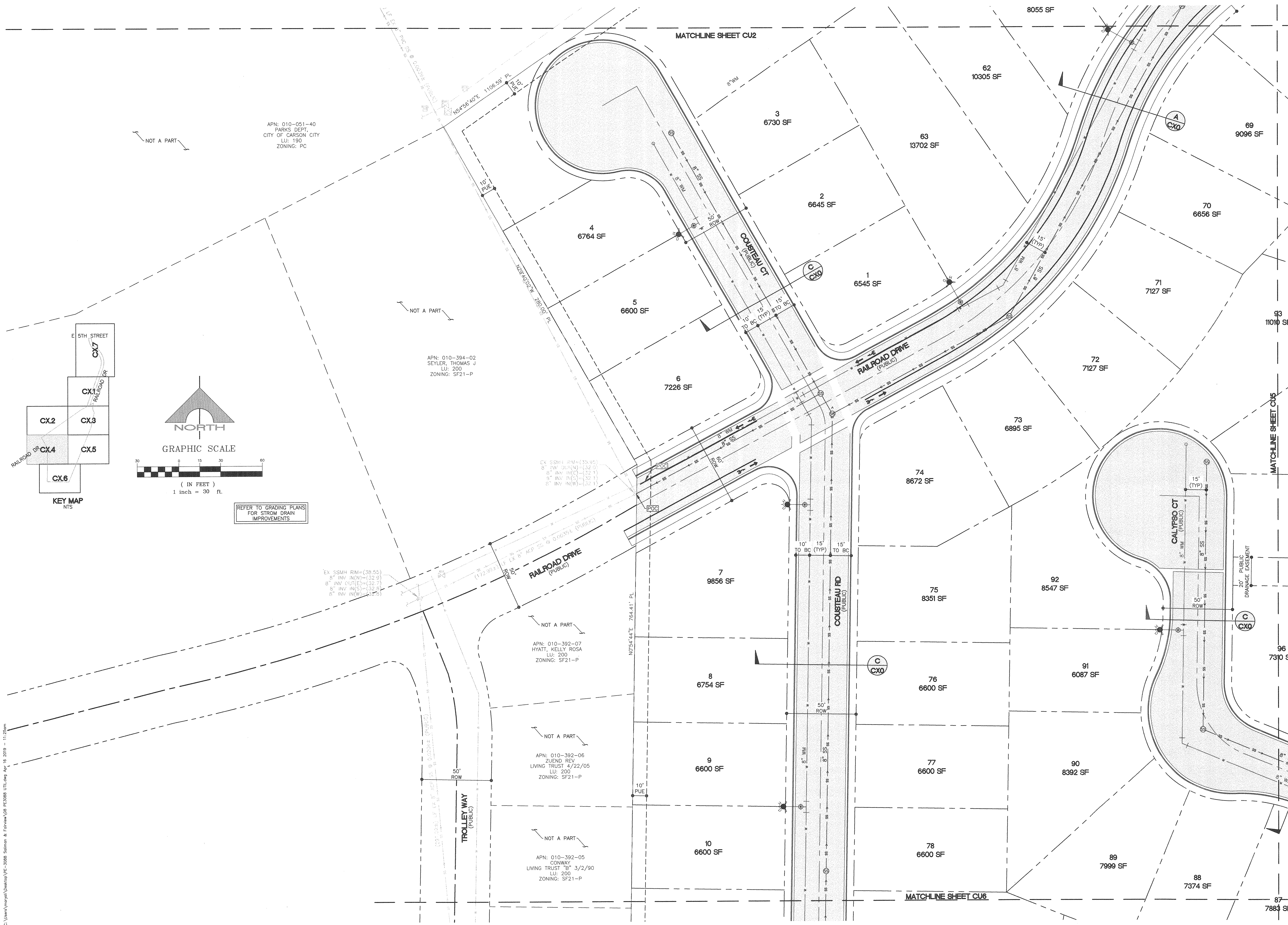
CU3



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UTILITY PLAN (4 OF 7)

BLACKSTONE RANCH SOUTH

CARSON CITY NEVADA

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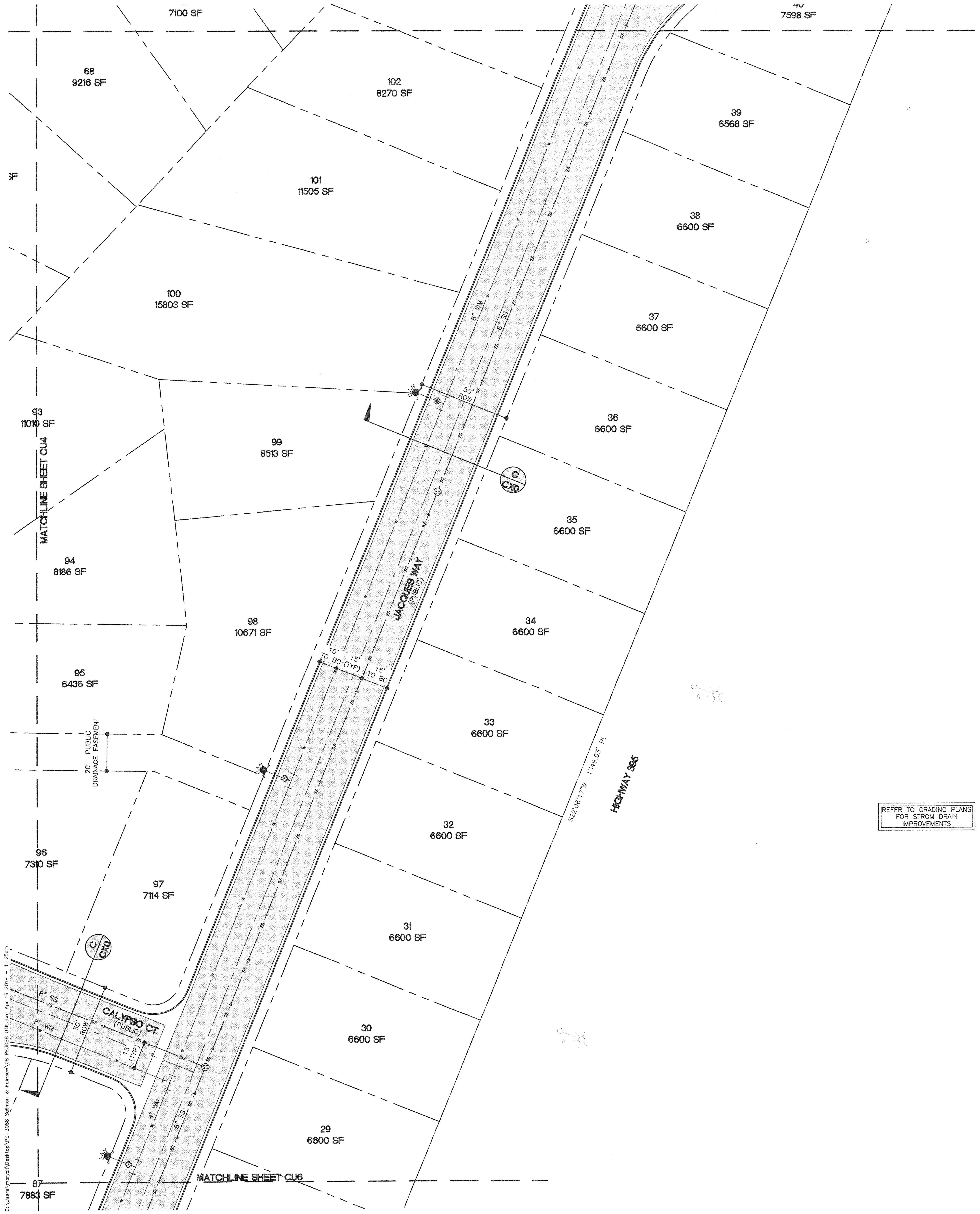

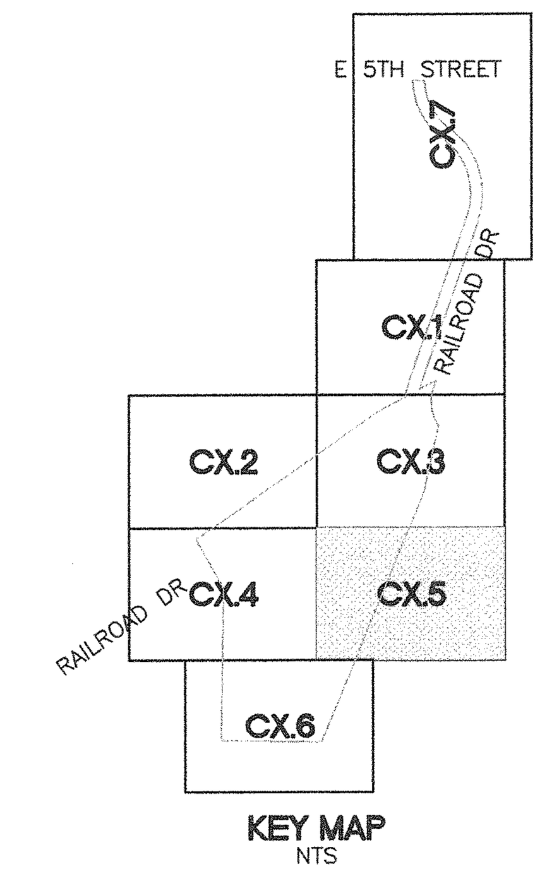

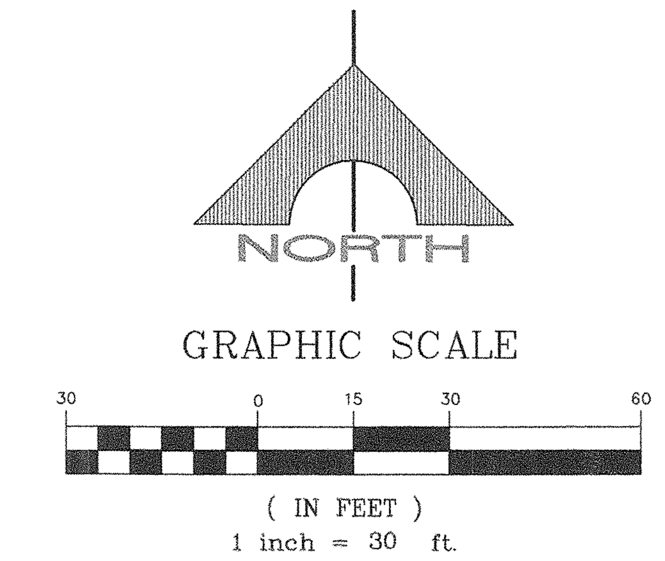

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UTILITY PLAN (5 OF 7)

BLACKSTONE RANCH SOUTH

CARSON CITY NEVADA

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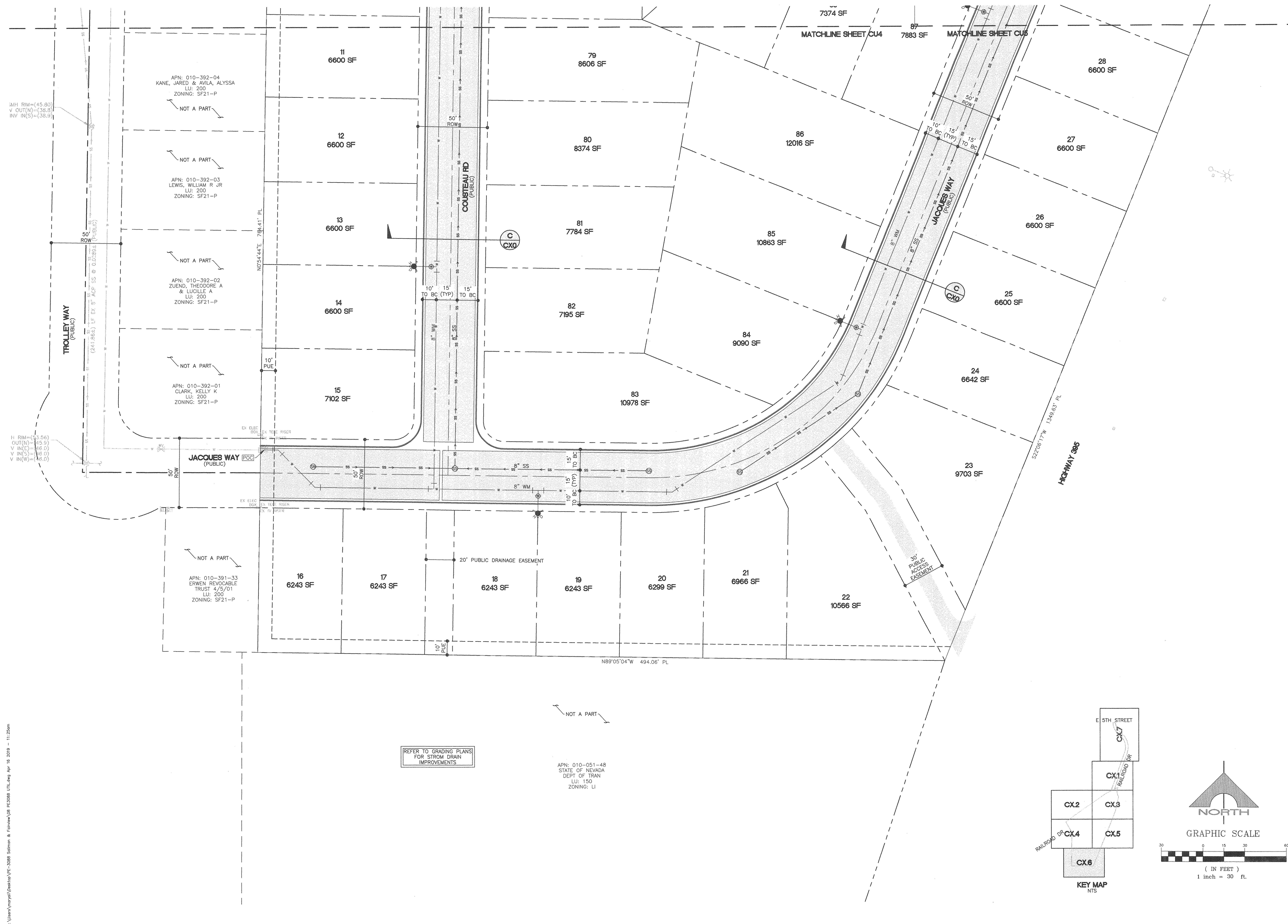
CU5



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UTILITY PLAN (6 OF 7)

BLACKSTONE RANCH SOUTH

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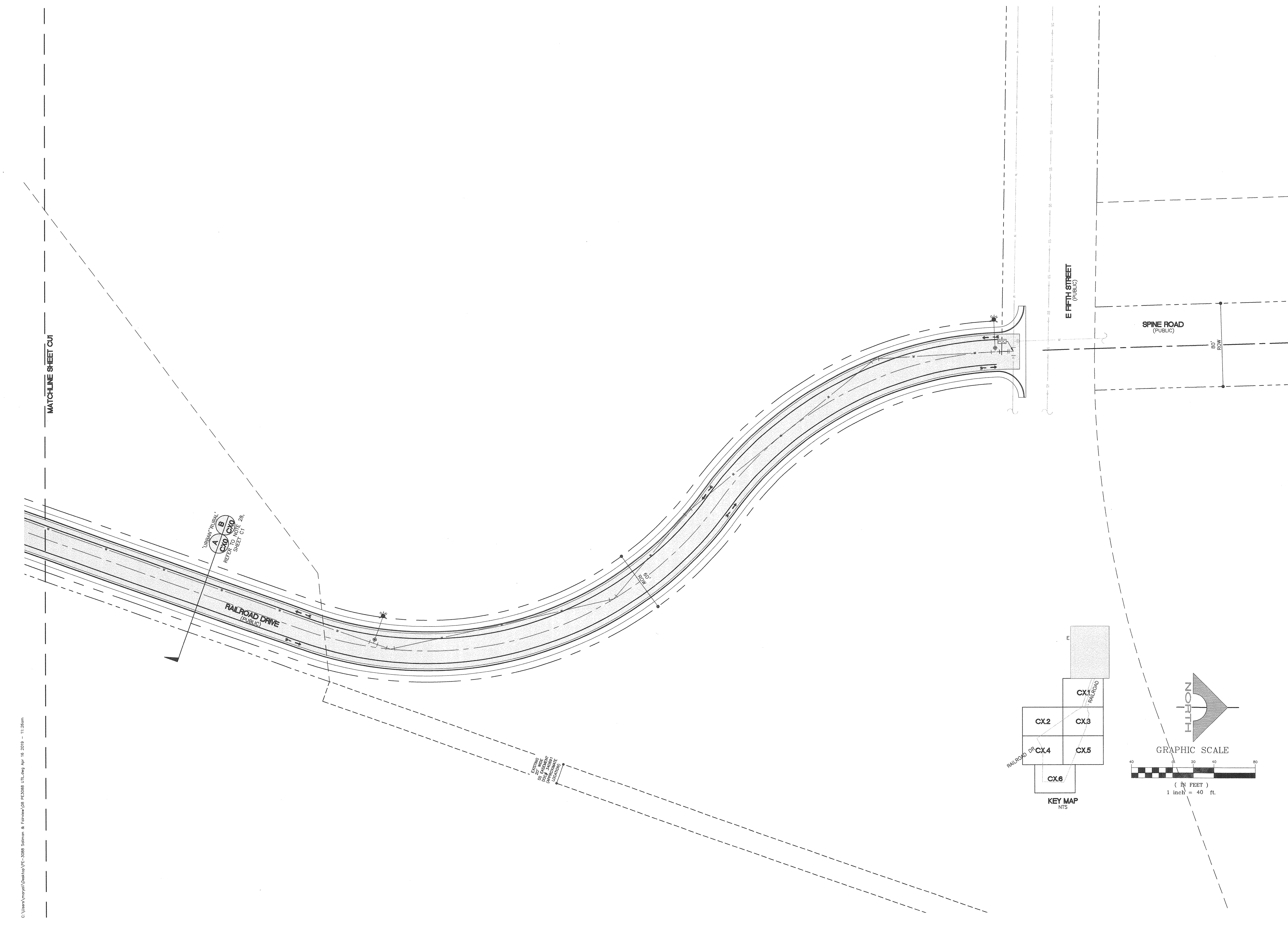

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UTILITY PLAN (7 OF 7)

BLACKSTONE RANCH SOUTH

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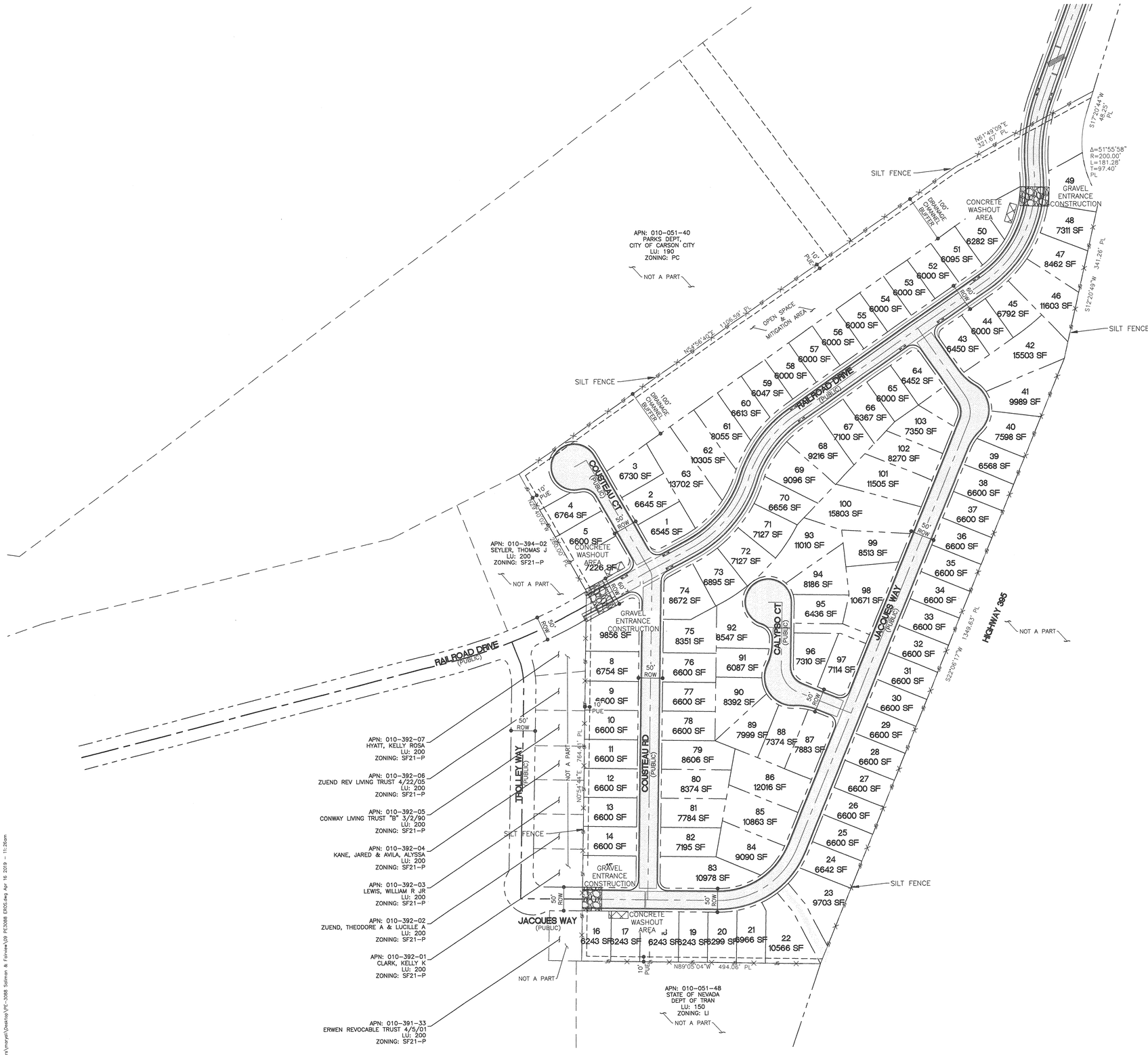

EROSION CONTROL NOTES

1. TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES TO BE CONSTRUCTED PRIOR TO OR CONCURRENT WITH ANY GRADING ACTIVITY.
2. INSTALL AND MAINTAIN TEMPORARY SILT CONTROL STRUCTURES AT EXISTING STORM INLETS RECEIVING RUNOFF FROM THE CONSTRUCTION SITE.
3. EQUIPMENT AND VEHICLES SHALL NOT TRAVEL BEYOND THE LIMITS OF GRADING TO PREVENT TRACKING OF DIRT INTO TRAVELWAY.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE PLACEMENT OF TEMPORARY SEDIMENT AND EROSION CONTROL DEVICES. THE LAYOUT SHOWN ON THESE PLANS ARE INTENDED AS GENERAL GUIDELINES ONLY.
5. TEMPORARY BMPs SHALL COMPLY WITH TITLE 18 – CARSON CITY DEVELOPMENT STANDARDS, DIVISION 13 – EROSION & SEDIMENT CONTROL.
6. CONTRACTOR SHALL ENSURE THAT ACCESS TO AREAS NOT UNDER CONSTRUCTION IS MAINTAINED AT ALL TIMES.

EROSION CONTROL LEGEND

—X—SF—X—SF— SILT FENCE

GRAVEL CONSTRUCTION ENTRANCE
GRAVEL CONSTRUCTION ENTRANCE SHALL BE INSTALLED PRIOR TO COMMENCEMENT OF GRADING AND SHALL CONSIST OF 2"–4" NOMINAL SIZE GRAVEL PLACED OVER AN AREA NO SMALLER THAN 15' WIDE, 30' LONG, AND 12" DEEP. ENTRANCE SPECIFICATIONS SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT. ENTRANCE SHALL BE REMOVED PRIOR TO PLACING BASE FOR PAVING.

CONCRETE WASHOUT AREA

GUTTER PROTECTION LOCATIONS
GRAVEL BAGS SHALL BE USED FOR PROTECTION AT ALL LOCATIONS SPECIFIED ON THE PLANS. ALL PROTECTION MEASURES SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.

INLET PROTECTION LOCATIONS
GRAVEL BAGS AND/OR FIBER ROLLS SHALL BE USED FOR PROTECTION AT ALL LOCATIONS SPECIFIED ON THE PLANS. SILT SACKS SHALL BE USED IN CONJUNCTION WITH GRAVEL BAGS AT ALL STORM DRAIN INLETS AND/OR CATCH BASINS IN PAVED AREAS. ALL PROTECTION MEASURES SHALL BE INSTALLED PER THE MANUFACTURER'S SPECIFICATIONS.

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EROSION CONTROL PLAN

BLACKSTONE RANCH SOUTH
CARSON CITY NEVADA

PCI JOB NO. PE3088
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CEO

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FLOOD ZONE REFERENCE

FEMA FIRM MAP NUMBERS 3200010111G & 3200010113F
VERSION 2.3.3.0
REVISED DECEMBER 22, 2016

FLOOD ZONE LEGEND

ZONE X (SHADED)
0.2% ANNUAL CHANCE FLOOD HAZARD, AREAS OF 0.1% ANNUAL CHANCE FLOOD WITH AVERAGE DEPTH LESS THAN ONE FOOT OR WITH DRAINAGE AREAS OF LESS THAN ONE SQUARE MILE

ZONE X (UNSHADED)
AREA OF MINIMAL FLOOD HAZARD

SPECIAL FLOOD HAZARD AREAS WITH BFE OR DEPTH (ZONE AH & AO)

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FLOODZONE DESIGNATION

BLACKSTONE RANCH SOUTH
CARSON CITY NEVADA

PCI JOB NO. PE3088
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DATE 2019 04 16

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Delineation of Aquatic Resources

Saliman Road & Fairview Drive
Carson City, Nevada

June 11, 2018

Prepared For:

Mr. Scott Baumgardner, Vice President
Blackstone Development Group, Inc.
439 W. Plumb Lane
Reno, Nevada 89509

Prepared By:

Resource Concepts, Inc.
340 N. Minnesota Street
Carson City, Nevada 89703

Delineation of Aquatic Resources

Saliman Road & Fairview Drive
Carson City, Nevada

July 11, 2018

Prepared For:

Mr. Scott Baumgardner, Vice President
Blackstone Development Group, Inc.
439 W. Plumb Lane
Reno, Nevada 89509

Prepared By:

Resource Concepts, Inc.
340 North Minnesota Street
Carson City, Nevada 89703-4152
(775) 883-1600
(775) 883-1656 Fax
www.rci-nv.com

Table of Contents

List of Tables

Appendices

Acronyms and Abbreviations

Wetland Indicator Status Acronyms:

OBL (Obligate Wetland). Occur almost always in wetlands.

FACW (Facultative Wetland). Usually occur in wetlands.

FAC+ (Facultative). More likely to occur in wetlands than uplands.

FAC (Facultative). Likely to occur in wetlands or uplands.

FAC- (Facultative). Less likely to occur in wetlands than uplands.

FACU (Facultative Upland). Usually occur in uplands.

UPL (Obligate Upland). Occur almost always in uplands.

N/I (No Indicator). Indicator status unavailable.

Water Types Acronyms:

TNW. Traditional Navigable Water, including territorial seas.

TNWW. Wetlands adjacent to TNWs.

RPW. Relatively Permanent Waters (RPWs) that flow year-round.

RPWWD. Wetlands directly abutting RPWs.

RPWWN. Wetlands adjacent to but not directly abutting RPWs.

NRPW. Non-RPWs are tributaries that do not have continuous flow at least seasonally.

NRPWW. Wetlands adjacent to non-RPWs.

ISOLATE. Isolated (interstate or intrastate) waters.

UPLAND. Uplands.

TNWRPW. Tributary consisting of both RPWs and non-RPWs.

Executive Summary

At the request of Mr. Scott Baumgardner, Vice President of Blackstone Development Group, Inc., a delineation of aquatic resources was prepared for a site located at Saliman Road and Fairview Drive in Carson City, Nevada (APN 01005144). The delineation was conducted in accordance with the 1987 *Corps of Engineers Wetland Delineation Manual* (TR-Y-87-1) as amended by the *Arid West Regional Supplement* (2008), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (2008), and the *Arid West 2016 Regional Wetland Plant List*.

The delineation identified three (3) aquatic resources within the survey area:

Aquatic Resource – 1 (AR-1)

Aquatic Resource 1 (AR-1) is identified as Linear Ditch, an excavated, man-made ditch with adjacent wetland fringe. The ditch is described as riverine, lower perennial with an unconsolidated mud bottom that is semi permanently flooded (R2UB3). The ditch and abutting wetland fringe are approximately 1,506 linear feet on site (1.2 acres). This man-made ditch is maintained by dredging and appears relatively stable. AR-1 is described on OHWM Delineation Datasheet T1-2, T2-1, and T3-1 in Appendix F.

Aquatic Resource – 2 (AR-2)

Aquatic Resource 2 is an excavated open water pond with adjacent wetland fringe located within the topographic flow of the site. Surface runoff from the adjacent uplands sheet flows into the pond One small drainage swale drains water eastward, but the channel dissipates and water infiltrates mid field. AR-2 was excavated within a topographic low for the purpose of watering cattle. The on-site acreage of AR-2 is 0.07 acres. AR-2 is described on data form T3-3b in Appendix E.

Aquatic Resource – 3 (AR-3)

Aquatic Resource 3 is described as palustrine, emergent, persistent, seasonally flooded/saturated wetland (PEM1E). AR-3 drains to AR-2 and has no outflows or surface water connection to a Traditional Navigable Water. The on-site acreage of AR-3 is 0.27 acres. AR-3 is described on data forms T3-5 and T3-8 in Appendix E.

Resource Concepts, Inc. (RCI) is requesting a preliminary Jurisdictional Determination of the on-site aquatic resources.

1.0 Introduction

1.1 Scope of Work and Purpose

At the request of Mr. Baumgardner, Resource Concepts Inc (RCI) completed a delineation of aquatic resources, including wetlands, subject to the U.S. Army Corp of Engineers (USACE) jurisdiction on the site located northeast of Saliman Road and Fairview Drive in Carson City, Nevada (APN 01005144) (reference Location Map in Appendix B).

The purpose of this report is to identify and describe aquatic resources and known possible sensitive plant, fish, and wildlife species. This report facilitates efforts to:

- Avoid or minimize impacts to aquatic resources during the project design process;
- Document aquatic resource boundary determinations for review by the USACE;
- Provide early identification of known sensitive species within the survey area; and,
- Provide background information on the survey area.

The delineation was conducted in accordance with the 1987 *Corps of Engineers Wetland Delineation Manual* (TR-Y-87-1) as amended by the *Arid West Regional Supplement* (2008), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (2008), and the *Arid West 2016 Regional Wetland Plant List*.

1.2 Contact Information

Preparer of this Delineation Report

Contact: JoAnne Michael
Resource Concepts, Inc.
340 North Minnesota Street
Carson City, NV 89703
775-883-1600
joanne@rci-nv.com

Project Proponent

Blackstone Development Group
Scott Baumgardner
439 Plumb Lane
Reno, NV 89509
775-352-4200

2.0 Project Location

The delineation survey area is approximately 27 acres located on the west side of Interstate 580 Freeway (I-580), south side of the Linear Ditch, the east end of Railroad Drive, and north of Fairview Drive in Carson City, Nevada. Specifically, the project is located at:

Township, Range, and Section for the Project Area: Sec 21, T 15 N, R 20 E

The center of the site is located at: Lat 39.154828°, Long -119.745195° Datum: WGS 84

To drive to the site, travel South on I-580 from Reno, Nevada for approximately 30 miles to the Hwy 50 exit. Turn west onto Hwy 50 and in 0.5 miles turn south onto Saliman Road. Travel 1.2 miles south to Railroad Drive. Turn east onto Railroad Drive and drive 0.25 miles to the end of the road. The delineation survey area is the empty lot on the east side of the road end.

3.0 Methods

The survey area was reviewed and delineated on June 1, 2018, by JoAnne Michael, RCI Wetland Specialist. The survey boundary is presented in Appendix A.

A site delineation of federally jurisdictional waters was performed by RCI in accordance with the criteria contained in the 1987 *Corps of Engineers Wetland Delineation Manual* (TR-Y-87-1) as amended by the *Arid West Regional Supplement* (2008), *A Field Guide to the Identification of the Ordinary High Water Mark (OHWM) in the Arid West Region of the Western United States* (2008), and the *Arid West 2016 Regional Wetland Plant List*.

A baseline transect was established along the northern boundary. Data points were taken along the transects at locations identified on USGS topographic map, soil survey map, National Wetland Inventory map, and aerial photography as being potential wetland locations or other jurisdictional waters. A delineation map of on-site aquatic resources is located in Appendix A and supporting figures are located in Appendix B. Representative site photos are located in Appendix C. Data points describing the vegetation, soils, and hydrology were collected and are in Appendix E.

4.0 Existing Conditions

The aquatic resource delineation survey area encompasses approximately 26.89 acres of private land located east of a residential neighborhood and south of Linear Ditch trail and ditch in the southeast part of Carson City. The site is currently accessed from Railroad Drive. There are no structures on the site.

4.1 Landscape Setting

The southern scrub-shrub portion of the site is located on a hillslope that slopes to the north at 3-5%. The northern third of the site is located within remnant floodplain and is relatively flat, gently sloping southwest to northeast at less than 1% slope. However, minor depressions exist throughout the parcel that locally influence site hydrology and vegetation. Historic linear drainages are also present, suggesting that site hydrology was previously manipulated for irrigation to enhance vegetation for grazing. Site elevation ranges from 4,658 feet at the southwest corner to 4,629 feet near the northeastern corner.

Soils

The soils of the proposed Project Area are mapped as Bishop loam, saline; Kimmerling silty clay loam; and Greenbrae fine sandy loam. Additional details are provided in the following paragraphs and a soils map is provided in Appendix B.

Bishop loam, saline

The Bishop map unit consists of deep, poorly drained soils that formed in alluvium from mixed rocks. The Bishop soils are on floodplains and alluvial fans with no frequency of ponding. Slopes are 0 to 2 percent. The soil is slightly to moderately saline. The depth to the water table is generally between 18 to 24 inches, and they have a high amount available water storage in the profile (about 9.8 inches). Bishop soils are not listed as hydric. It is not prime farmland.

A typical profile for Bishop soils consist of:

H1 – 0 to 28 inches: loam
H2 – 28 to 60 inches: stratified sandy loam to clay loam.

Kimmerling silty clay loam

The Kimmerling silty clay loam map unit consists of very deep, poorly drained soils that formed in alluvium derived from mixed rocks. Kimmerling soils are found on floodplains and swales with occasional flooding and no frequency of ponding. Slopes are 0 to 2 percent. The mean annual precipitation is about 9 inches. The depth to the water table is about 10 to 12 inches and the soils have a high amount of available water storage in the profile (about 12 inches). Kimmerling soils are considered to be hydric. It is not prime farmland.

A typical profile for Kimmerling soils consist of:

H1 – 0 to 15 inches: silty clay loam
H2 – 15 to 60 inches: stratified loam to silty clay loam
H3 – 60 to 64 inches: stratified gravelly loamy sand to silty clay loam

Greenbrae fine sandy loam

The Greenbrae map unit consists of deep, well drained soils that formed in alluvium from mixed rocks. The Greenbrae soils are on alluvial fans with no frequency of flooding or ponding. Slopes are 0 to 2 percent. The depth to the water table is more than 80 inches and they have a moderate amount available water storage in the profile (about 8.2 inches). Greenbrae soils are not hydric. It is prime farmland if irrigated.

A typical profile for Greenbrae soils consist of:

H1 – 0 to 4 inches: fine sandy loam
H2 – 4 to 24 inches: sandy clay loam
H3 – 24 to 60 inches: stratified coarse sand to gravelly loam

Hydrology

Precipitation

On average, Carson City receives 10.3 inches of precipitation annually. About 73 percent falls from November through March. Typically, very little precipitation falls during the growing season (Western Regional Climate Center, 2018); however, the spring of 2018 has been documented as one of the wettest springs on record (March-April-May) with precipitation totaling 5.28 inches in Carson City (Western Regional Climate Center, Carson City, Nevada Gage). This year follows a winter (2016/2017) that received 200% of average precipitation (Western Reginal Climate Center, Reno, Nevada Airport Gage).

The project area is located within the Upper Carson River (1605021) watershed.

Surface and ground water

Surface waters were observed on the site within the Linear Ditch (AR-1), located along the northern boundary and within the open-water pond (AR-2) and abutting wetlands (AR-3) located in the central portion of the site.

Based on the evaluation of site soils, vegetation and presence of several historic excavated drainages, this site appears to have been historically wetter and was likely the floodplain of a natural drainage through the area. Based on NWI maps (in Appendix B) the northern section of the site (characterized by datapoints T2-2 and T3-2), including the area now occupied by the Linear Ditch, was part of a larger wetland complex that has been modified over time due to residential development on the west side, construction of I-580, and creation of the Linear Ditch. The Linear Ditch now serves to convey concentrated surface flows through the site and does not have a natural stream morphology that would have maintained a hydrologic connection to the adjacent floodplain.

The Linear Ditch is an excavated and maintained ditch that conveys water from the off-site Kings and Voltaire canyons on the west to the off-site Nevada Department of Transportation (NDOT) drainage channel at the northeast corner of the property. The NDOT drainage structure flows to the north and continues to the east under I-580 to a constructed channel which is tributary to the Carson River about 2 miles east (2.65 river miles) of the survey area. The excavated ditch has high (3-4 feet) banks that separate it hydrologically from the adjacent floodplain. It is likely that extreme high flow events within Linear Ditch can overflow and flood the adjacent floodplain, but water from the floodplain does not drain into Linear Ditch.

An open water pond was excavated within a topographic low within the floodplain. Surface water runoff from the adjacent hillslope to the south, and the floodplain to the north, sheet flow into the pond, but there is no outflow. There is a remnant linear, constructed ditch that drains to the pond to the east, but

the bed and bank dissipates and water infiltrates. There is no defined surface water connection to the Linear Ditch or other water of the U.S. There was no evidence of recent flows.

There are depressional abutting wetlands to the northeast of the excavated pond. They are formed in a flat topographic depression that has a distinct topographic break from the adjacent uplands.

The National Wetland Inventory Map (Appendix B) maps the ponded area as Freshwater Emergent Wetland.

Geology

The geology of the area is generally described as Quaternary alluvium consisting of fine sand, silt, and clay of river floodplains, and playa clay and sand (NBMG, 1969).

Vegetation

The survey area is characterized by two distinct vegetation types. The northern third of the site is dominated by a mix of hydrophytic vegetation typical of floodplains, including fox tail barley (*Hordeum jubatum*, FAC), meadow barley (*Hordeum brachyantherum,* FACW), Baltic rush (*Juncus balticus,* FAC), and broadleaf pepperweed (*Lepidium latifolium*, FAC). The upper elevational fringe contained scattered rubber rabbitbrush (*Chrysothamnus nauseosa,* UPL).

The southern two thirds of the site are characterized by mixed sagebrush scrub community dominated by big sagebrush (*Artemisia tridentata*, UPL), antelope bitterbrush (*Purshia tridenta*, UPL), and desert peach (*Purshia andersonii*, UPL). The understory consisted of bottlebrush squirrel tail (*Elymus elymoides*, UPL) and cheatgrass (*Bromus tectorum*, UPL).

4.2 Aquatic Resources

There are three (3) aquatic resources identified within the survey area, which are depicted on the Aquatic Resources Delineation Map provided in Appendix A and described in this section.

Aquatic Resource – 1 (AR-1)

Aquatic Resource 1 (AR-1) is identified as Linear Ditch, a man-made, excavated ditch with an adjacent wetland fringe. The ditch is described as riverine, lower perennial, with an unconsolidated mud bottom that is semi-permanently flooded (R2UB3).

Vegetation: AR-1 is an open water channel (80%) with fringe emergent wetland (20%) below the OHWM. Vegetation along the fringe of dominated by whitetop (*Lepidium latifolium*, FAC), cattail (*Typha latifolia*, OBL) and Baltic rush (*Juncus balticus*, FACW) at the water's edge.

Soils: The soil substrate is silty muck, with few gravels.

Hydrology: Hydrology within the ditch is charged by surface flows originating in Kings and Voltaire canyons. The hydrology indicators observed in the field include inundation up to two feet within, to saturated soils along the upper stream channel edges. AR-1 flows off-site to the northeast, into the NDOT drainage structure and eventually to the Carson River, a Traditional Navigable Water in fact, located 2.65 river miles away. The OHWM was identified in the field by a distinct topographic break and impressed line on the bank. The on-site length of Linear Ditch is 1,506 linear feet and 1.2 acres. AR-1 is described on OHWM data forms T1-1, T2-2, and T3-1 located in Appendix E.

Aquatic Resource 2 – (AR-2)

Aquatic Resource 2 (AR-2) is an excavated pond with adjacent wetland fringe. It is described by Cowardin as a Palustrine, Open Water (POW). The boundary of the pond is identified by a distinct topographic bread, as the upslope side often consists of the excavated material from the pond. There is no outflow from the pond. The on-site area of AR-2 is 0.07 acres. AR-2 is described on data form DP T3-3b in Appendix E.

Aquatic Resource 3 – (AR-3)

Aquatic Resource 3 (AR-3) is identified as a palustrine emergent, deciduous, seasonally flooded, wetland. It is described as palustrine, emergent, persistent, seasonally flooded/saturated wetland (PEM1C). The wetland boundary was delineated in the field along a distinct topographic break. The adjacent uplands slope upward from the wetland.

Vegetation: AR-3 is dominated meadow barley (FACW), broad-leaved white-top (FAC), common spike-rush (*Eleocharis palustris,* OBL) and Baltic rush (FAC). The wetland vegetation criterion is met by the dominance (>50%) hydrophytic vegetation.

Soils: The soils are mapped as Greenbrae fine sandy loam. The soil profile was consistently 10YR 2/1 throughout 0-18 inches with no redoximorphic features. The hydric soil criterion is met by presence a depleted matrix.

Hydrology: Wetland hydrology is charged by water runoff and precipitation. Wetland hydrology indicators observed in the field include inundation up to 2 inches to saturated soils along the wetland edge. There is a drainage swale that extends to the northeast. The swale bed and bank dissipate into the meadow and water infiltrates. There is no concentrated surface water flow to a Traditional Navigable Water. However, water may sheet flow across the floodplain and into the NDOT drainage structure along I-580, which flows to the north and continues east to the Carson River about 2 miles east (2.65 river miles) east of the survey area. The on-site area of AR-3 is 0.27 acers. AR-3 is described by data points T3-5 and T3-8 located in Appendix E.

Aquatic Resource Summary

Table 1. Aquatic Resources within the Survey Area

Aquatic Resource Name	Cowardin Aquatic Resource Classification	Aquatic Resource Location (lat/long)	Size (acre)	Size (linear ft)
AR- 1	R4SB3	39.155692 / -119.746037		1,506
AR-2	POW	39.154641 / -119.745669	0.07	
AR-3	PEM1C	39.154987 / -119.745389	0.27	
		Total	0.32	1,506

4.3 Federally Protected Species

The U.S. Fish and Wildlife Service (USFWS) IPac database was queried on July 8, 2018 (08ENVD00-2018-SLI-0681) to identify federally protected species that have potential to occur within the Survey Area. The IPac Trust Report identified three listed species:

Species – Common Name	Scientific Name	USFWS Status
North American Wolverine	*Gulo gulo luscus*	Proposed Threatened
Lahontan Cutthroat Trout	*Oncorhynchus clarkia henshawi*	Threatened

North American Wolverine

Wolverines were once thought to use a wide range of elevations and habitat types. However, new findings indicate that wolverines are restricted to alpine and sub-alpine communities for most of the year due to their need for persistent snow cover throughout the reproductive period (Aubry et al 2007). The project area is not located within alpine or subalpine communities and does not have persistent snow. There is no potential for the wolverine to be present within the project area. The proposed project would have no effect on the north American wolverine

Lahontan Cutthroat Trout

Oncorhynchus clarkia henshawi occur in cool flowing water with available cover of well-vegetated and stable stream banks, in areas where there are stream velocity breaks, and in relatively silt free, rocky riffle-run areas (USFWS, 2014). The on-site waters are not suitable habitat for Lahontan Cutthroat Trout. The project would have no effect on Lahontan Cutthroat Trout.

Critical Habitats

There are no critical habitats within the project area.

5.0 References

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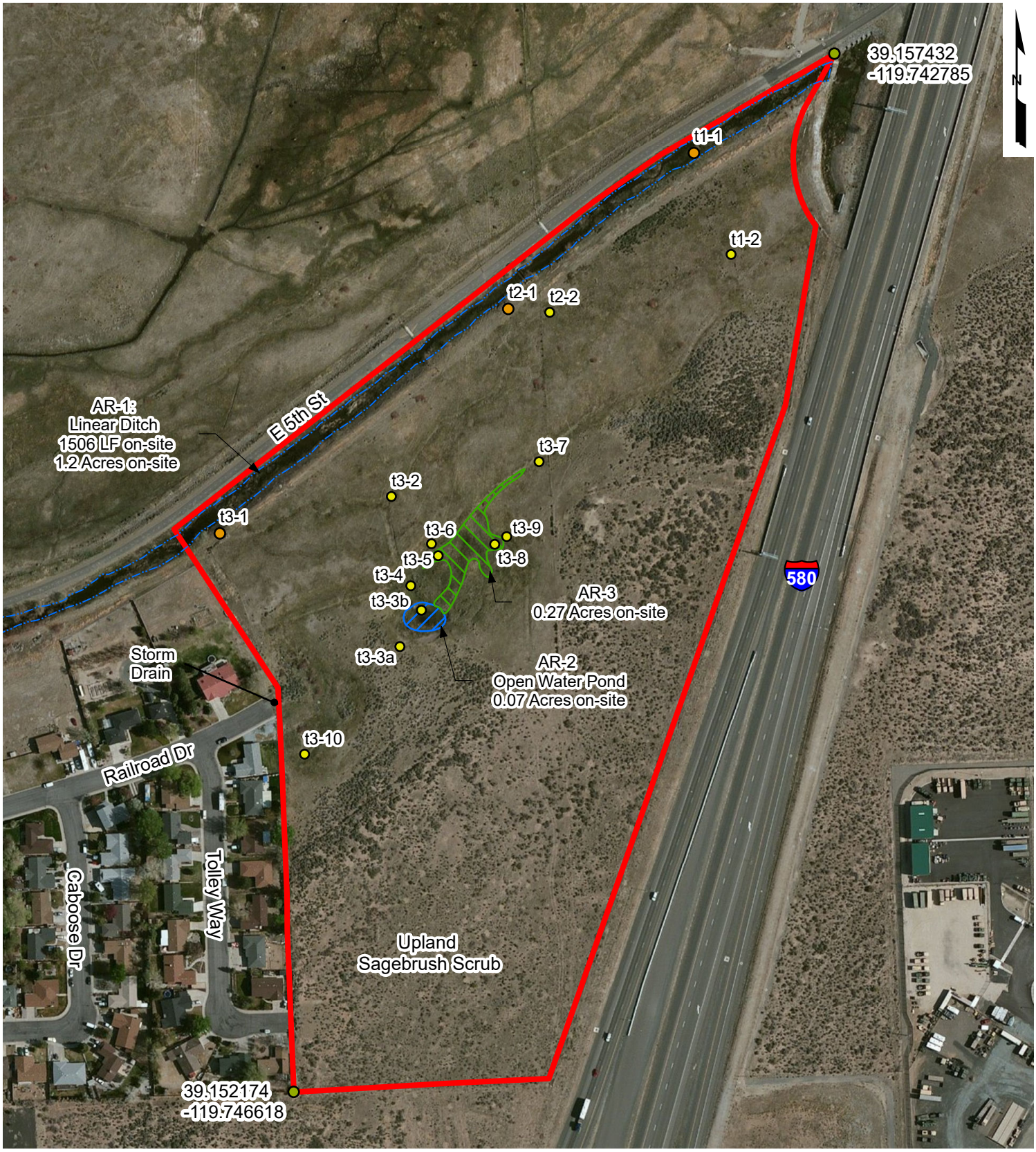
Appendices

Appendix A

Aquatic Resource Delineation Map



Aquatic Resources

- RPW
- PEMC
- Open Water Pond

Legend

- Data Points
- OHWM Data Points
- Limits of Delineation

Project: Saliman Rd/ Fairview Drive
County: Carson City, Nevada
Section 16. T. 15N., R 20 E., M.D.M
Surveyors: JoAnne Michael
Date: 6/1/2018
Source: 08/2017 Google Earth Imagery
Datum: D_North_American_1983

Delineation of Aquatic Resources

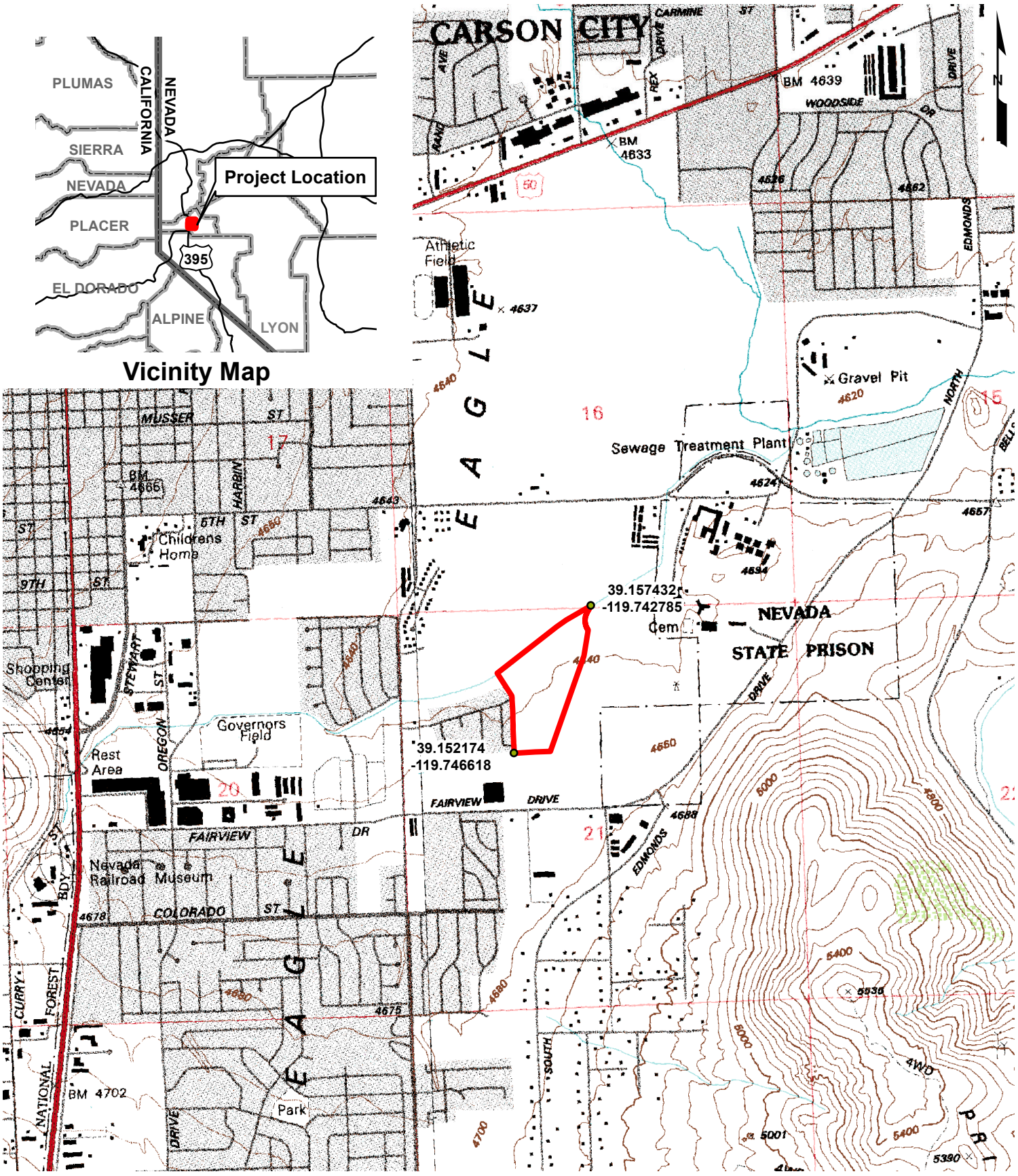
0 75 150 300 Feet

RESOURCE CONCEPTS, INC.

Path: R:\projects\Blackstone\18_208_1\MXD\Figure_4.mxd Date: 7/11/2018

Appendix B

Supporting Maps



Vicinity Map

Location Map

Project: Saliman Rd/ Fairview Drive
County: Carson City, Nevada
Section 16. T. 15N., R 20 E., M.D.M
Surveyors: JoAnne Michael
Date: 6/1/2018
Source: USGS 7.5' Quad
"Carson City" & "New Empire"
Datum: D_North_American_1983

Legend

Limits of Delineation

0 250500 1,000 Feet

RESOURCE CONCEPTS, INC.

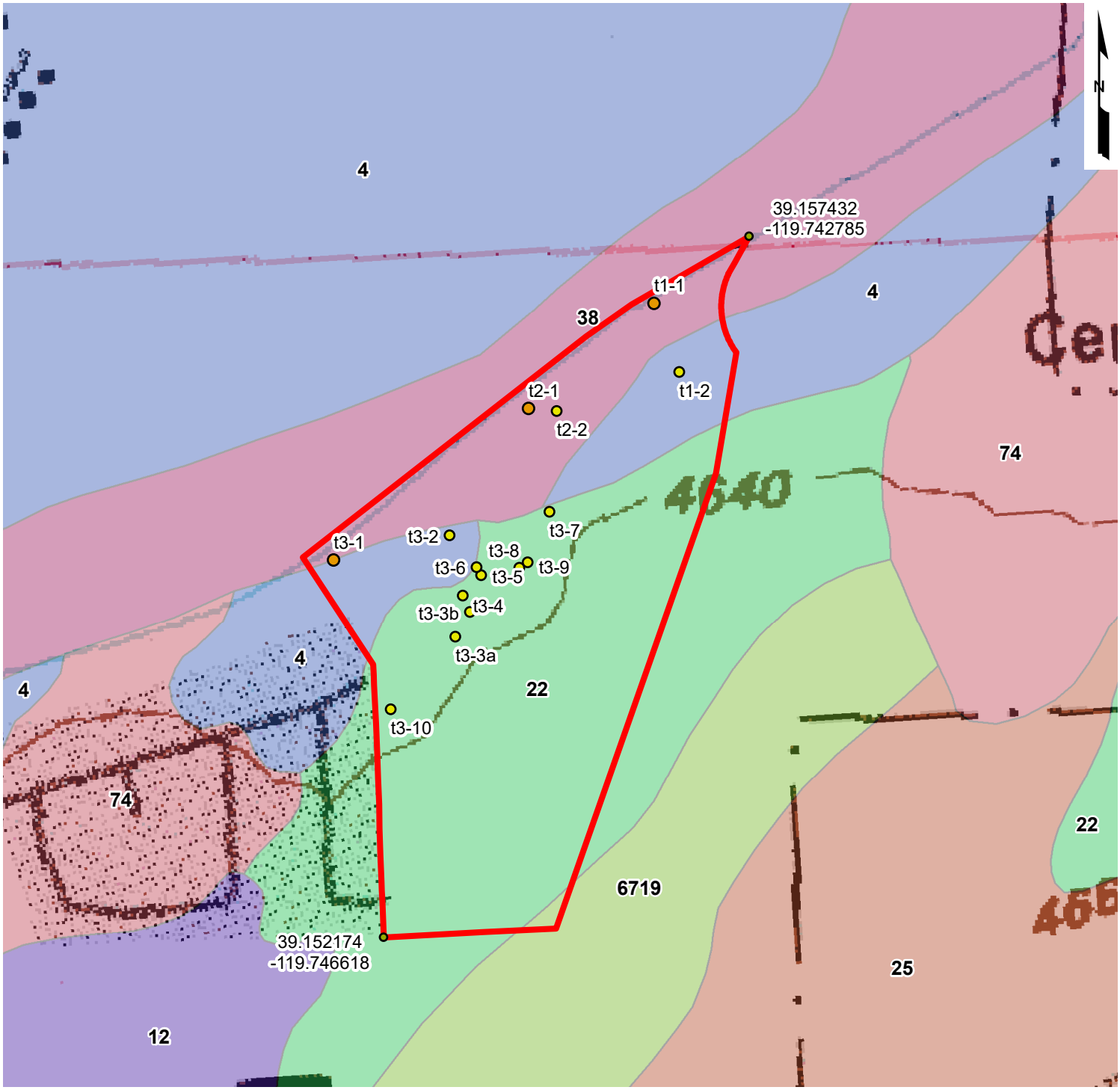
Path: R:\projects\Blackstone\18_208_1\MXD\Figure_1.mxd Date: 7/6/2018

Project: Saliman Rd/ Fairview Drive
County: Carson City, Nevada
Section 16. T. 15N., R 20 E., M.D.M
Surveyors: JoAnne Michael
Date: 6/1/2018
Source: 2016 Nevada NAIP Imagery
Datum: D_North_American_1983

National Wetland Inventory

RESOURCE CONCEPTS, INC.

Path: R:\projects\Blackstone\18_208_1\MXD\Figure_3.mxd Date: 7/6/2018



Legend

- Data Points
- OHWM Data Points
- Limits of Delineation

Map Unit Number, Map Unit Name

- 12 Dalzell fine sandy loam, deep water table
- 22 Greenbrae fine sandy loam, 0 to 2 percent slopes
- 25 Haybourne sandy loam, 0 to 2 percent slopes
- 38 Kimmerling silty clay loam
- 4 Bishop loam, saline
- 6719 Surpass gravelly sandy loam, 0 to 2 percent slopes
- 74 Vamp fine sandy loam, slightly saline-alkali

Project: Saliman Rd/ Fairview Drive
County: Carson City, Nevada
Section 16. T. 15N., R 20 E., M.D.M
Surveyors: JoAnne Michael
Date: 6/1/2018
Source: NRCS Soil Survey
Datum: D_North_American_1983

Soil Survey Map

0 100 200 400 Feet

RESOURCE CONCEPTS, INC.

Path: R:\projects\Blackstone\18_208_1\MXD\Figure_2.mxd Date: 7/11/2018

Aquatic Resources

- RPW
- PEMC
- Open Water Pond

Legend

- Data Points
- OHWM Data Points
- Limits of Delineation
- Photopoints

0 75 150 300 Feet

Project: Saliman Rd/ Fairview Drive
County: Carson City, Nevada
Section 16. T. 15N., R 20 E., M.D.M
Surveyors: JoAnne Michael
Date: 6/1/2018
Source: 08/2017 Google Earth Imagery
Datum: D_North_American_1983

Photo Page Delineation of Aquatic Resources

RESOURCE CONCEPTS, INC.

Path: R:\projects\Blackstone\18_208_1\MXD\Figure_5.mxd Date: 7/11/2018

Appendix C

Photographs

Appendix C – Site Photographs

Photo 1. Site overview from northeast corner. View to the southwest along property boundary. Linear ditch located to the far right of photo. Note that ditch banks are 3-4 feet above floodplain.

Photo 2. Site overview from northeast corner. View to the south along property boundary. Site slopes up to the south and transitions from floodplain (foreground) to sagebrush scrub-shrub as seen in the distance.

Photo 3. View to the southeast of Linear Ditch (AR-1) at T1-1. Open water channel with emergent wetland fringe.

Photo 4. Data point T1-2 taken within lowest area within the floodplain. Formally irrigated pasture. Predominance of hydrophytic vegetation, but no indicators of wetland hydrology.

Photo 5. OHWM Data Point T2-1. View to the southwest of Linear Ditch (AR-1).

Photo 6. Data point T2-2 View to the southwest.

Photo 7. Data point T3-2. View to the south. Upland floodplain located above swale from AR-3. No swale topography and water infiltrates.

Photo 8. AR-2: open water pond with wetland fringe. Excavated as stock watering pond. surface flow drains to this pond. No outlet. View to the northeast.

Photo 9. Data point T3-3a. Upland adjacent to open water pond. Data point taken on slope above pond formed by excavated spoils.

Photo 10. Overview of T3-5 (AR-3) and T3-6 (adjacent upland on left). Distinct topographic break defines boundary between wetland and upland on the left.

Photo 11. Data point T3-8 of AR-3: Palustrine emergent wetland.

Photo 12. Typical soils found throughout floodplain

Photo 13. Overview of floodplain taken from sagebrush scrub-shrub. View to the north.

Photo 14. Overview of upland scrub shrub from southern survey boundary. View to the North.

Appendix D

Plant List

Appendix D – Plant List

Wetland Delineation Plant List for Blackstone Saliman-Fairview

Scientific Name	Indicator	Common Name
Bromus hordeaceus	FACU	Soft Brome
Bromus tectorum	UPL	Cheatgrass
Cadaria draba	FACW	Whitetop
Carex nebraskensis	OBL-FAC	Nebraska sedge
Carex spp.	OBL-FAC	Sedge species
Cirsium arvense	FAC	Canada thistle
Chrysothamnus nauseosa	UPL	Rubber Rabbitbrush
Descurainia sp.	FAC	mustard
Deschampsia elongata	FACW	slender hairgrass
Eleocharis palustris	OBL	creeping spike-rush
Elymus smithii	FAC	Western wheatgrass
Hordeum brachyantherum	FACW	Meadow Barely
Hordeum jubatum	FAC	Foxtail Barely
Juncus balticus	FACW	Baltic Rush
Lepidium latifolium	FAC	Whitetop
Sonchus sp.	FAC	dandelion
Taraxacum officinale	FACU	Dandelion
Thinopyrum intermedium	UPL	Intermediate wheatgrass

Appendix E

Wetland Delineation Data Sheets

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Saliman Road / Fairview Drive City/County: Carson City Sampling Date: June 1, 2018

Applicant/Owner: Blackstone Development Group State: NV Sampling Point: T1-2

Investigator(s): JoAnne Michael Section, Township, Range: Sec 21, T. 15 N., R 20 E.

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): D Lat: 39.156414 Long: -119.743518 Datum: D N.Am.83

Soil Map Unit Name: Bishop loam, saline NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✔

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Data point take in topographic depression within floodplain.
Site has been grazed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Chrysothamnus nauseosus	20	Y	FACU
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Deschampsia elongota	40	Y	FACW
2. Carex sp.	5	N	OBL-FAC
3. Juncus balticus	5	N	FACW
4. Thinopyrum intermedium	20	Y	UPL
5. Cadaria draba	20	Y	FACW
6. Bromus tectorum	10	N	UPL
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Characteristic floodplain species intermixed with upland grasses.

SOIL

Sampling Point: T1-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100	none				sil cly lm	dense fine roots
4-21	10 YR 2/1	100	none				sil cly lm	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** _____

Remarks:

Hydric soils present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): none

Water Table Present? Yes _____ No ✔ Depth (inches): > 21

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): > 21

Wetland Hydrology Present? **Yes** _____ **No** ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point located within depression of floodplain terrace. No evidence of recent ponding or inundation.

data point taken in historic floodplain.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Saliman Road / Fairview Drive City/County: Carson City Sampling Date: June 1, 2018

Applicant/Owner: Blackstone Development Group State: NV Sampling Point: T2-2

Investigator(s): JoAnne Michael Section, Township, Range: Sec 21, T. 15 N., R 20 E.

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): D Lat: 39.156149 Long: -119.744735 Datum: D N.Am.83

Soil Map Unit Name: Kimmerling silty clay loam NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation ✔, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✔

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

Data point taken within vegetated swale within floodplain. No defined bed and bank, no evidence of an OHWM Site has been grazed.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Thinopyrum intermedium	20	Y	UPL
2. Carex sp.	10	N	OBL-FA(
3. Juncus balticus	20	Y	FACW
4. Lepidium latifolium	10	N	FACW
5. Cadaria draba	40	Y	FACW
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Fully vegetated throughout swale; no change in veg from adjacent upland; no scour

SOIL

Sampling Point: T2-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-4	10YR 2/1	100	none				sil cly lm	
4-20	10 YR 2/1	100	none				sil cly lm	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** _____

Remarks:

Hydric soils present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): none

Water Table Present? Yes _____ No ✔ Depth (inches): > 20

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): > 20

Wetland Hydrology Present? **Yes** _____ **No** ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point taken within vegetated swale. No evidence of recent flows or wetland hydrology.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Saliman Road / Fairview Drive City/County: Carson City Sampling Date: June 1, 2018

Applicant/Owner: Blackstone Development Group State: NV Sampling Point: T3-2

Investigator(s): JoAnne Michael Section, Township, Range: Sec 21, T. 15 N., R 20 E.

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): D Lat: 39.155228 Long: -119.745829 Datum: D N.Am.83

Soil Map Unit Name: Bishop loam, saline NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes _____ No ✔

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

Data point taken within vegetated swale within floodplain. No defined bed and bank, no evidence of an OHWM remenent ditch from when site was irrigated. swale topography is intermittent within landscape.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Agropyron spicatum	10	Y	UPL
2. Carex nebraskensis	20	N	OBL-FA(
3. Juncus balticus	20	Y	FACW
4. Lepidium latifolium	10	N	FACW
5. Cadaria draba	20	Y	FACW
6.			
7.			
8.			
	80 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 66.7 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

thatch = 20% ground cover

SOIL

Sampling Point: T3-2

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-21	10YR 2/1	100	none				sil cly lm	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** _____

Remarks:

Hydric soils present.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): none

Water Table Present? Yes _____ No ✔ Depth (inches): > 21

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): > 21

Wetland Hydrology Present? **Yes** _____ **No** ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Data point taken within vegetated swale with no evidence of recent flows. Swale topography is intermittent throughout floodplain and not well defined.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Saliman Road / Fairview Drive City/County: Carson City Sampling Date: June 1, 2018

Applicant/Owner: Blackstone Development Group State: NV Sampling Point: T3-3a

Investigator(s): JoAnne Michael Section, Township, Range: Sec 21, T. 15 N., R 20 E.

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): Concave Slope (%): 2

Subregion (LRR): D Lat: 39.154451 Long: -119.745808 Datum: D N.Am.83

Soil Map Unit Name: Greenbrae fine sandy loam, 0 to 2 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland adjacent to pond. Spoils from excavated pond that have been stockpiled along west side of pond. Slope upward 3:1, bank ht. 5' over water level

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Chrysothamnus nauseosus	10	Y	FACU
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Hordeum brachyantherum	60	Y	FACW
2. Bromus tectorum	10	N	FACU
3. Hordeum jubatum	10	N	FAC
4. Taraxacum officinale	5	N	FACU
5. Lepidium latifolium	20	N	FAC
6.			
7.			
8.			
	105 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 2 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 50 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes _____ No ✔

Remarks:

Distinct change and type of vegetation from adjacent wetland (AR-2).

SOIL

Sampling Point: T3-3a

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0-22	10YR 2/1							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** _____

Remarks:

stock pile of soil that was excavated from adjacent pond and graded.

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): none

Water Table Present? Yes _____ No ✔ Depth (inches): >20

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): >20

Wetland Hydrology Present? Yes _____ **No** ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Steep slope, no evidence of flooding or indundation; no erosion or rills evident.

Site historically irrigated.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Saliman Road / Fairview Drive City/County: Carson City Sampling Date: June 1, 2018

Applicant/Owner: Blackstone Development Group State: NV Sampling Point: T3-3B

Investigator(s): JoAnne Michael Section, Township, Range: Sec 21, T. 15 N., R 20 E.

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): D Lat: 39.154635 Long: -119.745656 Datum: D N.Am.83

Soil Map Unit Name: Greenbrae fine sandy loam, 0 to 2 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes _____	No _____	

Remarks:

AR-2: open water pond, excavated for cattle.
Spoil piles on East and North sides create distinct topo break that defines boundary. No channalized flow out of pond.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Juncus balticus	10	N	FACW
2. Lepidium latifolium	15	Y	FACW
3.			
4.			
5.			
6.			
7.			
8.			
	25 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: _____ (A)

Total Number of Dominant Species Across All Strata: _____ (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: _____ (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Open water within; 25% vegetation around pond fringe.

SOIL

Sampling Point: T3-3B

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

Silty muck

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✔ No _____ Depth (inches): 0 - >2'

Water Table Present? Yes ✔ No _____ Depth (inches): _____

Saturation Present? (includes capillary fringe) Yes ✔ No _____ Depth (inches): _____

Wetland Hydrology Present? Yes ✔ No _____

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Water flows through vegetated swales into pond with no outlet.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Saliman Road / Fairview Drive City/County: Carson City Sampling Date: June 1, 2018

Applicant/Owner: Blackstone Development Group State: NV Sampling Point: T3-4

Investigator(s): JoAnne Michael Section, Township, Range: Sec 21, T. 15 N., R 20 E.

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): concave Slope (%): 2

Subregion (LRR): D Lat: 39.154763 Long: -119.745722 Datum: D N.Am.83

Soil Map Unit Name: Greenbrae fine sandy loam, 0 to 2 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No ✔
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

Remnant drainage feature (excavated) that historically drained into AR-3. No evidence of recent flows. Occasional fill within swale disrupts conveyance.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Cadaria draba	5	N	FACW
2. Carex sp.	20	Y	OBL/FA(
3. Hordeum brachyantherum	20	Y	FACW
4. Elymus smithii	50	Y	FAC
5.			
6.			
7.			
8.			
	95 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 3 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: T3-4

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0 - 20	10YR 2/1	100	-					

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? **Yes** ✔ **No** _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): No

Water Table Present? Yes ___ No ✔ Depth (inches): >20

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): >20

Wetland Hydrology Present? **Yes** ✔ **No** ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

remnant excavated linear drainage, filled in and flattened out. No evidence of recent flows. Was likely historically used to drain wetlands and convey water to pond for cattle use.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Saliman Road / Fairview Drive City/County: Carson City Sampling Date: June 1, 2018

Applicant/Owner: Blackstone Development Group State: NV Sampling Point: T3-5

Investigator(s): JoAnne Michael Section, Township, Range: Sec 21, T. 15 N., R 20 E.

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): D Lat: 39.154914 Long: -119.745532 Datum: D N.Am.83

Soil Map Unit Name: Greenbrae fine sandy loam NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes ✔ No _____	

Remarks:

AR-3: PEMC - located in distinct topographic depression; Datat point taken at upper edge of wetland. No flow from wetland, surrounding uplands sheet flow into depression.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Hordeum brachyantherum	80	Y	FACW
2. Juncus balticus	10	N	FAC
3. Deschampsia elongata	10	N	FACW
4.			
5.			
6.			
7.			
8.			
	_____ = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: T3-5

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 18	10YR 2/1						Clay loam	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✔ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ✔ No ___ Depth (inches): 0-4 inches

Water Table Present? Yes ✔ No ___ Depth (inches): 0

Saturation Present? (includes capillary fringe) Yes ✔ No ___ Depth (inches): 0

Wetland Hydrology Present? Yes ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Depressional area/holds precipitation.
Deep hoof prints, sediment deposits on surface.
Saturated at wetland edges to > 4" standing water within distinct topographic depression.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Saliman Road / Fairview Drive City/County: Carson City Sampling Date: June 1, 2018

Applicant/Owner: Blackstone Development Group State: NV Sampling Point: T3-6

Investigator(s): JoAnne Michael Section, Township, Range: Sec 21, T. 15 N., R 20 E.

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): D Lat: 39.154977 Long: -119.745574 Datum: D N.Am.83

Soil Map Unit Name: Greenbrae fine sandy loam NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes _____	No ✔	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes _____	No _____	
Wetland Hydrology Present?	Yes _____	No _____	

Remarks:

Upland floodplain adjacent to AR-3.
Distinct rise in slope: 1 - 1.5 ft. above wetland in elevation.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Chrysothamnus nauseosus	20	Y	FACU
2.			
3.			
4.			
5.			
	20 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Agropyron spicatum	20	Y	FAC
2. Bromus tectorum	20	Y	UPL
3. Bromus hordeaceus	20	Y	FACU
4. Sonchus sp.	5	N	FAC
5. Descurainia sp.	5	N	FAC
6. Carex sp.	20	Y	OBL/FA
7. Deschampsia elongota	10	N	FACW
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 2 (A)

Total Number of Dominant Species Across All Strata: 5 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 40 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: T3-6

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 20	10YR 2/1						SCL	

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✔ No ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): None

Water Table Present? Yes ___ No ✔ Depth (inches): >20

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): >20

Wetland Hydrology Present? Yes ___ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

hillside slope above wetland. does not retain water; no evidence of inundation or saturation

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Saliman Road / Fairview Drive City/County: Carson City Sampling Date: June 1, 2018

Applicant/Owner: Blackstone Development Group State: NV Sampling Point: T3-7

Investigator(s): JoAnne Michael Section, Township, Range: Sec 21, T. 15 N., R 20 E.

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): D Lat: 39.155381 Long: -119.74484 Datum: D N.Am.83

Soil Map Unit Name: Greenbrae fine sandy loam, 0 to 2 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes _____	No ✔	

Remarks:

Upland swale at upper extent of wetland. Swale from AR-3 flattens out and any flow (if present) would dissipate into floodplain.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Agropyron spicatum	50	Y	FAC
2. Hordeum brachyantherum	20	N	FACW
3. Bromus tectorum	10	N	UPL
4. Cadaria draba	10	N	FACW
5.			
6.			
7.			
8.			
	90 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 1 (A)

Total Number of Dominant Species Across All Strata: 1 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: T3-7

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 21	10YR 2/1							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ___ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): None

Water Table Present? Yes ___ No ✔ Depth (inches): >21

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): >21

Wetland Hydrology Present? Yes ___ **No** ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Slope of channel flattens out near fence line.
No deposition, no evidence of standing water. No drainage pattern.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Saliman Road / Fairview Drive City/County: Carson City Sampling Date: June 1, 2018

Applicant/Owner: Blackstone Development Group State: NV Sampling Point: T3-8

Investigator(s): JoAnne Michael Section, Township, Range: Sec 21, T. 15 N., R 20 E.

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): D Lat: 39.154962 Long: -119.745155 Datum: D N.Am.83

Soil Map Unit Name: Greenbrae fine sandy loam, 0 to 2 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔	No _____	**Is the Sampled Area within a Wetland?** Yes ✔ No _____
Hydric Soil Present?	Yes ✔	No _____	
Wetland Hydrology Present?	Yes ✔	No _____	

Remarks:

AR-3: PEM1C located within distinct depression. Flows to AR-2 (open water pond) during high flow events.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Hordeum brachyantherum	40	Y	FACW
2. Lepidium latifolium	5	N	FACW
3. Eleocharis palustris	20	Y	OBL
4. Juncus balticus	20	Y	FACW
5.			
6.			
7.			
8.			
	85 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 4 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 100 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

___ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

SOIL

Sampling Point: T3-8

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	%	Redox Features Color (moist)	%	Type[1]	Loc[2]	Texture	Remarks
0 - 18	10YR 2/1							

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: ___

Depth (inches): ___

Hydric Soil Present? Yes ✔ **No** ___

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ✔ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ✔ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ✔ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes ___ No ✔ Depth (inches): none

Water Table Present? Yes ___ No ✔ Depth (inches): >18

Saturation Present? (includes capillary fringe) Yes ___ No ✔ Depth (inches): >18

Wetland Hydrology Present? Yes ✔ **No** ___

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Evidence of standing water earlier in the season.
Distinct topographic depression and distinct change in vegetation defines wetland boundary.

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Saliman Road / Fairview Drive City/County: Carson City Sampling Date: June 1, 2018

Applicant/Owner: Blackstone Development Group State: NV Sampling Point: T3-9

Investigator(s): JoAnne Michael Section, Township, Range: Sec 21, T. 15 N., R 20 E.

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): none Slope (%): 2

Subregion (LRR): D Lat: 39.155 Long: -119.745073 Datum: D N.Am.83

Soil Map Unit Name: Greenbrae fine sandy loam, 0 to 2 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

Upland field/ slopes to wetland

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1. Chrysothamnus nauseosus	10	Y	FACU
2.			
3.			
4.			
5.			
	10 = Total Cover		
Herb Stratum (Plot size: _____)			
1. Juncus balticus	30	Y	FACW
2. Cirsium arvense	5	N	FAC
3. Carex sp.	20	Y	OBL/FA
4. Bromus tectorum	20	Y	FACU
5. Vicia sp.	5	N	
6. Deschampsia elongota	20	Y	FACW
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Rabbit brush on the edge of the wetland

SOIL

Sampling Point: T3-9

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-22	10 YR 2/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): none

Water Table Present? Yes _____ No ✔ Depth (inches): >22

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): >22

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

WETLAND DETERMINATION DATA FORM – Arid West Region

Project/Site: Saliman Road / Fairview Drive City/County: Carson City Sampling Date: June 1, 2018

Applicant/Owner: Blackstone Development Group State: NV Sampling Point: T3-10

Investigator(s): JoAnne Michael Section, Township, Range: Sec 21, T. 15 N., R 20 E.

Landform (hillslope, terrace, etc.): floodplain Local relief (concave, convex, none): depression Slope (%): 2

Subregion (LRR): D Lat: 39.153915 Long: -119.746466 Datum: D N.Am.83

Soil Map Unit Name: Greenbrae fine sandy loam, 0 to 2 percent slopes NWI classification: PEM1C

Are climatic / hydrologic conditions on the site typical for this time of year? Yes ✔ No _____ (If no, explain in Remarks.)

Are Vegetation _____, Soil _____, or Hydrology _____ significantly disturbed? Are "Normal Circumstances" present? Yes ✔ No _____

Are Vegetation _____, Soil _____, or Hydrology _____ naturally problematic? (If needed, explain any answers in Remarks.)

SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, etc.

Hydrophytic Vegetation Present?	Yes ✔ No _____	**Is the Sampled Area within a Wetland?** Yes _____ No ✔
Hydric Soil Present?	Yes ✔ No _____	
Wetland Hydrology Present?	Yes _____ No ✔	

Remarks:

Depressional area adjacent to Railroad Dr. Drains to stormdrain.

VEGETATION – Use scientific names of plants.

Tree Stratum (Plot size: _____)	Absolute % Cover	Dominant Species?	Indicator Status
1.			
2.			
3.			
4.			
	_____ = Total Cover		
Sapling/Shrub Stratum (Plot size: _____)			
1.			
2.			
3.			
4.			
5.			
	_____ = Total Cover		
Herb Stratum (Plot size: _____)			
1. Hordeum brachyantherum	10	N	FACW
2. Hordeum jubatum	20	Y	FAC
3. Lepidium latifolium	30	Y	FAC
4. Cadaria draba	20	Y	FACW
5. Onopordum acanthium	20	Y	UPL
6.			
7.			
8.			
	100 = Total Cover		
Woody Vine Stratum (Plot size: _____)			
1.			
2.			
	_____ = Total Cover		

% Bare Ground in Herb Stratum _____ % Cover of Biotic Crust _____

Dominance Test worksheet:

Number of Dominant Species That Are OBL, FACW, or FAC: 3 (A)

Total Number of Dominant Species Across All Strata: 4 (B)

Percent of Dominant Species That Are OBL, FACW, or FAC: 75 (A/B)

Prevalence Index worksheet:

Total % Cover of:	Multiply by:
OBL species _____	x 1 = _____
FACW species _____	x 2 = _____
FAC species _____	x 3 = _____
FACU species _____	x 4 = _____
UPL species _____	x 5 = _____
Column Totals: _____ (A)	_____ (B)

Prevalence Index = B/A = _____

Hydrophytic Vegetation Indicators:

✔ Dominance Test is >50%

___ Prevalence Index is ≤3.0[1]

___ Morphological Adaptations[1] (Provide supporting data in Remarks or on a separate sheet)

___ Problematic Hydrophytic Vegetation[1] (Explain)

[1]Indicators of hydric soil and wetland hydrology must be present, unless disturbed or problematic.

Hydrophytic Vegetation Present? Yes ✔ No _____

Remarks:

Bromus tectorum present on small mounds within depression.

SOIL

Sampling Point: T3-10

Profile Description: (Describe to the depth needed to document the indicator or confirm the absence of indicators.)

Depth (inches)	Matrix Color (moist)	Matrix %	Redox Features Color (moist)	Redox Features %	Type[1]	Loc[2]	Texture	Remarks
0-18	10 YR 2/1	100						

[1]Type: C=Concentration, D=Depletion, RM=Reduced Matrix, CS=Covered or Coated Sand Grains. [2]Location: PL=Pore Lining, M=Matrix.

Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)

- ___ Histosol (A1)
- ___ Histic Epipedon (A2)
- ___ Black Histic (A3)
- ___ Hydrogen Sulfide (A4)
- ___ Stratified Layers (A5) (**LRR C**)
- ___ 1 cm Muck (A9) (**LRR D**)
- ___ Depleted Below Dark Surface (A11)
- ___ Thick Dark Surface (A12)
- ___ Sandy Mucky Mineral (S1)
- ___ Sandy Gleyed Matrix (S4)
- ___ Sandy Redox (S5)
- ___ Stripped Matrix (S6)
- ___ Loamy Mucky Mineral (F1)
- ___ Loamy Gleyed Matrix (F2)
- ✔ Depleted Matrix (F3)
- ___ Redox Dark Surface (F6)
- ___ Depleted Dark Surface (F7)
- ___ Redox Depressions (F8)
- ___ Vernal Pools (F9)

Indicators for Problematic Hydric Soils[3]:

- ___ 1 cm Muck (A9) (**LRR C**)
- ___ 2 cm Muck (A10) (**LRR B**)
- ___ Reduced Vertic (F18)
- ___ Red Parent Material (TF2)
- ___ Other (Explain in Remarks)

[3]Indicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.

Restrictive Layer (if present):

Type: _____

Depth (inches): _____

Hydric Soil Present? Yes _____ No _____

Remarks:

HYDROLOGY

Wetland Hydrology Indicators:

Primary Indicators (minimum of one required; check all that apply)

- ___ Surface Water (A1)
- ___ High Water Table (A2)
- ___ Saturation (A3)
- ___ Water Marks (B1) (**Nonriverine**)
- ___ Sediment Deposits (B2) (**Nonriverine**)
- ___ Drift Deposits (B3) (**Nonriverine**)
- ___ Surface Soil Cracks (B6)
- ___ Inundation Visible on Aerial Imagery (B7)
- ___ Water-Stained Leaves (B9)
- ___ Salt Crust (B11)
- ___ Biotic Crust (B12)
- ___ Aquatic Invertebrates (B13)
- ___ Hydrogen Sulfide Odor (C1)
- ___ Oxidized Rhizospheres along Living Roots (C3)
- ___ Presence of Reduced Iron (C4)
- ___ Recent Iron Reduction in Tilled Soils (C6)
- ___ Thin Muck Surface (C7)
- ___ Other (Explain in Remarks)

Secondary Indicators (2 or more required)

- ___ Water Marks (B1) (**Riverine**)
- ___ Sediment Deposits (B2) (**Riverine**)
- ___ Drift Deposits (B3) (**Riverine**)
- ___ Drainage Patterns (B10)
- ___ Dry-Season Water Table (C2)
- ___ Crayfish Burrows (C8)
- ___ Saturation Visible on Aerial Imagery (C9)
- ___ Shallow Aquitard (D3)
- ___ FAC-Neutral Test (D5)

Field Observations:

Surface Water Present? Yes _____ No ✔ Depth (inches): none

Water Table Present? Yes _____ No ✔ Depth (inches): >18

Saturation Present? (includes capillary fringe) Yes _____ No ✔ Depth (inches): >18

Wetland Hydrology Present? Yes _____ No ✔

Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:

Remarks:

Small drainage area contributes to inflow. Outflows to a stormdrain located along the edge of Railroad Dr.

Appendix F

OHWM Data Sheets

Project: Blackstone Saliman Road / Fairview Drive **Date: June 1, 2018**

Location: Saliman Road / Fairview Drive **Investigator(s):** JoAnne Michael

Project Description:

Housing Development. Details to be determined with Carson City, Nevada

Describe the river or stream's condition (disturbances, in-stream structures, etc.):

AR-1 is an excavated, man-made ditch with adjacent wetland fringe. The width varies between 6 and 25 feet wide. The channel flows from the southwest to the northeast on the northern edge of the site. The channel drains to the Carson River, a TNW

Off-site Information

Remotely sensed image(s) acquired? ■ **Yes** ■ [If yes, attach image(s) to datasheet(s) and indicate approx. locations of transects, OHWM, and any other features of interest on the image(s); describe below] Description:

Google Earth aerial photos. See Appendix A.

Hydrologic/hydraulic information acquired? ■ ■ **No** [If yes, attach information to datasheet(s) and describe below.] Description:

List and describe any other supporting information received/acquired:

USGS Topo map
National Wetland Inventory map
Site reconnaissance

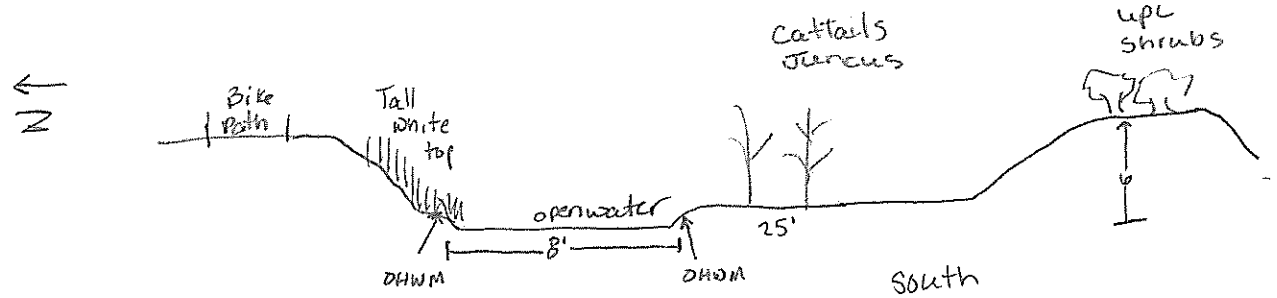
Instructions: Complete one cover sheet and one or more datasheets for each project site. Each datasheet should capture the dominant characteristics of the OHWM along some length of a given stream. Complete enough datasheets to adequately document up- and/or downstream variability in OHWM indicators, stream conditions, etc. Transect locations can be marked on a recent aerial image or their GPS coordinates noted on the datasheet.

T1-1

Datasheet # OHWM - 1 **OHWM Delineation Datasheet** Page 2 of 6

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)

Linear Ditch



Break in Slope at OHWM: ☒ Sharp (> 60°) | ☒ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None

Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM						
Below OHWM	80	10	10	/	/	N

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	Ø	Ø	100	Ø
Below OHWM	Ø	Ø	10	90

Notes/Description:

Above OHWM, but with streambanks, dominated by Juncs, Typha, Lep Lat.

Below OHWM acc emerg veg.

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

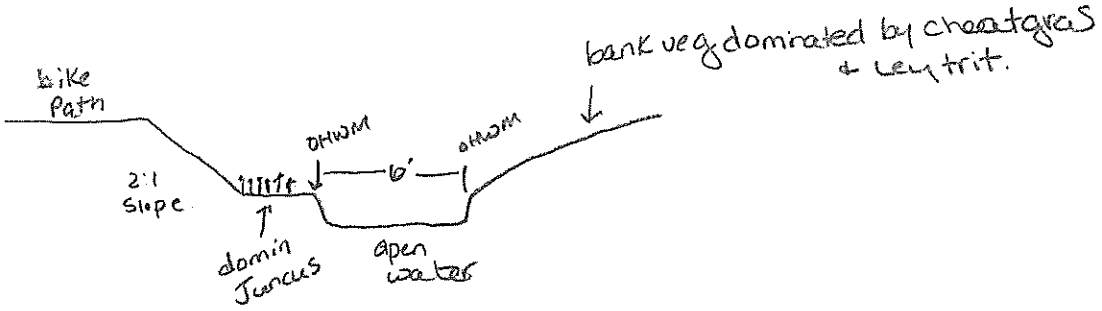
benching

width at OHWM = 8'

T2-1

Datasheet # OHWM - 1 **OHWM Delineation Datasheet** Page 3 of 4

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☒ Sharp (> 60°) | ☐ Moderate (30–60°) | ☒ Gentle (< 30°) | ☐ None
Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM	10	90	0	0	0	
Below OHWM	90	10	0	0	0	N

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM	0	5	90	5
Below OHWM	0	0	20	80

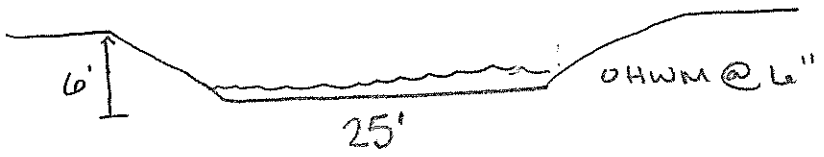
Notes/Description:
Juncus extends into open channel

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation
Linear ditch, excavated w/ steep banks

TB-1

Datasheet # OHWM - 1 **OHWM Delineation Datasheet** Page 4 of 4

Transect (cross-section) drawing: (choose a location that is representative of the dominant stream characteristics over some distance; label the OHWM and other features of interest along the transect; include an estimate of transect length)



Break in Slope at OHWM: ☒ Sharp (> 60°) | ☐ Moderate (30–60°) | ☐ Gentle (< 30°) | ☐ None
Notes/Description:

Sediment Texture: Estimate percentages to describe the general sediment texture above and below the OHWM

	Clay/Silt <0.05mm	Sand 0.05 – 2mm	Gravel 2mm – 1cm	Cobbles 1 – 10cm	Boulders >10cm	Developed Soil Horizons (Y/N)
Above OHWM						
Below OHWM	100	–				

Notes/Description:

Vegetation: Estimate absolute percent cover to describe general vegetation characteristics above and below the OHWM

	Tree (%)	Shrub (%)	Herb (%)	Bare (%)
Above OHWM				
Below OHWM				

Notes/Description:
Typha extends from edge of bank into open water

Other Evidence: List/describe any additional field evidence and/or lines of reasoning used to support your delineation

Lack of veg / open water
topo break

Appendix G

Access Authorization

July 6, 2018

To Whom it May Concern:

Re: Wetland Delineation

I, Scott Baumgardner, Vice President of Blackstone NV, LLC do hereby attest that we are the Owner or authorized agent of the Owner of the property as described below. We consent to provide the US Army Corps of Engineers access to the property, at reasonable times and under reasonable conditions, for the purpose of Sample Collection.

Community/Association/Business (if applicable) Vacant Land

APN 01005144

We do hereby consent to allow, at reasonable times, including actual operations, free and unrestricted access to the property.

Hold Harmless

We understand that all authorized personnel shall hold the property owners harmless for all damages to person or property that result, in relations to this activity, whether through negligence, act of God, or other cause.

Signature _____

Print Name Scott Baumgardner

Date: 7-5-18

Appendix H

Aquatic Resource Excel Sheet

Saliman Road & Fairview Drive, Carson City, NV

Waters_Name	State	Cowardin_Code	HGM_Code	Meas_Type	Amount	Units	Waters_Type	Latitude	Longitude	Local_Waterway
AR-1	NEVADA	R4SB3	RIVERINE	Linear	1506	FOOT	TNW	39.155692°	-119.746037°	Kings and Voltaire canyons
AR-2	NEVADA	POW	DEPRESS	Area	0.27	ACRE	DELINEATE	39.154641°	-119.745669°	None
AR-3	NEVADA	PEM1	DEPRESS	Area	0.07	ACRE	DELINEATE	39.154987°	-119.745389°	None

Appendix I

Digital Data (on CD)

- GIS Shape Files
- Aquatic Resources Excel Worksheet
- Complete pdf of Aquatic Resource Delineation Report
- U.S. Fish and Wildlife Species List