SURPRISE
ARIZONA

Ashton Ranch

Amendment	Case Number	Approval Date	Approval Doc.	Page
Original PAD	PAD97-074	11/3/97	ORD97-22	2
Land Use & Setback Revision	PADA98-059	8/4/99		337

CITY OF SURPRISE
PLANNING AND ZONING DEPARTMENT
APPROVED
Case No.: PAD97-074
P&Z Comm. Approval:
City Council Approval: 11/13/1997
B.O.A. Approval:
Stipulations:

"ASHTON RANCH"

CITY OF SURPRISE
PLANNED AREA DEVELOPMENT

REVISED 6.25.97
REVISED 7.29.97
REVISED 8.25.97
REVISED 10.10.97

(Exhibit B to the Pre-Annexation Development Agreement)

RECEIVED
OCT 10
CITY OF SURPRISE

CITY OF SURPRISE
PLANNING AND ZONING DEPARTMENT
APPROVED
Case No.: PADA 98-059
P&Z Comm. Approval:
City Council Approval:
B.O.A. Approval: ~~Approval 8/4/1999~~ Admin Approval Sec 14
~~Stipulations:~~

BEAZER HOMES
2005 W. 14TH STREET
SUITE 100
TEMPE, AZ 85281
TELEPHONE: 967-8655
FAX: 967-2606

CITY OF SURPRISE
COUNCIL AGENDA ACTION FORM

__XX__Regular Meeting
____ Special Meeting
____ Workshop

MEETING SCHEDULED
Time: 7:00 p.m.
Date: November 13, 1997

Agenda Item - # 22 OLD BUSINESS

____Consent
__XX__Regular

Title: **Consideration and action to approve Ordinance No. 97-22(a). An Ordinance changing the zoning of a property bounded generally by Greenway Road on the North, Bullard Avenue on the East, Waddell Road on the South, and the Mid-Section of Section 8, located in Section 8, Township 3 North, Range 1 West, of the Gila and Salt River Base and Meridian, Maricopa County, Arizona, from R1-43 to Planned Area Development (PAD) with Preliminary Development Plan. Subject site consists of 320 acres. (Beazer Homes). FINAL READING.**

Requested By: **City Manager's Office**

Action Requested: **Approve Ordinance No. 97-22(a)**

Attached: **Ordinance No. 97-22(a)**
Exhibit "A" - Legal Description
Exhibit "B" Map

Fiscal Impact: _____ Budgeted ___ Not Budgeted
Finance Dir. (initial)_____

City Manager's Recommendation:_____Approve ___ Disapprove ___ None

Council Action:

Motion/ Second	Councillor's Name	Vote
____	Shafer	____
2nd	Villanueva	____
m	Broich	____
____	Johnson	____
____	Montoya	____
____	Anderson	____
____	Reafleng	____

Results:
For 7 Against 0
Abstained ____
Passed ✓
Failed ____
Absent ____

Legend: Motion-M, Second-S, Yes-Y, No-N, Abstain-A, Absent-X

ORDINANCE NO. 97-22(A)

AN ORDINANCE CHANGING THE ZONING OF A PROPERTY BOUNDED GENERALLY BY GREENWAY ROAD ON THE NORTH, BULLARD AVENUE ON THE EAST, WADDELL ROAD ON THE SOUTH, AND THE MID-SECTION OF SECTION 8 ON THE WEST, LOCATED IN SECTION 8, TOWNSHIP 3 NORTH, RANGE 1 WEST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, FROM R1-43 TO PLANNED AREA DEVELOPMENT (PAD) WITH PRELIMINARY DEVELOPMENT PLAN.

WHEREAS, this Ordinance has been properly noticed for public hearing and the necessary hearings have been completed; and

WHEREAS, changes have occurred in the vicinity of Greenway Road on the North, Bullard Avenue on the east, Waddell Road on the south, and the Mid-Section of Section 8 on the west, located in Section 8, Township 3 North, Range 1 West, of the Gila and Salt River Base and Meridian, Maricopa County, Arizona, which require that the zoning of a parcel of land in that area be changed; and

WHEREAS, rezoning of the subject property will enhance the health, safety, and welfare of the community, will not cause traffic congestion or depreciate surrounding property values and, at the same time is in harmony with the purposes and intent of the zoning ordinance, the plan for the area, and the Comprehensive Development Guide; and

WHEREAS, the Planning and Zoning Commission has recommended approval of this rezoning;

NOW THEREFORE BE IT ORDAINED, by the City Council of the City of Surprise, Arizona, that:

Section 1. This Ordinance is not of a general and permanent nature and shall not be codified.

Section 2. The property described in Exhibit "A" is rezoned from R1-43 to Planned Area Development ("PAD") with Preliminary Development Plan.

Section 3. The Preliminary Development Plan for the property described on Exhibit "A", entitled "Ashton Ranch Planned Area Development Plan, dated revised 8/25/97, as Application No. PAD97-74, a copy of which is on file in the Community Development Department, is approved.

Section 4. All present and future owners of the property described on Exhibit "A" shall develop the property only as provided in the approved Preliminary Development Plan and in compliance with Stipulations contained in Exhibit "B".

PASSED AND ADOPTED this 13th day of November, 1997.

Joan H. Shafer
Joan H. Shafer
Mayor, City of Surprise

ATTEST:

Sherry Ann Aguilar
Sherry A Aguilar, City Clerk

APPROVED AS TO FORM:

David Ward, Assistant City Attorney

Yeas: Mayor Shafer, Vice-Mayor Villanueva, Councilmembers Broich, Montoya, Reafleng, Anderson & Johnson.

Nays: _____

LEGAL DESCRIPTION

THE EAST HALF OF SECTION 8, TOWNSHIP 3 NORTH, RANGE 1 WEST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 8; (SAID MONUMENT BEING A 1/2" IRON BAR 0.7 FEET BELOW GROUND)

THENCE SOUTH 00° 17' 50" EAST ALONG THE EASTERLY LINE OF SAID SECTION 8, A DISTANCE OF 2638.12 FEET TO THE EAST QUARTER CORNER OF SECTION 8; (SAID MONUMENT BEING A 1/2" PIPE 1.0 FEET BELOW GROUND)

THENCE SOUTH 00° 18' 00" EAST ALONG THE EASTERLY LINE OF SAID SECTION 8, A DISTANCE OF 2637.98 FEET TO THE SOUTHEAST CORNER OF SECTION 8; (SAID MONUMENT BEING A STONE IN A HAND HOLE 1.03 FEET BELOW PAVEMENT)

THENCE NORTH 88° 48' 07" WEST ALONG THE SOUTHERLY LINE OF SAID SECTION 8, A DISTANCE OF 2633.51 FEET TO THE SOUTH QUARTER CORNER OF SECTION 8; (SAID MONUMENT BEING A 1/2" IRON BAR 0.62 FEET BELOW PAVEMENT)

THENCE NORTH 00° 16' 57" WEST ALONG THE MID-SECTION LINE OF SAID SECTION 8, A DISTANCE OF 5278.28 FEET TO THE NORTH QUARTER CORNER OF SECTION 8; (SAID MONUMENT BEING A 1/2" PIPE 0.63 FEET BELOW GROUND)

THENCE SOUTH 88° 45' 13" EAST ALONG THE NORTHERLY LINE OF SAID SECTION 8, A DISTANCE OF 2632.06 FEET TO THE POINT OF BEGINNING.

GROSS AREA : 13,888,677.04 SQ. FT. 318.8402 ACRES

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
7146
M. LLOYD
WILLIS
Date Signed 6-4-97
ARIZONA, U.S.A.

EXHIBIT - A

TO ORDINANCE NO. 97-22A

RECOMMENDATION: (PAD97-74)

The subject request generally follows the intent of the Surprise Comprehensive Development Guide. Furthermore, approval of this request (PAD97-74) would allow for a timely, efficient and orderly development of the property. Additionally, approval of this request will not adversely impact the surrounding area. Planning and Zoning Commission **recommends** that this request, a rezoning of 320 acres from R1-43 to Planned Area Development, **be approved** subject to the following stipulations:

a) Approval of this Planned Area Development (Application No. PAD97-74) is contingent upon adoption of an annexation ordinance increasing and extending the corporate limits as described in the Ashton Ranch Planned Area Development Plan, Section 10, entitled Legal Description;

b) Approval of this Planned Area Development (Application No. PAD97-74) is contingent upon the execution of a Development Agreement between the City of Surprise and the Developer relating to water service. The City shall not be required to provide water service to the property until a Development Agreement which provides a funding mechanism for construction of water service infrastructure has been signed by the City and the Developer;

c) The minimum lot size shall be forty-five (45) feet wide by one hundred fifteen (115) feet deep;

d) A maximum of thirty-five (35%) percent of the total lot yield shall be 45' x 115';

e) A minimum of twenty (20%) percent of the total lot yield shall be equal or greater than 63' x 115';

f) A minimum of forty-five (45%) percent of the total lot yield shall be equal to or greater than 48' x 115';

g) Any minor change to the total lot yield percentages (for 45', 48' and 63' wide lots) as noted under Recommendation Items d, e, and f, will require an administrative approval by the City Manager and the Community Development Director;

h) Developer shall create and record a set of CC&Rs establishing a homeowners' association which shall be responsible for the maintenance of all open space and landscape areas (including within rights-of -way). Said CC&Rs shall be approved by the Community Development Director;

i) All landscaping plans (including recreational equipment and amenities) and wall details (including perimeter theme walls and entry monumentation) and their

EXHIBIT - B

TO ORDINANCE NO. 97-22

placement within the Ashton Ranch community shall be reviewed and approved by the Community Development Director prior to issuing any building permits;

j) Minimum side yard setbacks shall be 5' and 8' (13' aggregate) with a minimum building separation of 10 feet;

k) Corner side yard setbacks shall be a minimum of 13' measured from the property line;

l) Front yard setbacks shall vary in 3' increments with no more than two homes in a row having the same front yard setback. Minimum front yard setback shall be 18 feet measured from the property line;

m) Rear yard setbacks shall be a minimum of 20 feet;

n) All floor plans and elevations shall be required to be submitted to the Community Development Director for review and approval prior to issuing any building permits;

o) Developer shall provide Flag Lot and Side Entry Garage Exhibits for review and approval by the City Manager and Community Development Director prior to Preliminary Plat approval;

p) All ~~footing~~ Lotting shown in the PAD Notebook are for reference only. Approval of lot layout shall occur at the Preliminary and Final Plat stages;

q) All street cross sections are conceptual and shall be subject to additional review and approval at the time of the Preliminary Plat(s) submittal. Said streets shall be constructed to City standards and as approved by the City Engineer;

r) Final Community Site Development and Architectural Design Guidelines shall be submitted to and approved by the Community Development Director prior to issuing any building permits;

s) Final Sewer, Water, Drainage and Traffic reports for the Ashton Ranch development shall be reviewed and approved by the City Engineer prior to any Preliminary Plat approval;

t) Model homes, temporary sales office and construction trailers shall be submitted as Conditional Use Permits to be reviewed and approved by the Planning and zoning Commission in accordance with the Surprise Municipal Code, Section 17.36.050.

STANDARD:

EXHIBIT - B

TO ORDINANCE NO. 97-22

u) Provide four (4) copies of the PAD Notebook, revised as necessary to comply with these approved stipulations to the Community Development Department within thirty (30) days of City Council approval; and

v) Major changes to this PAD rezoning application with respect to land use, intensity and circulation, must be processed as a revised application with approval by the Mayor and City Council upon recommendation from the Planning and Zoning Commission. Minor changes to the PAD rezoning application may be administratively approved by the Community Development Director and City Manager.

EXHIBIT - B

TO ORDINANCE NO. 97-22

REPORT TO THE PLANNING AND ZONING COMMISSION AND THE CITY COUNCIL

PREPARED BY THE CITY OF SURPRISE COMMUNITY DEVELOPMENT DEPARTMENT

CASE NO.: **PAD97-74** (Planned Area Development - Ashton Ranch)

Planning and Zoning Commission Hearing Date: September 2, 1997
Mayor and City Council Hearing Date: September 11, 1997

REQUEST: Beazer Holdings Corporation is requesting rezoning approval from Single-Family Residential (R1-43) to Planned Area Development (PAD).

SITE LOCATION: The area is bounded by Greenway Road on the north, Waddell Road on the south, Bullard Avenue on the east, and the mid-section of Section 8 on the west, in Section 8, Township 3 North, Range 1 West of the Gila and Salt River Base and Meridian, Maricopa County, Arizona.

SITE SIZE: **320** gross acres

CONFORMANCE TO ADOPTED LAND USE PLANS: The previous item on this agenda was a request to amend the Surprise Comprehensive Development Guide Land Use Map. If, approved, this request would comply with the Plan.

COMMENTING JURISDICTIONS:

Town of Buckeye:	No comments were received
City of El Mirage:	No comments were received
City of Peoria:	No comments were received
Maricopa County:	No comments were received
Dysart Unified School District:	No comments were received
Maricopa Water District:	No comments were received
Luke Air Force Base:	No comments were received

DEPARTMENTAL REVIEW:

The **Engineering Department** has reviewed this application and is recommending approval subject to the stipulations listed under "Recommendations".

The **Fire Department** has reviewed this application and is recommending approval subject to the stipulations listed under "Recommendations".

The **Public Works Department** has reviewed this application and is recommending approval subject to the stipulations listed under "Recommendations".

The **Police Department** has reviewed this application and is recommending approval subject to the stipulations listed under "Recommendations".

STAFF RECOMMENDATION: Approve subject to stipulations listed under Recommendations - Items a through v, excepting Item t.

EXISTING AND SURROUNDING ZONING:

1.

ON-SITE:	R1-43
NORTH:	PAD ("The Orchards")
SOUTH:	Rural-43 (Maricopa County)
EAST:	Rural-43 (Maricopa County)
WEST:	PAD ("The Orchards") and Rural-43 (Maricopa County)

EXISTING AND SURROUNDING LAND USE:

2.

ON-SITE:	Vacant, Agricultural
NORTH:	Vacant, Agricultural
SOUTH:	Vacant, Agricultural
EAST:	Vacant, Agricultural
WEST:	Vacant, Agricultural

ADJACENT ROAD STATUS:

3. **GREENWAY ROAD:** Currently exists as an unimproved dirt road. Proposed as a minor arterial (110' right-of-way). The developer will improve the south one half including curb and gutter and a six' wide meandering sidewalk.

4. **WADDELL ROAD:** Currently exists as a two lane paved road with no curb, gutter or sidewalks. Proposed as a major arterial (130' right-of-way). The developer will improve the north one half including curb and gutter and a six' wide meandering sidewalk.

5. **BULLARD AVENUE:** Currently exists as an unimproved dirt road. Proposed as a minor arterial (110' right-of-way). The developer will improve the west one half including curb and gutter and a six' wide meandering sidewalk.

EXISTING UTILITIES AND SERVICES STATUS:

6. **WATER:** City of Surprise

7. **SEWER:** City of Surprise

8. **FIRE PROTECTION:** The Surprise Fire Department currently has a fire station located at 15616 North Hollyhock Street. A second fire station is proposed near the intersection of the proposed Mountain View Boulevard and Reems Road.

9. **POLICE PROTECTION:** The Surprise Police Department currently has a station located at 12425 W. Bell Road.

CONFORMANCE TO ADOPTED LAND USE PLANS:

10. If approved, this request would comply with the previous request (Application No. GPA97-75) which amended the Surprise Comprehensive Development Guide Land Use Map. The proposed General Plan Amendment requested to expand the "Typical Neighborhood" designation to two areas currently designated as commercial.

AREA LAND USE ANALYSIS:

11. The 320 acre subject request is zoned Single-Family Residential (R1-43). The site is currently being farmed and or vacant undeveloped land.

12. The property to the immediate west is being farmed and or vacant undeveloped land and currently within the City of Surprise strip annexation area. However, it has not been annexed into the City of Surprise and is considered in Maricopa County, zoned Rural-43.

13. The property to the east is being farmed and or vacant undeveloped land and currently within the City of Surprise strip annexation area. However, it has not been annexed into the City of Surprise and is considered in Maricopa County, zoned Rural-43.

14. The property to the north is "The Orchards" Planned Area Development. The proposed land use designations are Low Density Residential, Medium Density Residential, High Density Residential, Convenience Commercial, and Community Commercial. Currently the property is being farmed and or vacant undeveloped land.

15. The property to the south is being farmed and or vacant undeveloped land and currently within the City of Surprise strip annexation area. However, it has not been annexed into the City of Surprise and is considered in Maricopa County, zoned Rural-43.

16. Ashton Ranch, with a Typical Neighborhood designation, would be consistent with the overall intent of the Surprise Comprehensive Development Guide and its Land Use Plan.

PLAN ANALYSIS:

17. This request proposes to rezone 320 acres generally bounded by Greenway Road on the north, Waddell Road on the south, Bullard Avenue on the east, and the mid-section of Section 8 on the west from R1-43 to Planned Area Development.

18. The Ashton Ranch site plan provides a maximum of 1,500 dwelling units and an overall density of 4.71 dwelling units per acre.

19. The Ashton Ranch residential community includes three (3) different lot sizes: 45' x 115', 48' x 115' and 63' x 115'. The proposed percentage of lots in each category are 47%, 28% and 25% respectively. **Staff has requested (see Stipulation b and c) that a maximum of 30% of the total lot yield shall be 45' x 115' and that a minimum of 20% of the total lot yield shall be equal or greater than 63' x 115'.**

20. Proposed front and rear yard setbacks are 20 feet. **Staff would like to see front yard staggered setbacks in 3' increments. In return, we propose that the minimum front yard set back be 18' from the property line (see Stipulation i).**

21. Proposed side yard setback (aggregate) is 13 feet, with a minimum side yard setback of 5'. Corner side yard setbacks adjacent to a public street is 13 feet from the property line.

22. The proposed arterial half street rights-of-way for Waddell Road (major arterial), Bullard Avenue (minor arterial) and Greenway Road (minor arterial) shall be 65', 55' and 55' respectively. Six foot wide meandering sidewalks will be constructed in the arterial rights-of-way. All streets will be constructed to City of Surprise standards.

23. The proposed collector full street rights-of-way shall be 60', with 10' landscaping tracts on each side. Six foot wide meandering sidewalks will be constructed in the collector street rights-of-way and landscape tracts.

24. The proposed local full street rights-of-way shall be 50' with attached 4' wide sidewalks on both sides.

25. All streets within Ashton Ranch will be public.

26. Ashton Ranch provides nearly 12% open space and common area. The Ashton Ranch community is centered around a five (5) acre neighborhood park and a ten (10) acre site reserved for a school.

27. Active and passive amenities will be installed in the park as follows: soccer field, 1/2 basketball court, pre-teen play structure, ramada, swing set, spring animals, BBQ grills, picnic table and benches, bike racks, trash receptacles and drinking fountains.

28. The school site will be reserved indefinitely. However, if the school district decides a school will not be constructed on this site, the 10 acres will be added to the existing 5 acre park.

29. All open space areas and landscape tracts (including landscaping within the rights-of-way) will be maintained by the Ashton Ranch Community Association.

30. The entry features and perimeter walls will be constructed of integral color masonry block, accented with split face block and secondary colors.

31. The Developer is requesting that model homes, temporary sales offices and construction trailers be administratively approved by the City's Community Development Director.

32. The development of Ashton Ranch will be phased in four units. Unit 1 is located in the southwest corner of the site; Unit 2 in the northwest corner, Unit 3 in the northeast corner, and Unit 4 in the southeast corner.

RECOMMENDATION: (PAD97-74)

The subject request generally follows the intent of the Surprise Comprehensive Development Guide. Furthermore, approval of this request (PAD97-74) would allow for a timely, efficient and orderly development of the property. Additionally, approval of this request will not adversely impact the surrounding area. Planning and Zoning Commission **recommends** that this request, a rezoning of 320 acres from R1-43 to Planned Area Development, **be approved** subject to the following stipulations:

a) Approval of this Planned Area Development (Application No. PAD97-74) is contingent upon adoption of an annexation ordinance increasing and extending the corporate limits as described in the Ashton Ranch Planned Area Development Plan, Section 10, entitled Legal Description;

b) Approval of this Planned Area Development (Application No. PAD97-74) is contingent upon the execution of a Development Agreement between the City of Surprise and the Developer relating to water service. The City shall not be required to provide water service to the property until a Development Agreement which provides a funding mechanism for construction of water service infrastructure has been signed by the City and the Developer;

c) The minimum lot size shall be forty-five (45) feet wide by one hundred fifteen (115) feet deep;

d) A maximum of thirty-five (35%) percent of the total lot yield shall be 45' x 115';

e) A minimum of twenty (20%) percent of the total lot yield shall be equal or greater than 63' x 115';

f) A minimum of forty-five (45%)0 percent of the total lot yield shall be equal to or greater than 48' x 115';

g) Any minor change to the total lot yield percentages (for 45', 48' and 63' wide lots) as noted under Recommendation Items d, e, and f, will require an administrative approval by the City Manager and the Community Development Director;

h) Developer shall create and record a set of CC&Rs establishing a homeowners' association which shall be responsible for the maintenance of all open space and landscape areas (including within rights-of -way). Said CC&Rs shall be approved by the Community Development Director;

i) All landscaping plans (including recreational equipment and amenities) and wall details (including perimeter theme walls and entry monumentation) and their

placement within the Ashton Ranch community shall be reviewed and approved by the Community Development Director prior to issuing any building permits;

j) Minimum side yard setbacks shall be 5' and 8' (13' aggregate) with a minimum building separation of 10 feet;

k) Corner side yard setbacks shall be a minimum of 13' measured from the property line;

l) Front yard setbacks shall vary in 3' increments with no more than two homes in a row having the same front yard setback. Minimum front yard setback shall be 18 feet measured from the property line;

m) Rear yard setbacks shall be a minimum of 20 feet;

n) All floor plans and elevations shall be required to be submitted to the Community Development Director for review and approval prior to issuing any building permits;

o) Developer shall provide Flag Lot and Side Entry Garage Exhibits for review and approval by the City Manager and Community Development Director prior to Preliminary Plat approval;

p) All looting shown in the PAD Notebook are for reference only. Approval of lot layout shall occur at the Preliminary and Final Plat stages;

q) All street cross sections are conceptual and shall be subject to additional review and approval at the time of the Preliminary Plat(s) submittal. Said streets shall be constructed to City standards and as approved by the City Engineer;

r) Final Community Site Development and Architectural Design Guidelines shall be submitted to and approved by the Community Development Director prior to issuing any building permits;

s) Final Sewer, Water, Drainage and Traffic reports for the Ashton Ranch development shall be reviewed and approved by the City Engineer prior to any Preliminary Plat approval;

t) Model homes, temporary sales office and construction trailers shall be submitted as Conditional Use Permits to be reviewed and approved by the Planning and zoning Commission in accordance with the Surprise Municipal Code, Section 17.36.050.

STANDARD:

u) Provide four (4) copies of the PAD Notebook, revised as necessary to comply with these approved stipulations to the Community Development Department within thirty (30) days of City Council approval; and

v) Major changes to this PAD rezoning application with respect to land use, intensity and circulation, must be processed as a revised application with approval by the Mayor and City Council upon recommendation from the Planning and Zoning Commission. Minor changes to the PAD rezoning application may be administratively approved by the Community Development Director and City Manager.

ASHTON RANCH
PLANNED AREA DEVELOPMENT PLAN
TABLE OF CONTENTS

Section	Description	Text Page
1	Project Introduction & Overview	1-3
2	Project Site Description *Aerial Photograph* *Vicinity Map*	4
3	Land Use and Zoning *Exhibit A-"Conceptual Land Use Plan"* *Exhibit B-"Amended Development Standards"* *Exhibit C-"Land Use Table"*	5-6
4	Consistency with the Surprise Comprehensive Development Guide	7-8
5	Community Site Development Design Overview Land Use Plan Open Space/Common Areas Entry Monumentation/Perimeter Walls Site Development Landscaping Circulation Pattern and Street Standards Signage Model Homes, Temporary Sales Offices and Construction Trailers Amendments to the PAD *Exhibit D-"Conceptual Site Plan"* *Exhibit E-"Setback Exhibit-Local Frontage"* *Exhibit F-"Setback Exhibit-Collector Frontage"* *Exhibit G-"Design Concepts"* *Exhibit H-"Project Signage"* *Exhibit I-"Wall Plan & Elevations"* *Exhibit J-"Wall Location Plan"* *Exhibit K-"Street Sections and Plan View"* *Exhibit L-"Conceptual Plant Palette"* *Exhibit M-"Street Cross Sections"*	9 10-11 12 13 14-15 15 17 17 18-19
6	Community Site Development Design Guidelines	20-22
7	Architectural Design/Housing Landscaping Requirements *Exhibit N-"Floorplans, Elevations and Housing Features"*	23-24
8	Architectural Design Guidelines/Housing Landscaping Design Guidelines	25-26

9 Engineering Documents and Exhibits 27
Exhibit O-"Master Sewer Study"
Exhibit P-"Master Water Study"
Exhibit Q-"Master Drainage Study"
Exhibit R-"Topographical Map"
Exhibit S-"Traffic Analysis"
Exhibit T-"Phasing Plan"

10 Beazer Homes "General" Design Guidelines

11 Zoning Ordinance

12 Legal Description

13 Contact List

ASHTON RANCH
PLANNED AREA DEVELOPMENT

Project Introduction and Overview

Ashton Ranch is a proposed 320 acre Planned Area Development by Beazer Homes (formerly known as Hancock Homes) in the City of Surprise. The site is bounded by Greenway Road on the north, Bullard Avenue on the east, Waddell Road on the south, and the mid-section line of Section 8 on the west.

The current land use designation for Ashton Ranch in the City of Surprise Development Guide Plan is Typical Neighborhood, with an associated density of 6-7 dwelling units per acre. A Convenience Commercial/Service Node is designated at the intersection of Greenway Road and Bullard Avenue, and a Neighborhood/ Commercial Node is designated at the intersection of Waddell Road and Bullard Avenue.

Ashton Ranch is a residential community. Therefore, Beazer Homes is submitting a General Plan Amendment application in conjunction with the Planned Area Development to expand the Typical Neighborhood designation to the two areas currently designated as commercial. This proposed land use change will concentrate the commercial uses adjacent to the Medium and High Density Residential on the east side of Bullard Avenue, providing a more compatible land use transition.

Beazer Homes is also processing an Official Application for Annexation in conjunction with the Planned Area Development Plan and General Plan Amendment.

The Ashton Ranch site plan provides a maximum of 1,500 dwelling units and an overall density of 4.71 dwelling units per acre, which is well under the allowable density. The Pre-Annexation Development Agreement specifies a maximum of 1,500 dwelling units to allow for a small upward adjustment that may occur during the formal engineering process. The proposed underlying zoning designation is R1-5, with amended development standards.

The Ashton Ranch residential community is centered around a five (5) acre neighborhood park site, to be maintained by the Ashton Ranch Community Association, and a ten (10) acre site reserved for a school. The collector street pattern provides internal access to the park/school site and connections to the surrounding arterial roadways. The internal collector streets, with right-of-way widths of sixty (60) feet, have been sized to accommodate the required traffic volumes but limit offsite traffic through the project. Access to the adjacent arterials will be limited to the quarter and/or half mile points. Primary access will be from Waddell Road. Landscape tracts, also to be maintained by the Ashton Ranch Community Association, have been designed adjacent to the collector streets and arterial roadways to provide an attractive streetscape and pedestrian/bicycle trail system, as well as to provide a buffer for the residences. Additional open space and stormwater retention areas have also been located adjacent to the collector street and arterial roadways to provide additional buffering.

Ashton Ranch will be developed in accordance with the Community Development and Community Housing Standards presented in this Planned Area Development Plan. These Standards, together with the project Covenants, Conditions, and Restrictions (the "CC&R's"), will ensure that Ashton Ranch is developed in a consistent manner, in accordance with the specified quality standards.

The technical submittals, including the Master Sewer Study, Master Water Study, Master Drainage Study and Traffic Study, were prepared in accordance with City of Surprise specifications and requirements.

Project Site

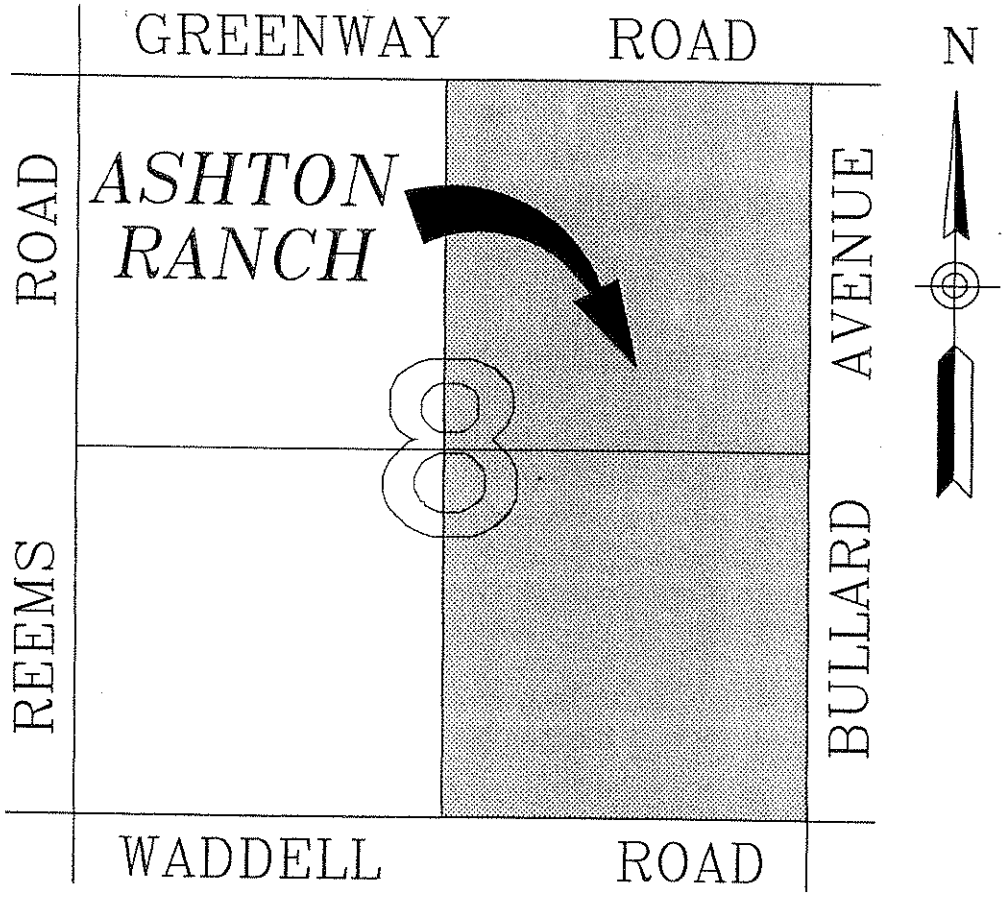
The boundaries of this 320 acre project are Greenway Road on the north, Bullard Avenue on the East, Waddell Road on the south, and the mid-section line of Section 8 on the west.

The site is situated 10 miles west of Loop 101 (Agua Fria) Freeway. The driving time to Loop 101 is approximately 15 minutes. The Outer Loop 303 (Estrella) Freeway is located approximately 3 miles to the west. Interstate 10 is located approximately 12 miles to the south. The driving time to Central Phoenix is approximately 45 minutes.

The primary access to Ashton Ranch will be from Bell Road, south on Reems Road, and east on Waddell Road. Bell Road provides the major east-west linkage for the City of Surprise. Bell Road, which currently has a minimum 110 foot right-of-way, is a fully improved six-lane roadway with a landscaped median, meandering sidewalks and landscaping on both sides. Reems Road and Waddell Road complete the paved access to Ashton Ranch.

A vicinity map and aerial photograph can be found on the following two pages.

Union Hills Dr.
Bell Rd.
Reems Rd.
Greenway Rd.
Bullard Ave.
Litchfield Rd.
SUBJECT
Waddell Rd.



VICINITY MAP

NTS

AMERICAN ENGINEERING CO.
consulting engineers/surveyors

Land Use and Zoning

The current land use designation for this site in the City of Surprise Development Guide Plan is Typical Neighborhood, with an associated density of 6-7 dwelling units per acre. The Development Guide Plan also designates a Convenience Commercial/Service Node at the intersection of Greenway Road and Bullard Avenue, and a Neighborhood Commercial/Service Node at the intersection of Waddell Road and Bullard Avenue.

Ashton Ranch is a residential community, with a maximum of 1,500 single family units and an overall density of 4.71 dwelling units per acre (*Exhibit A-"Conceptual Land Use Plan"*). The proposed density is well within the specified Typical Neighborhood density, and could be classified as Low Density Residential, which has a specified range of 2-6 dwelling units per acre.

To avoid incompatible land uses, and to concentrate the Convenience Commercial/Service Node and the Neighborhood Commercial/Service Node adjacent to the designated Medium and High Density Residential on the east side of Bullard Avenue, Beazer Homes is submitting a General Plan Amendment. The Amendment will remove the commercial designations from the southwest corner of Greenway Road and Bullard Avenue, and the northwest corner of Waddell Road and Bullard Avenue.

Ashton Ranch will include two specific land uses--residential and community facilities/open space. The residential land use will have an underlying zoning designation of R1-5, which is the most compatible zoning district with Low Density Residential. In accordance with the flexibility allowed under the PAD zoning

district, Beazer Homes is proposing to amend the R1-5 Development Standards. The proposed standards are shown in comparison to the R1-5 standards (*Exhibit B- "Amended Development Standards"*).

The Ashton Ranch residential community includes three (3) different lot sizes, providing the opportunity to construct diverse housing products, and to create an aesthetically varied community appealing to a wide range of homebuyers.

The surrounding designated land uses included Typical Neighborhood to the north, west and south, and Medium and High Density Residential to the east.

Existing land uses include The Orchards Planned Area Development to the north. The Mountain Vista Ranch Planned Area Development is located adjacent to, and immediately west of, The Orchards. The property to the east, south, and west is agricultural.

The following section lists the specific goals and objectives of the Surprise Comprensive Development Guide that are met by the Ashton Ranch residential community.

DEVELOPMENT SUMMARY

	UNIT 1	UNIT 2	UNIT 3	UNIT 4	SUBTOTAL
AREA	76.6 AC	85.1 AC	83.3 AC	73.8 AC	318.8 AC
LOT SIZE/% 43' X 110'	159/48%				
LOT SIZE/% 48' X 110'	105/31%				
LOT SIZE/% 63' X 110'	69/21%				
LOT YIELD	333	412	374	381	1500
DENSITY	4.35 DU/AC	4.84 DU/AC	4.49 DU/AC	5.16 DU/AC	4.7 DU/AC

PROJECT SUMMARY	UNIT 1	UNIT 2	UNIT 3	UNIT 4	TOTAL	%
UNIT TOTAL	76.6	85.1	83.3	73.8	318.8	100%
OPEN SPACE - PUBLIC (SCHOOL/RETENTION)	0.0	6.7	8.8	0.0	15.5	4.9%
OPEN SPACE - PRIVATE	5.5	3.8	5.1	7.8	22.2	7.0%
WELL SITES (2)	0.0	2.2	0.0	0.0	2.2	0.7%
RESIDENTIAL (INCLUDES COLLECTOR AND LOCAL STREETS)	69.2	70.7	64.4	60.8	265.1	83.2%
ARTERIALS	1.9	1.7	5.0	5.2	13.8	4.3%
TOTAL OPEN SPACE (PUBLIC & PRIVATE)	5.5	10.5	13.9	7.8	37.7	11.8%

LEGEND

- RESIDENTIAL
- COMMUNITY FACILITIES
- ARTERIAL STREET
- COLLECTOR STREET
- LOCAL STREET

CONCEPTUAL LAND USE PLAN

ASHTON RANCH

PREPARED FOR: BEAZER HOMES

Neill/Vecchia & Associates, Inc.
8014 N. Hayden Road, Suite 122 • Scottsdale, AZ 85258
Phone (602) 949-7137 • Fax (602) 949-2655

NORTH
1"=200'-0"
SEPTEMBER 30,1997

ASHTON RANCH
PLANNED AREA DEVELOPMENT

Amended Development Standards

LOT SIZE	45' X 115'	48' X 115'	63' X 115'	R1-5 Ordinance
Minimum Lot Area	5,175 sf	5,520 sf	7,245 sf	5,500sf
Minimum Lot Width--Standard Lot	45'	48'	63'	63'
Minimum Lot Width--Flag Lot	20'	20'	20'	20'
Maximum Building Height	30'	30'	30'	30'
Front Yard Setback	18'-21'	18'-21'	18'-21'	20'
Front Yard Setback--Stagger	3' Min.	3' Min.	3' Min.	
Front Yard Setback--Side Entry Garages	12'	12'	12'	
Back of Sidewalk to Vertical Garage Door	18' Min.	18' Min.	18' Min.	18'
Side Yard Setback--Minimum	5'	5'	5'	3'
Side Yard Setback--Aggregate	13'	13'	13'	13'
Side Yard Setback--Street Side--Minimum	13'	13'	13'	20'
Rear Yard Setback	20'	20'	20'	20'
Aggregate Front Yard and Rear Yard Setback	38'-41'	38'-41'	38'-41'	40'
Minimum Distance Between Buildings	10'	10'	10'	10'
Maximum Lot Coverage--Primary Structure	50%	50%	50%	50%
Maximum Lot Coverage--Primary Structure with Patios/Shade Structures	55%	55%	55%	55%

NOTES:

1. Minimum lot widths will be measured at the front setback line.
2. Street side yard setbacks shall not apply to lots adjacent to landscape tracts.

ASHTON RANCH
PLANNED AREA DEVELOPMENT

Land Use Table

	Unit 1	Unit 2	Unit 3	Unit 4	Total	%
Unit Total Acreage	76.6	85.1	83.3	73.8	318.8	100.0%
Open Space--Public	-	6.7	8.8	-	15.5	4.9%
Open Space--Private	5.5	3.8	5.1	7.8	22.2	7.0%
Well Sites	-	2.2	-	-	2.2	0.7%
Residential (Inc. Collector and Local Streets)	69.2	70.7	64.4	60.8	265.1	83.2%
Arterials	1.9	1.7	5.0	5.2	13.8	4.3%
Total Open Space--Public and Private	5.5	10.5	13.9	7.8	37.7	11.8%

Consistency with the Surprise Comprehensive Development Guide

The site is currently designated "Typical Neighborhood" on the City of Surprise Development Guide Plan. The proposed Ashton Ranch Planned Area Development consists of single family residential and open space areas, and is consistent with the Goals and Objectives of the Surprise Comprehensive Development Guide. (Specific Policies are addressed in the appropriate parts of this plan.)

The specific Goals and Objectives that are complemented by Ashton Ranch include:

- The proposed land use and density is in compliance with the City of Surprise Development Guide Plan.

- In accordance with Goal A and Objective A-1 of the Guide, the project will provide urban growth in a planned, orderly manner and create a high quality development.

- In accordance with Goal B and Objectives B-1, B-2 and B-3, the project will create a stable identifiable residential neighborhood, in compliance with the designated land use, and, with the General Plan Amendment, will minimize land use conflicts.

- In accordance with Goal C and Objectives C-1 and C-2, the project will provide adequate housing for residents of Surprise at all income levels, will offer a range of housing products and sizes, and will be constructed in compliance with Building Codes and Zoning and Subdivision Regulations to ensure quality housing.

- In accordance with Goal D and Objectives D-1, D-2 and D-3, the project expands residential development, and provides a wide selection of housing product on three lot sizes, and provides a planned residential neighborhood in the newly developing areas of Surprise.

- In accordance with Goal E, the project will provide the residential units necessary to support future commercial development and activity in the City of Surprise.

- In accordance with Goal F and Objective F-1, the project will provide a pedestrian and bicycle circulation system linking the residential and open space areas.

- In accordance with Goal G and Objective G-1, the project will set design quality standards to ensure consistency.

- In accordance with Goal H and Objective H-1, the project will provide a centralized public open space, consisting of a five (5) acre park and ten (10) acre school site. The park will include active and passive recreational facilities.

- In accordance with Goal I and Objective I-1, the project will provide a municipal street system providing the necessary circulation and protecting the integrity of the residential community. The proposed sixty (60) foot right-of-way collector streets will discourage through traffic and high traffic speeds.

- In accordance with Goal K and Objective K-1, the project will provide a pedestrian and bicycle circulation system throughout the community.

- In accordance with Goal L and Objective L-1, the project will extend the necessary trunk public utilities in an orderly planned manner to support new development.

Community Site Development Design

Overview

Beazer Homes has designed a modern residential community with a Southwestern theme (*Exhibit D-"Conceptual Site Plan"*).

The community is centered around a 15 acre community park/school site. The curvilinear collector street pattern, with landscape tracts and meandering sidewalks, provides direct vehicular, bicycle and pedestrian access to the school and park. Active and passive amenities will be provided in the park. Mid- and low-level lighting will be provided in the children's play area.

Major and minor entry monumentation, together with extensive open space areas adjacent to the arterial streets, identify the project. The entry features will be constructed of stucco and stone veneer, and perimeter walls will be constructed of integral color masonry block accented with split face block and secondary colors.

Arterial streets will be constructed to City of Surprise standards. The curvilinear collector street pattern has been designed to safely convey traffic while limiting through traffic and high travel speeds. Meandering sidewalks and landscape tracts encourage bicycle and pedestrian traffic. The curvilinear local street pattern provides interest, diversity and numerous oversized lots.

Project signage will be controlled, and constructed in accordance with the accompanying exhibits.

The Ashton Ranch Community Association will be responsible for the maintenance of the park, open space areas and landscape tracts. In conjunction with the Ashton Ranch Community Association, a Residential Design Review Committee ("RDRC') will be formed to enforce the community design standards.

Land Use Plan

Ashton Ranch will include two primary land uses, residential and community facility. The five (5) acre park site and ten (10) acre school site comprise the community facility land use.

The "Conceptual Land Use Plan" (*Exhibit A*) shows the conceptual lotting pattern. Ashton Ranch has been designed with three lots sizes—45' x 115', 48' x 115', and 63' x 115'. A maximum of 35% of the total lot yield shall be 45' x 115'. A minimum of 20% of the total lot yield shall be equal to or greater than 63' x 115'. A minimum of 45% of the total lot yield shall be equal to or greater than 48' x 115'.

Any minor change to the total lot yield percentages (for 45', 48' and 63' wide lots) will require an administrative approval by the City Manager and the Community Development Director.

It is important to note that the lotting pattern shown in this PAD Notebook is for reference only. Approval of actual lot layouts shall occur at the Preliminary and Final Plat stages.

To create a varied local street streetscape, Beazer Homes has utilized curvilinear streets, which break up the long sight lines associated with grid land use patterns. In order to further vary the streetscape, the front setbacks will shall be staggered in

3' increments from 18' to 21' (*Exhibit B-"Amended Development Standards"; Exhibit E-"Setback Exhibit-Local Frontage"; and Exhibit F-"Setback Exhibit-Collector Frontage"*).

The Conceptual Land Use Plan complements many of the Surprise Development Guide policies. These policies include:

- Policy A-1a, A-1b and A-1c, addressing the extension and installation of public utilities and facilities;

- Policy B-1a, B-1b and B-1d, addressing the neighborhood design standards to encourage quality development;

- Policy C-1/2/3a, addressing the response to market demands, and the development of all types of housing through expeditious and proper application of land use planning, zoning regulations, site design review and building inspections;

- Policy C-1/2/3b, addressing the utilization of resources to help provide adequate, safe housing for persons of low- and moderate- income;

- Policy D-1/2/3b, addressing the encouragement of quality housing development, by designating large residential areas buffered from adjacent uses;

- Policy D-1/2/3c, suggesting that the City market itself to the Phoenix Metropolitan Area and regional housing developers as an opportune area in which to develop with its interest in quality planning and development; willingness to work with the developer to insure an expeditious review, approval and development process and aggressive posture relative to expanding

its employment base and other economic development activities supportive of residential development;

- Policy F-2a, requiring the use of public sewer systems;

- Policy G-1a, requiring design standards for new development; and

- Policy L-1/2/3a, requiring developers to install all public utilities and facilities to State and municipal standards.

Open Space/Common Areas

As depicted on the *"Conceptual Land Use Plan"* (*Exhibit A*), Ashton Ranch provides a total of 11.8% open space and common area. The community park/school site accounts for 4.9%, and the open space/retention areas and landscape tracts account for 7.0%. The well sites comprise another .7% of the total land area (*Exhibit C-"Land Use Table"*).

As previously discussed, Ashton Ranch is centered around the park/school site. Meandering six (6) foot sidewalks with the rights-of-way and landscape tracts will provide pedestrian and bicycle access to the park and school. Active and passive amenities will be installed in the park as follows:

- Combination Little League Baseball Field/Soccer Field (1);
- Full Basketball Court (1);
- Pre-Teen Play Structure (1);
- Ramada (1);
- Swing Unit--Six Swings, 10' Height (1);

- Spring Animals (3);
- BBQ Grills (2);
- Picnic Tables (4);
- Benches (4);
- Bike Rack Units (2);
- Trash Receptacles (3);
- Drinking Fountains (2);
- Bikeway/Walkway-6' Width.

It is important to note the school site will be reserved indefinitely. However, if the school district decides a school will not be constructed on this site, the ten (10) acres will be added to the existing five (5) acre park.

The open space and common areas will be maintained by the Ashton Ranch Community Association.

The proposed open space and common area complies with the following Surprise Development Guide policies:

- Policy H-1d, stating that the City shall work with private developers to insure that adequate open space and recreational facilities are constructed in conjunction with all new development.

Entry Monumentation/Perimeter Walls

Major, or primary, entry monumentation will be constructed at the intersection of the 1/4 mile collector and Waddell Road, which is the primary entrance to Ashton Ranch. Minor, or secondary, entry monumentation will be constructed at the

intersection of the 1/2 mile collector and Greenway Road, the southwest corner of Greenway Road and Bullard Avenue, and the northwest corner of Waddell Road and Bullard Avenue *(Exhibit G-"Design Concepts"; Exhibit H-"Project Signage"; Exhibit J-"Wall Location Plan")*.

Perimeter theme wall will be constructed along Waddell Road, Bullard Avenue and Greenway Road. The same theme wall will also be constructed along the interior collector streets. Standard integral color fence block wall will be constructed along the west boundary (*Exhibit J-"Wall Location Plan"*). Horizontal relief will be used on the theme wall to provide variation (*Exhibit I-"Wall Plans & Elevations"*).

The proposed entry monumentation and perimeter walls comply with the general Surprise Development Guide policies of creating high quality residential development, specified design standards, and identifiable residential neighborhoods.

Site Development Landscaping

Xeriscape plant materials and decomposed granite will be used for the arterial and collector streetscapes (*Exhibit K-"Street Sections and Plan View"*). The arterial and collector streets and the major Waddell Road entry will be landscaped with low water use, native canopy trees planted in a pattern. To maintain continuity throughout the community, a recommended plant palette will be provided (*Exhibit L-"Conceptual Plant Palette"*). A specific decomposed granite color and size will also specified. Rocks, boulders and other compatible materials may be used to supplement the landscaping design and enhance the southwest character of the development and xeriscape theme.

For recreation and a lush appearance, the park and open space areas will be supplemented with turf. Landscaped common areas will be provided with an appropriate low water use watering system, and will be appropriately maintained. All site development landscaping plans must be approved by the Community Development Director.

Upon request from the developer, the addition of plants and materials to the recommended landscape palette may be administratively approved by the City's Community Development Director. Significant changes in the recommended landscaping palette may be approved by the City when deemed necessary through either the minor changes or major changes process for amendments to the PAD approval (as found in Sections 17.36.060 (G)(1) and (2) of the City's current Surprise Municipal Code Title 17 Zoning).

The proposed site development landscaping complies with the following Surprise Development Guide policies:

- Policy F-2c, stating that the City shall encourage water conservation in all new development through the utilization of drought tolerant plant materials, and efficient irrigation systems (drip/low flow);

- Policy G-1a, requiring the establishment of environmental design standards for new development in Surprise, including Residential Development.

Circulation Pattern and Street Standards

The circulation pattern has been designed to safely convey traffic but limit through traffic and high travel speeds. Arterial streets will be constructed to City of Surprise

standards. The curvilinear collector street pattern has been designed to safely convey traffic while limiting through traffic and high travel speeds. Meandering sidewalks and landscape tracts encourage bicycle and pedestrian traffic.

The proposed arterial half street rights-of-way for Waddell Road (major arterial), Bullard Avenue (minor arterial) and Greenway Road (minor arterial) shall be 65', 55' and 55' respectively. Six foot meandering sidewalks will be constructed in the arterial rights-of-way.

The proposed collector full street rights-of-way shall be 60', with 10' landscaping tracts on each side. Six foot meandering sidewalks will be constructed in the collector street rights-of-way and landscape tracts.

The proposed local full street rights-of-way shall be 50', with attached 4' sidewalks on both sides.

All street sections are shown on *Exhibit M, "Street Cross Sections."* The Traffic Analysis prepared by Kimley-Horn & Associates (*Exhibit S-"Traffic Analysis"*) supports the proposed street pattern and cross sections.

The Circulation Pattern and Street Standards complement many of the Surprise Development Guide policies. These policies include:

- Policy I-1c, stating that the City shall work with private developers to insure the new street system segments are constructed on an orderly basis in conjunction with new development, and in accordance with the Development Guide and Circulation Plan elements of the Comprehensive Development Guide;

- Policy I-1d, which encourages creative neighborhood street design in every new subdivision that will service localized traffic and foster neighborhood integrity, while discouraging through traffic.

Signage

Signage within Ashton Ranch shall, except as provided below, be in compliance with Section 17.32.100 of the City's current Zoning Ordinance Surprise Municipal Code Title 17 Zoning and the ordinances referred to therein. In addition to signage allowed pursuant to Section 17.32.100 and such ordinances, subject to obtaining a Conditional Use Permit approving a Master Sign Plan for Ashton Ranch, signage may be provided which is not in strict compliance with the provisions but which is appropriate to the character of the development, provides adequate identification and information, provides a good visual environment, promotes traffic safety and is regulated to the extent necessary to be safe and compatible with the Ashton Ranch PAD. The Conditional Use Permit for the Master Sign Plan, or any modification thereto, may contain such conditions, requirements or standards that may be stipulated by the City to assure that signs covered by the Conditional Use Permit will not be detrimental to persons or property in the vicinity or to the public welfare in general.

The proposed signage elevations are shown on *Exhibit H-"Project Signage"* and the proposed locations are shown on *Exhibit J-"Wall Location Plan."*

Model Homes, Temporary Sales Offices and Construction Trailers

Upon request from the developer, the model homes, temporary sales offices and construction trailers may be constructed and placed throughout the community.

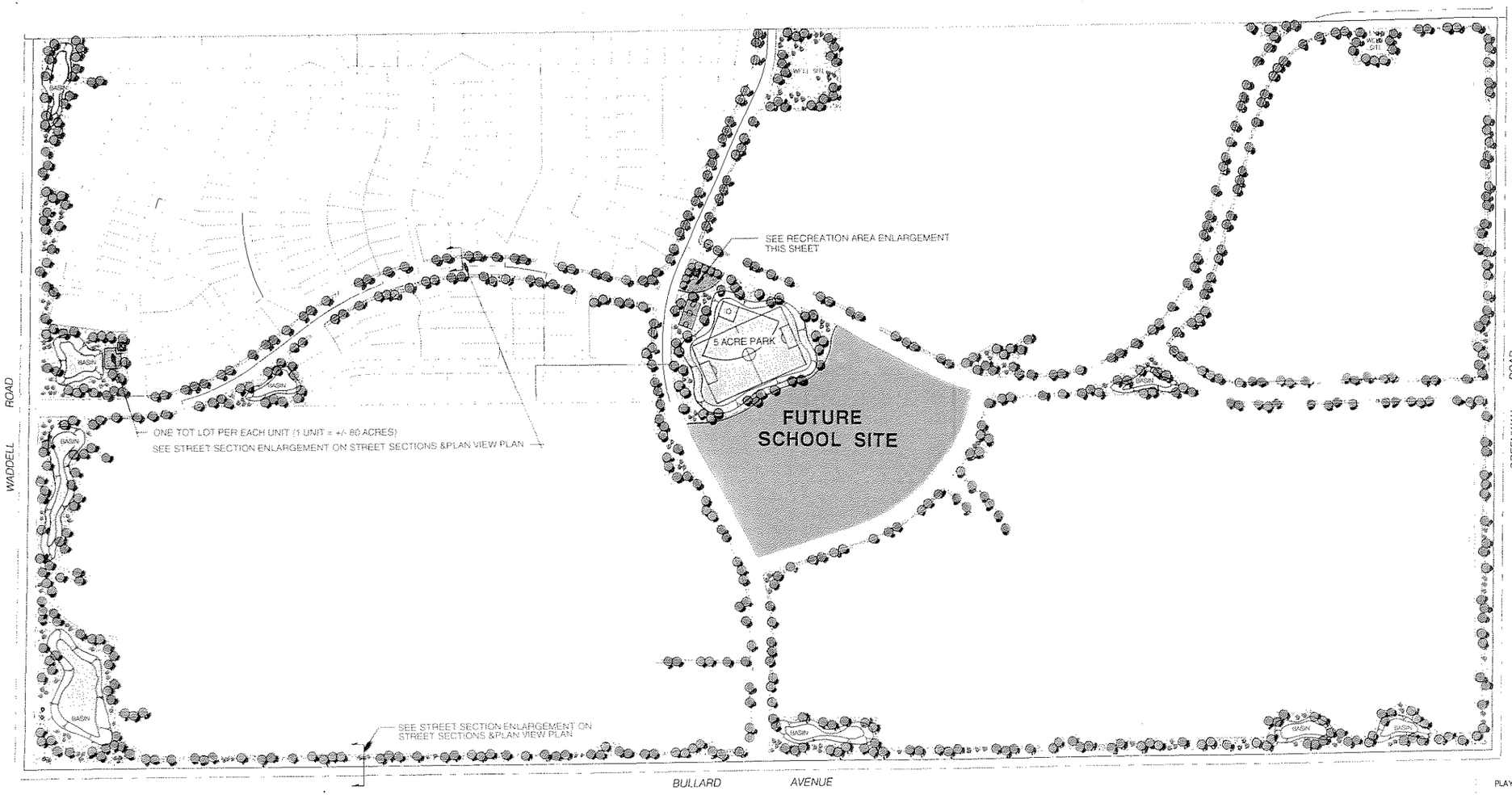
The construction and installation of these facilities shall be submitted as Conditional Use Permits to be reviewed and approved by the Planning and Zoning Commission in accordance with the Surprise Municipal Code, Section 17.36.050.

Amendments to the PAD

The City of Surprise (the "City") and the Developer of Ashton Ranch (the "Developer") agree that amendments to the Ashton Ranch PAD may be necessary from time to time. If and when the parties find that such amendments are necessary or appropriate, they shall, unless otherwise required by applicable law as discussed in the Development Agreement entered into between the parties (the "Development Agreement"), effectuate minor changes or adjustments through administrative amendments approved by the Community Development Director and City Manager. After execution, any such amendment shall be attached to the Ashton Ranch PAD as an addendum and become a part thereof, and may be further changed and amended from time to time as necessary, with the approval of the City and the Developer. Unless otherwise required by law, no such minor amendments shall require prior notice or hearing. All major changes or amendments shall be reviewed by the Planning and Zoning Commission and approved by the City Council. The following are examples of major changes or amendments:

a) an increase in the density of use or number of dwelling units;
b) deletion of a requirement for the reservation or dedication of land for public purposes, except for minor boundary adjustments or street alignments which shall be treated as minor changes;
c) addition, but not deletion, of streets to those shown on the Ashton Ranch PAD.

The parties shall cooperate in good faith to agree upon, and use reasonable best efforts to process, any minor or major amendments to the Ashton Ranch PAD, which amendments shall be incorporated by this reference into the Ashton Ranch PAD.



CONCEPTUAL PLANT PALETTE

TREES

ACACIA SMALLII
SWEET ACACIA
ACACIA SALICINA
WILLOW ACACIA
CERCIDIUM PRAECOX
PALO BREA
DALBERGIA SISSOO
SISSOO TREE
FRAXINUS VELUNTIA
FANTEX ASH
OLEA 'SWAN HILL'
'SWAN HILL' OLIVE
PINUS CANARIENSIS
CANARY ISLAND PINE
PINUS HALEPENSIS
ALEPPO PINE
PINUS ELDERICA
MONDEL PINE
PROSOPIS CHILENSIS
CHILEAN MESQUITE
PRUNUS CAROLINIANA
CAROLINA CHERRY TREE
RHUS LANCEA
AFRICAN SUMAC
SCHINUS TEREBINTHIFOLIUS
BRAZIALIAN PEPPER

ACCENTS

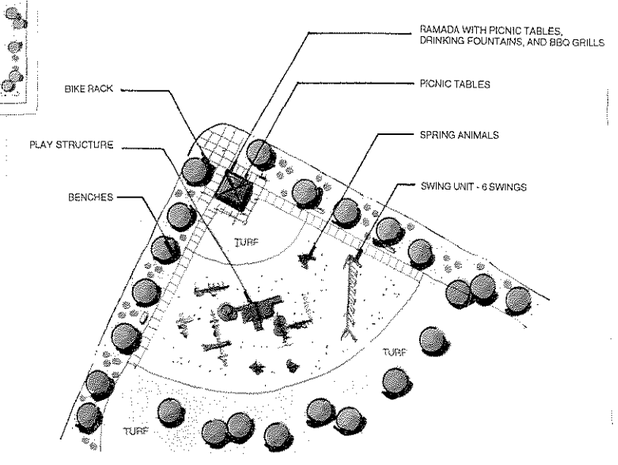
AGAVE SPECIES
AGAVE - VARIOUS
ALOE SPECIES
ALOE - VARIOUS
CHAMAEROPS HUMILIS
MEDITERRANEAN FAN PALM
DASYLIRION WHEELERI
DESERT SPOON
HESPERALOE SPECIES
YUCCA SPECIES

SHRUBS

CAESALPINIA PULCHERRIMA
RED BIRD OF PARADISE
CALLIANDRA SPECIES
FAIRY DUSTER SPECIES
CASSIA ARTEMISIOIDES
FEATHERY CASSIA
CASSIA NEMOPHILA
GREEN CASSIA
CASSIA PHYLLODENIA
SILVERY CASSIA
DALEA PULCHRA
BUSH DALEA
ENCELIA FARINOSA
BRITTLE BUSH
ERICAMERIA LARICIFOLIA
TURPENTINE BUSH
EURYOPS PECTINATUS
EURYOPS
JUSTICIA CALIFORNICA
CHUPAROSA
LEUCOPHYLLUM 'CIMARRON SAGE'
'CIMARRON SAGE'
LEUCOPHYLLUM FRUTESCENS 'GREEN CLOUD'
GREEN CLOUD TEXAS SAGE
LEUCOPHYLLUM LAEVIGATUM
CHIHUAHUAN SAGE
LEUCOPHYLLUM LANGMANIAE
'RIO BRAVO' SAGE
LEUCOPHYLLUM ZYGOPHYLLUM
BLUE SAGE
NERIUM OLEANDER 'PETITE PINK'
'PETITE PINK' OELEANDER
PHOTINIA FRASERI
FRASER'S PHOTINIA
RUELLIA SPECIES
VARIOUS RUELLIA
SALVIA GREGGII
AUTUMN SAGE
TAGETES LUCIDA
LICORICE MARIGOLD

GROUNDCOVER / VINES

BACCHARIS CENTENNIAL
CENTENNIAL HYBRID BROOM
BAILEYA MULTIRADIATA
DESERT MARIGOLD
BOUGAINVILLEA SPECIES
VARIOUS BOUGAINVILLEA
CONVOLVULUS CNEORUM
BUSH MORNING GLORY
DYSSODIA PENTACHAETA
DYSSODIA
GELSEMIUM SEMPERVIRENS
CAROLINA JASMINE
LANTANA SPECIES
VARIOUS LANTANA
LONICERA JAPONICA 'HALLIANA'
HALLIS HONEYSUCKLE
MALETHORA LUTEA
ROCKY POINT ICE PLANT
MELAMPODIUM LEUCANTHUM
BLACKFOOT DAISY
OENOTHERA BERLANDIERI
MEXICAN EVENING PRIMROSE
PASSIFLORA ALATOCAERULEA
PASSION VINE
PSILOTROPHE COOPERI
PAPER FLOWER
PENSTEMON SPECIES
PENSTEMON - VARIOUS
TRACHELOSPERMUM JASMINOIDES
ASIATIC JASMINE
VERBENA GOODDINGII
GOODING VERBENA



RECREATION AREA SCALE: 1" = 40' - 0"

GENERAL NOTES

1. CONCEPTUAL LANDSCAPE PLAN IS SCHEMATIC IN NATURE. AT THE TIME OF LANDSCAPE CONSTRUCTION DRAWINGS ACTUAL LOCATIONS, QUANTITIES, SIZES, AND SPECIES SHALL BE DETERMINED AND WILL BE PER CITY REQUIREMENTS.
2. ALL TREES USED WITHIN THIS PROJECT SHALL BE NURSERY GROWN OR SALVAGED FROM ON SITE. EXACT LOCATIONS AND QUANTITIES SHALL BE DETERMINED ON LANDSCAPE CONSTRUCTION DRAWINGS. ALL EXISTING TREES SHALL BE PROTECTED DURING CONSTRUCTION.
3. ALL LANDSCAPE AREAS SHALL RECEIVE AN AUTOMATIC IRRIGATION SYSTEM.
4. ALL PLANT MATERIAL SHALL BE INSTALLED AS PER CITY REQUIREMENTS. PLANT MATERIAL INSTALLED WITHIN SIGHT DISTANCE TRIANGLES SHALL BE OF A SPECIES THAT DO NOT GROW TO A HEIGHT OF MORE THAN 30" AND SHALL BE MAINTAINED PER CITY REQUIREMENTS.
5. ALL NON-TURF AREAS SHALL RECEIVE A 2" DEPTH OF DECOMPOSED GRANITE.
6. THE RETENTION SHOWN ON THE PLAN IS CONCEPTUAL IN NATURE. REFER TO THE ENGINEERING PLANS FOR ACTUAL GRADING AND DRAINAGE CONFIGURATIONS.
7. ALL EARTHWORK WILL BE DONE TO DRAIN AWAY FROM SIDEWALKS AND STRUCTURES.
8. FINAL LOT CONFIGURATION MAY VARY AT THE TIME OF FINAL PLAT APPROVAL.
9. ADDITIONAL PLANT MATERIALS MAY BE INTRODUCED AS DIFFERENT VARIETIES BECOME AVAILABLE THROUGH LOCAL NURSERIES AND IF THEY ARE CONSISTENT WITH THE OVERALL THEME OF THIS PROJECT.

SITE LEGEND

PROPOSED LOTS

OPEN SPACE / RETENTION

WELL SITE

LANDSCAPE TRACT

RECREATION AREA

REFER TO RECREATION AREA SITE DETAIL THIS SHEET, FOR ADDITIONAL INFORMATION

MAJOR DEVELOPMENT PARK AMENITIES PACKAGE

ITEMS WITHIN RECREATIONAL AREA	QUANTITY
RAMADA	1
PRE-TEEN PLAY STRUCTURE	1
SWING UNIT - 6 SWINGS	1
SPRING ANIMALS	3
BBQ GRILLS	2
PICNIC TABLES	4
BENCHES	4
BIKE RACK UNITS	2
TRASH RECEPTACLES	3
DRINKING FOUNTAINS	2
COMBINATION LITTLE LEAGUE BASEBALL FIELD AND/OR SOCCER FIELD	1
FULL COURT BASKETBALL	1

Neill/Vecchia & Associates, Inc.
Landscape Architecture
Golden Scottsdale
Native Plant Analysis
Urban Design
3014 N. Hayden Road, Suite 122 • Scottsdale, AZ 85251
Phone (602) 949-7127 • Fax (602) 949-2655

CONCEPTUAL SITE PLAN
ASHTON RANCH

PREPARED FOR: BEAZER HOMES

NORTH
SEPTEMBER 30,1997
SCALE: 1" = 200' - 0"

SINGLE FAMILY
LOCAL FRONTAGE

SETBACK NOTES:

FRONT-YARD SETBACK:

ALL STRUCTURES (EXCEPT THOSE WITH SIDE ENTRY GARAGES) SHALL MAINTAIN A MINIMUM FRONT YARD SETBACK OF 18' AND A MAXIMUM FRONT YARD SETBACK OF 21' MEASURED FROM THE FRONT PROPERTY LINE.

FRONT YARD SETBACKS WILL BE STAGGERED A MINIMUM OF 3' ON ADJACENT LOTS.

VERTICAL OPENING GARAGES SHALL MAINTAIN AN 18' SETBACK, MEASURED FROM BACK-OF-SIDEWALK.

FOR SIDE ENTRY GARAGES, THE MINIMUM FRONT YARD SETBACK WILL BE 12', MEASURED FROM THE PROPERTY LINE.

SIDE-YARD SETBACK:

MINIMUM SIDE YARD SETBACK WILL BE 5'.

THE TOTAL OF TWO SIDE-YARDS ON ONE LOT SHALL BE 13' WITH NO PROJECTIONS CLOSER THAN 3' TO THE PROPERTY LINE.

REAR-YARD SETBACK:

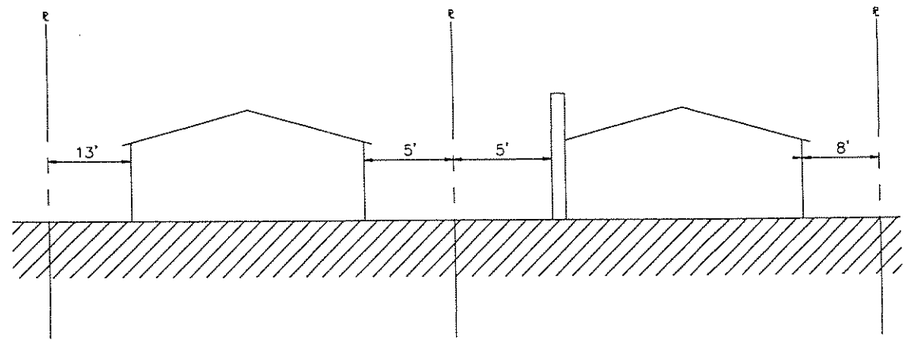
ALL STRUCTURES SHALL MAINTAIN A MINIMUM 20' REAR-YARD SETBACK, MEASURED FROM THE PROPERTY LINE.

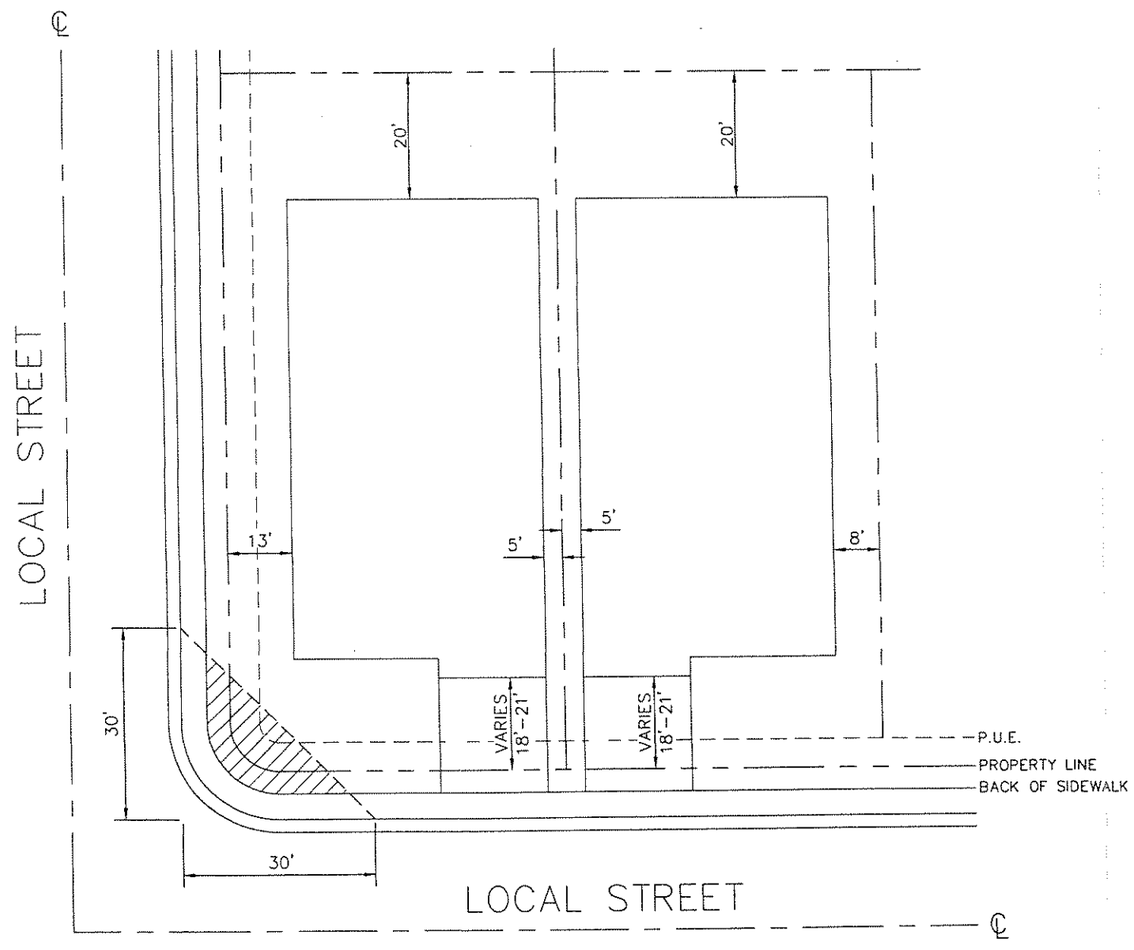
CORNER LOTS:

DRIVEWAYS SHALL BE SETBACK A MINIMUM OF 27' FROM THE INTERSECTION. THIS DISTANCE IS MEASURED FROM BACK-OF-CURB AT THE INTERSECTION.

A SIGHT-TRIANGLE SHALL BE MAINTAINED AS SHOWN, MEASURED FROM INTERSECTION OF RIGHT-OF-WAY. NO STRUCTURES, WALLS, VEGETATION, OR OTHER OBSTACLES MAY EXCEED 30 INCHES IN HEIGHT.

SIDE YARD SETBACK ON THE STREET SIDE OF A CORNER LOT SHALL BE 13', MEASURED FROM THE PROPERTY LINE.





ASHTON RANCH

SETBACK EXHIBIT

AMERICAN ENGINEERING CO.
consulting engineers/surveyors

AEC# 96296

SINGLE FAMILY
COLLECTOR FRONTAGE

SETBACK NOTES:

FRONT-YARD SETBACK:

ALL STRUCTURES (EXCEPT THOSE WITH SIDE ENTRY GARAGES) SHALL MAINTAIN A MINIMUM FRONT YARD SETBACK OF 18' AND A MAXIMUM FRONT YARD SETBACK OF 21' MEASURED FROM THE FRONT PROPERTY LINE.

FRONT YARD SETBACKS WILL BE STAGGERED A MINIMUM OF 3' ON ADJACENT LOTS.

VERTICAL OPENING GARAGES SHALL MAINTAIN AN 18' SETBACK, MEASURED FROM BACK-OF-SIDEWALK.

FOR SIDE ENTRY GARAGES, THE MINIMUM FRONT YARD SETBACK WILL BE 12', MEASURED FROM THE PROPERTY LINE.

SIDE-YARD SETBACK:

MINIMUM SIDE YARD SETBACK WILL BE 5'.

THE TOTAL OF TWO SIDE-YARDS ON ONE LOT SHALL BE 13' WITH NO PROJECTIONS CLOSER THAN 3' TO THE PROPERTY LINE.

REAR-YARD SETBACK:

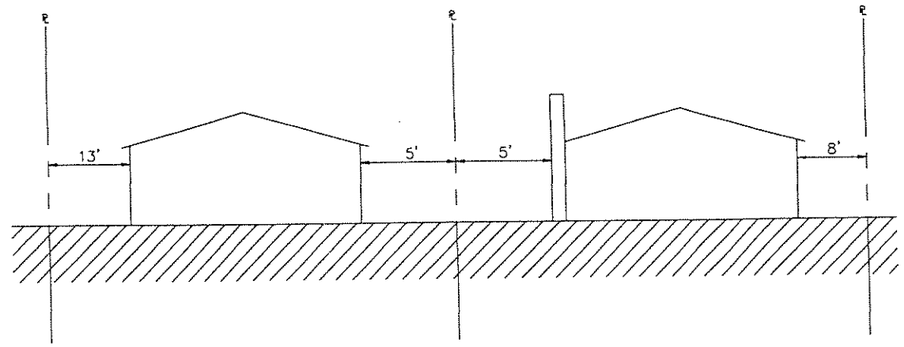
ALL STRUCTURES SHALL MAINTAIN A MINIMUM 20' REAR-YARD SETBACK, MEASURED FROM THE PROPERTY LINE.

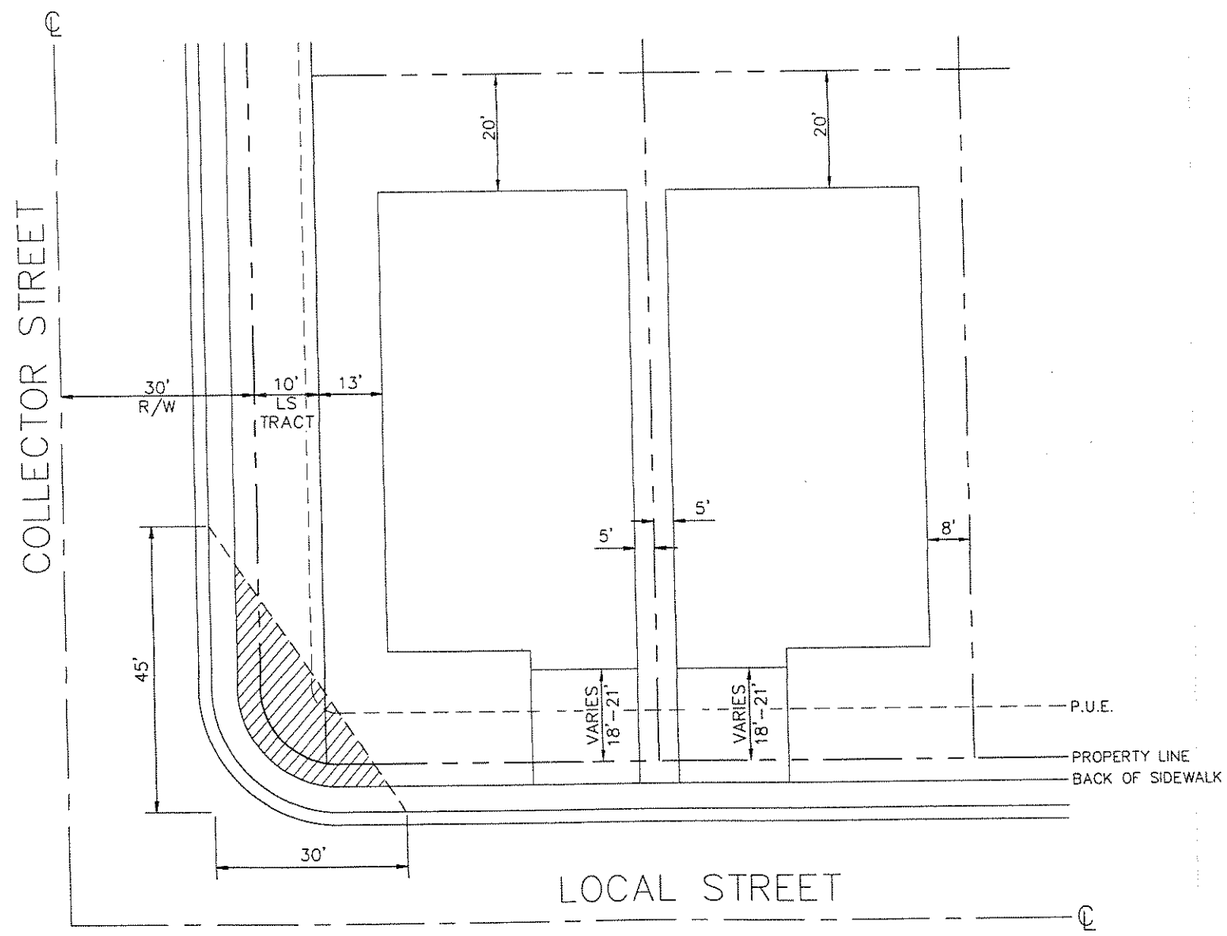
CORNER LOTS:

DRIVEWAYS SHALL BE SETBACK A MINIMUM OF 27' FROM THE INTERSECTION. THIS DISTANCE IS MEASURED FROM BACK-OF-CURB AT THE INTERSECTION.

A SIGHT-TRIANGLE SHALL BE MAINTAINED AS SHOWN, MEASURED FROM INTERSECTION OF RIGHT-OF-WAY. NO STRUCTURES, WALLS, VEGETATION, OR OTHER OBSTACLES MAY EXCEED 30 INCHES IN HEIGHT.

SIDE YARD SETBACK ON THE STREET SIDE OF A CORNER LOT SHALL BE 13', MEASURED FROM THE PROPERTY LINE.





ASHTON RANCH

SETBACK EXHIBIT

AMERICAN ENGINEERING CO.
consulting engineers/surveyors

AEC# 96296

MINOR ENTRY NOMUMENT CONCEPT

1/2"=1'-0"

MAJOR ENTRY MONUMENT CONCEPT

1/2"=1'-0"

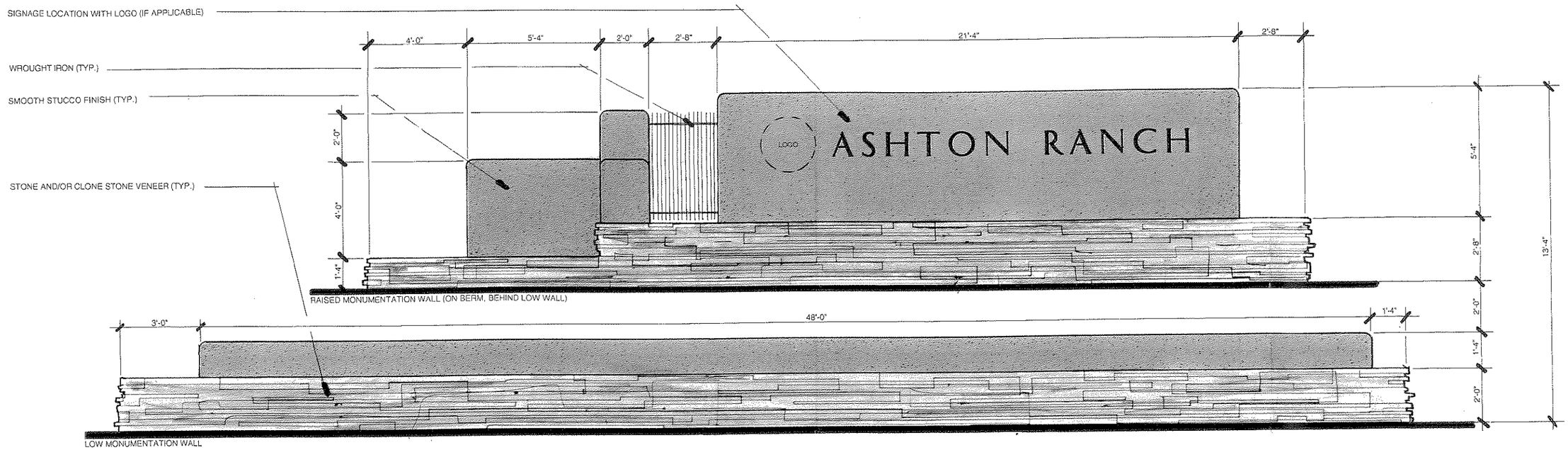
DESIGN CONCEPTS

ASHTON RANCH

Neill/Vecchia
& Associates, Inc.
8314 N. Hayden Road, Suite 122 • Scottsdale, AZ 85251
Phone (602) 949-7127 • Fax (602) 949-2633

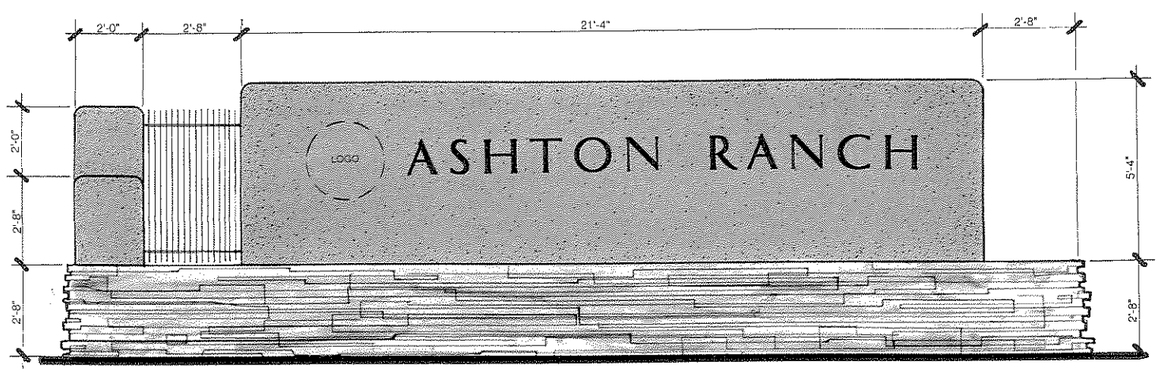
PREPARED FOR: BEAZER HOMES

SEPTEMBER 30,1997



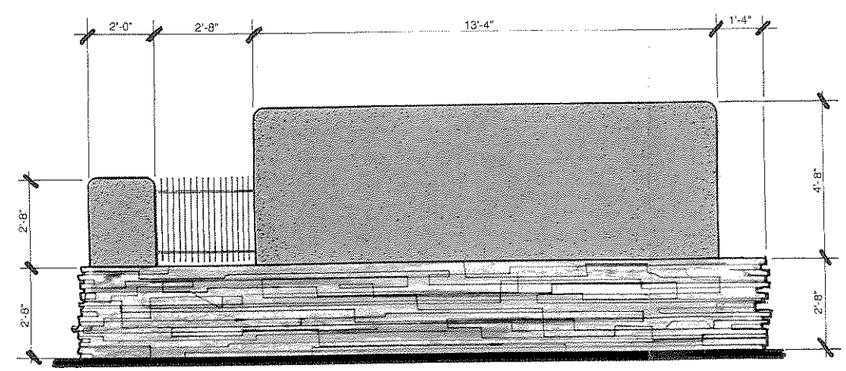
MAJOR MONUMENTATION

1/2"=1'-0"



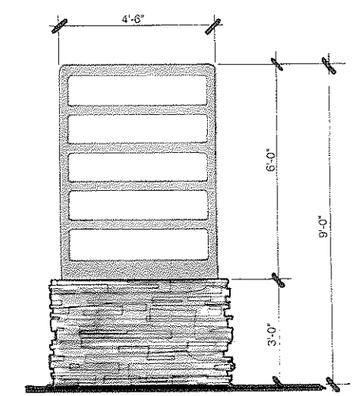
MINOR MONUMENTATION

1/2"=1'-0"



SUBDIVISION SIGNAGE

1/2"=1'-0"



DIRECTIONAL SIGNAGE

1/2"=1'-0"

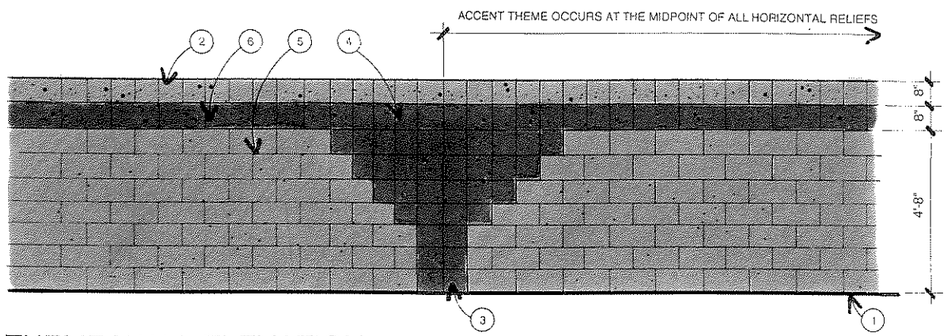
PROJECT SIGNAGE

ASHTON RANCH

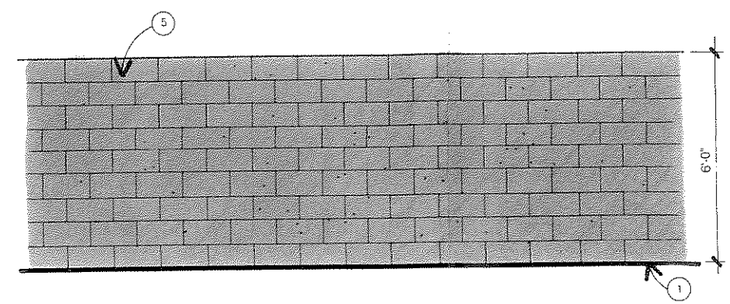
PREPARED FOR: BEAZER HOMES

Neill/Vecchia
& Associates, Inc.
3944 N. Hayden Road, Suite 122 • Scottsdale, AZ 85251
Phone (602) 949-7127 • Fax (602) 949-2656

SEPTEMBER 30,1997

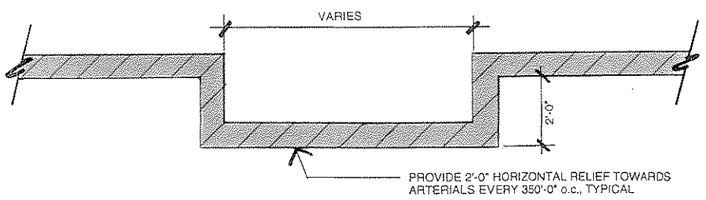


THEME WALL ELEVATION



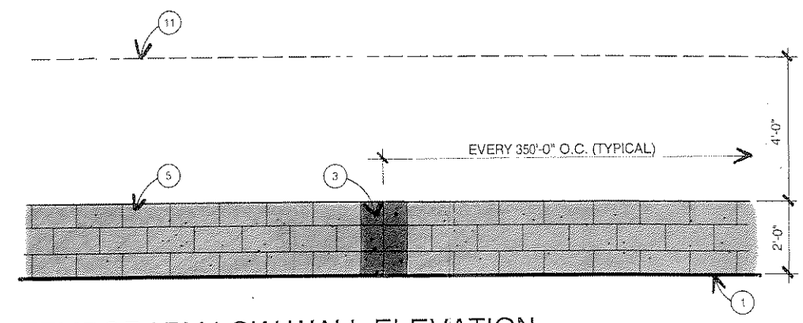
STANDARD WALL ELEVATION

RELIEFS OCCUR ON STRAIGHT-RUN EXTERIOR WALLS ONLY. EXCLUDE RELIEFS FROM INTERIOR WALLS AS THEY HAVE CURVED ALIGNMENTS



THEME WALL RELIEF PLAN

1/2" = 1'-0"



TEMPORARY LOW WALL ELEVATION

1/2"=1'-0"

KEY NOTES

1. FINISHED GRADE
2. 4X8X16 GRIDDED SPLIT FACE BLOCK. TOP COURSE ONLY, COLOR A.
3. DECORATIVE THEME COLUMN, TYP. COLOR B.
4. 4X8X16 GRIDDED INTEGRAL COLORED CMU BLOCK. SECOND COURSE AND DECORATIVE THEME COLUMNS ONLY, COLOR B.
5. 4X8X16 INTEGRAL COLORED CMU BLOCK, COLOR A.
6. 4X8X16 INTEGRAL COLORED CMU BLOCK, COLOR B.
7. SIGNAGE LOCATION (TEXT PHRASING , TYPESTYLE, AND SIZE TO BE DETERMINED AT A LATER DATE).
8. SMOOTH STUCCO FINISH OVER 4X8X16 CMU BLOCK.
9. LOGO LOCATION
10. 4X8X16 GRIDDED SPLIT FACE BLOCK LANDSCAPE PLANTER, COLOR A.
11. FUTURE TOP OF PERIMETER WALL.
12. 1/8" ALUMINUM PLATE POWDERCOAT TO MATCH: COLOR TO BE SELECTED BY OWNER.
13. SURFACE APPLIED REFLECTIVE VINYL GRAPHICS: COLOR TO BE SELECTED BY OWNER.
14. 3/8" ALUMINUM 6" PLATE WITH 3/8" ELEMENT: COLOR TO BE SELECTED BY OWNER.
15. 3" ALUMINUM SQ. TUBE POWDERCOAT TO MATCH: COLOR TO BE SELECTED BY OWNER.
16. FABRICATED ALUMINUM SINGLE FACED POST AND PANEL SIGN. POWDERCOAT TO MATCH: COLOR TO BE SELECTED BY OWNER.
17. SURFACE APPLIED WHITE REFLECTIVE VINYL, COPY PER LAYOUT.
18. 1/8" ALUMINUM PLATE
19. 3" CAPPED SQ. TUBE.
20. FIELDWELD CONSTRUCTION.
21. INSTALL INTO 1" DIA. X 6'-0" DEEP CONCRETE FILLED FOOTING.

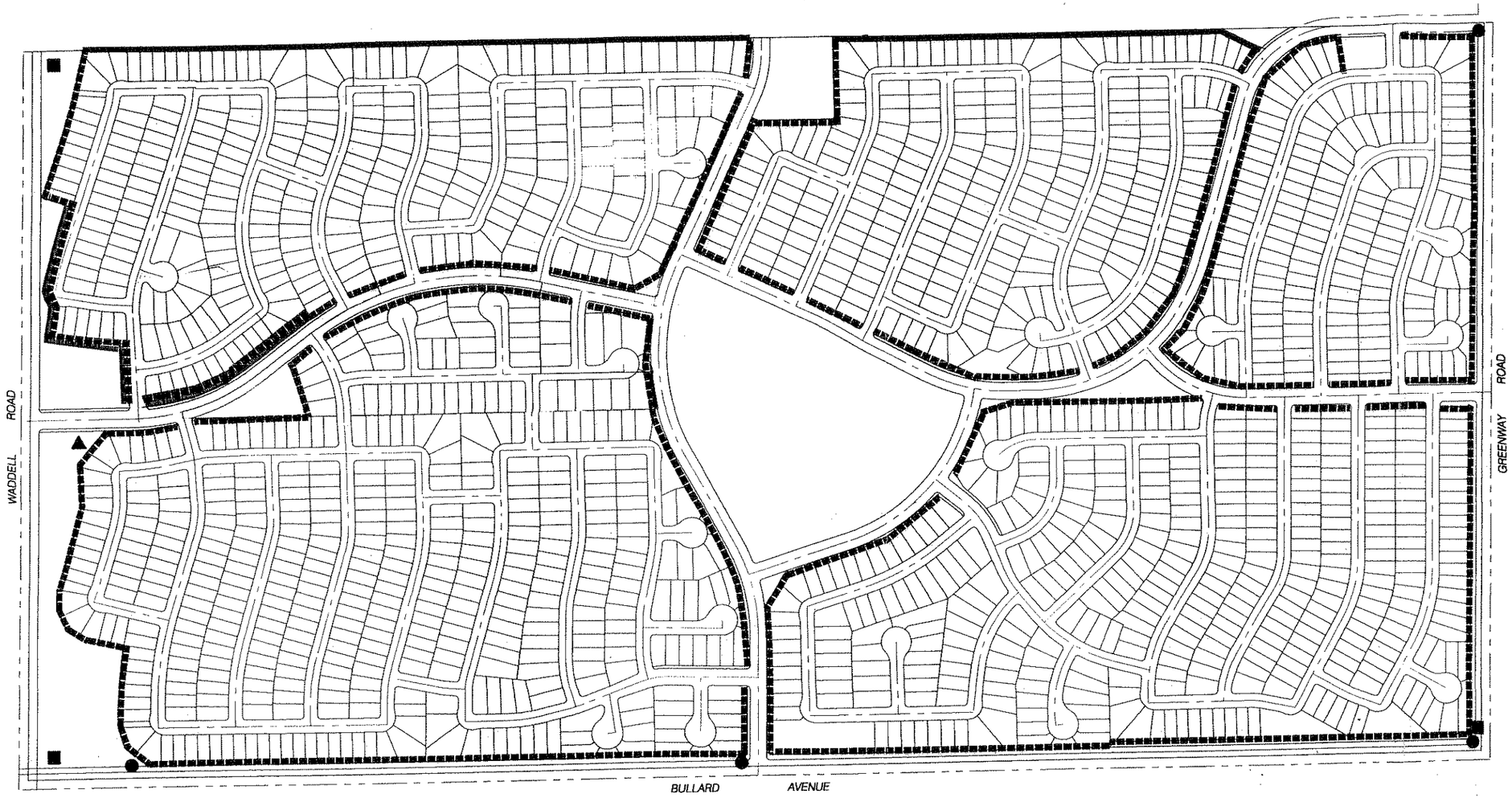
Neill Architects & Associates Inc.

WALL PLAN AND ELEVATIONS

ASHTON RANCH

PREPARED FOR: BEAZER HOMES

SEPTEMBER 30,1997



LEGEND

- THEME WALL
- STANDARD WALL
- LOW WALL

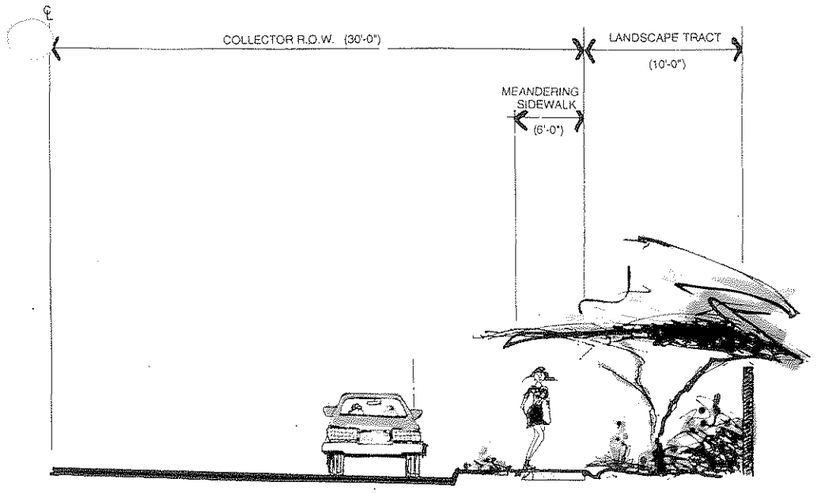
- MAJOR MONUMENTATION
- MINOR MONUMENTATION
- TEMPORARY SIGNAGE

WALL LOCATION PLAN

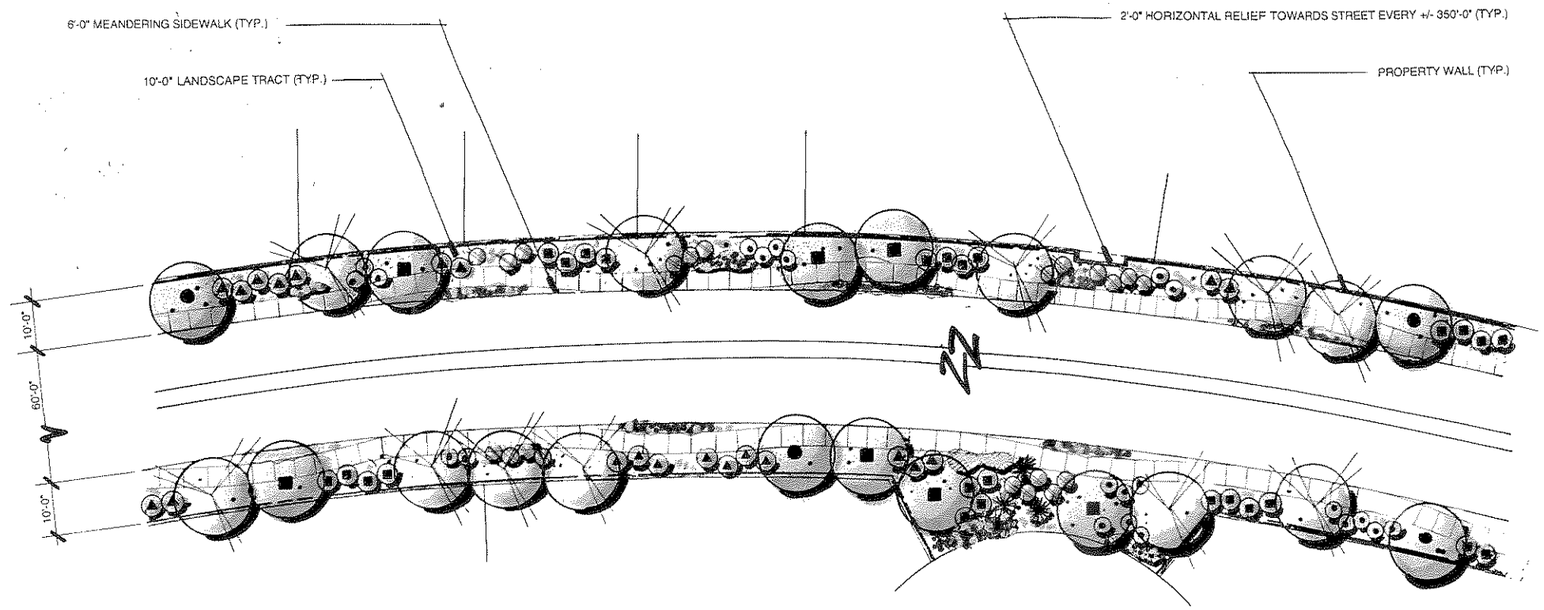
ASHTON RANCH

Neill/Vecchia & Associates, Inc.
Landscape Architecture
Irrigation Systems
Native Plant Analysis
Urban Design
3014 N. Hayden Road, Suite 122 • Scottsdale, AZ 85251
Phone (602) 949-7127 • Fax (602) 949-2655

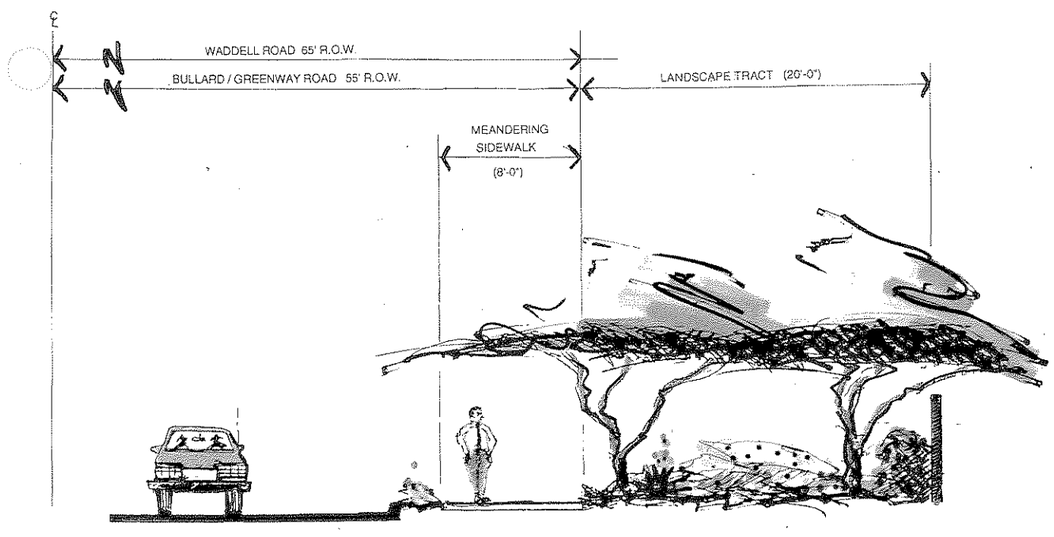
NORTH
1"=200'-0"
JULY, 25, 1997



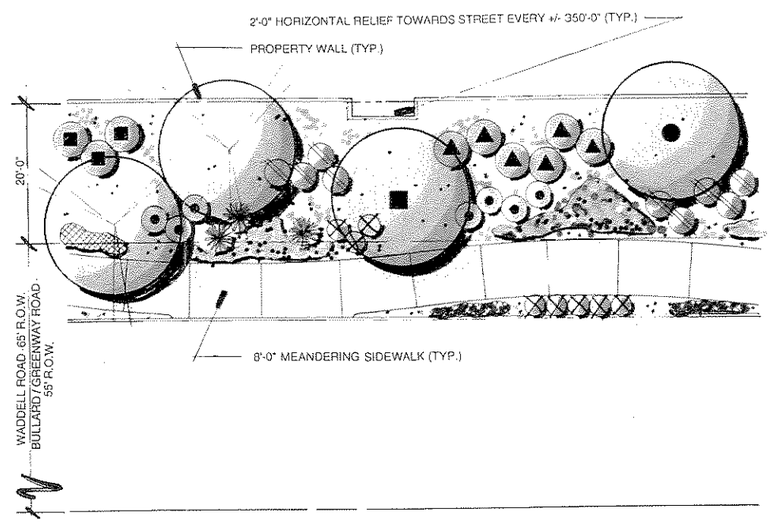
COLLECTOR SECTION WITH LANDSCAPE TRACT 1/4"=1'-0"



TYPICAL COLLECTER STREET PLAN VIEW 1"=20'-0"



WADDELL, BULLARD, GREENWAY ROADS TYPICAL SECTIONS 1/4"=1'-0"



TYPICAL WADDEL, BULLARD,
GREENWAY ROADS PLAN VIEW 1"=10'-0"

CONCEPTUAL PLANT PALETTE

TREES

ACACIA SMALLII
SWEET ACACIA
ACACIA SALICINA
WILLOW ACACIA
CERCIDIUM PRAECOX
PALO BREA
DALBERGIA SISSOO
SISSOO TREE
FRAXINUS VELUNTIA
FANTEX ASH
OLEA 'SWAN HILL'
'SWAN HILL' OLIVE
PINUS CANARIENSIS
CANARY ISLAND PINE
PINUS HALEPENSIS
ALEPPO PINE
PINUS ELDERICA
MONDEL PINE
PROSOPIS CHILENSIS
CHILEAN MESQUITE
PRUNUS CAROLINIANA
CAROLINA CHERRY TREE
RHUS LANCEA
AFRICAN SUMAC
SCHINUS TEREBINTHIFOLIUS
BRAZIALIAN PEPPER

ACCENTS

AGAVE SPECIES
AGAVE - VARIOUS
ALOE SPECIES
ALOE - VARIOUS
CHAMAEROPS HUMILIS
MEDITERRANEAN FAN PALM
DASYLIRION WHEELERI
DESERT SPOON
HESPERALOE SPECIES
YUCCA SPECIES

SHRUBS

CAESALPINIA PULCHERRIMA
RED BIRD OF PARADISE
CALLIANDRA SPECIES
FAIRY DUSTER SPECIES
CASSIA ARTEMISOIDES
FEATHERY CASSIA
CASSIA NEMOPHILA
GREEN CASSIA
CASSIA PHYLLODENIA
SILVERY CASSIA
DALEA PULCHRA
BUSH DALEA
ENCELIA FARINOSA
BRITTLE BUSH
ERICAMERIA LARICIFOLIA
TURPENTINE BUSH
EURYOPS PECTINATUS
EURYOPS
JUSTICIA CALIFORNICA
CHUPAROSA
LEUCOPHYLLUM 'CIMARRON SAGE'
'CIMARRON SAGE'
LEUCOPHYLLUM FRUTESCENS
GREEN CLOUD TEXAS SAGE
LEUCOPHYLLUM LAEVIGATUM
CHIHUAHUAN SAGE
LEUCOPHYLLUM LANGMANIAE
'RIO BRAVO' SAGE
LEUCOPHYLLUM ZYGOPHYLLUM
BLUE SAGE
NERIUM OLEANDER 'PETITE PINK'
'PETITE PINK' OELEANDER
PHOTINIA FRASERI
FRASER'S PHOTINIA
RUELLIA SPECIES
VARIOUS RUELLIA
SALVIA GREGGII
AUTUMN SAGE
TAGETES LUCIDA
LICORICE MARIGOLD

GROUNDCOVER / VINES

BACCHARIS CENTENNIAL
CENTENNIAL HYBRID BROOM
BAILEYA MULTIRADIATA
DESERT MARIGOLD
BOUGAINVILLEA SPECIES
VARIOUS BOUGAINVILLEA
CONVOLVULUS CNEORUM
BUSH MORNING GLORY
DYSSODIA PENTACHAETA
DYSSODIA
GELSEMIUM SEMPERVIRENS
CAROLINA JASMINE
LANTANA SPECIES
VARIOUS LANTANA
LONICERA JAPONICA 'HALLIANA'
HALL'S HONEYSUCKLE
MALETHORA LUTEA
ROCKY POINT ICE PLANT
MELAMPODIUM LEUCANTHUM
BLACKFOOT DAISY
GENOTHERA BERLANDIERI
MEXICAN EVENING PRIMROSE
PASSIFLORA ALATOCAERULEA
PASSION VINE
PSILOTROPHE COOPERI
PAPER FLOWER
PENSTEMON SPECIES
PENSTEMON - VARIOUS
TRACHELOSPERMUM JASMINOIDES
ASIATIC JASMINE
VERBENA GOODDINGII
GOODING VERBENA

STREET SECTIONS AND PLAN VIEW
ASHTON RANCH

PREPARED FOR: BEAZER HOMES

Neill/Vecchia
& Associates, Inc.
Landscape Architecture
Irrigation Systems
Water Flow Analysis
Urban Design
1014 N. Hayden Road, Suite 122 • Scottsdale, AZ 85257
Phone (602) 949-7127 • Fax (602) 949-2655

SEPTEMBER 30,1997

ASHTON RANCH
PLANNED AREA DEVELOPMENT

Conceptual Plant Palette

Trees:

Botanical Name	Common Name
Acacia abyssinica	Abyssinian Acacia
Acacia aneura	Mulga
Acacia constricts	White Thorn Acacia
Acacia schaffnen	Twisted Acacia
Acacia smallli	Sweet Acacia
Acacia stenophylla	Shoestring Acacia
Acacia willardiana	White Bark Acacia
Caesalpinia cacalaco	Caesalpinia
Caesa mexicana	Mexican Poinciana
Camlaloba	Bird of Paradise
Cercidi	Blue Palo Verde
Cercidium	Sonoran Palo Verde
Cercidium praecox	Palo Verde
Chilopsis linearis	Desert Willow
Citrus species	Citrus
Dalbergia sissoo	Sissoo Tree
Fraxinus velutina	Fan-Tex Ash
Lysiloma thornberi	Fern of the Desert
Olneya tesota	Ironwood
Pinus eldarica	Mondel Pine
Pistacia chinensis	Chinese Pistache
Pithecollobium flexicaule	Texas Ebony
Pithecollobium mexicana	Mexican Ebony
Prosopsis chilensis	Chilean Mesquite
Prosopsis juliflora	Honey Mesquite
Prosopsis pubescens	Fremont Screwbean
Pyrus species	Evergreen Pear
Quercus muhlenbergii	Chinquapin Oak
Schinus terebinthifolius	Brazilian Pepper Tree
Ulmus parvifolia	Evergreen Elm
Washingtonia robusta	Mexican Fan Palm

Shrubs:

Botanical Name	Common Name
Acacia species	Acacia
Agave species	Century Plants
Asclepias subulata	Desert Milkweed
Buddleia marrubilfolia	Wooly Butterfly Bush
Caesalpinia gillesli	Yellow Butterfly Bush
Caesalpinia pulcherrima	Mexican Bird of Paradise
Calliandra californica	Baja Fairy Duster
Calliandra eriophylla	Crucifixion Thorn
Cassia species	Cassia
Chamaerops humilis	Mediterranean Fan Palm
Cordia parviflora	Cordia
Dalea species	Dalea
Dasyliron species	Desert Spoon
Dodonea viscose	Hop Bush
Encelia farinosa	Brittle Bush
Ephedra trifurca	Mormon Tea
Eriogonum fasciculatum	Buckwheat
Eysenhardia polystachia	Kidney Wood
Fallugia paradoxa	Apache Plume
Forestieria neomexicana	Desert Olive
Fouquierli splendens	Ocotillo
Haplopappus laricifolia	Turpentine Bush
Hesperaloe funifera	Hesperaloe
Hesperaloe parviflora	Coral Yucca
Holacanthea emoryi	Crucifixion thorn
Hyptis emoryi	Desert Lavender
Leucaena rents	Ball Tree
Malephora lutea	Rocky Point Ice Plant
Myrtus communis	Twisted Myrtle
Nandina domestica	Heavenly Bamboo
Nolina species	Bear Grass
Penstemon species	Beard Tongue
Photinia fraseri	Fraser's Photinia
Ruellia species	Ruellia
Salvia species	Salvia
Sophora secundifolia	Texas Mountain Laurel
Tecomaria capensis	Cape Honeysuckle
Vauquelinia califonica	Arizona Rosewood
Viguiera tomentosa	Golden eye
Xylosma 'varieties'	Xylosma
Yucca species	Yucca
Zauschneria latifolia	Hummingbird Flower

Groundcover:

Botanical Name	Common Name
Acacia redolens	Trailing Acacia
Ambrosia deltoidea	Bursage
Baccharis "centennial"	Desert Broom
Baileya multiradiata	Desert Marigold
Bougainvillea species	Bougainvillea
Carrisa species	Natal Plum
Convolvulus species	Morning Glory
Cynodon (hybrids)	Bermuda Hybrids
Dalea capitata "Stem Gold"	Sierra Gold Dalea
Dalea greggli	Trailing Indigo
Ficus pumila	Creeping Fig
Gazania species	Gazania
Hemerocallis species	Daylily
Lantana camera	"New Gold" Lantana
Lantana montevidensis	Trailing Lantana
Melampodium leucanthum.	Blackfoot Daisy
Myoporum parvifolium	Prostrate Myoporum
Penstemon species	Penstemon
Psilostrophe species	Paper Flower
Verbe species	Verbena

Accents:

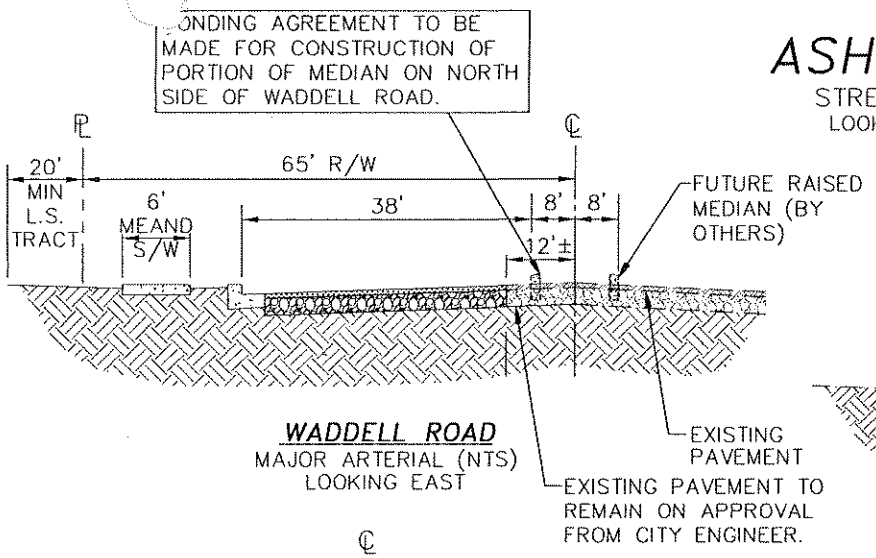
Asclepias subulata	Milkweed
Carnegia gigantea	Saguaro
Echinocactus species	Barrel Cactus
Echinocereus species	Hedgehog Cactus
Euphorbia rigida	Euphorbia
Ferocactus species	Barrel Cactus
Fouquieria splendens	Ocotillo
Hesperaloe species	Red, Yellow Yucca
Muhlenbergia species	Deer Grass
Opuntia species	Prickly Pear
Pachycerecis species	Organ Pipe Cactus

Vines:

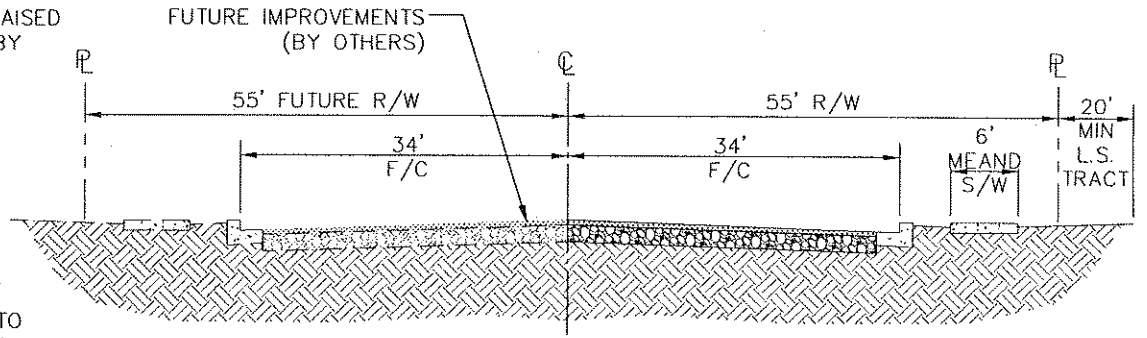
Botanical Name	Common Name
Campsis radicans	Trumpet Vine
Ficus pumila	Creeping Fig
Podranea ricasoliana	Pink Trumpet Vine
Rosa banksaie	Lady Banks Rose

ASHTON RANCH

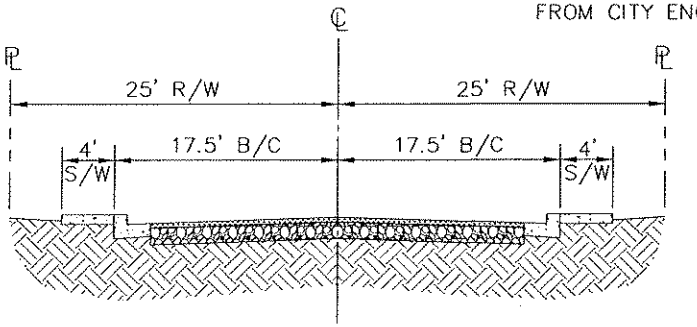
STREET CROSS SECTION
LOOKING EAST AND NORTH



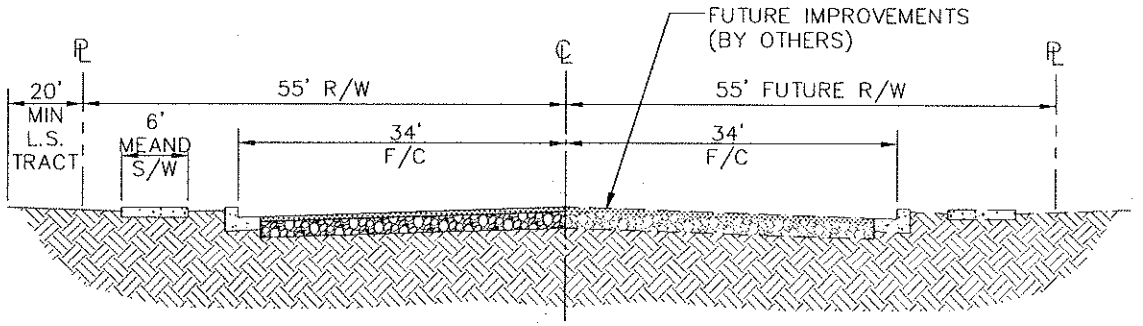
WADDELL ROAD
MAJOR ARTERIAL (NTS)
LOOKING EAST



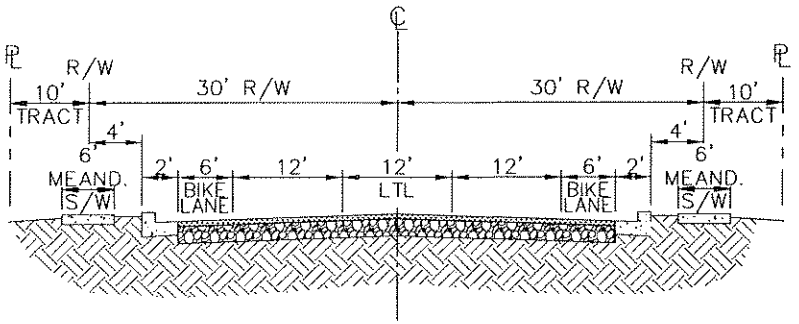
GREENWAY ROAD
MINOR ARTERIAL (NTS)
LOOKING EAST



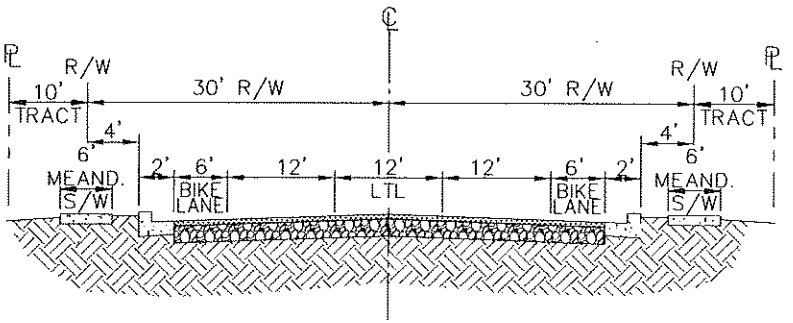
TYPICAL LOCAL STREET
(NTS)



BULLARD AVENUE
MINOR ARTERIAL (NTS)
LOOKING NORTH



TYPICAL COLLECTOR ENTRANCE
(NTS)



TYPICAL COLLECTOR
(NTS)

AMERICAN ENGINEERING CO.
consulting engineers/surveyors

AEC# 96296

Community Site Development Design Guidelines

Land Use Plan

- A minimum of three (3) lot sizes will be provided in each Unit.
- The 45' x 115' lots shall be limited to 35% of the total lots within each Unit.
- Curvilinear streets shall be utilized to create a varied streetscape.
- Varied front setbacks ranging from 18' to 21' shall be utilized. The front setback shall vary a minimum of 3' on adjacent lots.
- There shall be a minimum of 18' front the back of sidewalk to the face of the garage door.

Open Space/Common Areas

- A minimum open space percentage of seven (7) percent shall be provided in each Unit, as required in the PAD ordinance. A prorated portion of the park/school site shall be included in the open space calculation.
- Active and passive amenities shall be installed in the park as follows (quantities in parentheses):

    a) Combination Little League Baseball Field/Soccer Field (1);
    b) Full Basketball Court (1);
    c) Pre-Teen Play Structure (1);
    d) Ramada (1);
    e) Swing Unit--Six swings, 10' Height (1);
    f) Spring Animals (3);
    g) BBQ Grills (2);
    h) Picnic Tables (4);
    i) Benches (4)
    j) Bike Rack Units (2);
    k) Trash Receptacles (3);
    l) Drinking Fountains (2);

m) Bikeway/Walkway--6' Width.

- Mid- and low-level lighting will be provided in the children's play area.

- The open space and common areas shall be maintained by the Ashton Ranch Community Association.

Entry Monumentation/Perimeter Walls/Fencing

- Formal entry monumentation will be constructed at the locations shown on *Exhibit J-"Wall Location Plan."*

- The monumentation shall be constructed as depicted on *Exhibit G-"Design Concepts."*

- Theme walls shall be constructed of integral color masonry block, with split face block and secondary color accents (*Exhibit I-"Wall Plans & Elevations"*).

- Horizontal relief (2') and decorative columns shall be used on the theme wall to provide variation.

- Theme walls will be constructed of 6" x 8" x 16" masonry block.

- Permanent chain link and wooden fencing shall not be permitted, except for temporary construction fencing. Wrought iron and wood gates will be permitted.

Site Development Landscaping

- Xeriscape plant material and decomposed granite shall be used for the arterial and collector streetscapes.

- The arterial and collector streets shall be landscaped with low water use, desert canopy trees planted in a pattern.

- A recommended plant palette shall be provided (*Exhibit L-"Conceptual Plant Palette."*

- A specific decomposed granite color and size (not to exceed 3/4" minus) shall be specified for the arterial and collector streets to create uniformity.

- All landscaped common areas shall be provided with an appropriate low water use watering system, and shall be appropriately maintained.

- All site development landscaping plans shall be approved by the Community Development Director.

Circulation Pattern and Street Standards

- Six (6) foot meandering sidewalks shall be provided in the arterial half street rights-of-way.

- Six (6) foot meandering sidewalks shall be provided on both sides of the collector streets.

Signage

- General commercial billboards shall be prohibited.

- Builder signs, in accordance with this plan and City of Surprise ordinances, shall be permitted.

Miscellaneous Other Site Development Design Guidelines

- All stored items, including boats and recreational vehicles, must be screened behind a 6' wall.

- No stored items, including boats and recreational vehicles, may be visible from neighboring property.

- All water containers must be screened from neighboring property, or stored in garages.

- Permanent on-street parking shall not be permitted.

Architectural Design

Beazer Homes will offer a variety of housing products within Ashton Ranch. Three product lines, or series, will be offered. Conceptual floor plans, elevations and housing features are included as *Exhibit N*.

Within each housing series, Beazer Homes will offer five (5) different floor plans, and three (3) elevations per plan. Four (4) exterior colors will be offered, and will be submitted to the City of Surprise for review and approval. This housing product diversity, together with curvilinear streets and staggered front setbacks, will provide diversity to the Ashton Ranch community.

Masonry and stucco exteriors will be provided. Stone and brick may be used as accent material. Architectural design features, such as pop-outs, shutters and wrought iron detail, will be incorporated into each elevation.

Sloped roofs will be constructed of concrete tile. A minimum of three (3) complementary roof tile colors will be offered with each series. The same type and style of concrete tile will be used throughout each individual neighborhood.

Other architectural design features include ground mounted mechanical equipment, and painted vent pipes and flashing to match the roof tile.

It is important to note any successful builder continues to modify its product to meet the changing needs of the homebuyer and the changing dynamics of the marketplace.

Housing Landscaping Requirements

Each resident will be required to landscape his or her yard no later than ninety (90) days after issuance of a Certificate of Occupancy.

The Ashton Ranch Community Association, through the Residential Design Review Committee, will provide an approved plant material list using the plant species listed on the Conceptual Plant Palette (*Exhibit L-"Conceptual Plant Palette"*). Five (5) decomposed granite colors and sizes will also be specified.

The implementation of the Architectural and Housing Landscaping Requirements comply with general Surprise Development Guide Policies of providing quality housing, and a variety of housing types and sizes for all income levels.

CASCADE

UNIQUE FEATURES

- A variety of thoughtfully designed floorplans and exteriors
- Pre-wired for telephone and cable television
- Underground utilities
- Sturdy block fences enclosing rear yard for privacy and security
- 200 amp electrical service
- Copper wiring (110 volt circuits)
- GFI receptacle in baths, kitchen and garage for safety
- Front yard landscape package included

DISTINCTIVE EXTERIORS

- Choice of 4 exterior color combinations
- Covered entryway
- Long-life concrete roof tile
- Six panel metal entry door
- Elegant entry door hardware
- Security deadbolt lock at entry door
- Concrete driveway and entry walk
- Hose bibs in front and rear yards
- Full stucco application on all sides
- Eight panel finished garage door
- Weatherproof GFI receptacle at front porch and rear of home

IMPRESSIVE INTERIORS

- Quality wall to wall carpeting
- Knock down interior walls and ceilings
- Designer selected vinyl flooring in kitchen, baths and entry
- Convenient laundry area in garage
- Smoke detectors installed for safety
- Bath fixtures and accessories in chrome finish
- Fiberglass tile embossed tub-shower combination
- Laminate bath vanities with drop in china bowls
- Polished brass interior door hardware
- Antique brass exterior door hardware

GOURMET KITCHENS

- Distinctive cabinetry
- Conventional oven
- Vented hood exhaust system
- Energy saving automatic dishwasher
- Easy to clean laminate countertops
- Dual basin stainless steel sink
- Food waste disposer unit
- Single lever chrome faucet

LUXURIOUS MASTER SUITES

- Spacious master suite
- Walk-in closet with dual pole wardrobe
- Expansive plate glass mirror
- Mirrored medicine cabinets

ENGINEERED ENERGY SAVING FEATURES

- SRP Certified Home
- High efficiency 10 seer roof mounted electric heat pumps for heating and cooling
- R-30 ceiling insulation over livable areas
- R-17.2 rated sidewalls on livable areas
- Weather stripping or caulking around all exterior openings
- Insulated self-sealing metal front door
- Dual pane windows
- Sunscreens on east, west and south windows

OPTIONAL EXTRAS YOU MAY CHOOSE TO CUSTOMIZE YOUR HOME

- Covered patios
- Upgraded flooring and appliances
- Ceiling fan outlets
- Upgraded cabinetry
- Wood burning fireplace
- Microwave oven
- Pre-wire for garage door opener
- Garage door openers
- Windows in garage door
- Additional sunscreens
- Dramatic vaulted ceilings with plant shelves (as shown)
- Double doors at master bedroom (Plans 155 & 157)
- Mirrored closet doors

In the interest of continuing product development, the builder reserves the right to change prices, plan specifications or features without notice or obligation. 5-20-96

CROSSING

UNIQUE FEATURES

- A variety of thoughtfully designed floorplans and exteriors
- Pre-wired for telephone and cable television
- Underground utilities
- Sturdy block fences enclosing rear yard for privacy and security
- 200 amp electrical service
- Copper wiring (110 volt circuits)
- GFI receptacle in baths, kitchen and garage for safety
- Front yard landscape certificate

DISTINCTIVE EXTERIORS

- Exterior design choices
- Choice of 4 exterior color combinations
- Long-life concrete roof tile
- Covered entryway
- Six panel entry door
- Elegant entry door hardware
- Security deadbolt lock at entry door
- Concrete driveway and entry walk
- Hose bibs in front and rear yards
- Full stucco application on all sides
- Eight panel finished garage door
- Weatherproof GFI receptacle at front porch and rear of home

IMPRESSIVE INTERIORS

- Quality wall to wall carpeting
- Knock down interior walls and ceilings
- Designer selected vinyl flooring in kitchen, baths and entry
- Convenient laundry area in garage
- Smoke detectors installed for safety
- Bath fixtures and accessories in chrome finish
- Fiberglass tile embossed tub-shower combination
- Laminate bath vanities with drop in china bowls
- Polished brass interior door hardware
- Antique brass exterior door hardware

GOURMET KITCHENS

- Distinctive cabinetry
- Conventional oven
- Vented hood exhaust system
- Energy saving automatic dishwasher
- Easy to clean laminate countertops
- Dual basin stainless steel sink
- Food waste disposer unit
- Single lever chrome faucet

LUXURIOUS MASTER SUITES

- Spacious master suite
- Walk-in closet with dual pole wardrobe (per plan)
- Expansive plate glass mirror
- Mirrored medicine cabinets

ENGINEERED ENERGY SAVING FEATURES

- APS "Good Cents" Energy Efficient Home
- High efficiency 12 seer roof mounted electric heat pumps for heating and cooling
- R-30 ceiling insulation over livable areas
- R-17.2 rated sidewalls on livable areas
- Weather stripping or caulking around all exterior openings
- Insulated self-sealing front door
- Dual pane windows
- Sunscreens on east, west and south windows

OPTIONAL EXTRAS YOU MAY CHOOSE TO CUSTOMIZE YOUR HOME

- Covered patios
- Upgraded flooring and appliances
- Ceiling fan outlets
- Upgraded cabinetry
- Wood burning fireplace
- Microwave prewire
- Microwave oven
- Pre-wire for garage door opener
- Garage door opener
- Windows in garage door
- Additional sunscreens
- Dramatic vaulted ceilings with plant shelves (as shown)
- Mirrored closet doors

In the interest of continuing product development, the builder reserves the right to change prices, plan specifications or features without notice or obligation. 07/09/97

ENCORE

UNIQUE FEATURES

- A variety of thoughtfully designed floor plans and exteriors
- Pre-wired for telephone and cable television
- Underground utilities
- Sturdy block fences enclosing rear yard for privacy and security
- 200 amp electrical service
- Copper wiring (110 volt circuits)
- GFI outlets in baths, kitchen, and garage for safety
- Copper plumbing
- Front yard landscape package

DISTINCTIVE EXTERIORS

- Exterior design choices
- Choice of 4 exterior color combinations
- Decorative tile roof
- Covered entryway
- Six panel metal entry door
- Elegant entry door hardware
- Security deadbolt lock at entry door
- Concrete driveway and entry walk
- Hose bibs in front and rear yards
- Full stucco application on all sides
- Eight panel finished garage door
- Weatherproof GFI receptacle at front porch and rear of home

IMPRESSIVE INTERIORS

- Quality wall to wall carpeting
- Knock down interior walls and ceilings with rounded corners
- Designer selected vinyl flooring in kitchen, baths and entry
- Convenient interior laundry area
- Smoke detectors installed for safety
- Bath fixtures and accessories in chrome finish
- Fiberglass tile embossed tub-shower combination
- Laminate bath vanities with drop in china bowls
- Polished brass door hardware

LUXURIOUS MASTER SUITES

- Spacious master suite
- Walk-in closet with dual pole wardrobe
- Expansive plate glass mirror
- Mirrored medicine cabinets

GOURMET KITCHENS

- Distinctive cabinetry
- Conventional oven
- Vented hood exhaust system
- Energy saving automatic dishwasher
- Easy to clean laminate countertop
- Dual basin stainless steel sink
- Food waste disposer unit
- Single lever chrome faucet

ENGINEERED ENERGY SAVING FEATURES

- APS "Good Cents" Energy Efficient Home
- High efficiency 12 seer ground mounted electric heat pumps for heating and cooling
- R-30 ceiling insulation over livable areas
- R-17.2 rated sidewalls on livable areas
- Weather stripping or caulking around all exterior openings
- Insulated self-sealing metal front door
- Dual pane windows
- Sunscreens on south, east and west windows

OPTIONAL EXTRAS YOU MAY CHOOSE TO CUSTOMIZE YOUR HOME

- Covered patios
- Upgraded cabinetry
- Upgraded flooring and appliances
- Ceiling fan outlets
- Wood burning fireplace
- Prewire for microwave oven
- Microwave oven
- Pre-wire for garage door opener
- Garage door opener
- Windows in garage door
- Additional sunscreens
- Dramatic vaulted ceilings with plant shelves (where shown)
- Marble vanities (where shown)
- Additional master bathroom sink
- Decorative six panel interior doors
- Upgraded steel tub with marble surrounds
- Kitchen island (Plan 2522 & 2532)
- Mirrored closet doors

In the interest of continuing product development, the builder reserves the right to change prices, plan specifications or features without notice or obligation. 4/04/97.

PARK /

UNIQUE FEATURES

- A variety of thoughtfully designed floorplans and exteriors
- Pre-wired for telephone and cable television
- Underground utilities
- Sturdy block fences enclosing rear yard for privacy and security
- 200 amp electrical service
- Copper wiring (110 volt circuits)
- GFI receptacle in baths, kitchen and garage for safety
- Front yard landscape package included

DISTINCTIVE EXTERIORS

- Exterior design choices
- Choice of 3 exterior color combinations
- Long-life concrete roof tile
- Covered entryway
- Designer laminate shingle roof
- Six panel metal entry door
- Elegant entry door hardware
- Security deadbolt lock at entry door
- Concrete driveway and entry walk
- Hose bibs in front and rear yards
- Full stucco application on all sides
- Eight panel finished garage door
- Weatherproof GFI receptacle at front porch and rear of home

IMPRESSIVE INTERIORS

- Quality wall to wall carpeting
- Knock down interior walls and ceilings
- Designer selected vinyl flooring in kitchen, baths and entry
- Convenient laundry area in garage
- Smoke detectors installed for safety
- Bath fixtures and accessories in chrome finish
- Fiberglass tile embossed tub-shower combination
- Laminate bath vanities with drop in china bowls
- Polished brass interior door hardware
- Antique brass exterior door hardware

GOURMET KITCHENS

- Distinctive cabinetry
- Conventional oven
- Vented hood exhaust system
- Energy saving automatic dishwasher
- Easy to clean laminate countertops
- Dual basin stainless steel sink
- Food waste disposer unit
- Single lever chrome faucet

LUXURIOUS MASTER SUITES

- Spacious master suite
- Walk-in closet with dual pole wardrobe
- Expansive plate glass mirror
- Mirrored medicine cabinets

ENGINEERED ENERGY SAVING FEATURES

- SRP "Climate Crafted Home
- High efficiency 12 seer roof mounted electric heat pumps for heating and cooling
- R-30 ceiling insulation over livable areas
- R-17.2 rated side walls on livable areas
- Weather stripping or caulking around all exterior openings
- Insulated self-sealing metal front door
- Dual pane windows
- Sunscreens on east, west and south windows

OPTIONAL EXTRAS YOU MAY CHOOSE TO CUSTOMIZE YOUR HOME

- Covered patios
- Upgraded flooring and appliances
- Ceiling fan outlets
- Upgraded cabinetry
- Wood burning fireplace
- Microwave oven
- Pre-wire for garage door opener
- Garage door opener
- Windows in garage door
- Additional sunscreens
- Dramatic vaulted ceilings with plant shelves (as shown)
- Mirrored closet doors

In the interest of continuing product development, the builder reserves the right to change prices, plan specifications or features without notice or obligation. 5-20-96

VINTAGE AT ...

UNIQUE FEATURES

- A variety of thoughtfully designed floor plans and exteriors
- Pre-wired for telephone and cable television
- Underground utilities
- Sturdy block fences enclosing rear yard for privacy and security
- 200 amp electrical service
- Copper wiring (110 volt circuits)
- GFI outlets in baths, kitchen, and garage for safety
- Pre-wire for garage door opener
- 3 car garage (Plan 3532, 3552 & 3591)
- Front yard landscape certificate
- Covered patios

DISTINCTIVE EXTERIORS

- Exterior design choices
- Choice of 4 exterior color combinations
- Decorative tile roof
- Covered entryway
- Six panel entry door
- Elegant entry door hardware
- Security deadbolt lock at entry door
- Concrete driveway and entry walk
- Hose bibs in front and rear yards
- Full stucco application on all sides
- Eight panel finished garage door
- Weatherproof GFI receptacle at front porch and rear of home

IMPRESSIVE INTERIORS

- Quality wall to wall carpeting
- Knock down interior walls and ceilings with rounded corners
- Designer selected vinyl flooring in kitchen, baths and entry
- Ceiling fan outlets
- Convenient interior laundry area
- Smoke detectors installed for safety
- Bath fixtures and accessories in chrome finish
- Fiberglass tile embossed tub-shower combination
- Cultured marble bath vanities
- Polished brass door hardware
- Single lever chrome faucet

LUXURIOUS MASTER SUITES

- Spacious master suite
- Walk-in closet with dual pole wardrobe
- Expansive plate glass mirror
- Mirrored medicine cabinets
- White steel tub with marble surrounds
- Master bathroom garden tub with separate shower
- Mirrored closet doors
- Additional bathroom sink (where shown)

GOURMET KITCHENS

- Distinctive cabinetry
- Kitchen island (Plan 3532 & 3552)
- Self-cleaning oven
- Vented hood exhaust system
- Energy saving automatic dishwasher
- Easy to clean laminate countertops
- Dual basin stainless steel sink
- Food waste disposer unit
- Plumbed for automatic icemaker
- Pre-wire for Microwave

ENGINEERED ENERGY SAVING FEATURES

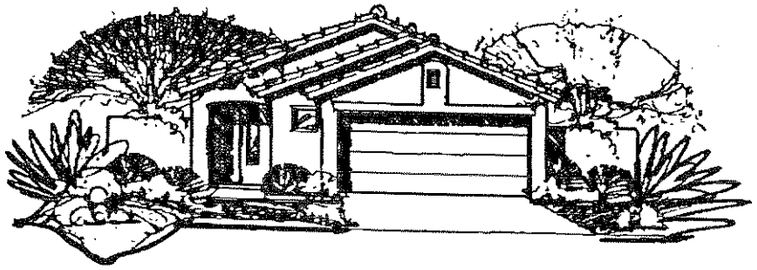
- APS "Good Cents" Energy Efficient Home
- High efficiency 12 seer ground mounted electric heat pumps for heating and cooling
- R-30 ceiling insulation over livable areas
- R-17.2 rated sidewalls on livable areas
- Weather stripping or caulking around all exterior openings
- Insulated self-sealing metal front door
- Dual pane windows
- Sunscreens on south, east and west windows

OPTIONAL EXTRAS YOU MAY CHOOSE TO CUSTOMIZE YOUR HOME

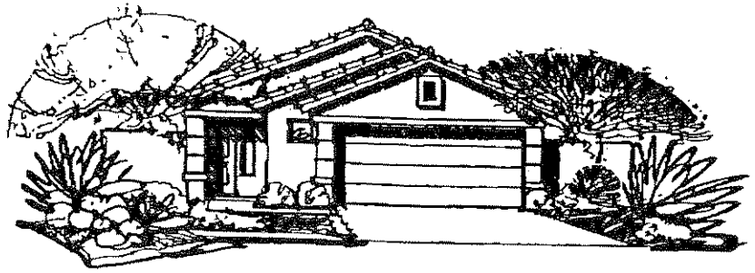
- Upgraded cabinetry
- Upgraded flooring and appliances
- Wood burning fireplace
- Microwave oven
- Garage door opener
- Windows in garage door
- Additional sunscreens
- Dramatic vaulted ceilings with plant shelves

In the interest of continuing product development, the builder reserves the right to change prices, plan specifications or features without notice or obligation. 07/24/97.

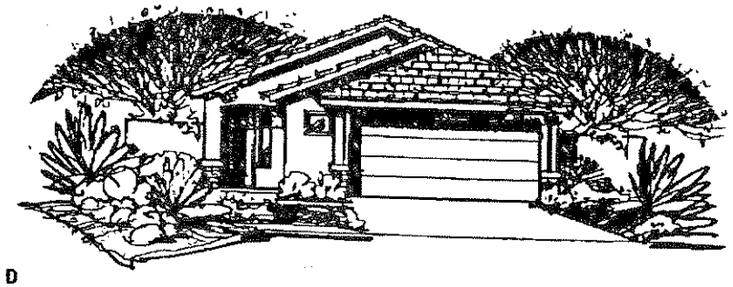
09/24/97 WED 15:23 FAX 9437269 G G PRINTERS



Elevation B

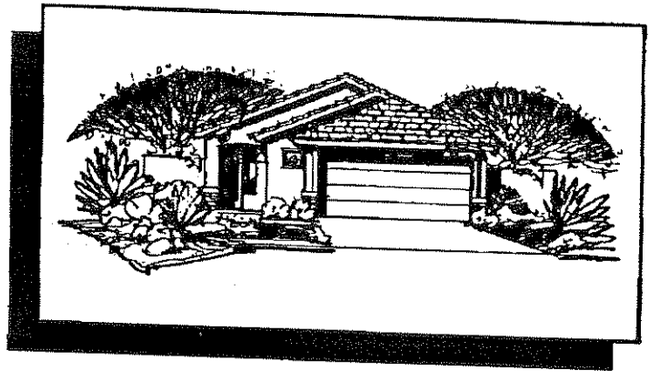


Elevation C



Elevation D

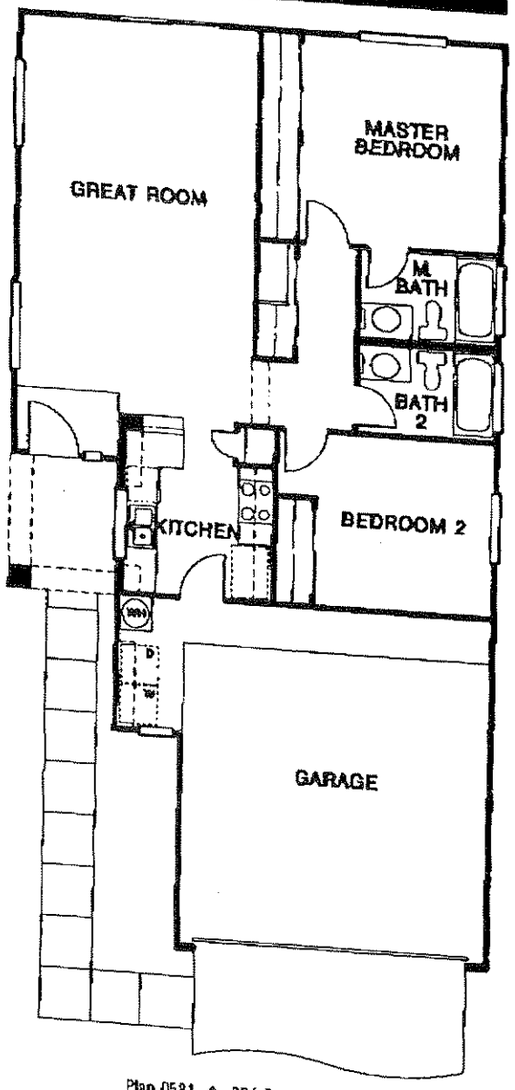
BEAZER HOMES



FLOORPLAN

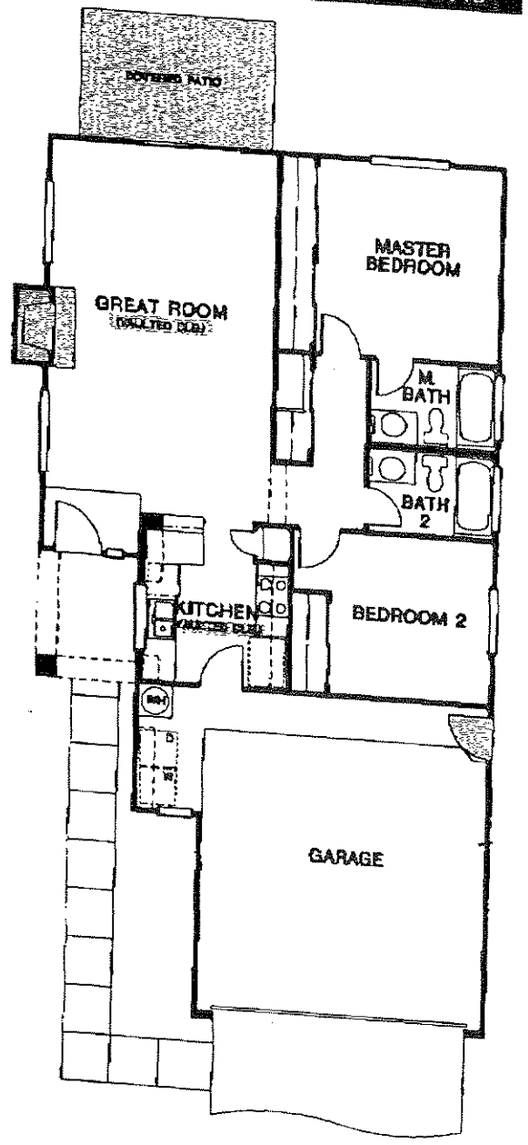
0581

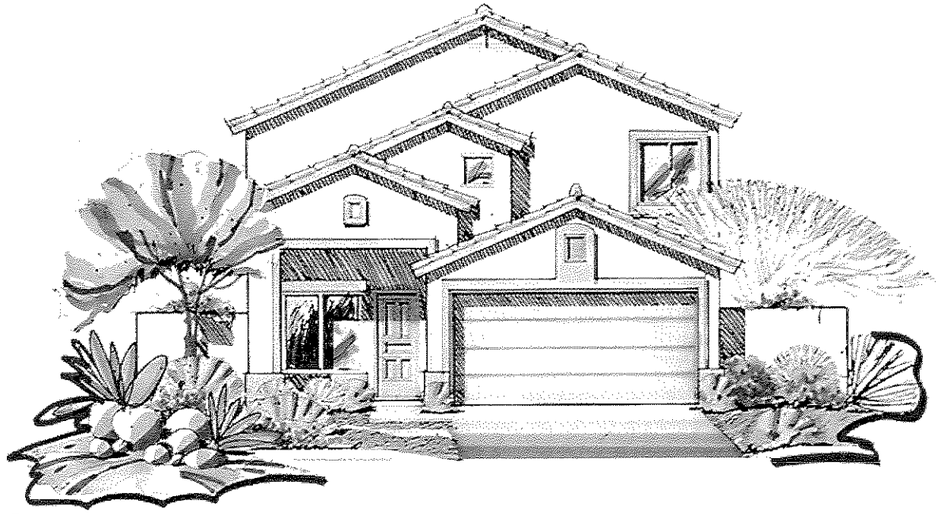
Base Floorplan



Plan 0581 ◆ 931 Square Feet
2 Bedrooms, 2 Baths, 2 Car Garage

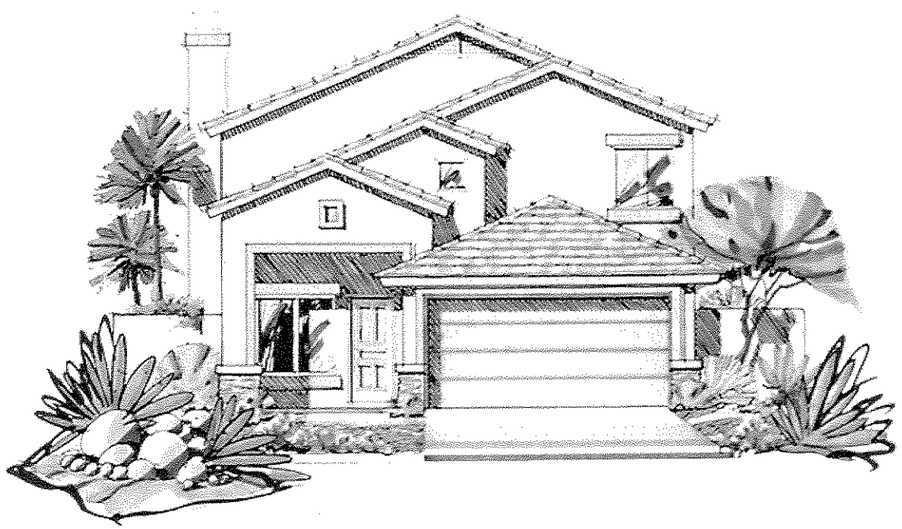
Floorplan With Options





Elevation B

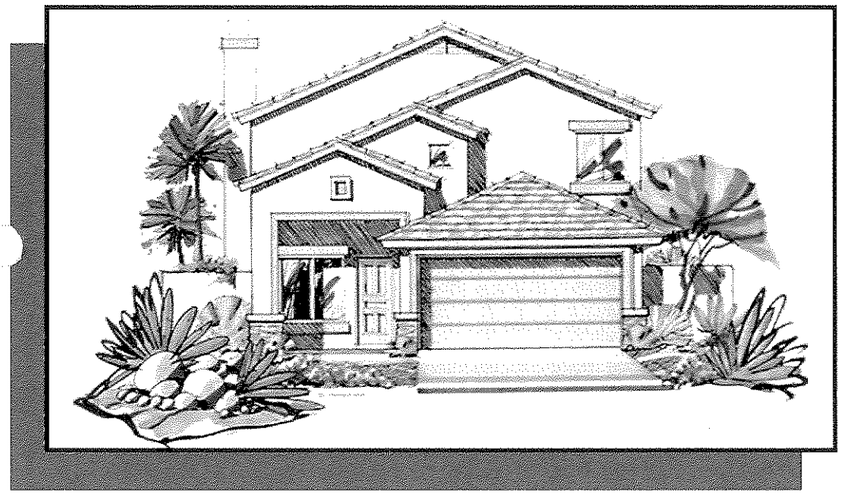
Elevation C



Elevation D

HOMES

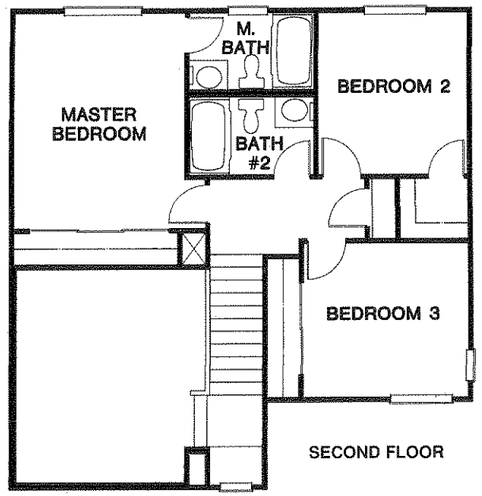
BEAZER

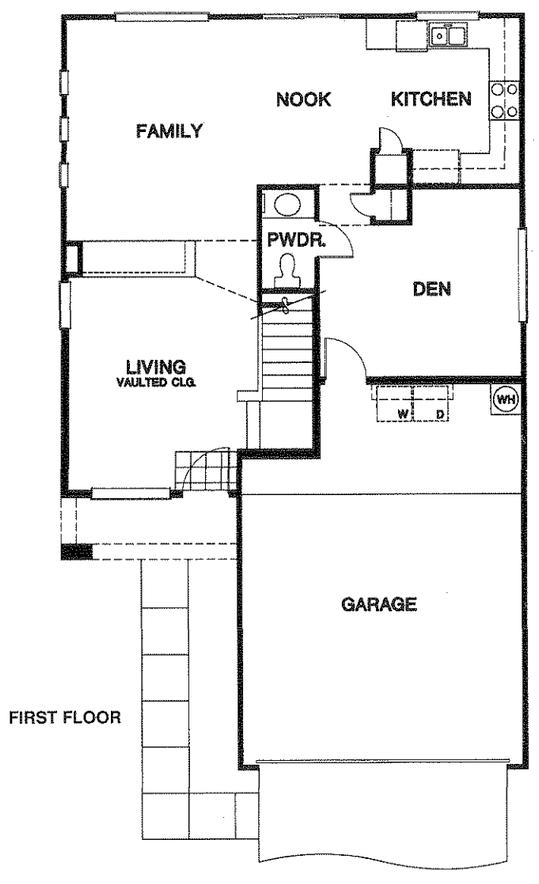


FLOORPLAN

0542

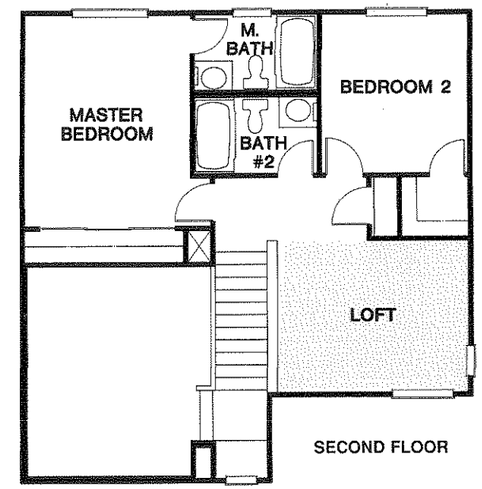
Base Floorplan

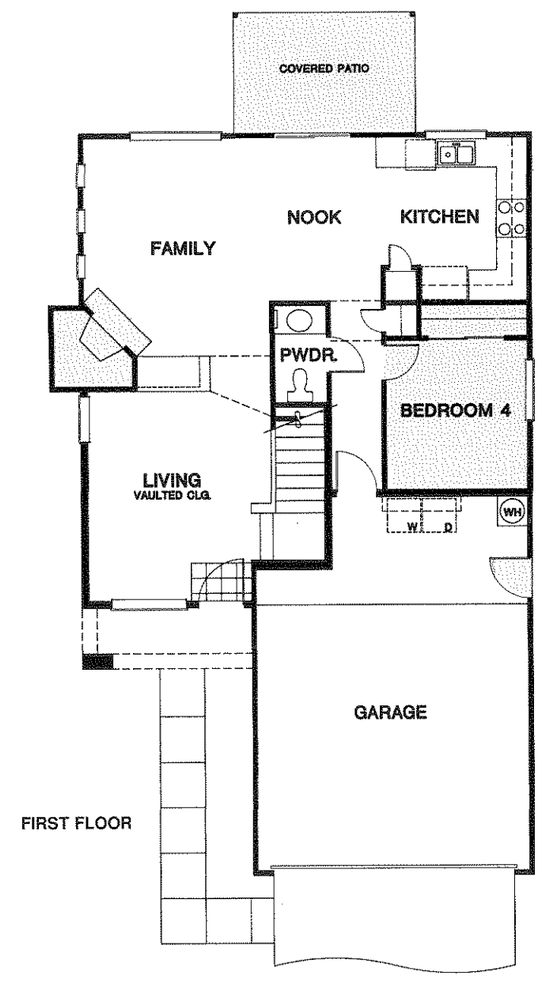


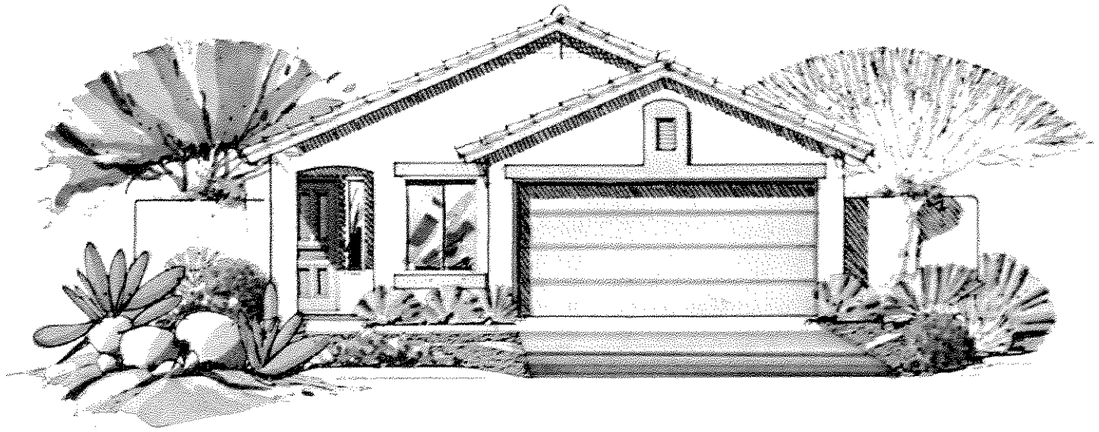


Plan 0542 ◆ 1443 Square Feet
3 Bedrooms & Den, 2½ Baths, 2 Car Garage

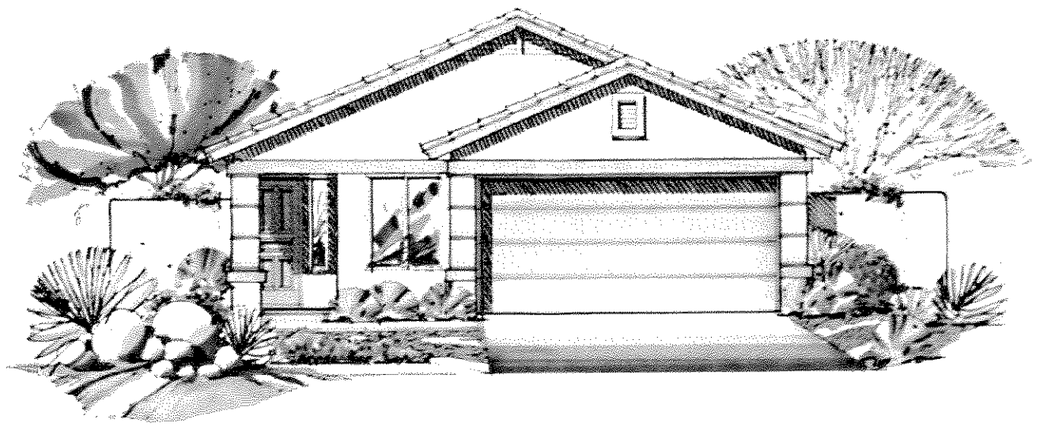
Floorplan With Options







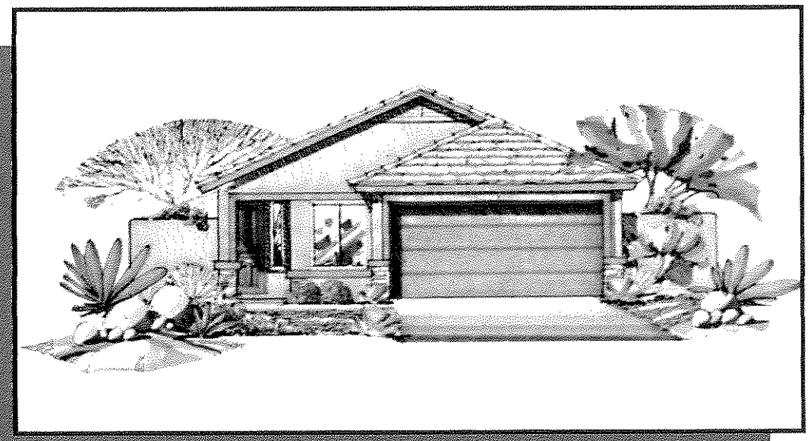
Elevation B



Elevation C

Elevation D

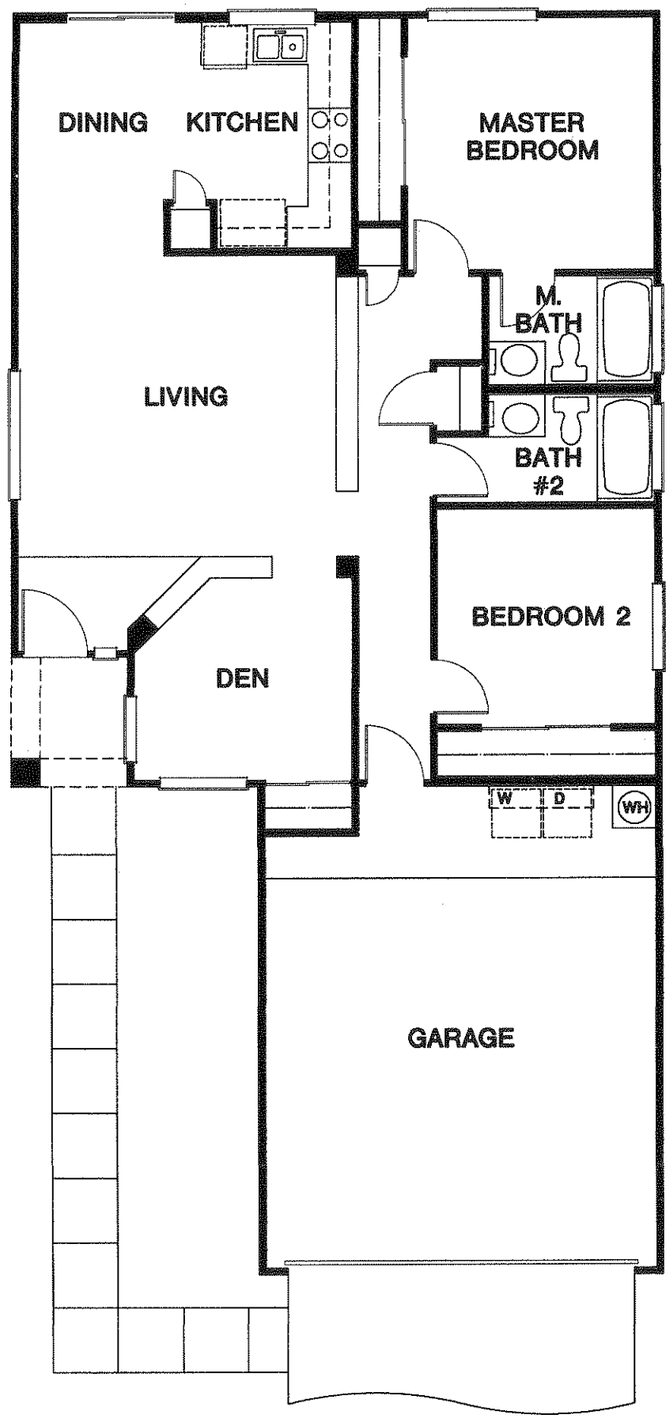
HOMES
BEAZER



FLOORPLAN

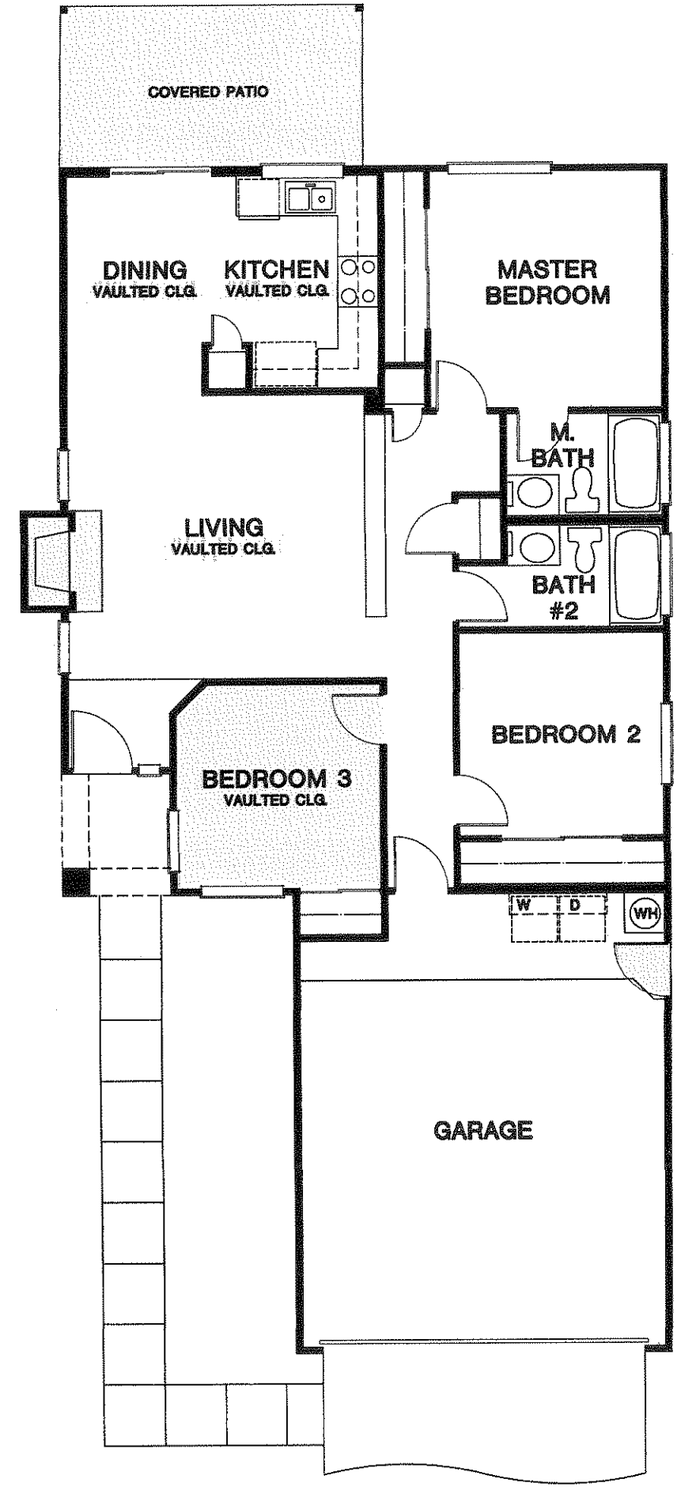
0551

Base Floorplan

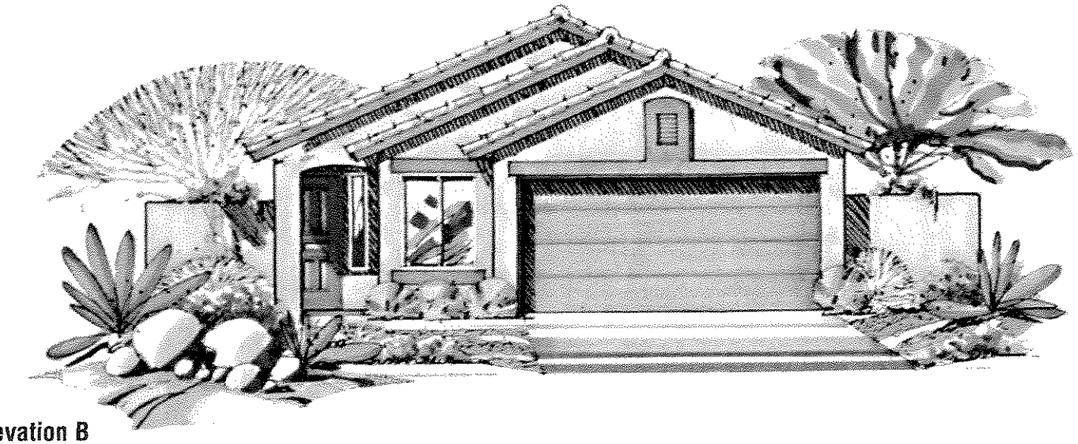


Plan 0551 ◆ 1058 Square Feet
2 Bedrooms & Den, 2 Baths, 2 Car Garage

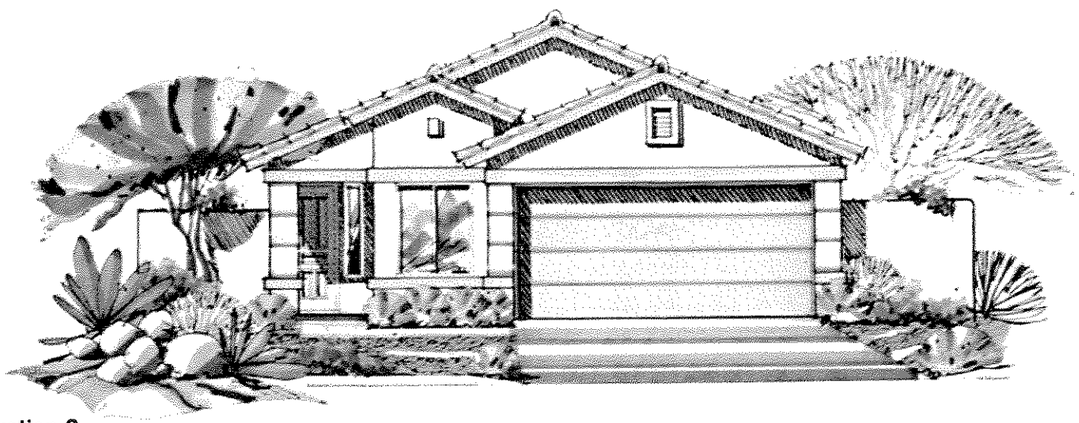
Floorplan With Options



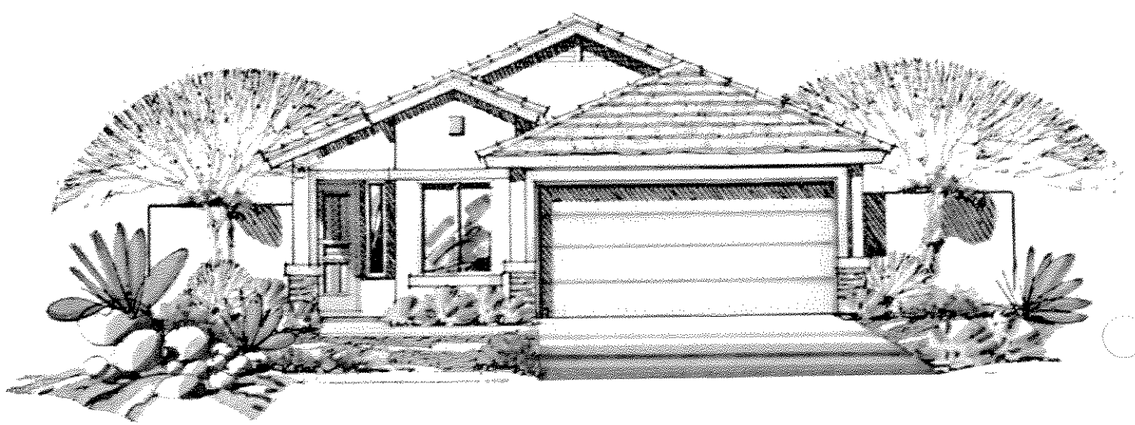
HOMES
BEAZER



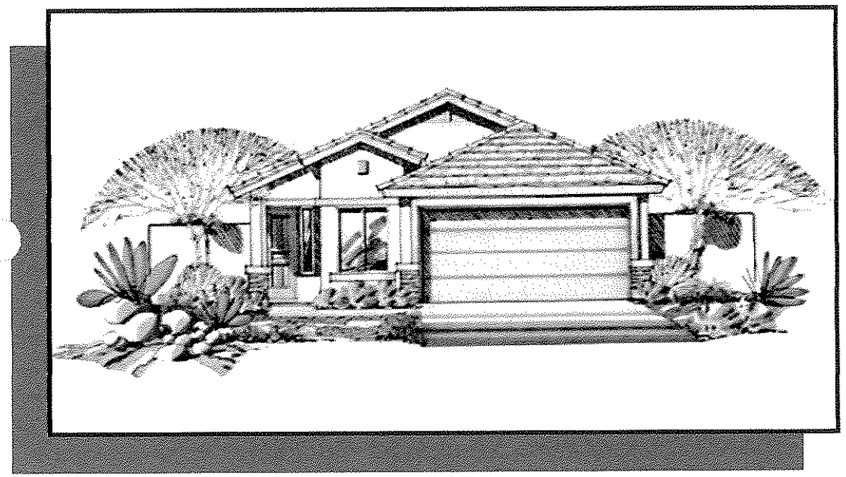
Elevation B



Elevation C



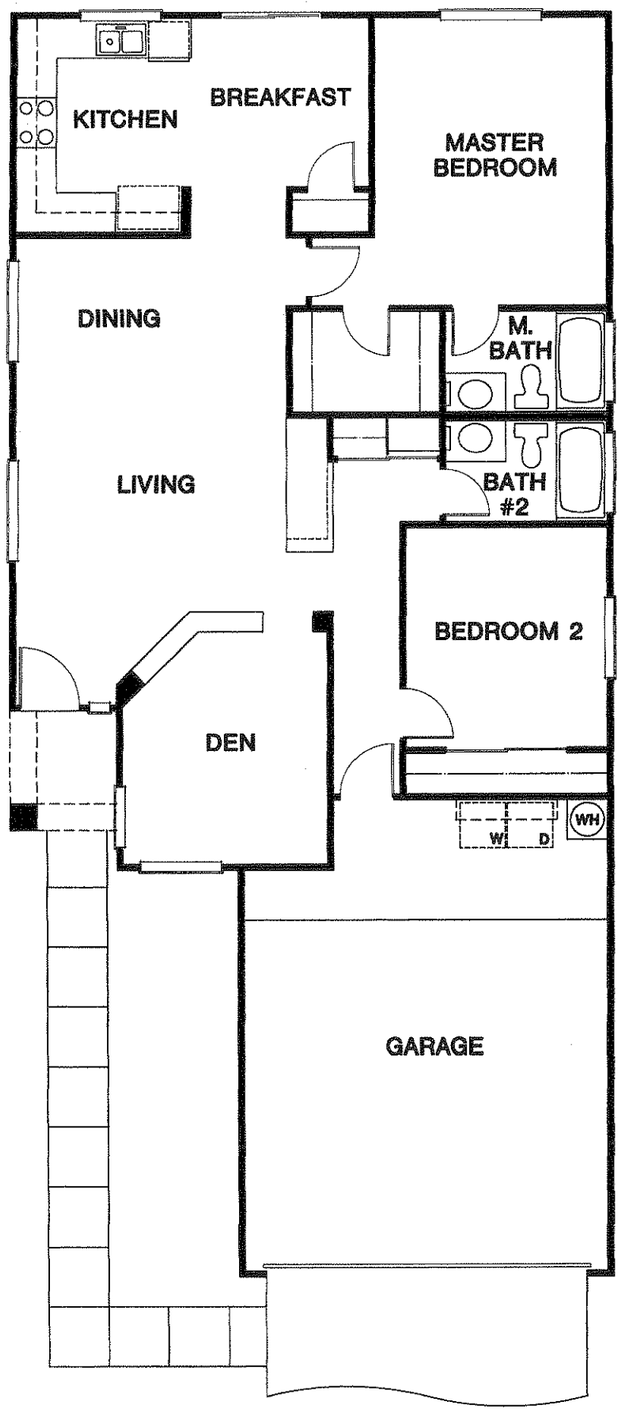
Elevation D



FLOORPLAN

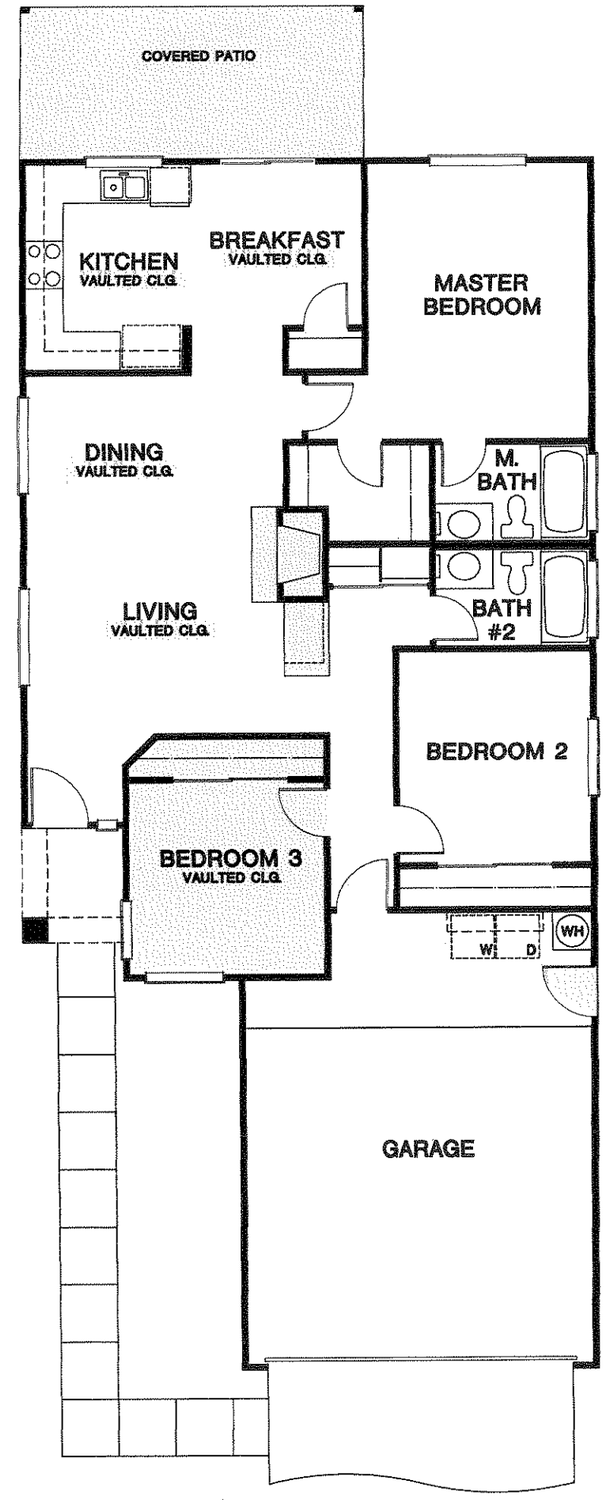
0561

Base Floorplan

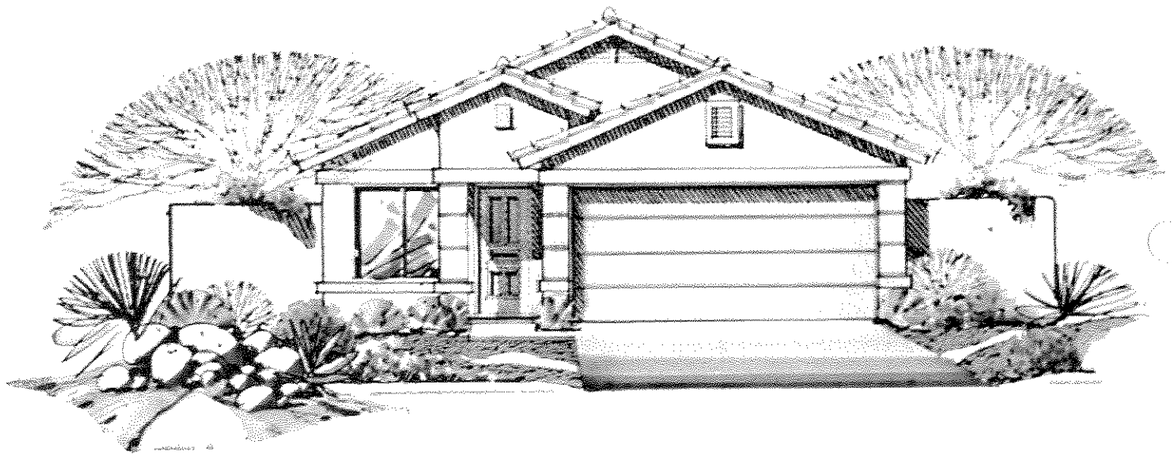


Plan 0561 ◆ 1198 Square Feet
2 Bedrooms & Den, 2 Baths, 2 Car Garage

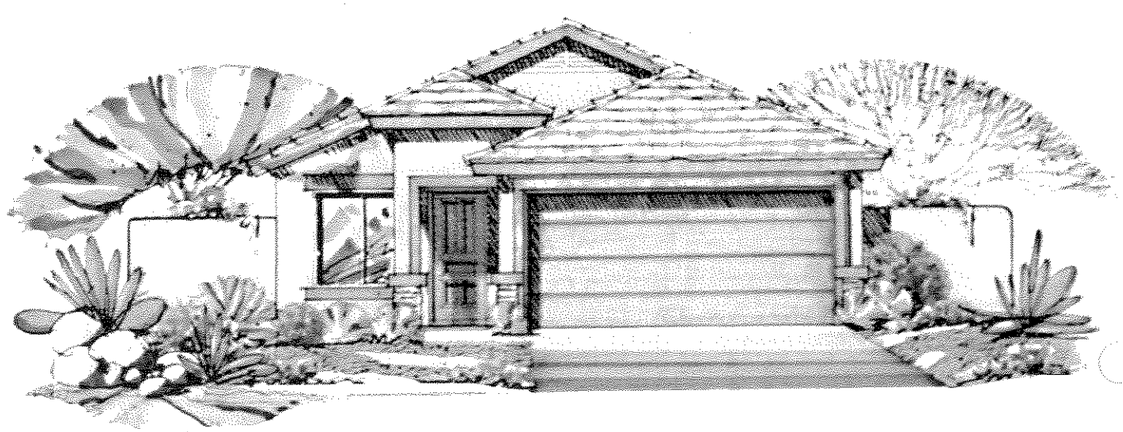
Floorplan With Options



Elevation B

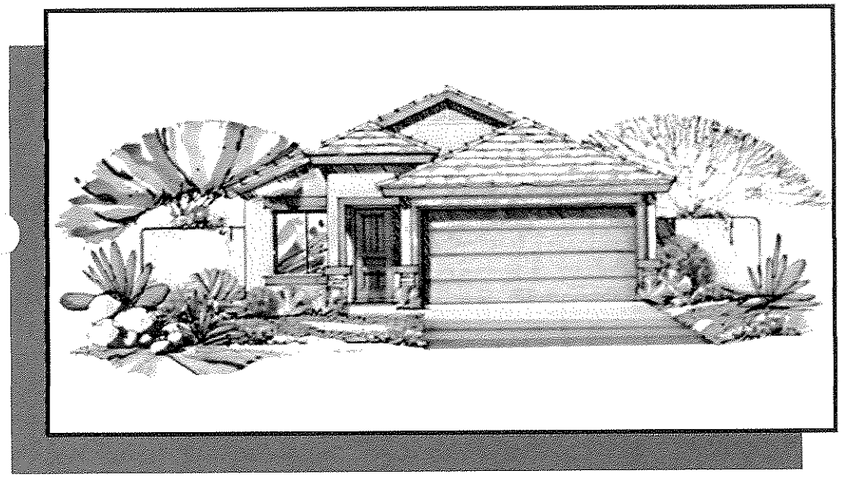


Elevation C



Elevation D

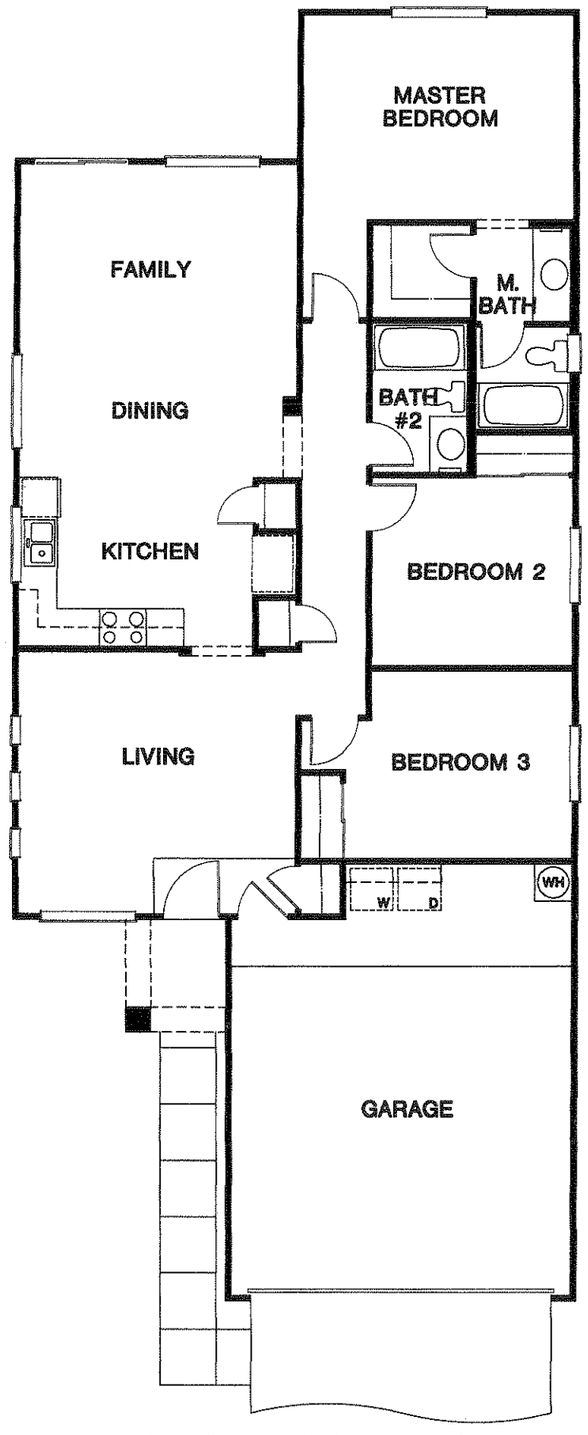
BEAZER HOMES



FLOORPLAN

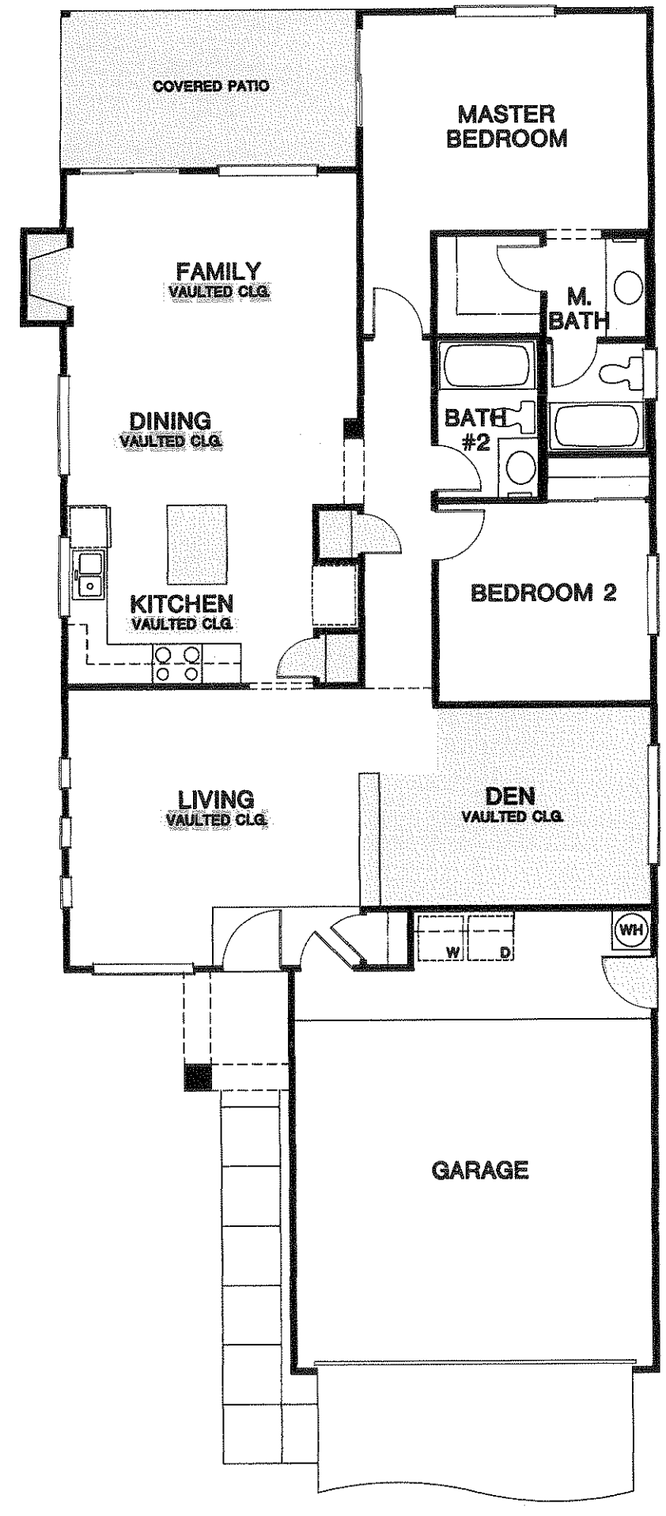
071

Base Floorplan



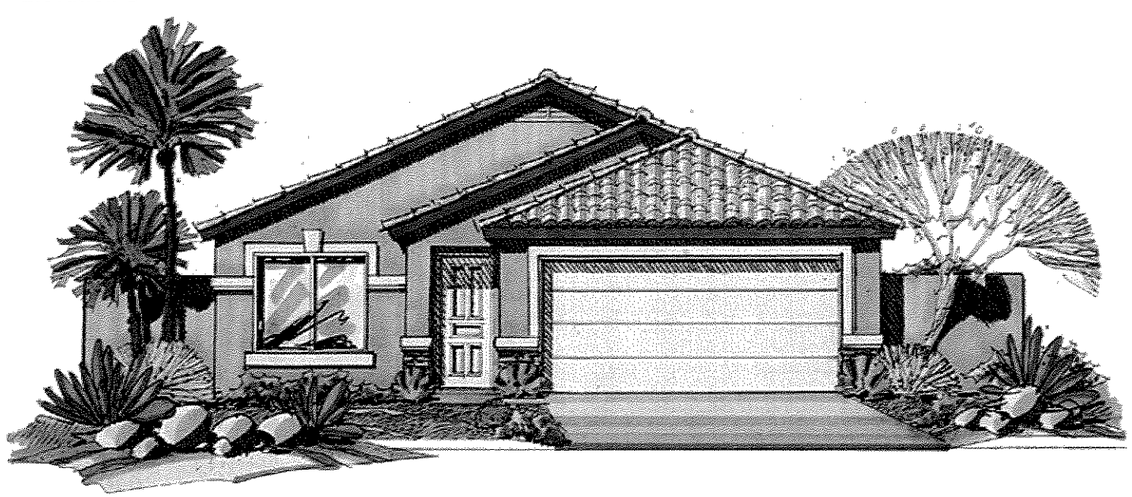
Plan 0571 ◆ 1303 Square Feet
3 Bedrooms, 2 Baths, 2 Car Garage

Floorplan With Options



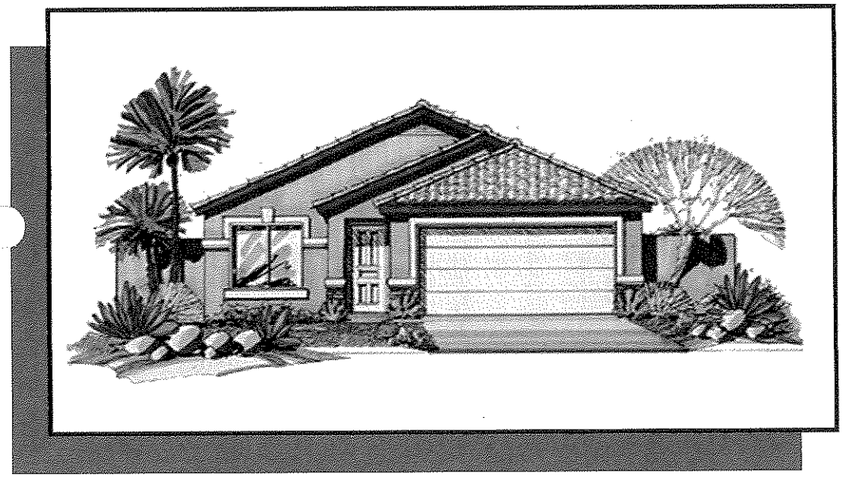
Elevation B

Elevation C



Elevation D

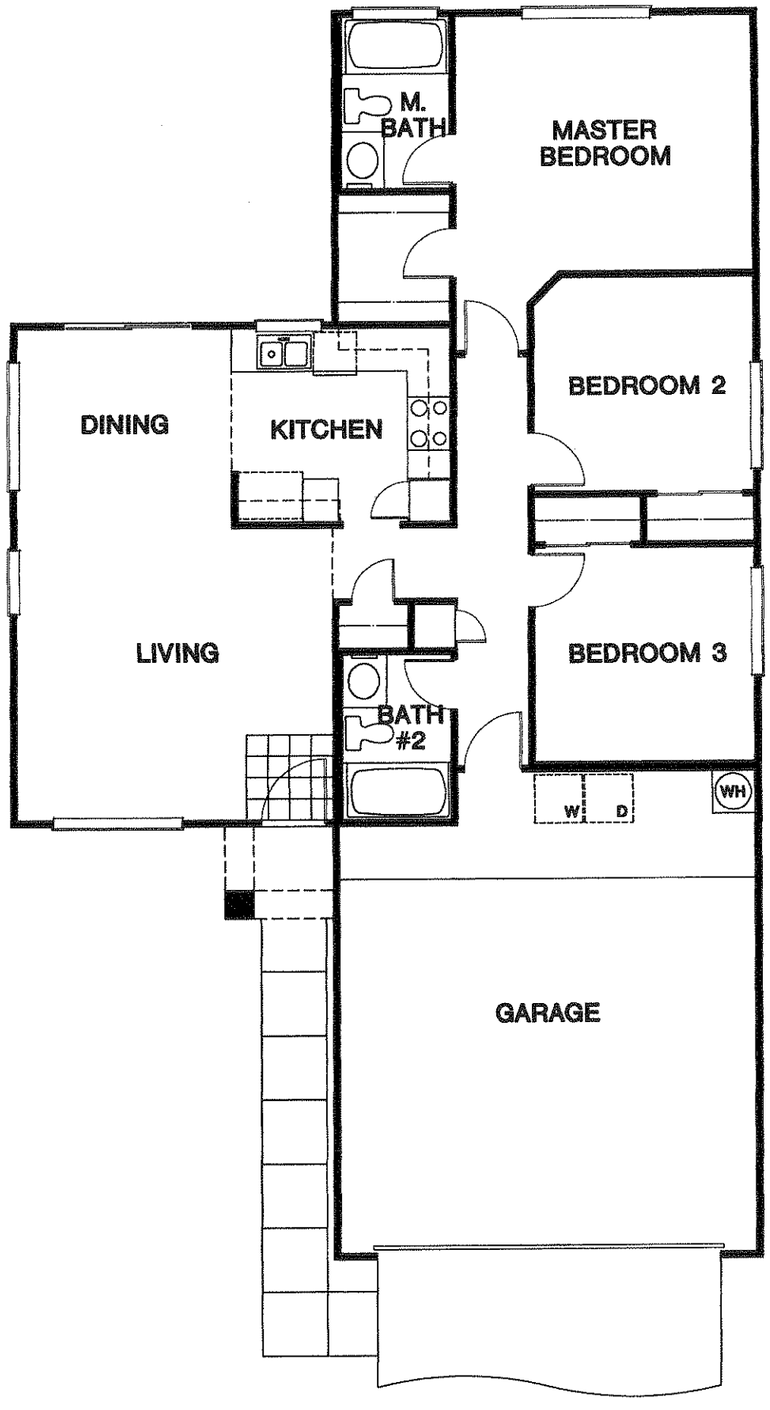
BEAZER HOMES



FLOORPLAN

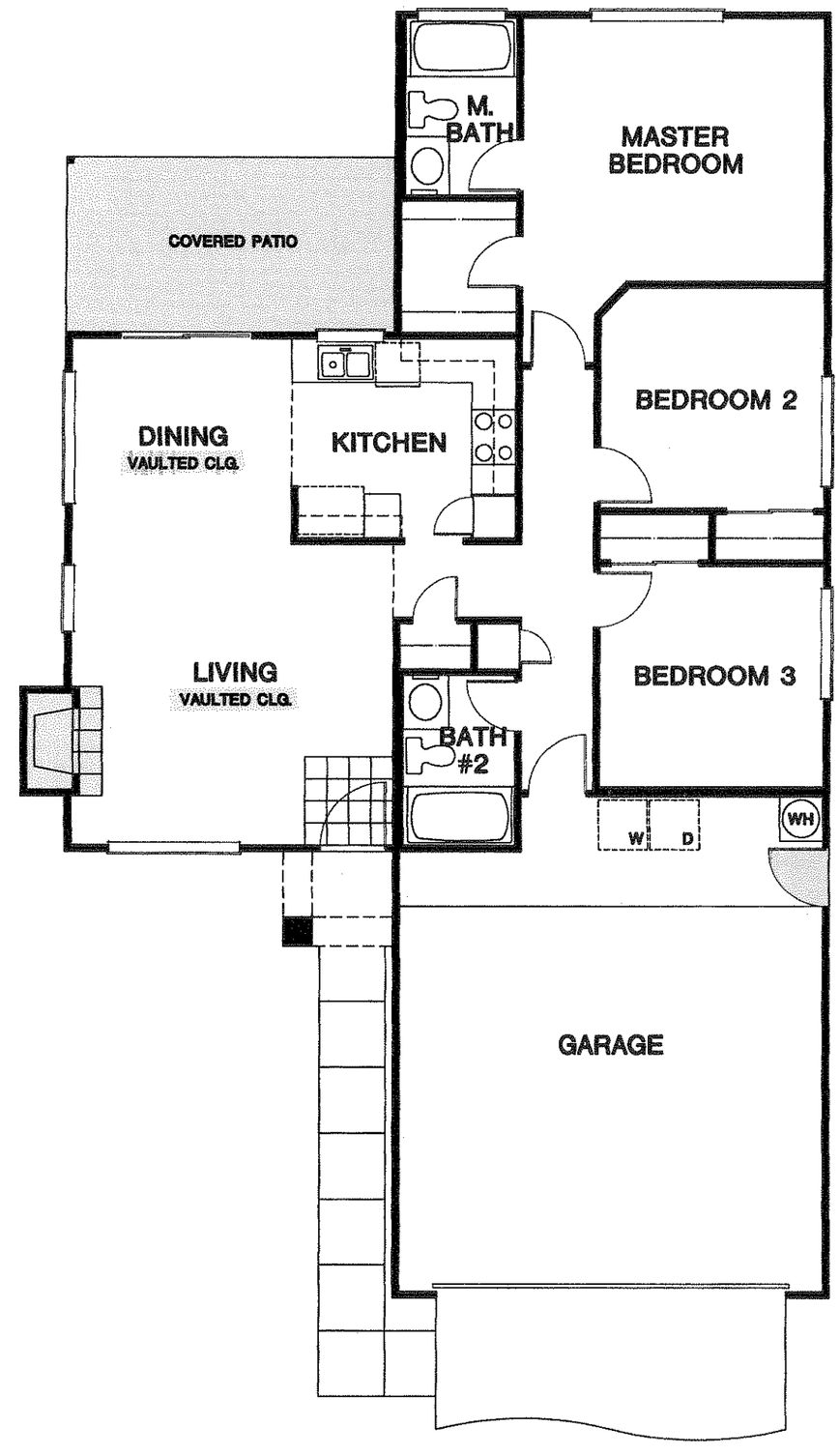
1011

Base Floorplan



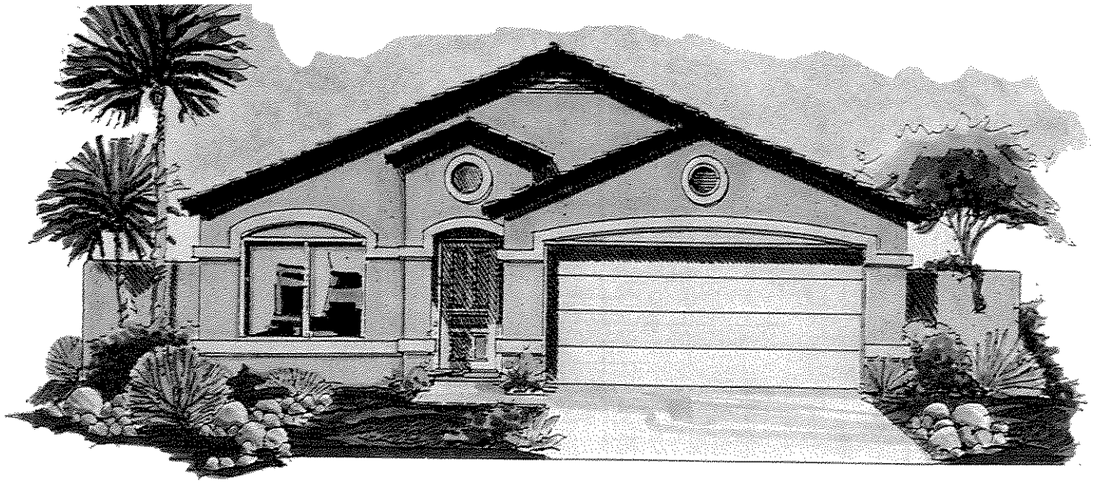
Plan 1011 ◆ 1086 Square Feet
3 Bedrooms, 2 Baths, 2 Car Garage

Floorplan With Options

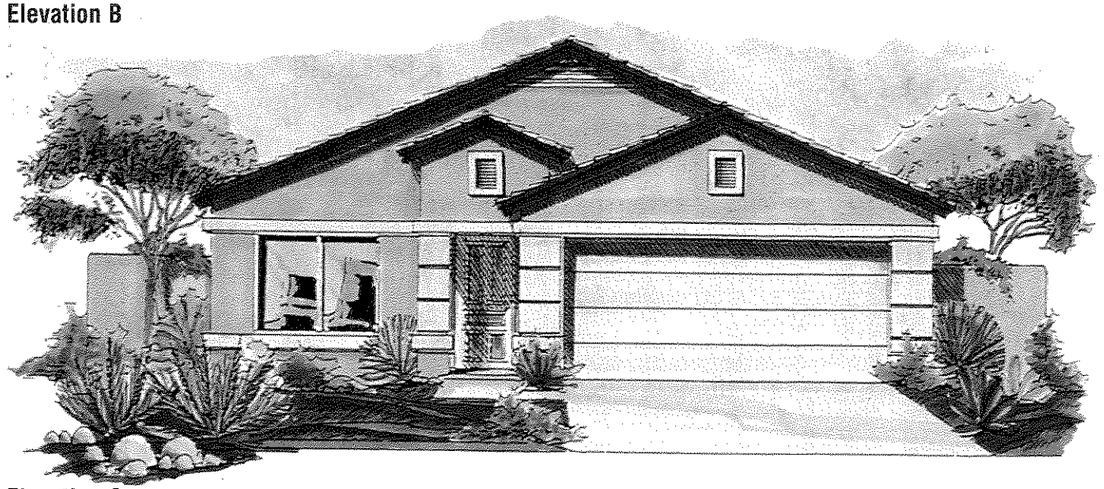


HOMES
BEAZER

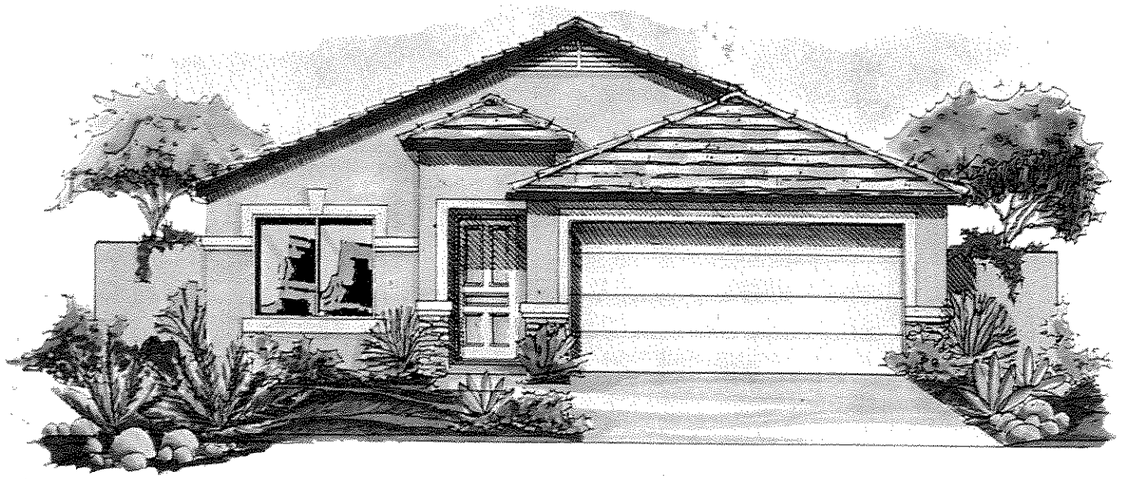
FLOORPLAN
1021



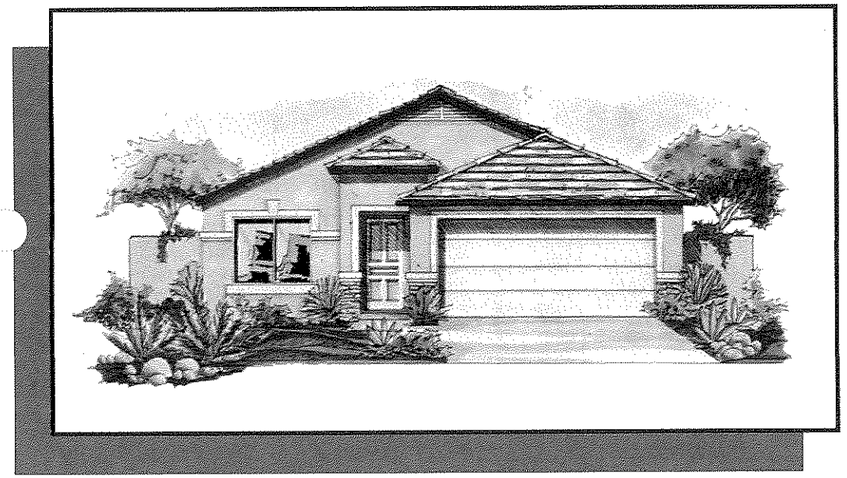
Elevation B



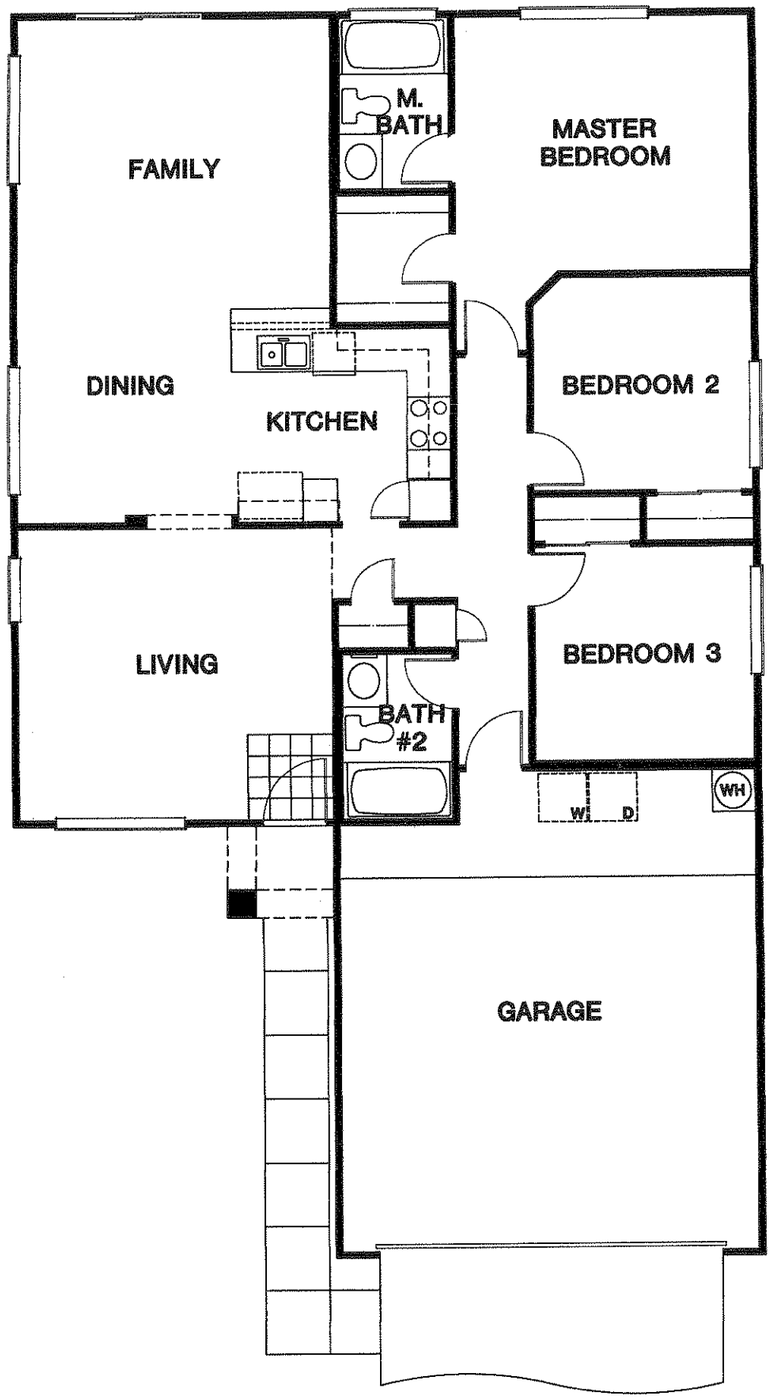
Elevation C



Elevation D

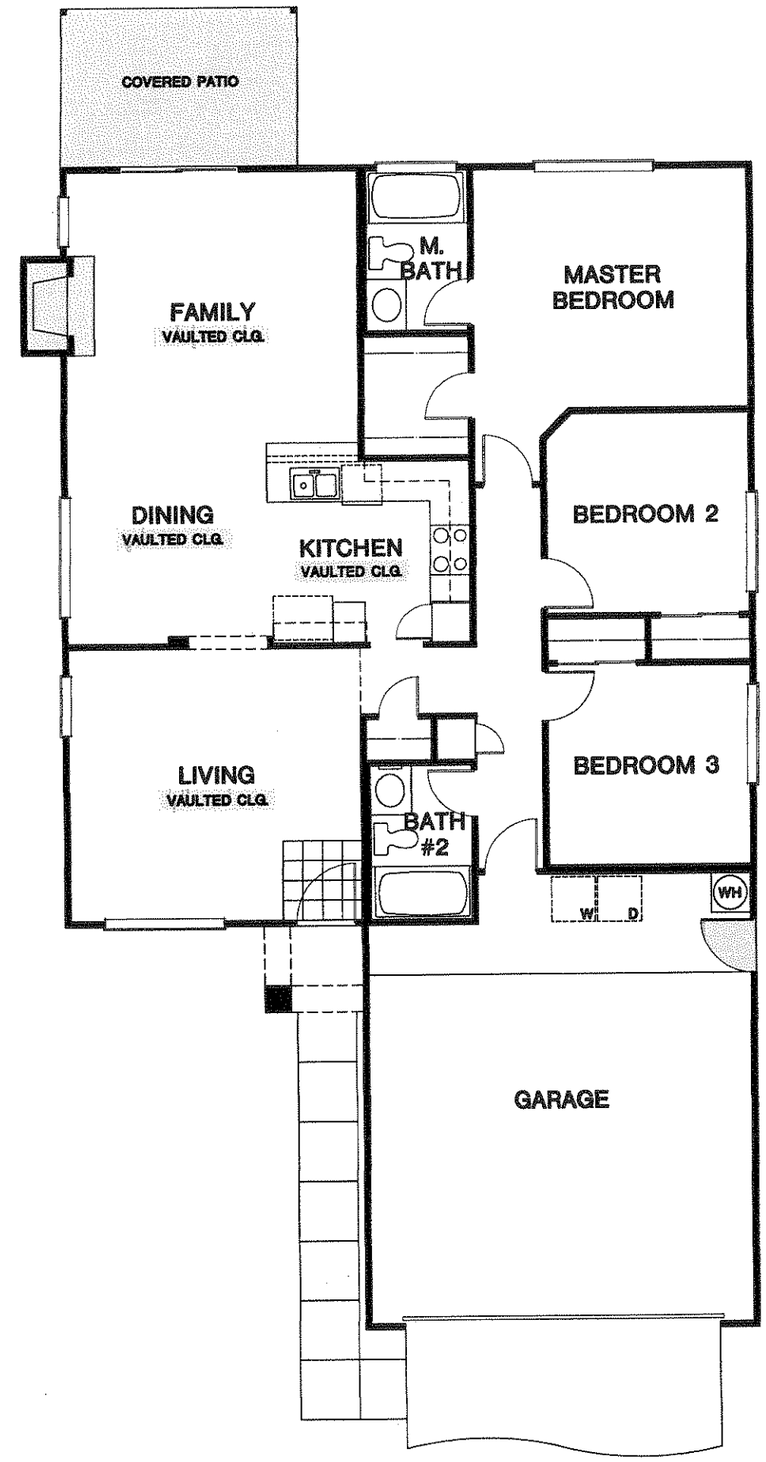


Base Floorplan

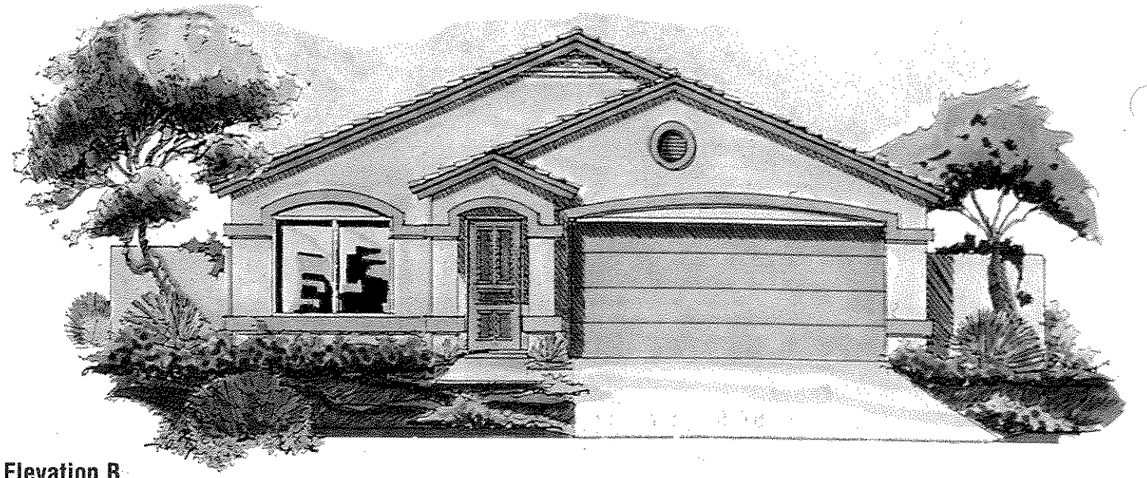


Plan 1021 ◆ 1306 Square Feet
3 Bedrooms, 2 Baths, Family & Living Rooms, 2 Car Garage

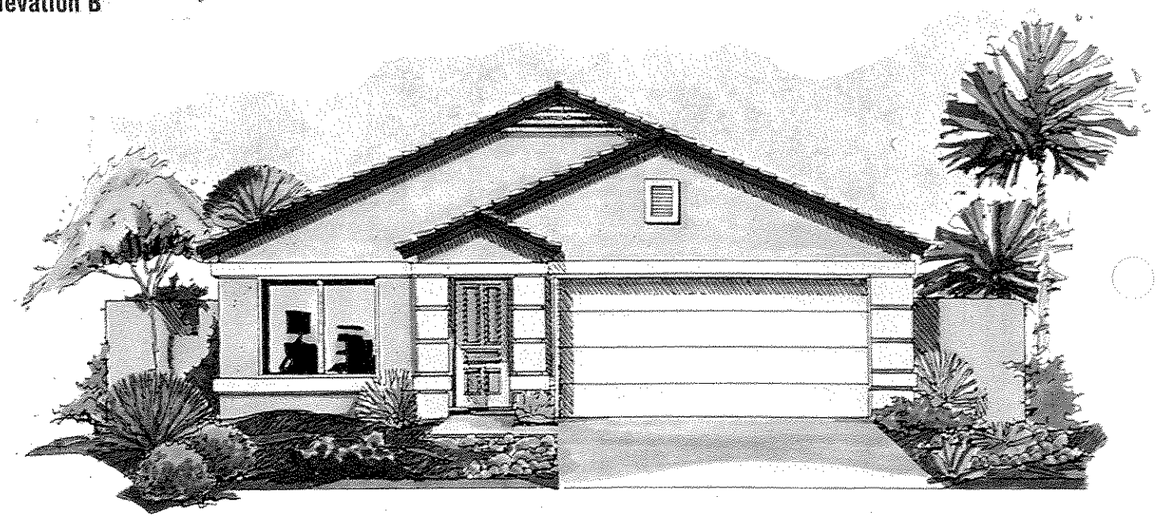
Floorplan With Options



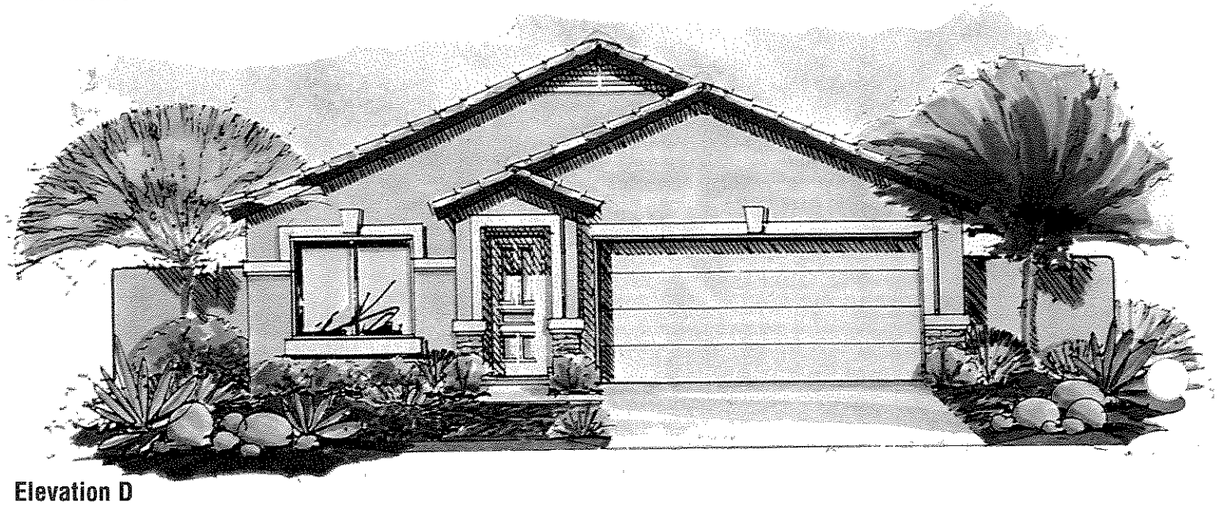
HOMES
BEAZER



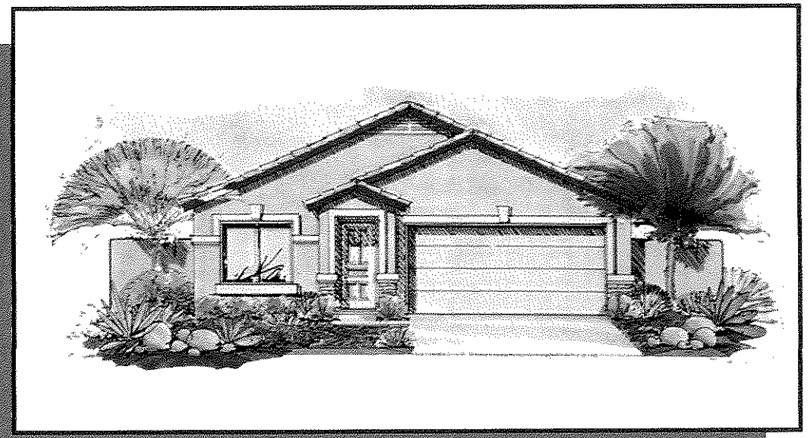
Elevation B



Elevation C



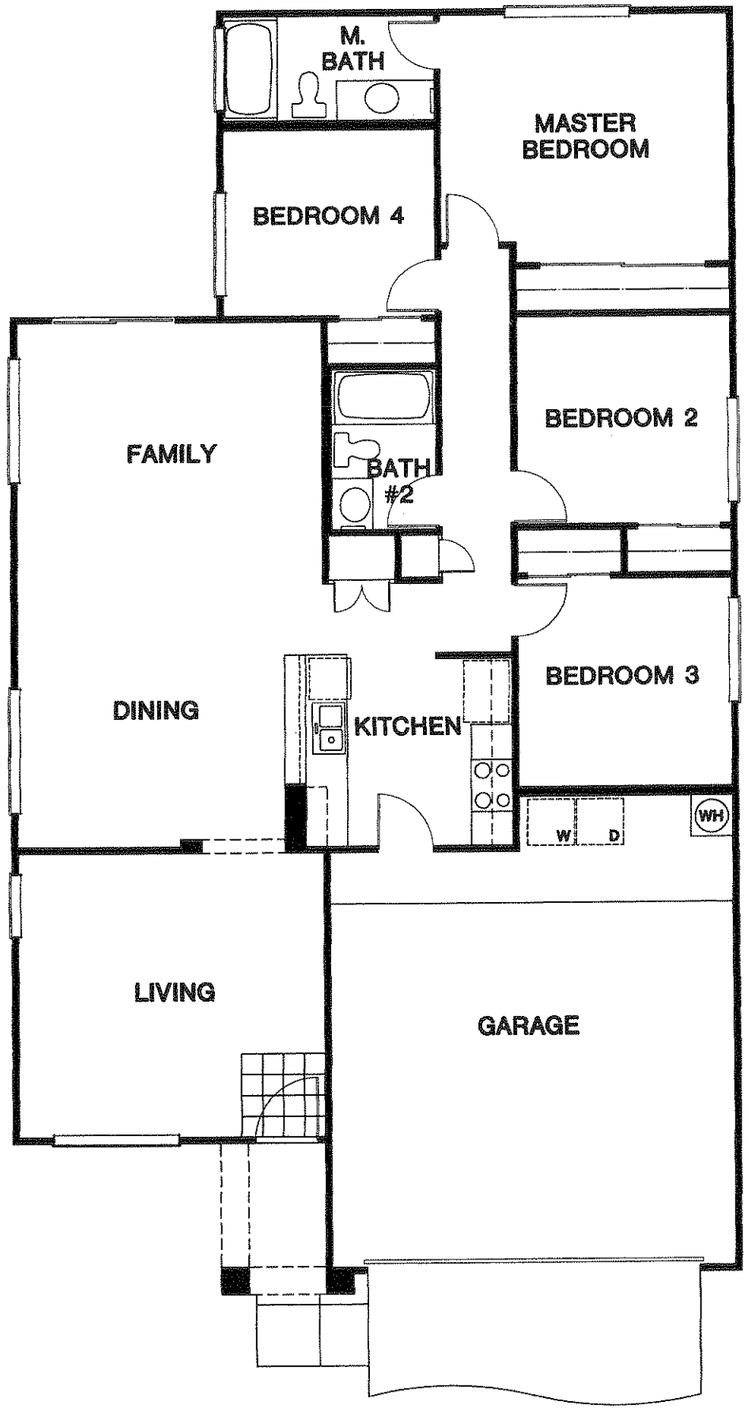
Elevation D



FLOORPLAN

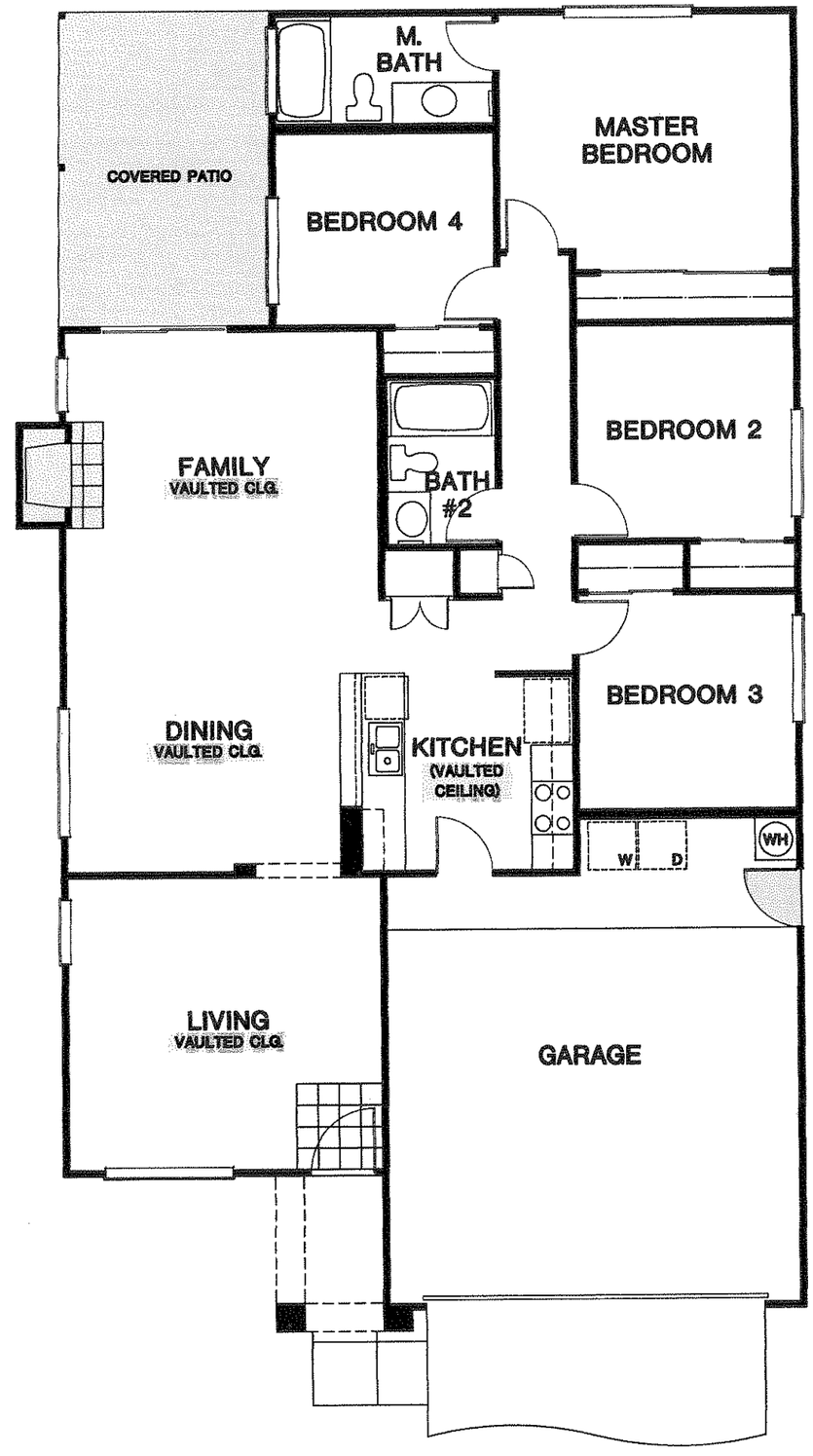
1031

Base Floorplan

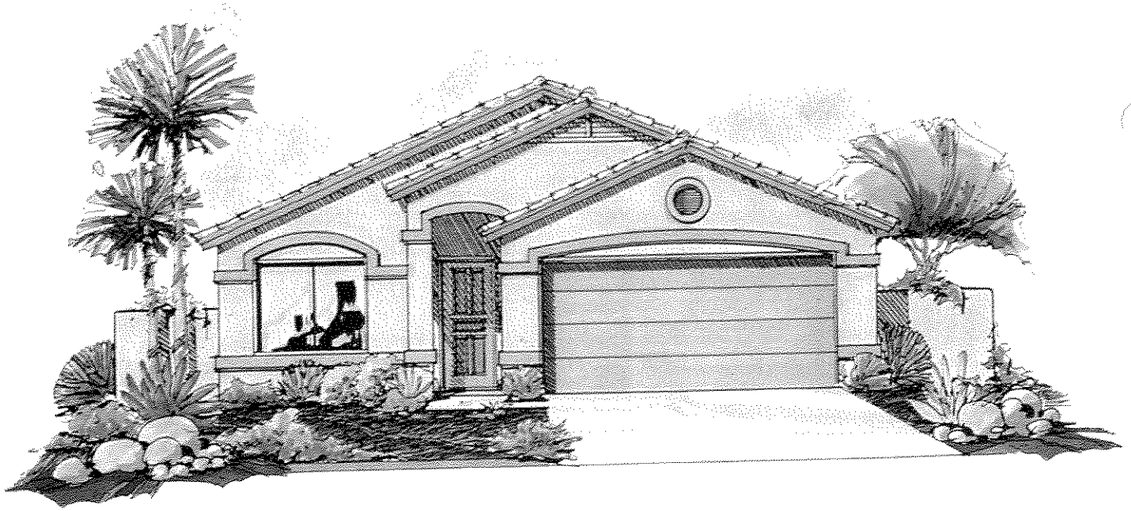


Plan 1031 ◆ 1467 Square Feet
4 Bedrooms, 2 Baths, Family & Living Rooms, 2 Car Garage

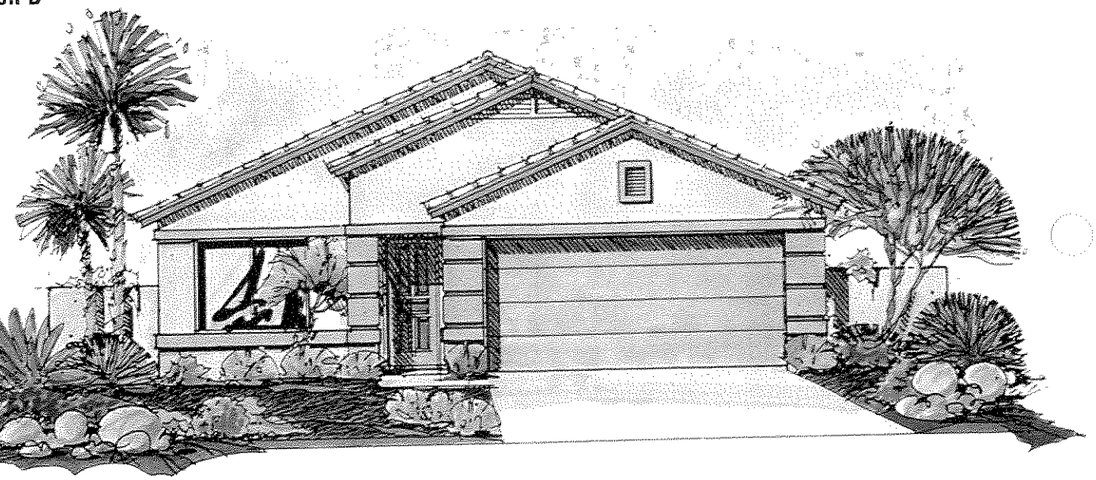
Floorplan With Options



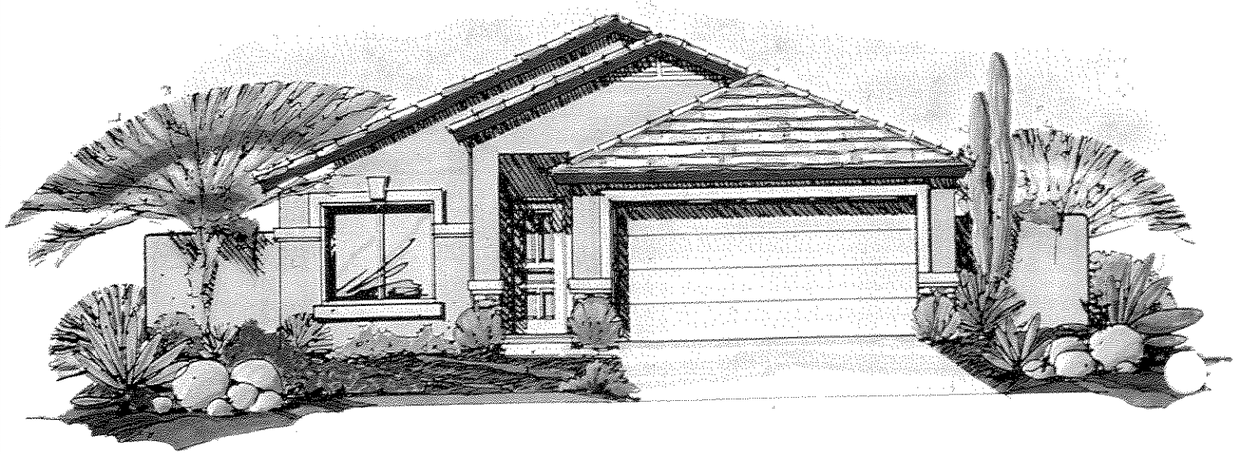
HOMES
BEAZER



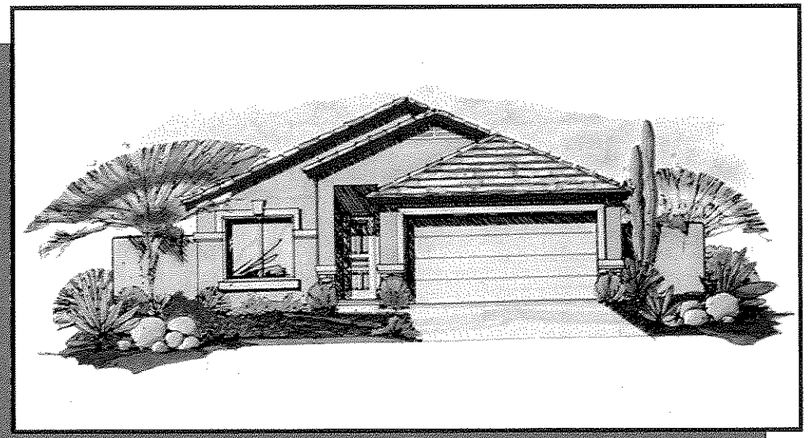
Elevation B



Elevation C



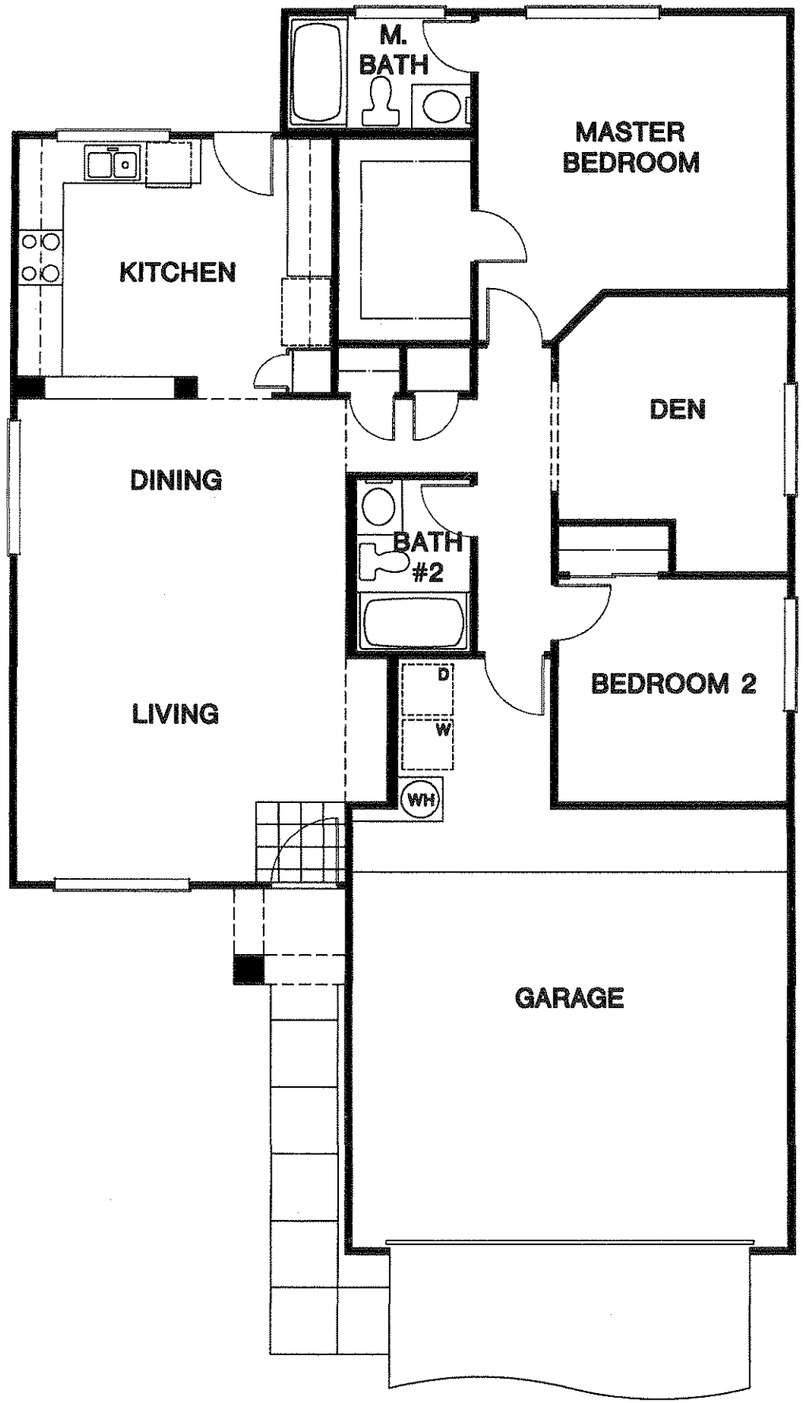
Elevation D



FLOORPLAN

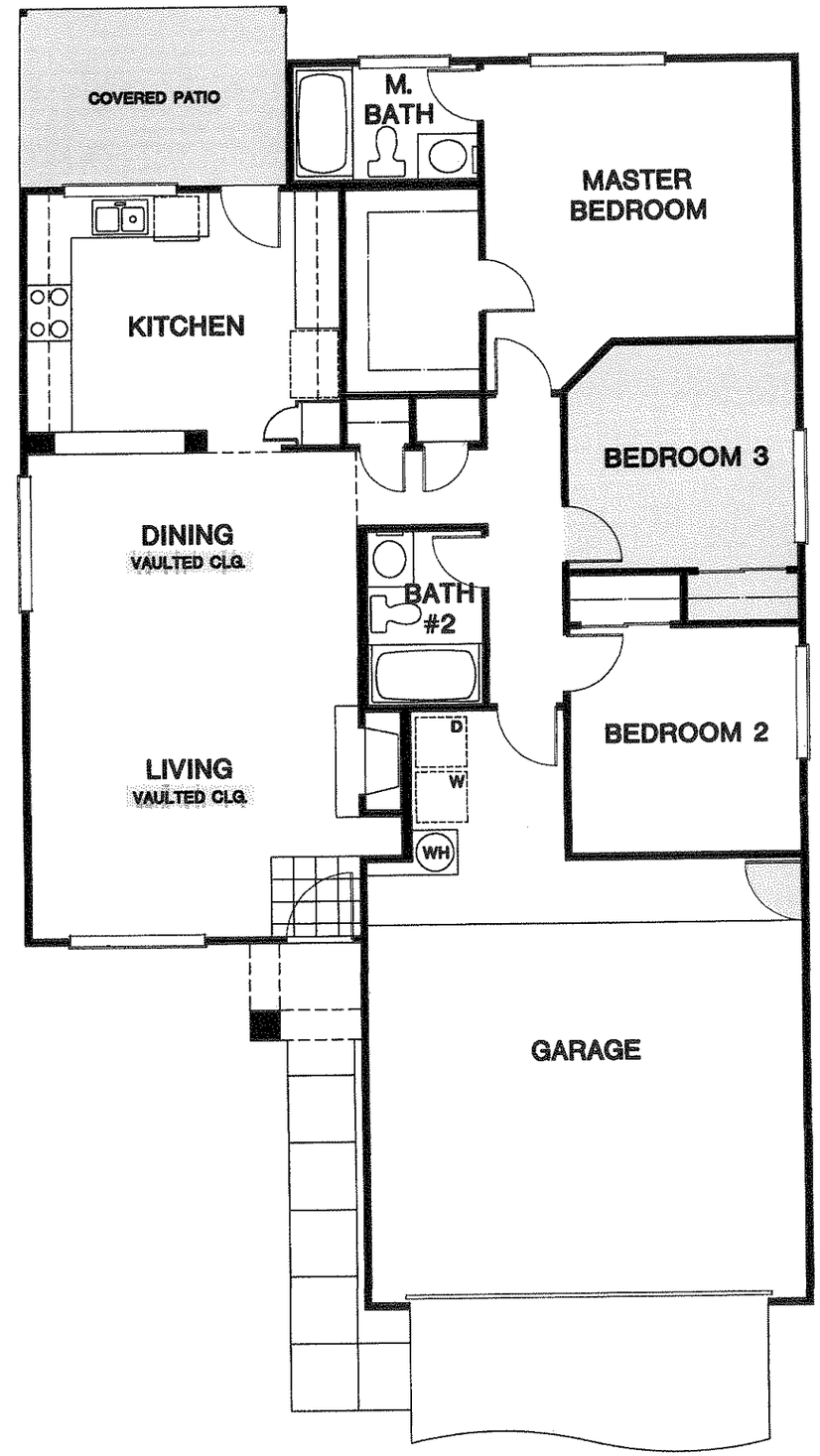
1041

Base Floorplan



Plan 1041 ◆ 1202 Square Feet
2 Bedrooms/Den, 2 Baths, Optional 3rd Bedroom, 2 Car Garage

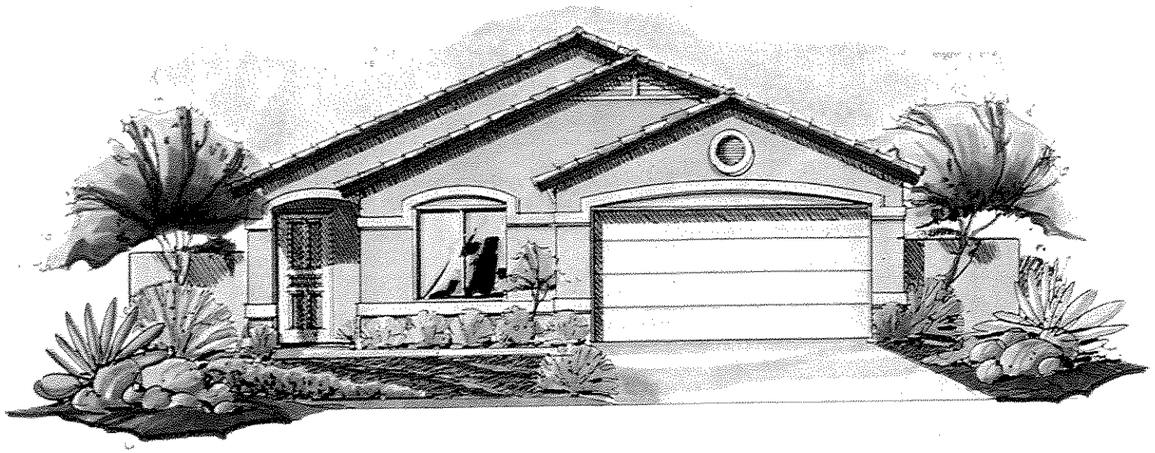
Floorplan With Options



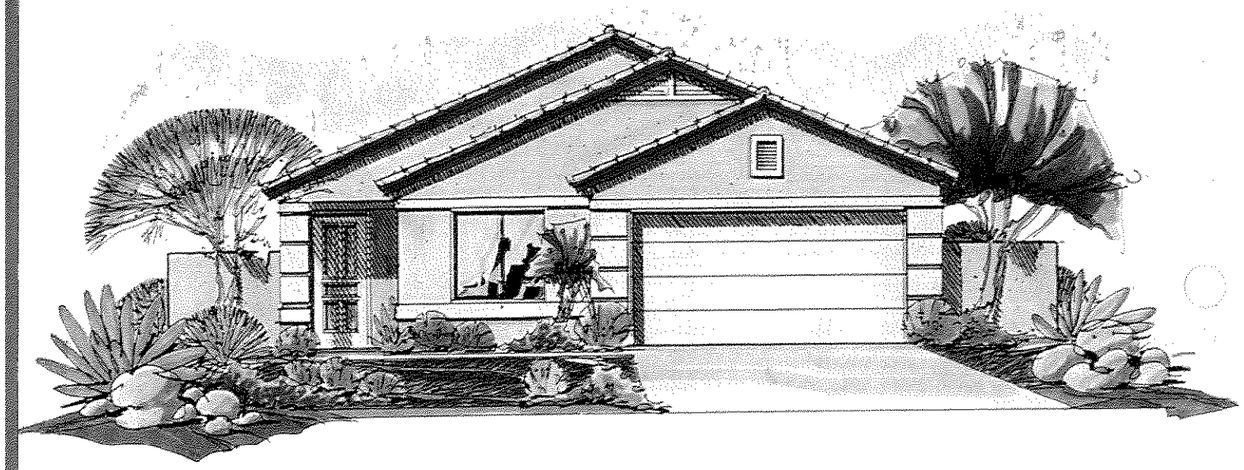
BEAZER HOMES

FLOORPLAN

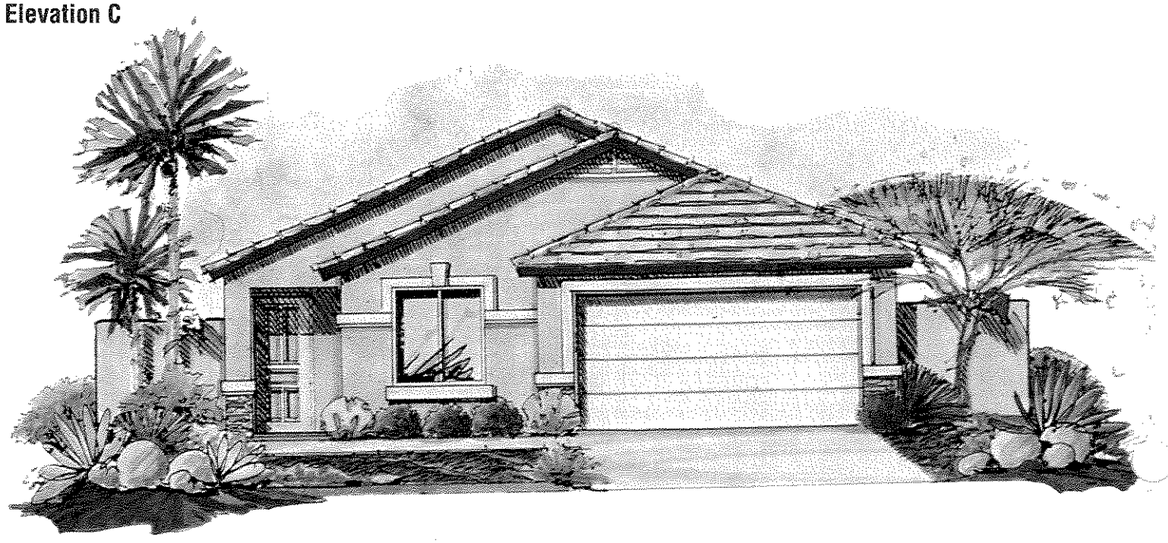
1051



Elevation B

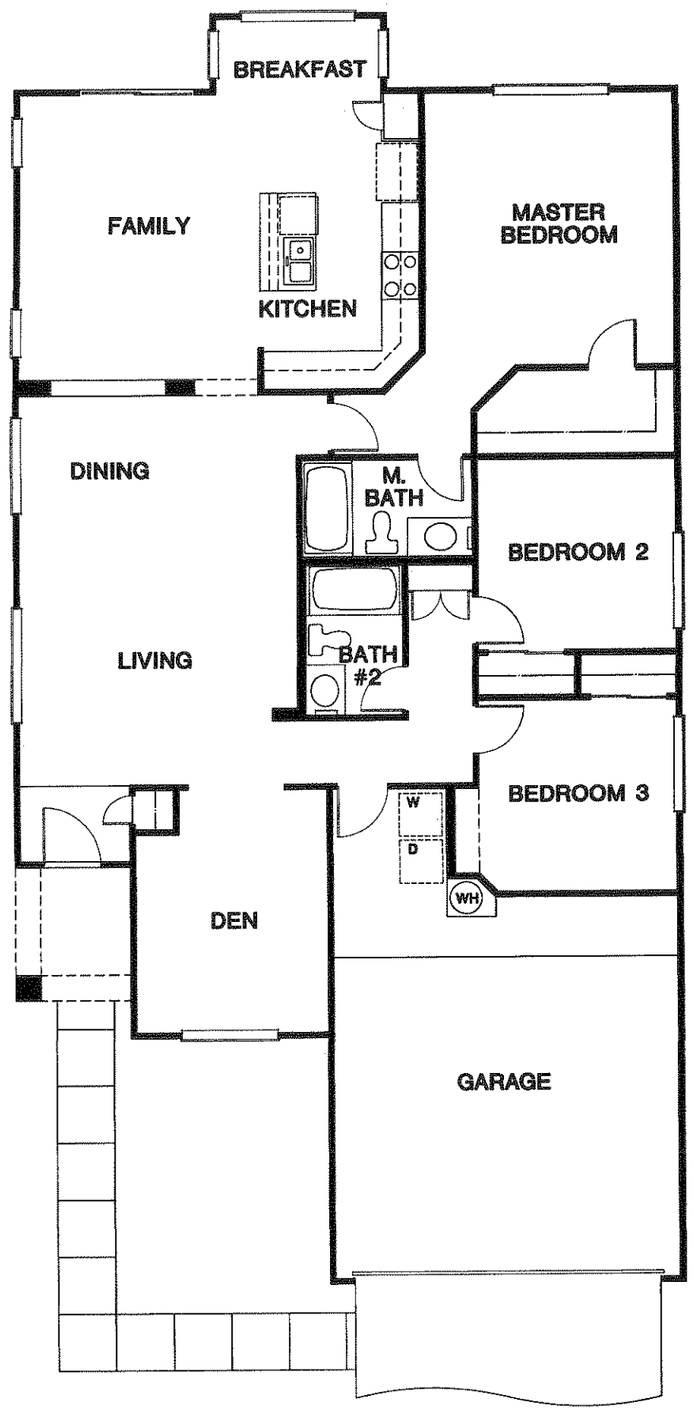


Elevation C



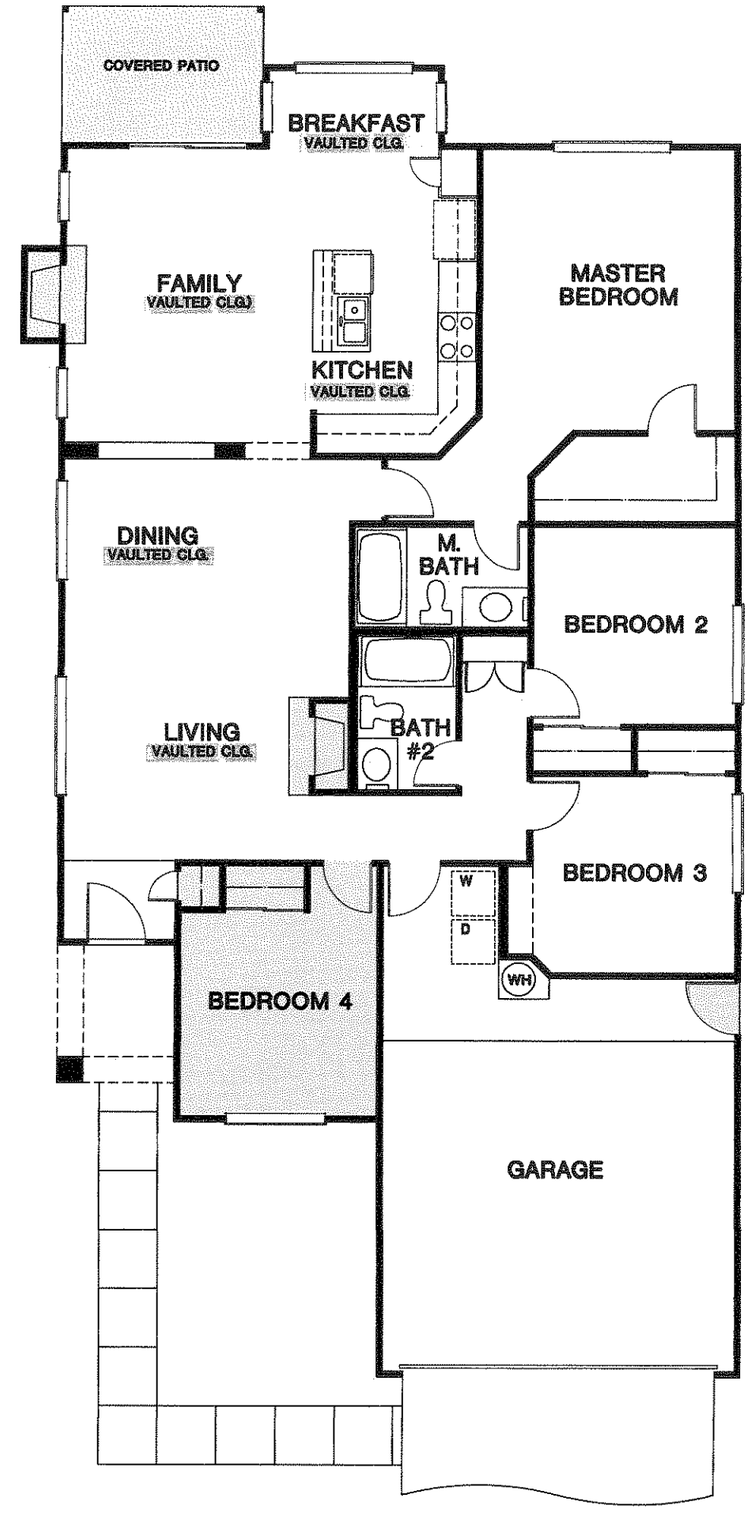
Elevation D

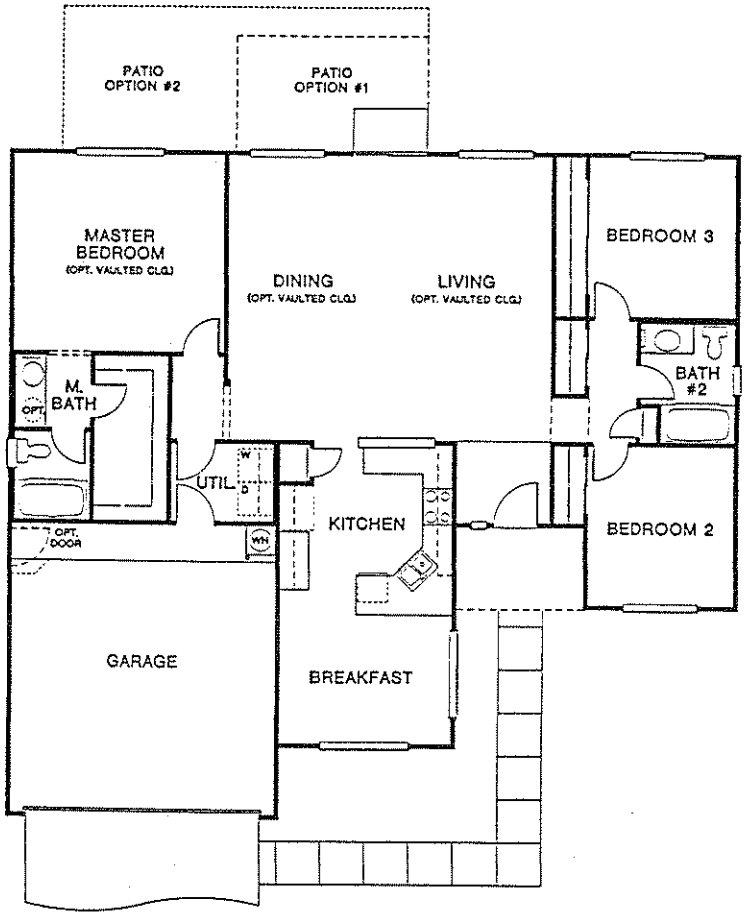
Base Floorplan

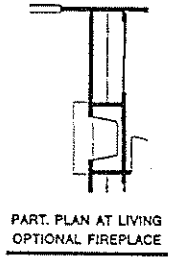


Plan 1051 ◆ 1556 Square Feet
3 Bedrooms, Den (Optional 4th Bedroom), 2 Baths, Family & Living Rooms, 2 Car Garage

Floorplan With Options





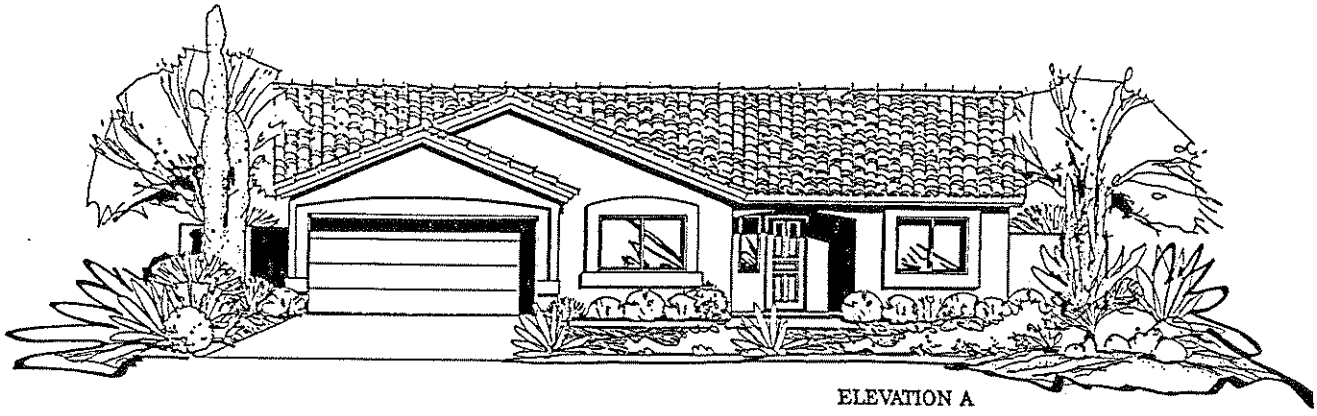


PLAN P 1811

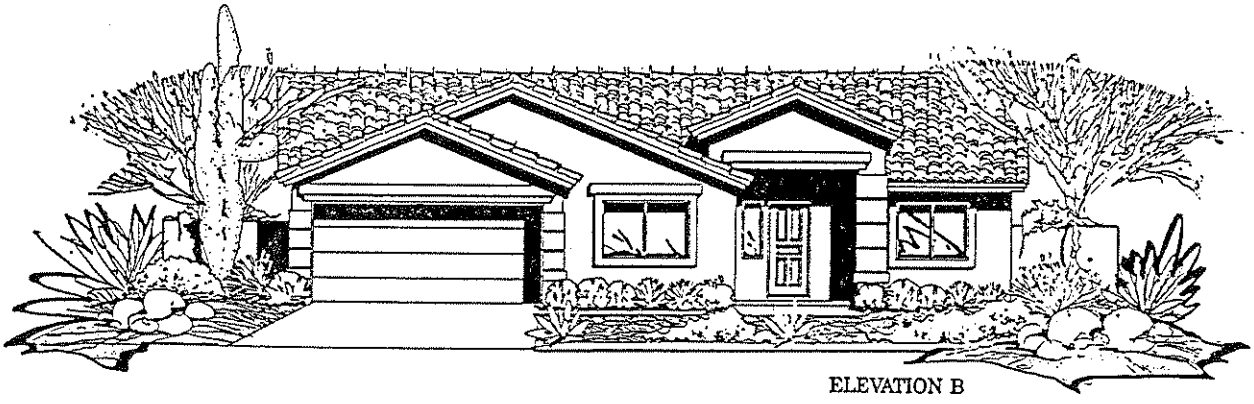
ARTIST'S CONCEPTION

CASCADE

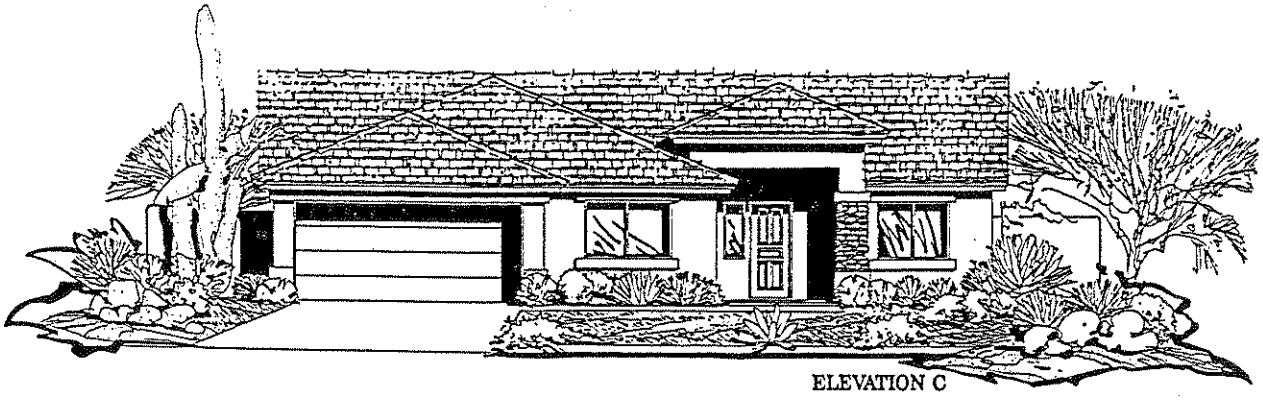
LINDEROTH ASSOCIATES ARCHITECTS



ELEVATION A



ELEVATION B



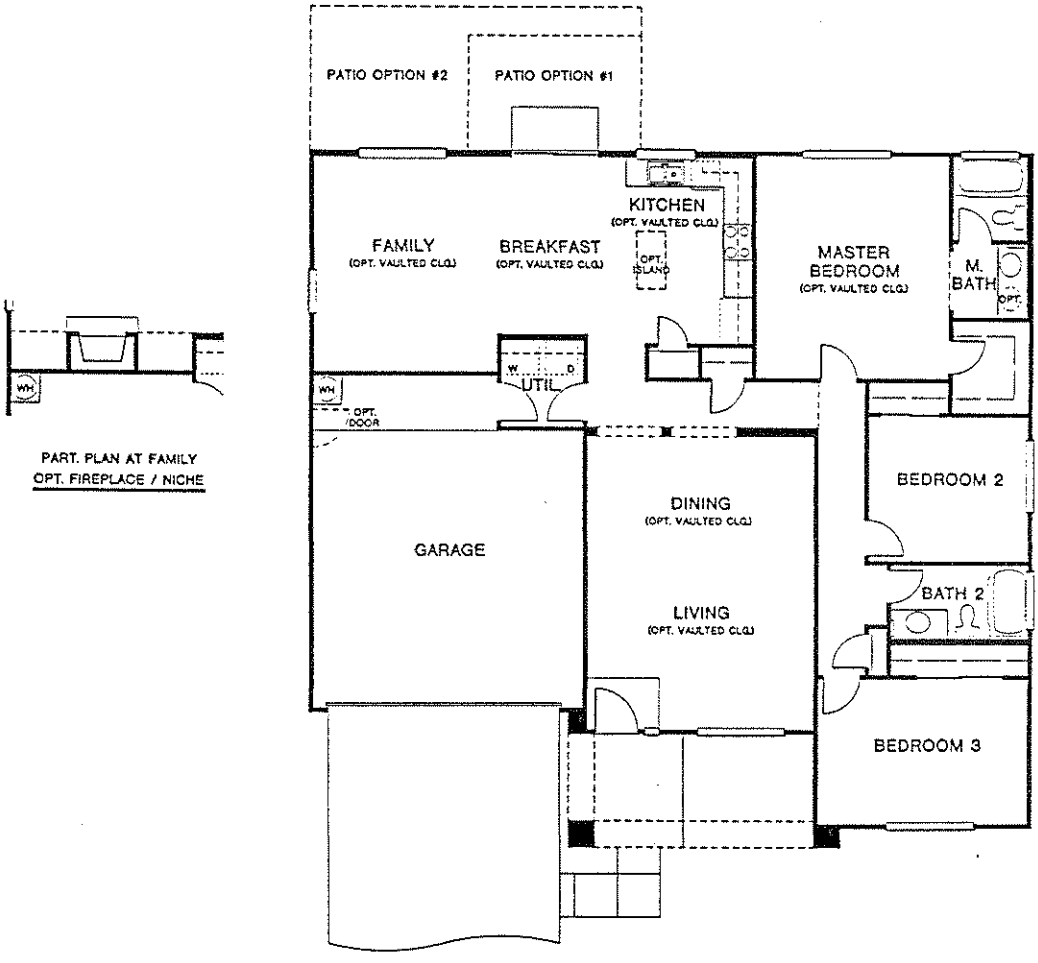
ELEVATION C

PLAN P 1811

ARTIST'S CONCEPTION

CASCADE

LINDEROTH ASSOCIATES ARCHITECTS

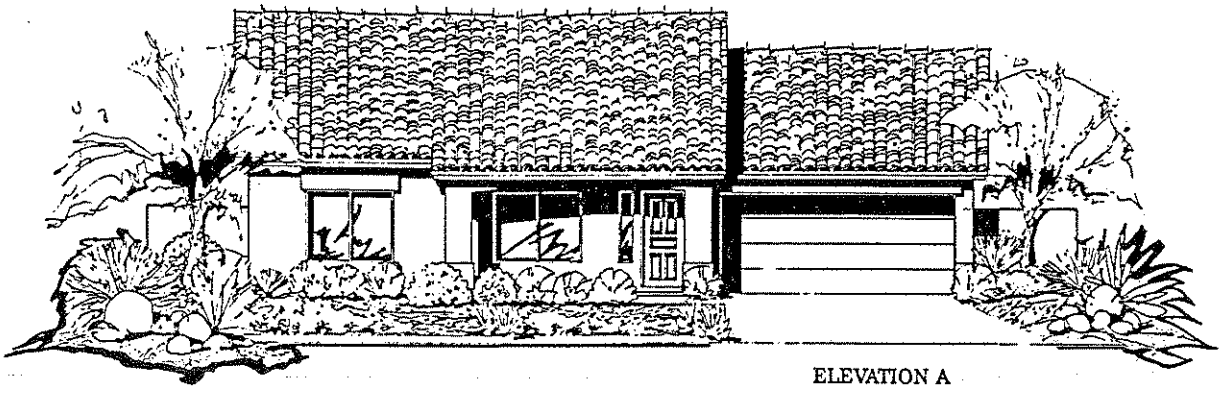


PLAN P 1821

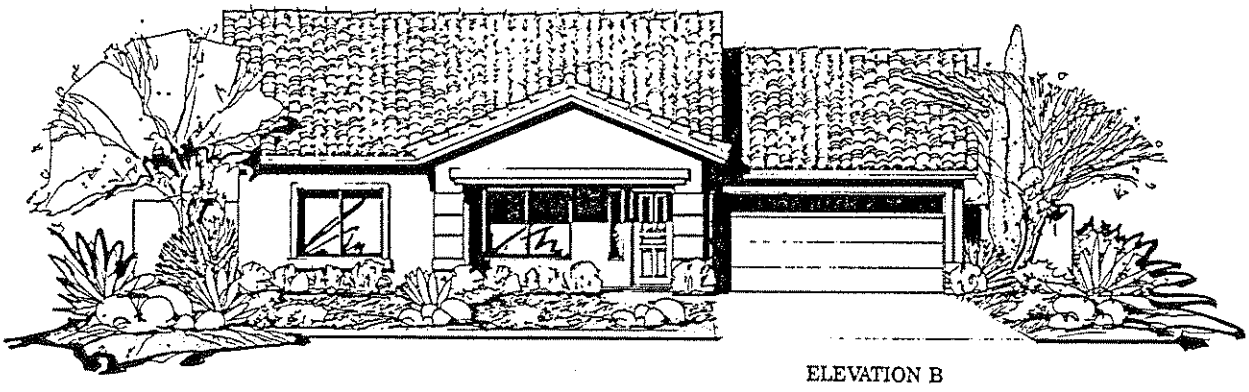
ARTIST'S CONCEPTION

CASCADE

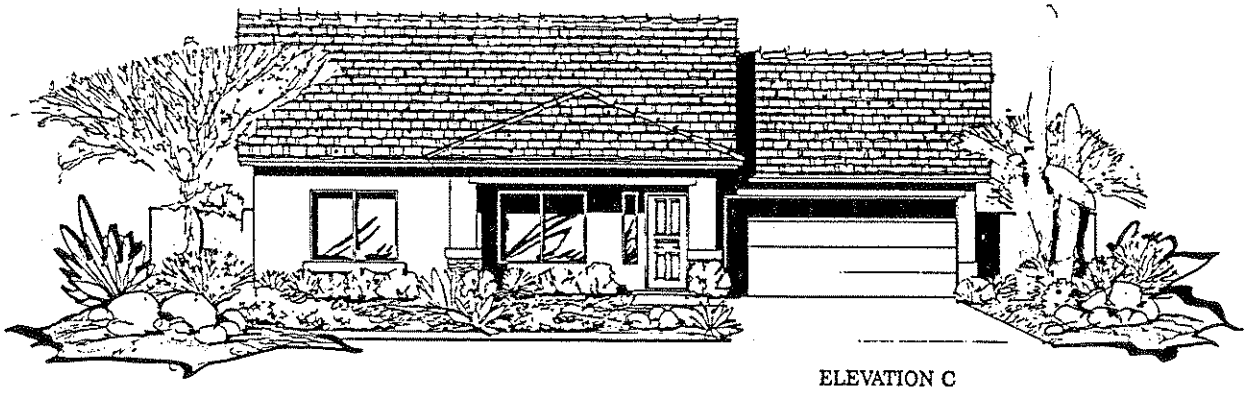
LINDEROTH ASSOCIATES ARCHITECTS



ELEVATION A



ELEVATION B

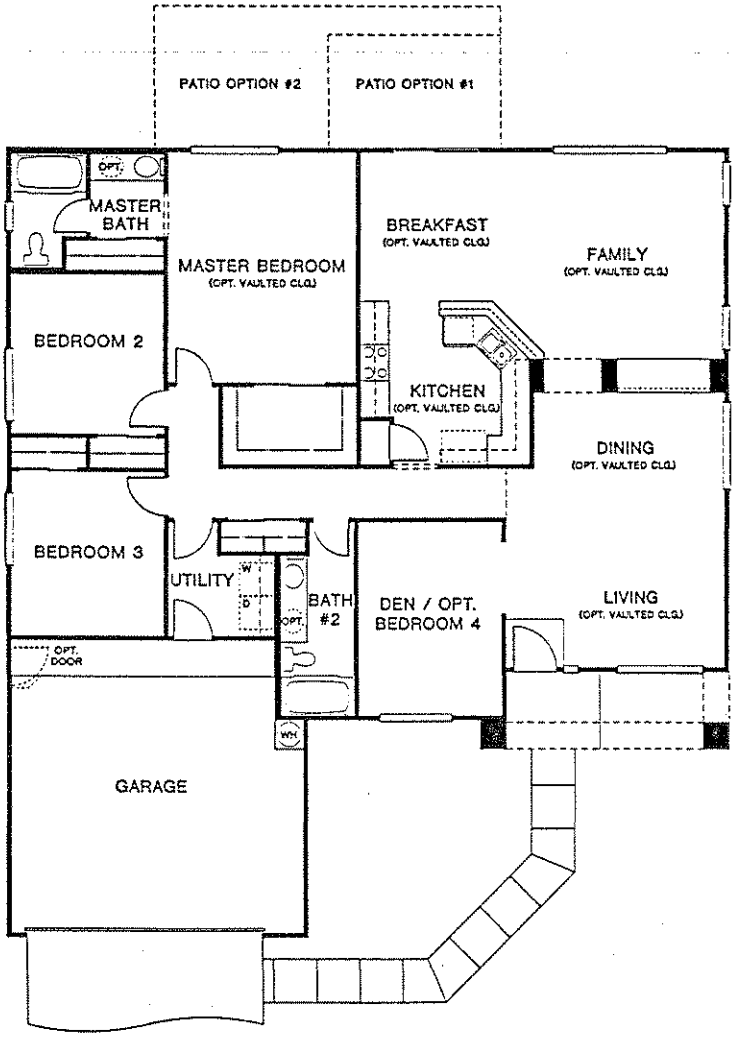


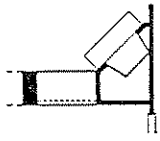
ELEVATION C

PLAN P 1821

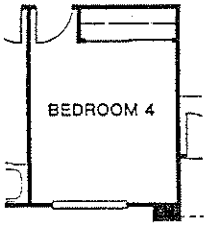
CASCADE

LINDEROTH ASSOCIATES ARCHITECTS





PART. PLAN AT FAMILY
OPTIONAL FIREPLACE



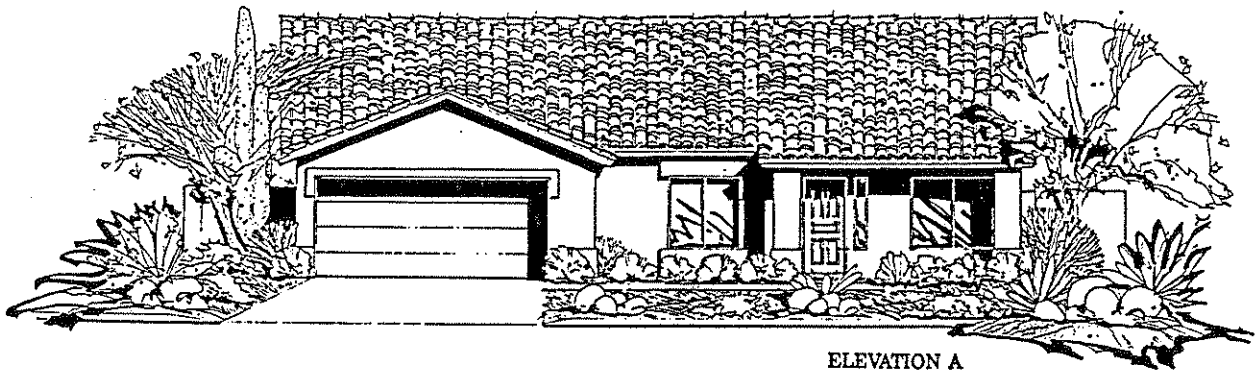
PART. PLAN AT DEN
OPT. BEDROOM #4

PLAN P 1831

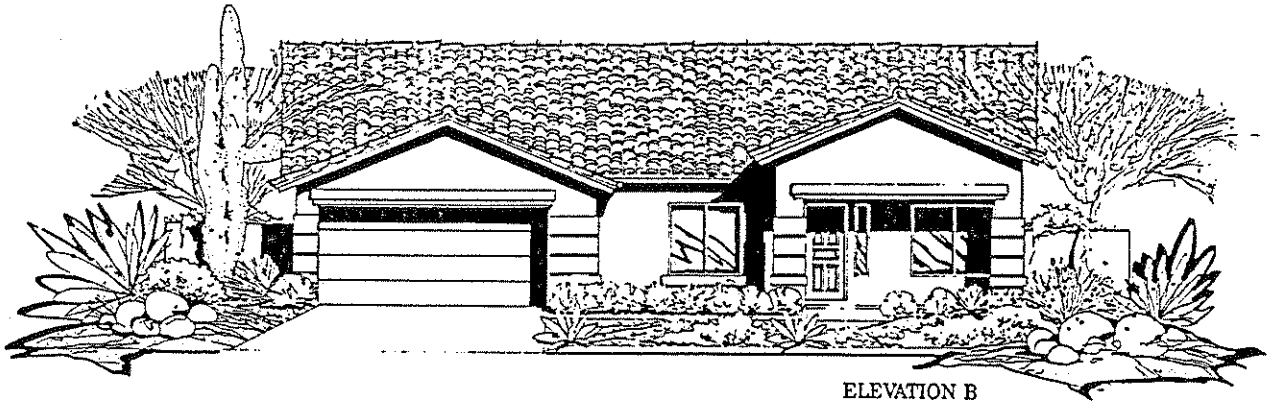
ARTIST'S CONCEPTION

CASCADE

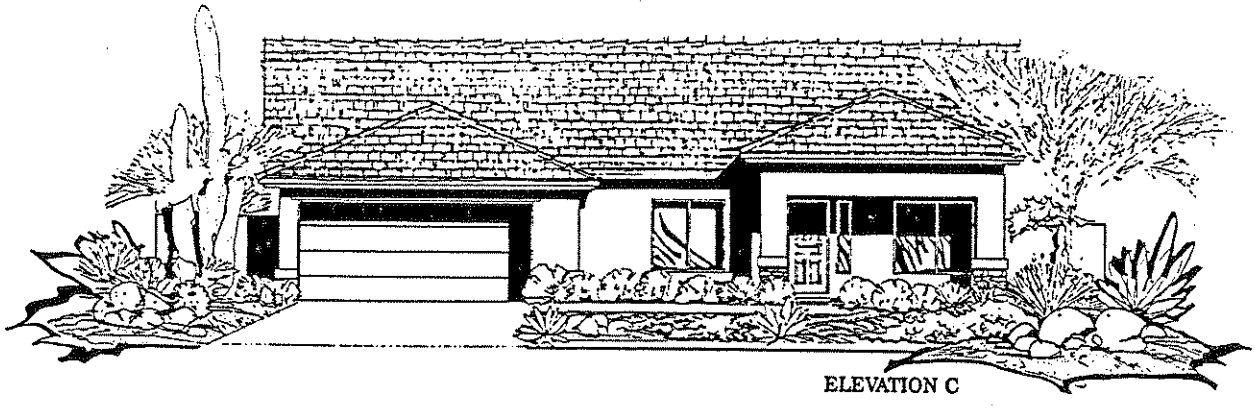
LINDEROTH ASSOCIATES ARCHITECTS



ELEVATION A



ELEVATION B



ELEVATION C

PLAN P 1831

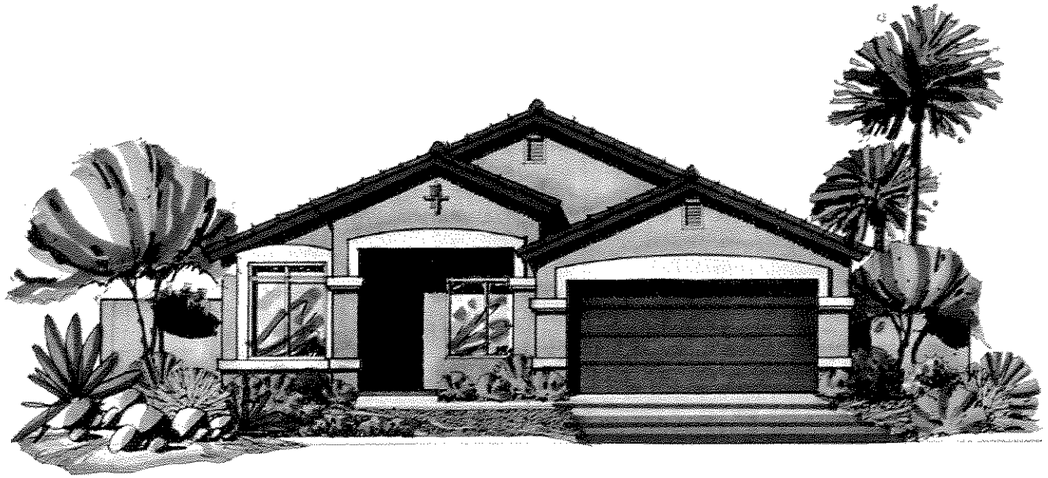
ARTIST'S CONCEPTION

CASCADE

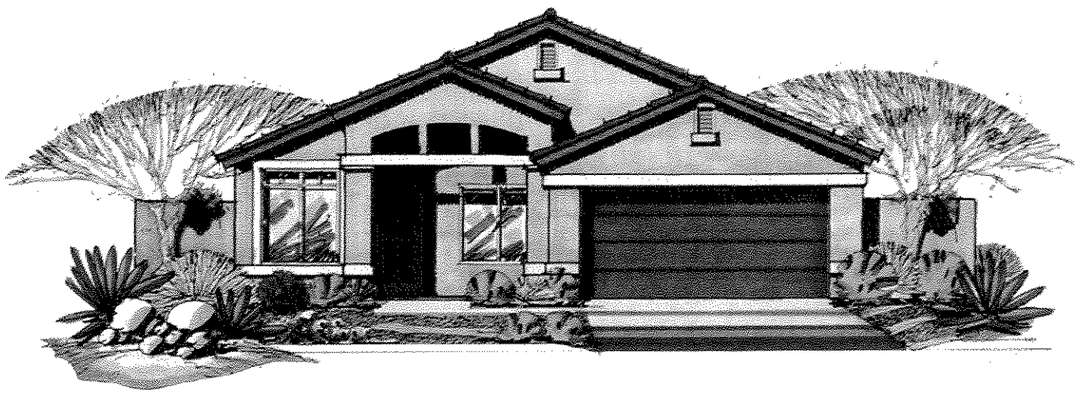
LINDEROTH ASSOCIATES ARCHITECTS

HOMES
BEAZER

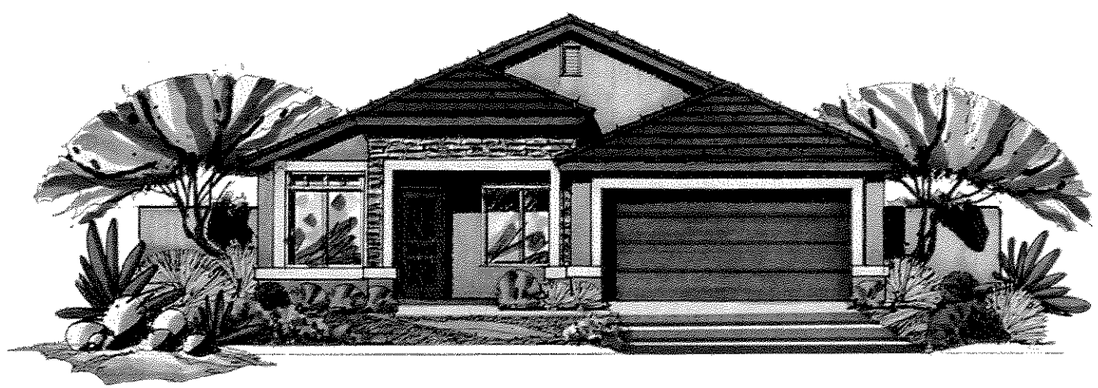
FLOORPLAN
2511



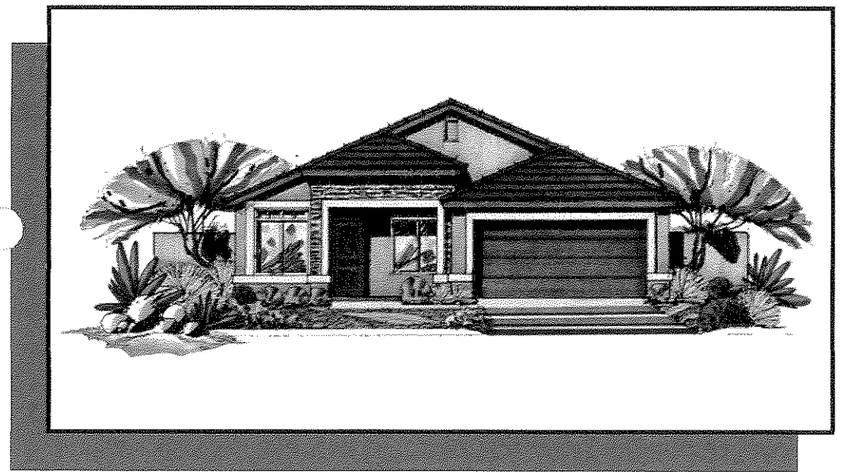
Elevation D



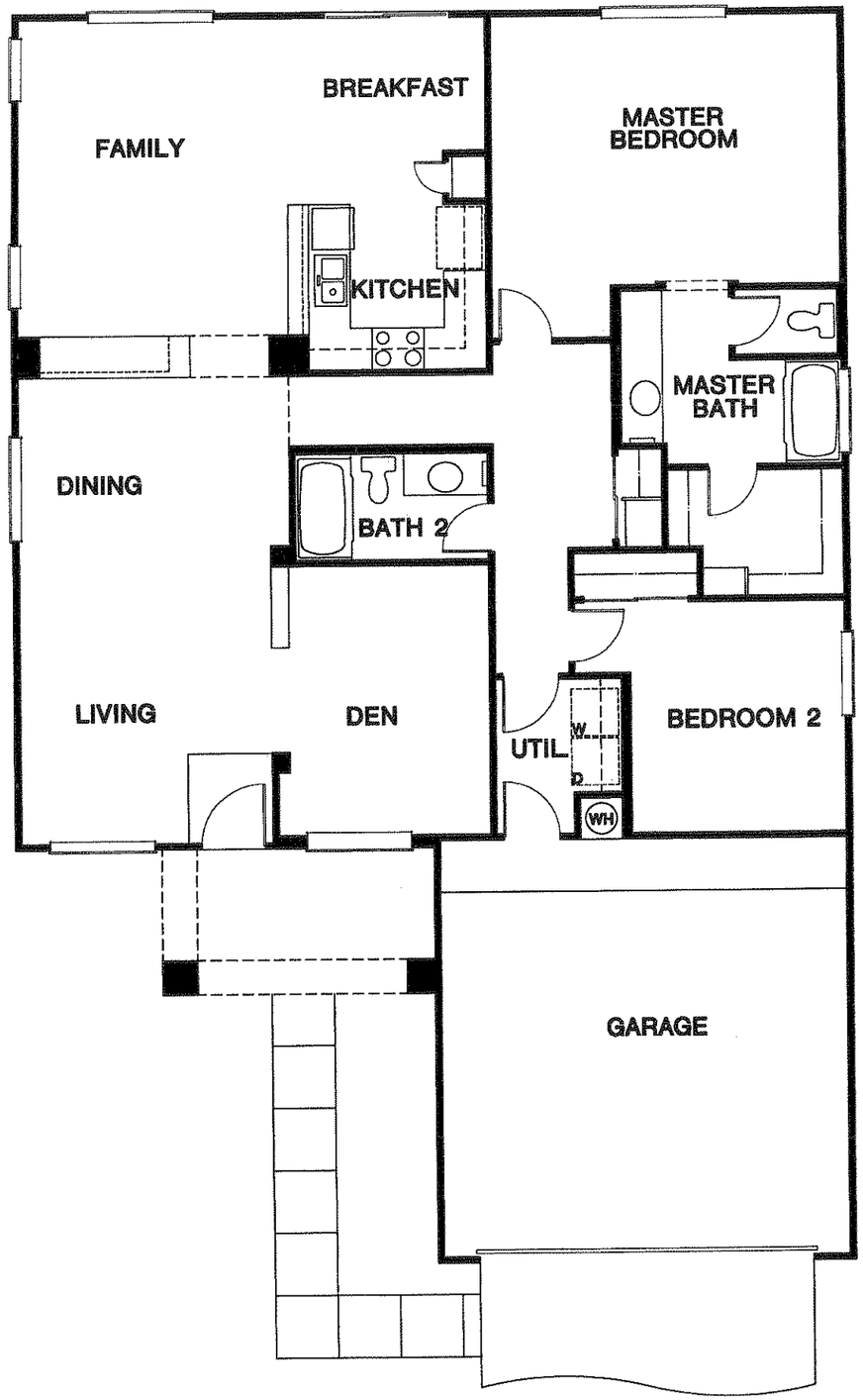
Elevation E



Elevation F

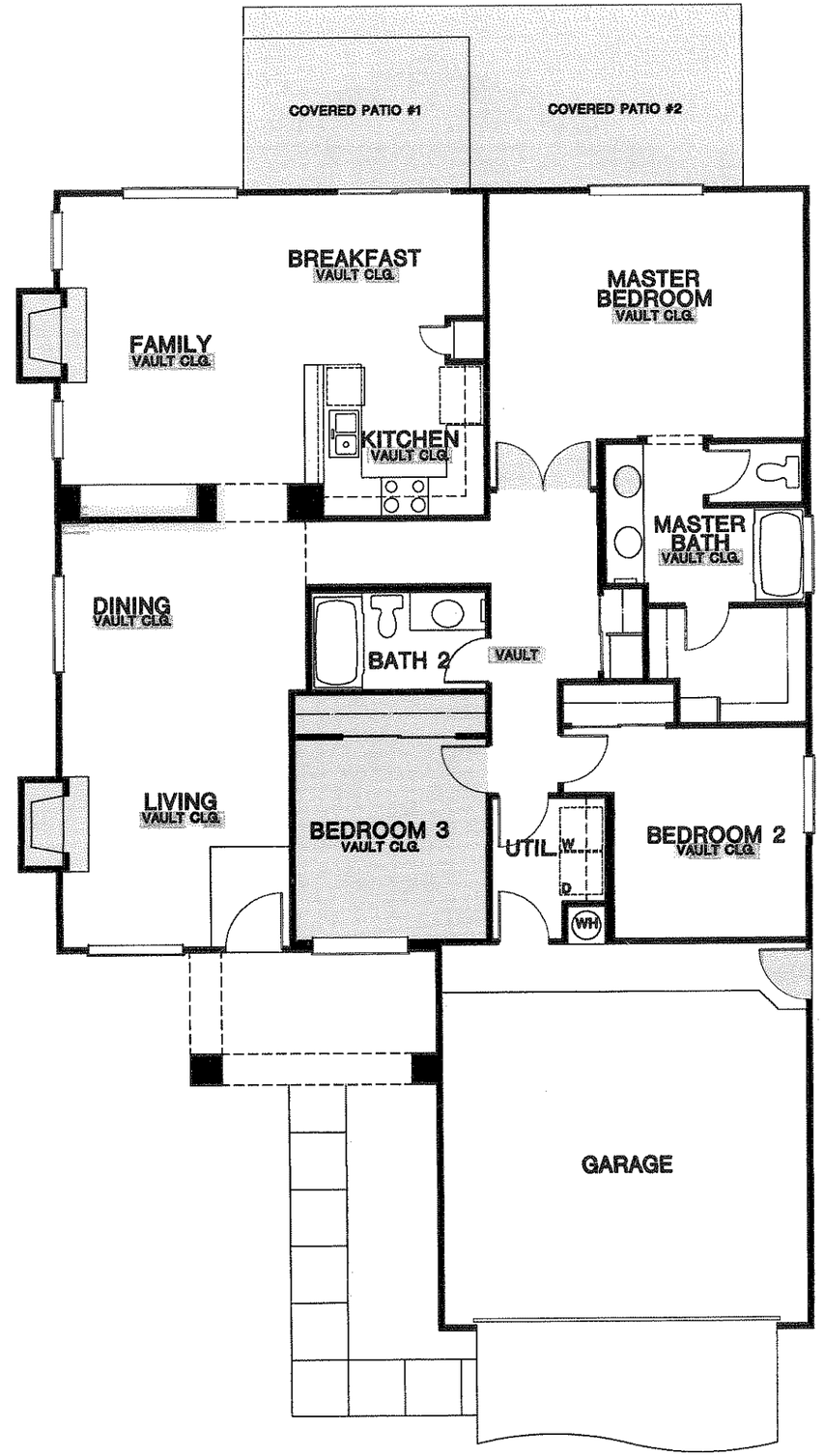


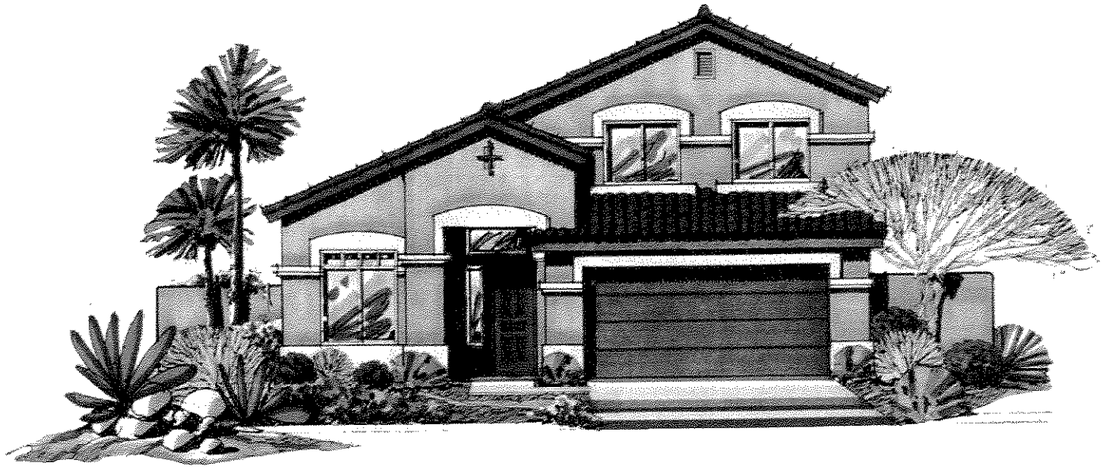
Base Floorplan



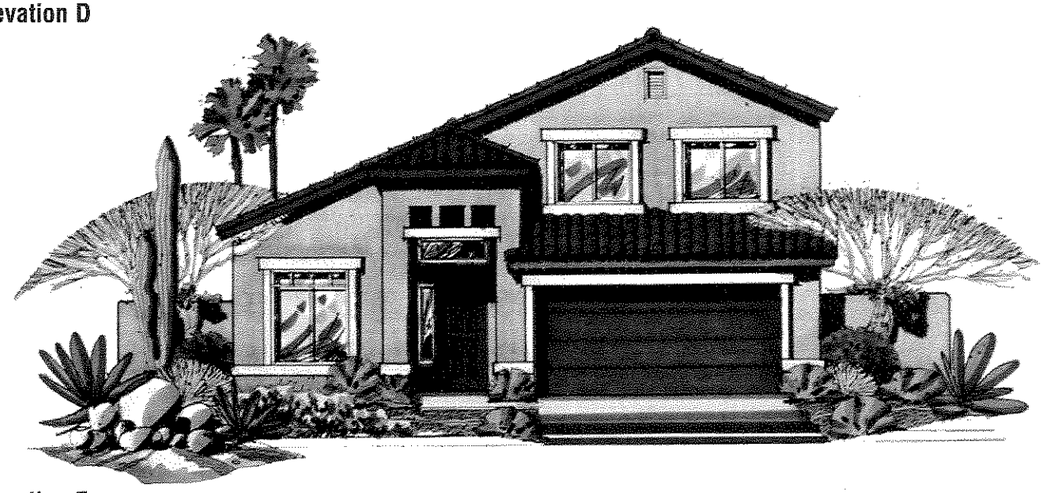
Plan 2511 ◆ 1600 Square Feet
2 Bedrooms with Den or Optional Bedroom 3, 2 Baths, Family Room & Living Room, 2 Car Garage

Floorplan With Options





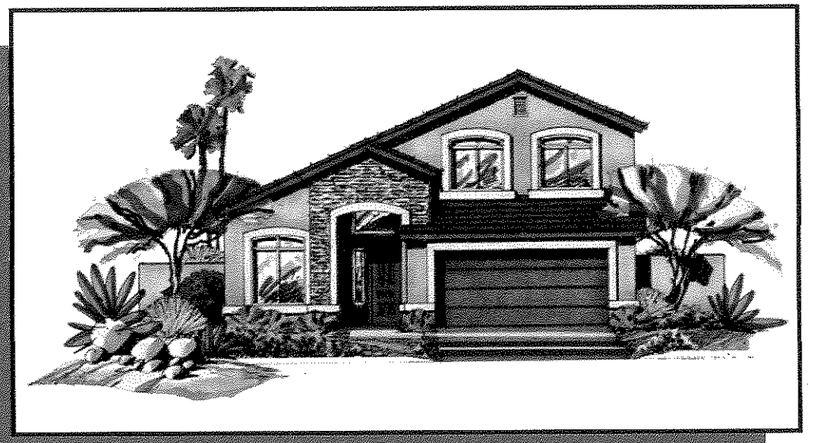
Elevation D



Elevation E

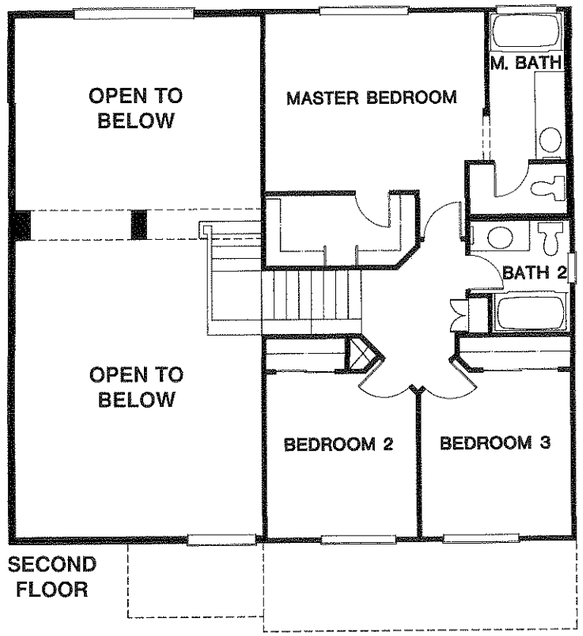
Elevation F

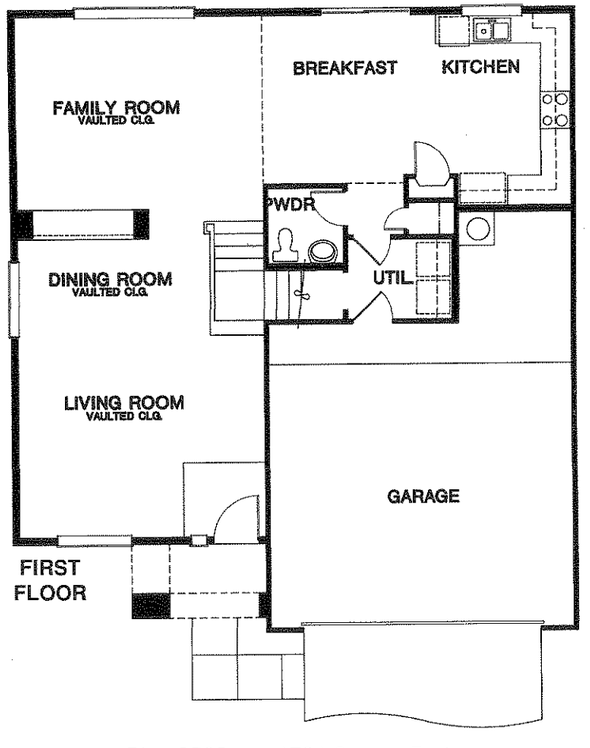
HOMES BEAZER



FLOORPLAN 2522

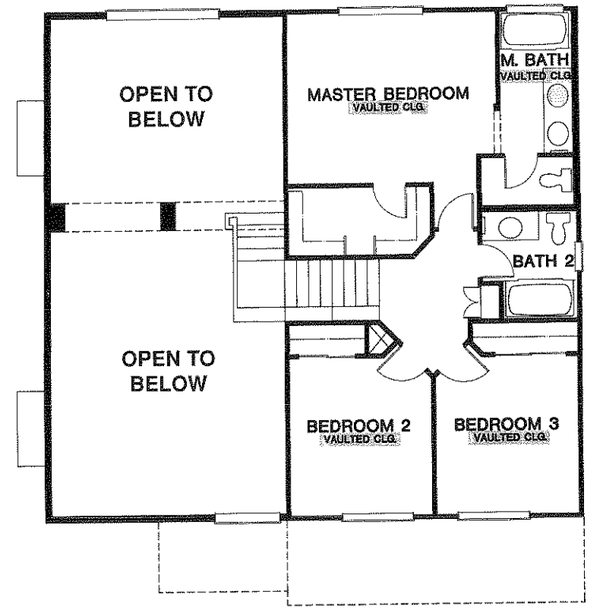
Base Floorplan

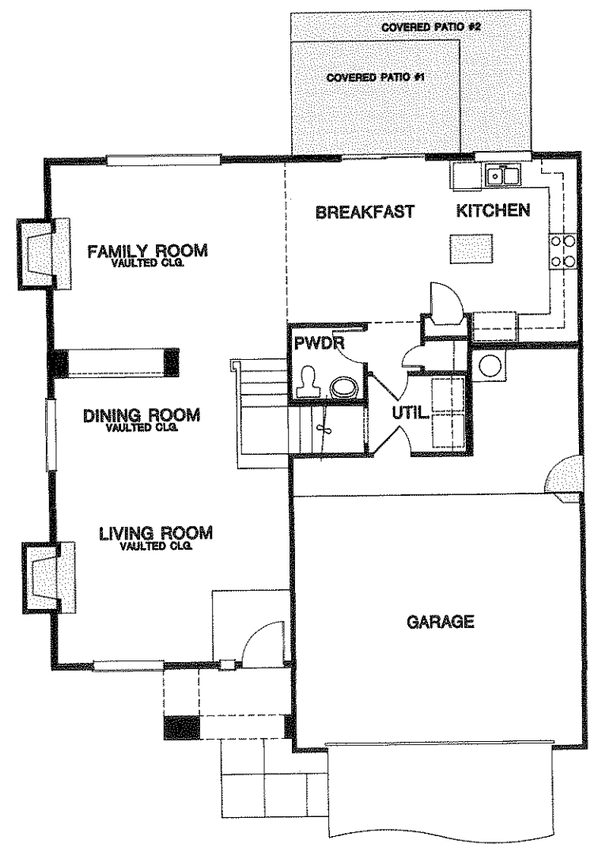




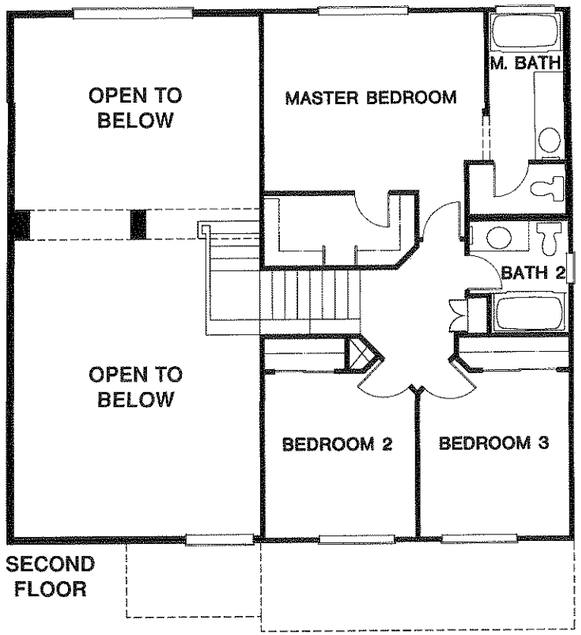
Plan 2522 ◆ 1731 Square Feet
3 Bedrooms, 2½ Baths, Family & Living Rooms, 2 Car Garage

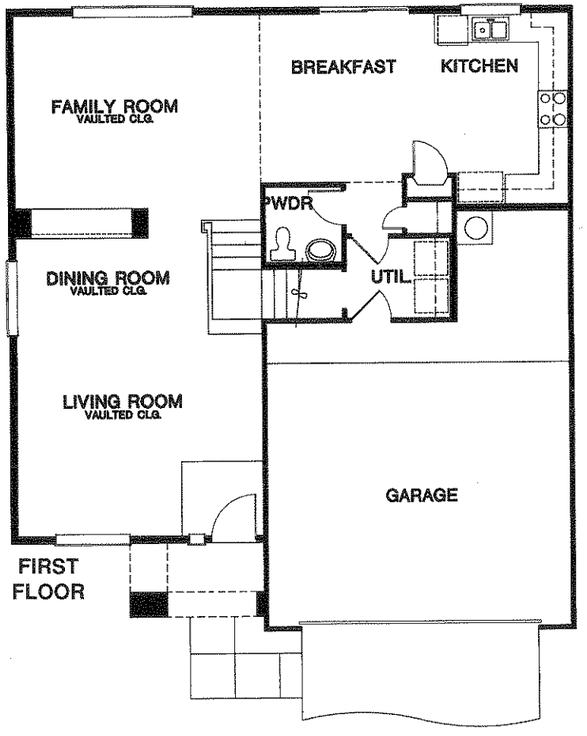
Floorplan With Options





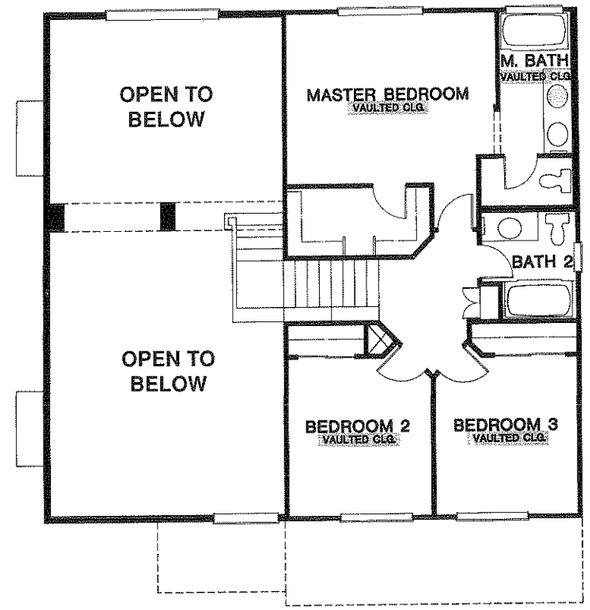
Base Floorplan

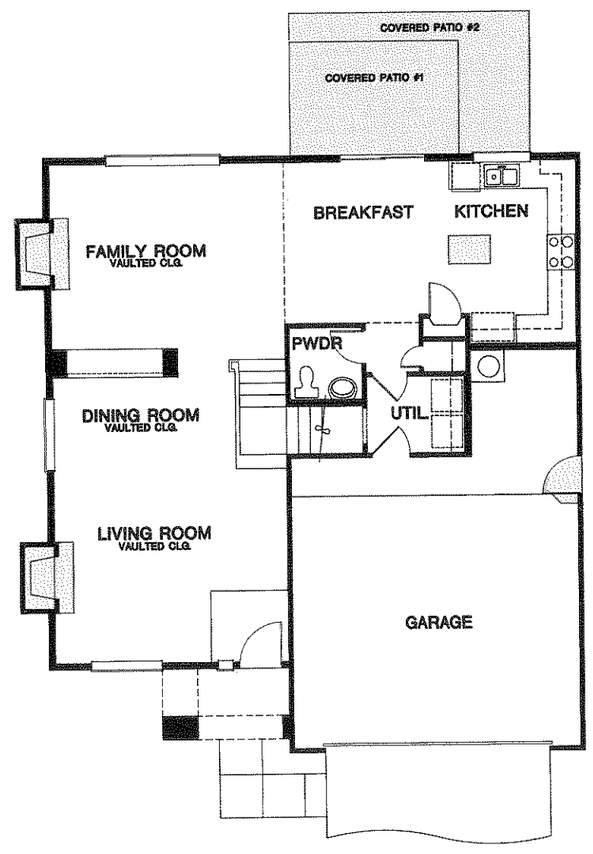




Plan 2522 ◆ 1731 Square Feet
3 Bedrooms, 2½ Baths, Family & Living Rooms, 2 Car Garage

Floorplan With Options





Elevation D

Elevation E

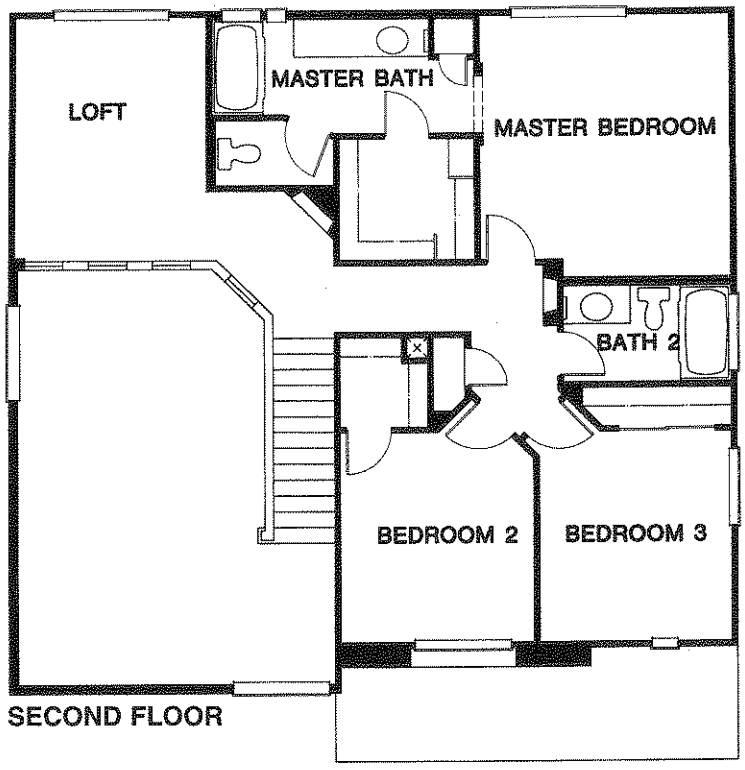
Elevation F

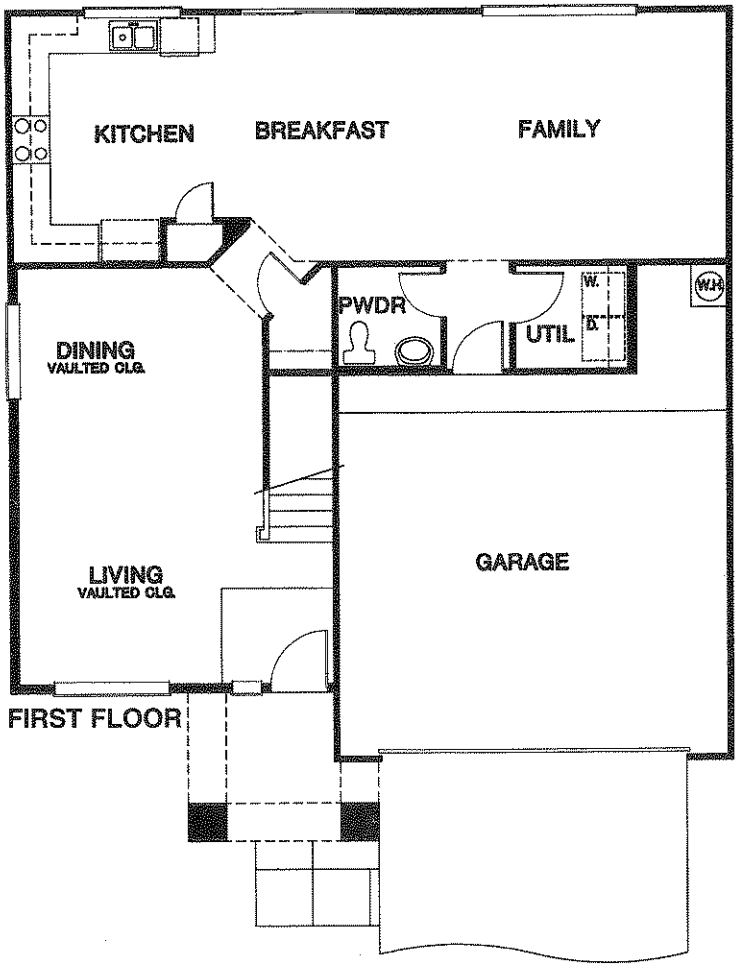
BEAZER HOMES

FLOORPLAN

2532

Base Floorplan

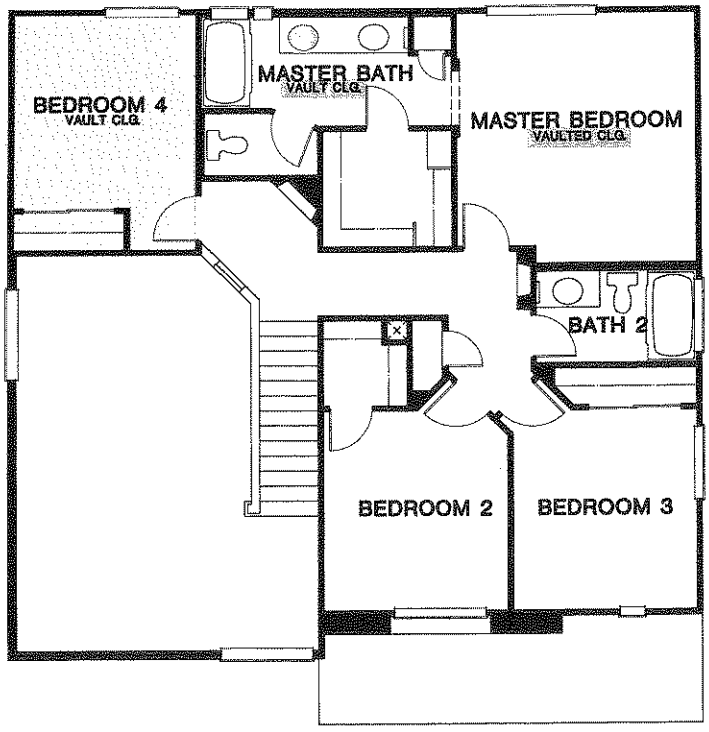


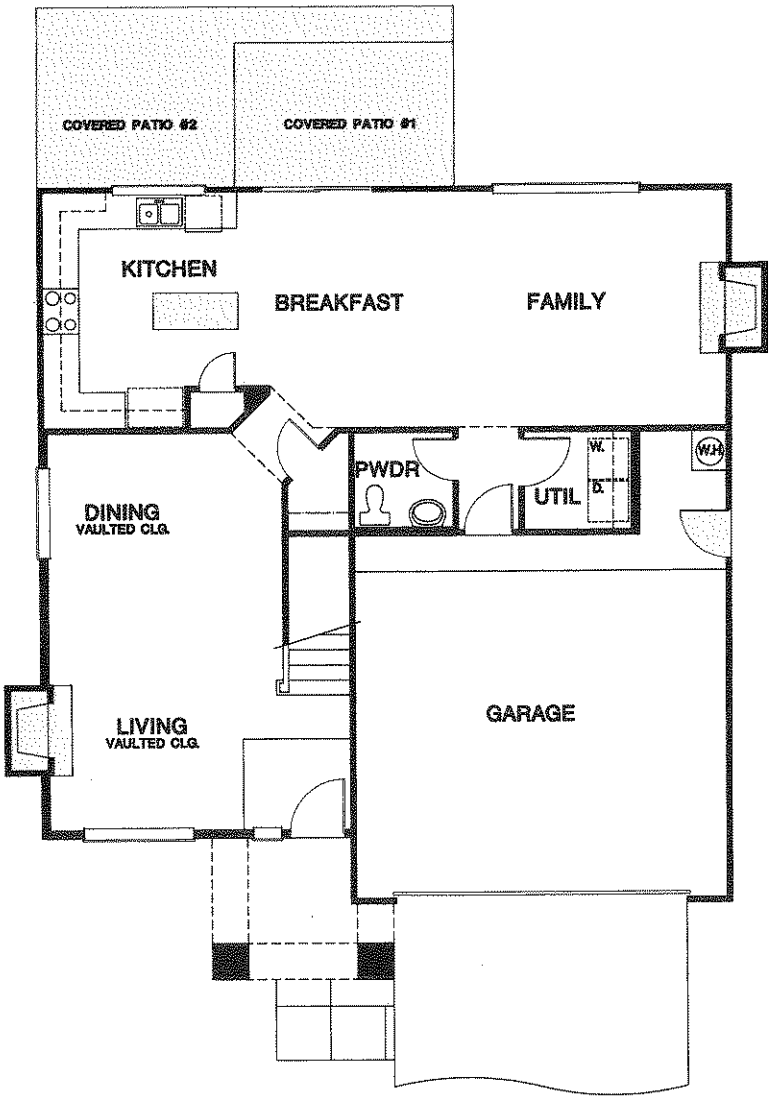


Plan 2532 ◆ 1947 Square Feet

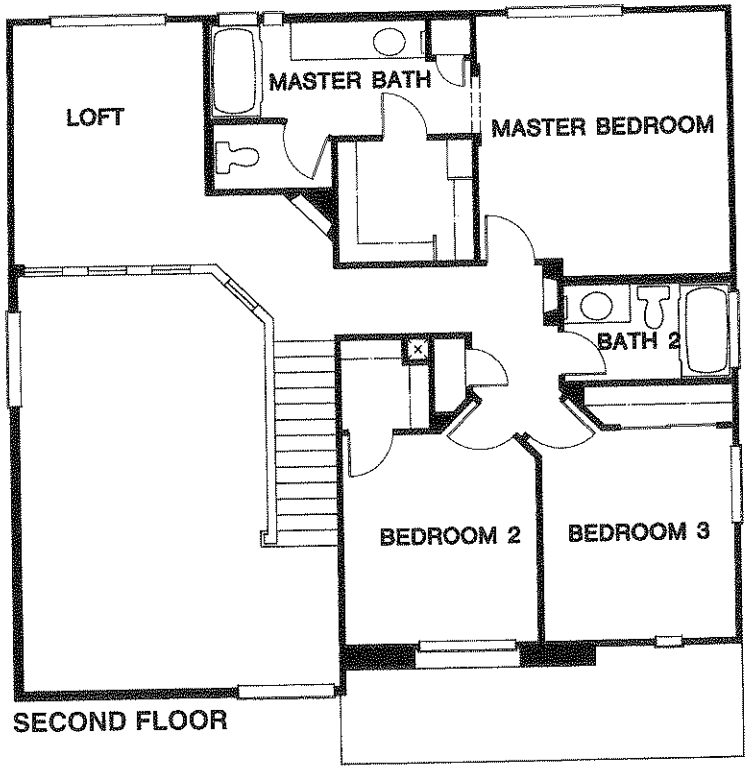
3 Bedrooms with Loft or Optional Bedroom 4, 2½ Baths, Family & Living Rooms, 2 Car Garage

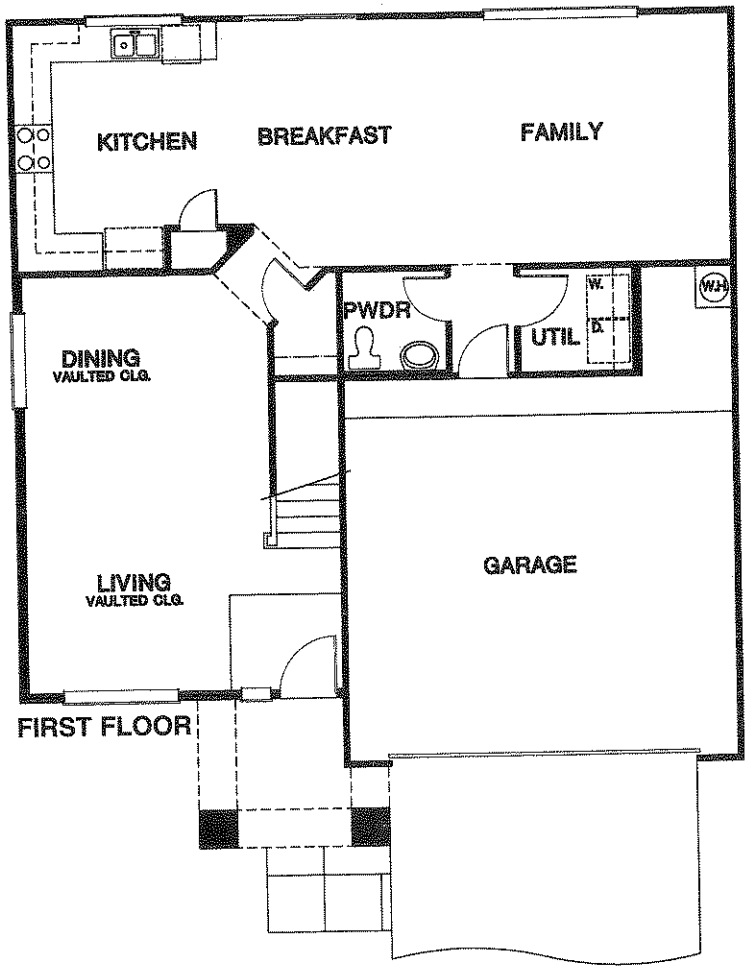
Floorplan With Options





Base Floorplan

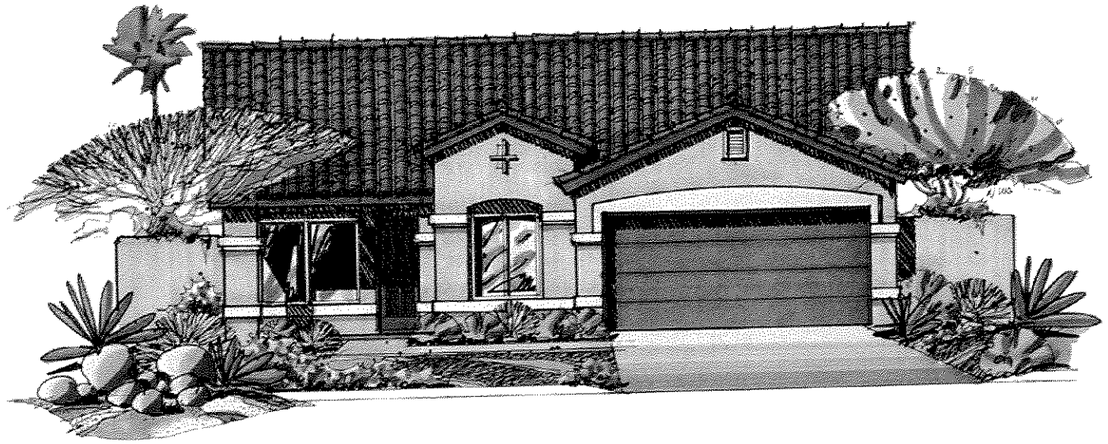




Plan 2532 ◆ 1947 Square Feet

3 Bedrooms with Loft or Optional Bedroom 4, 2½ Baths, Family & Living Rooms, 2 Car Garage

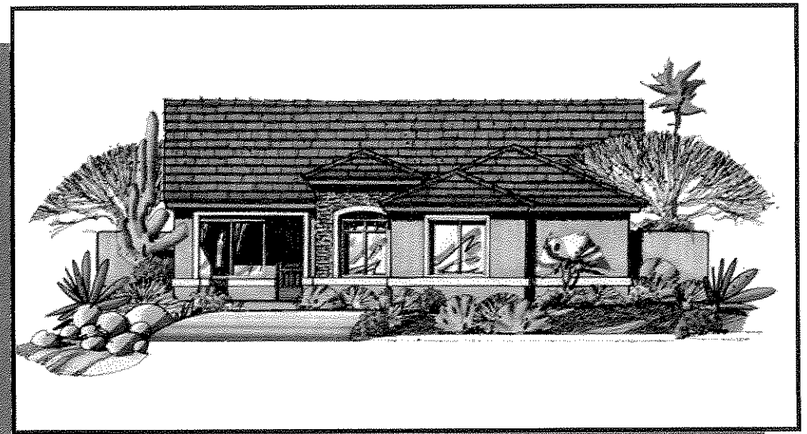
HOMES BEAZER



Elevation D

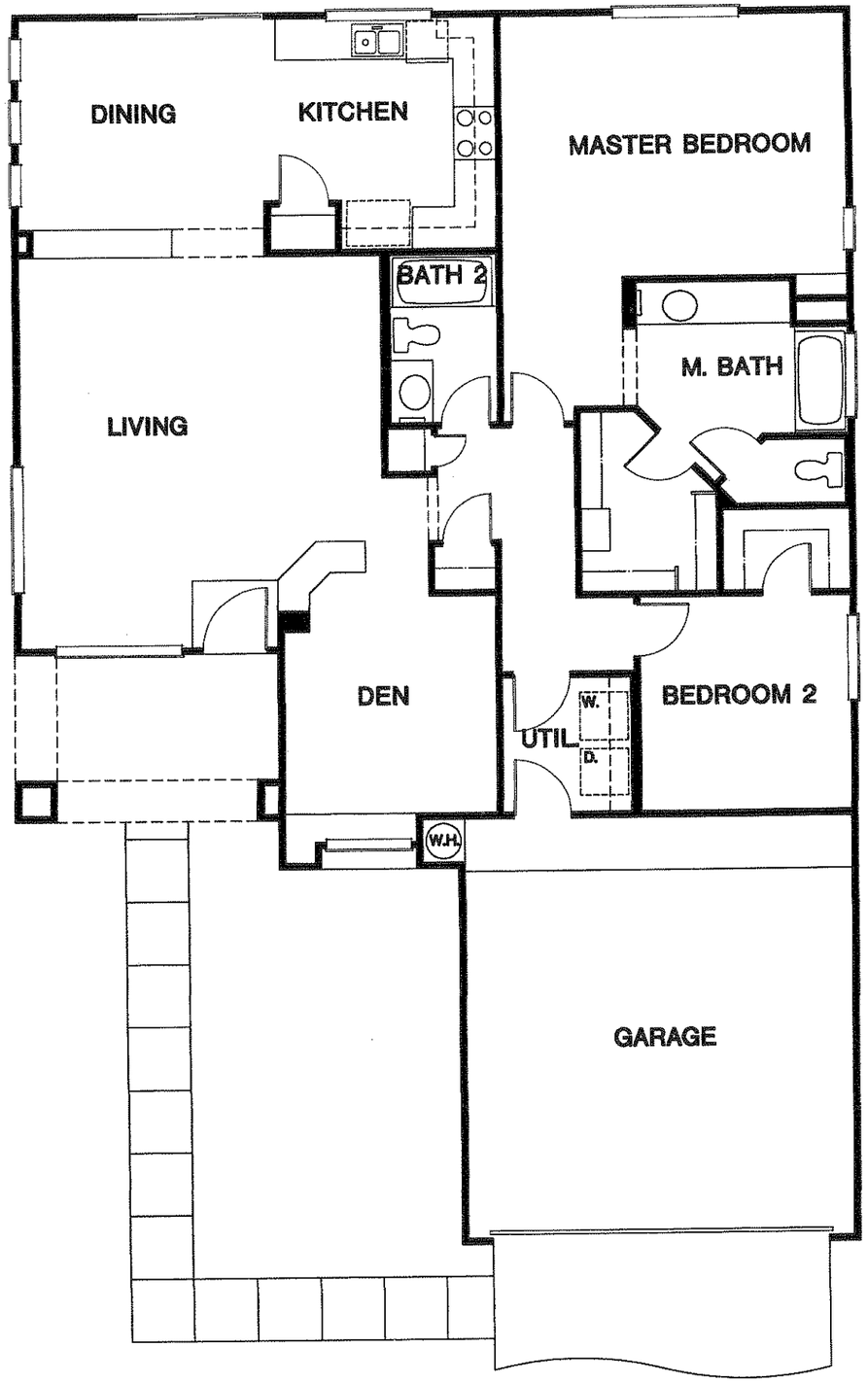
Elevation E

Elevation F



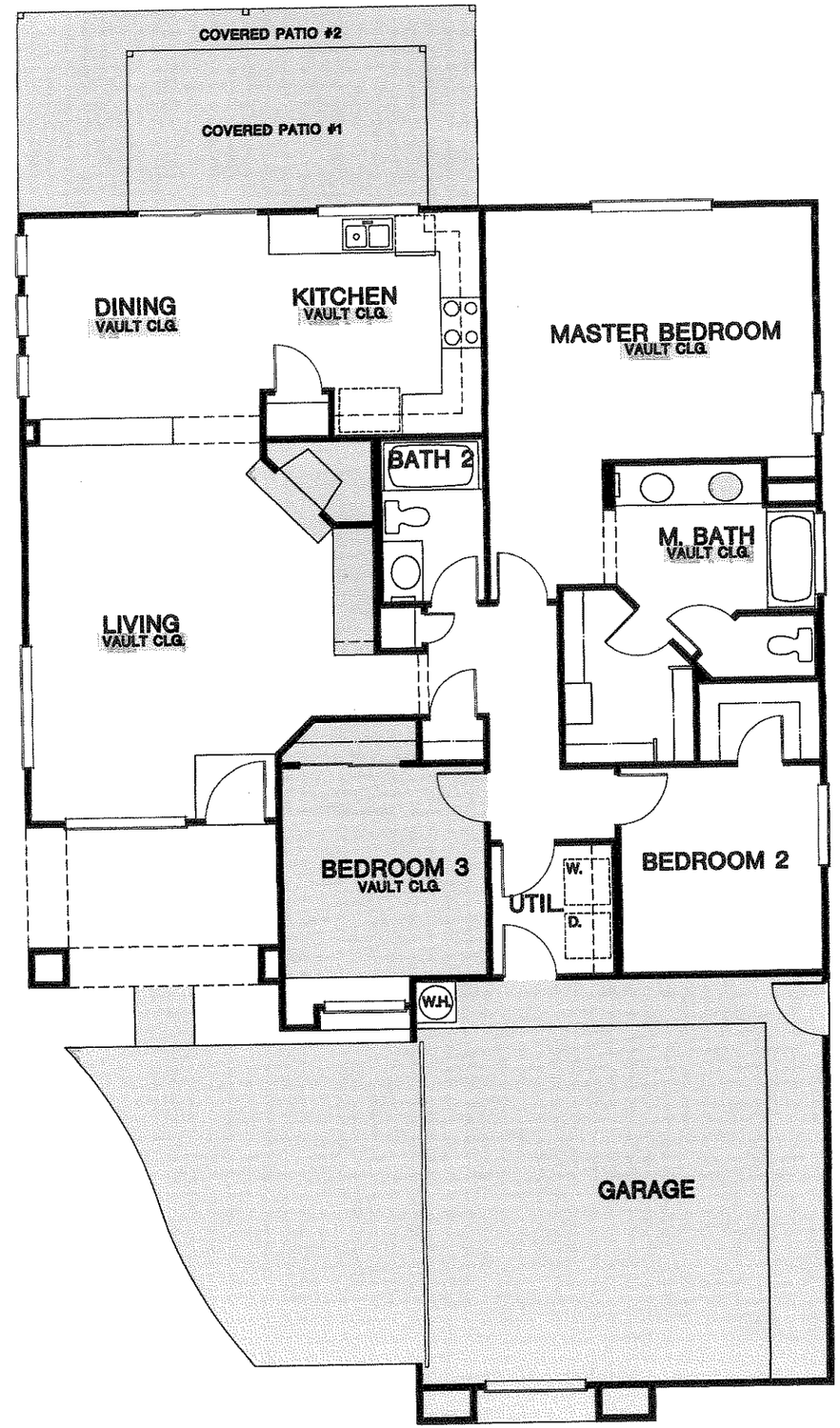
FLOORPLAN 2541

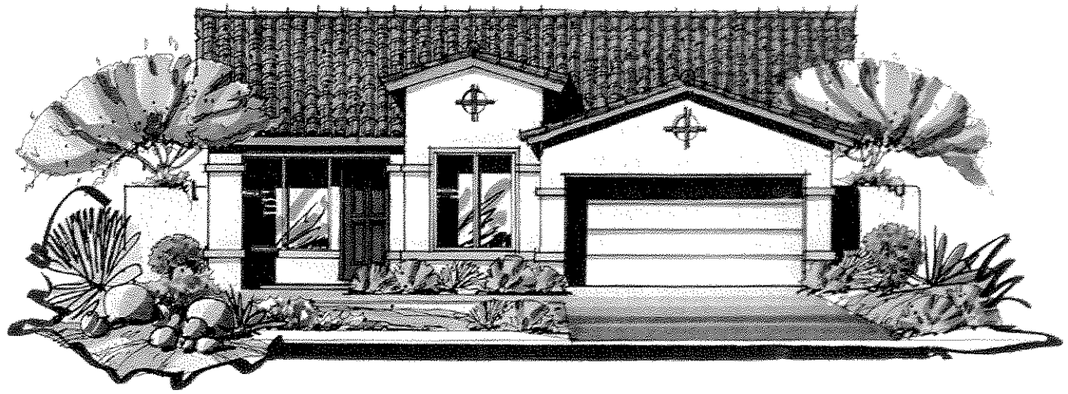
Base Floorplan



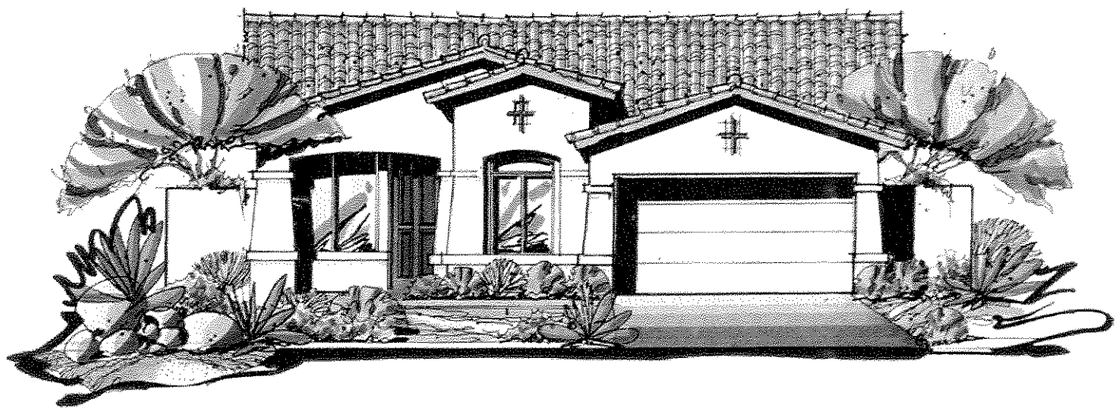
Plan 2541 ◆ 1452 Square Feet
2 Bedrooms & Den, 2 Baths, Optional 3rd Bedroom, 2 Car Garage

Floorplan With Options

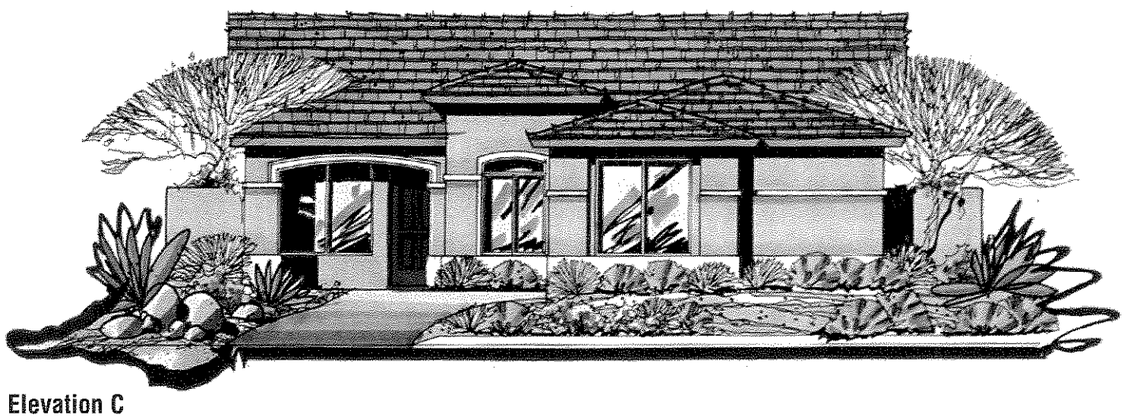




Elevation A

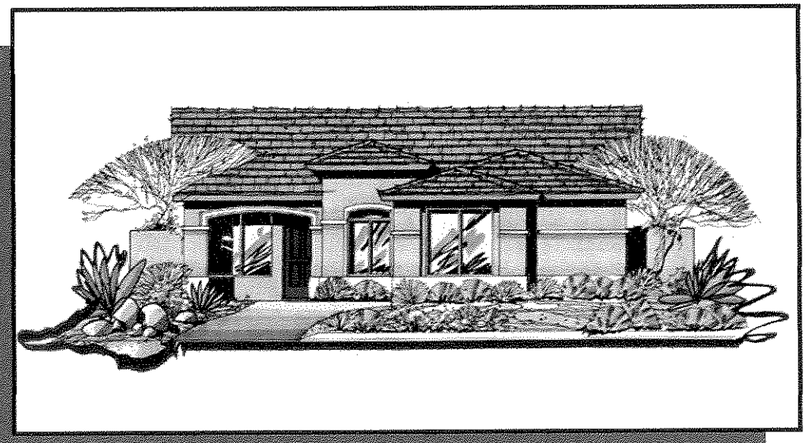


Elevation B



Elevation C

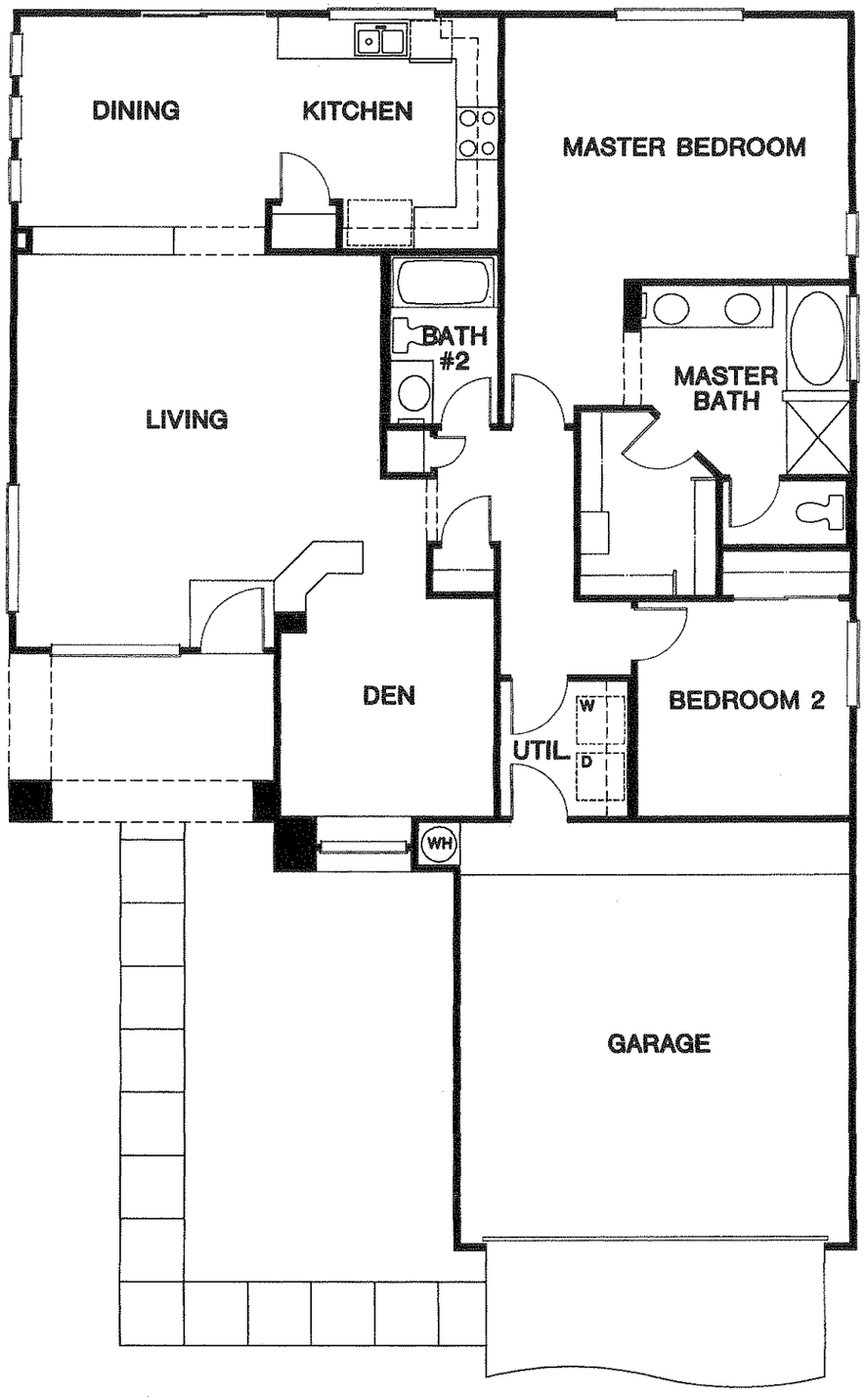
• HOMES •
BEAZER



FLOORPLAN

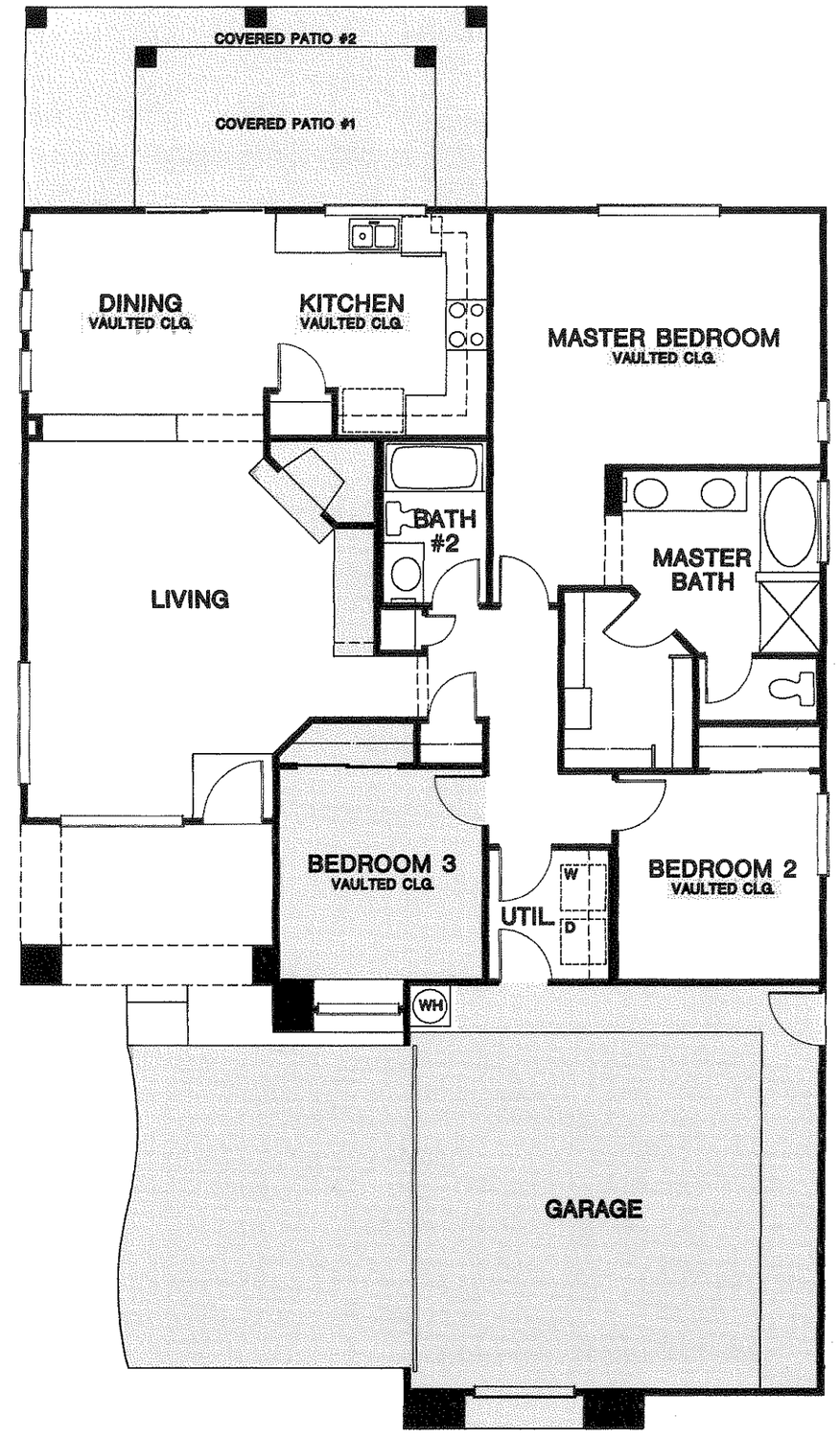
2711

Base Floorplan

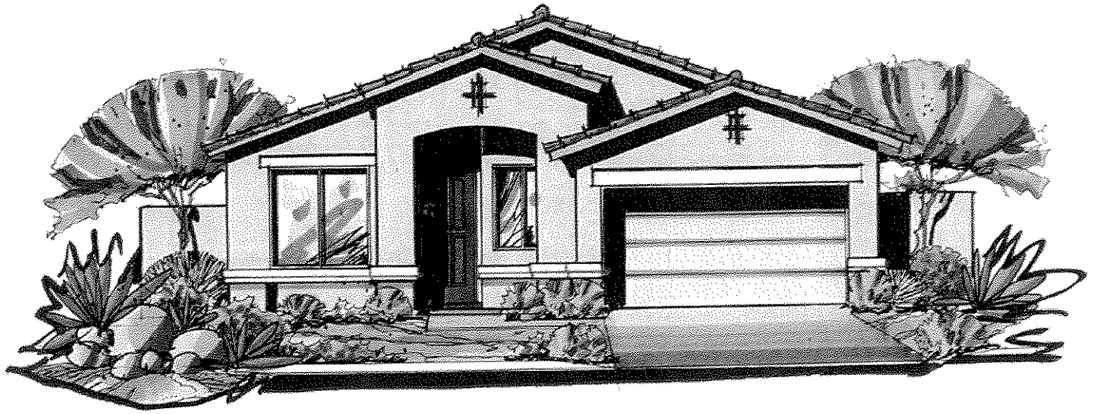


Plan 2711 ◆ 1452 Square Feet
2 Bedrooms with Den or Optional 3rd Bedroom, 2 Baths, 2 Car Garage/Optional Side Entry Garage

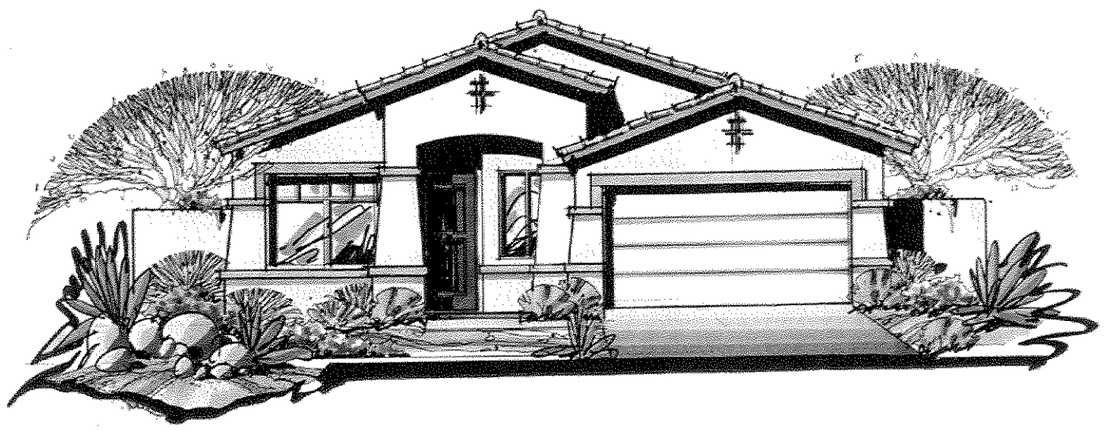
Floorplan With Options



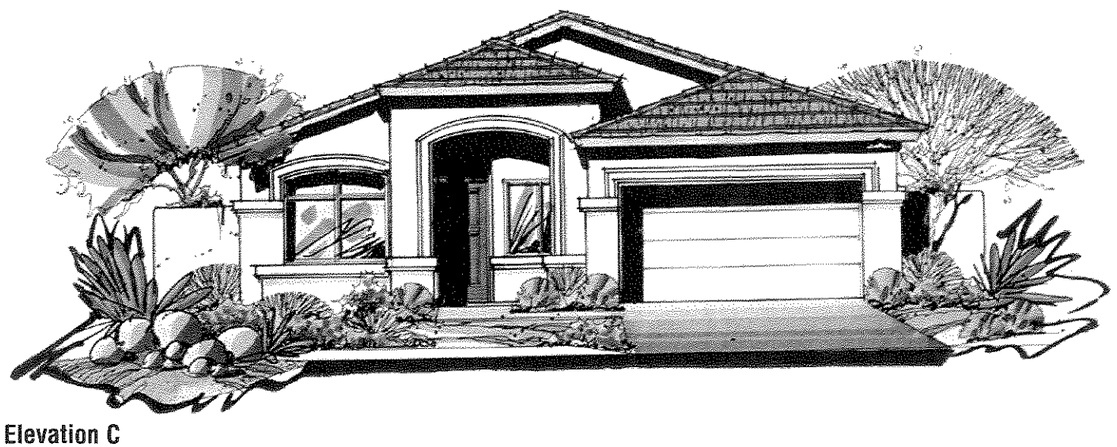
HOMES
BEAZER



Elevation A



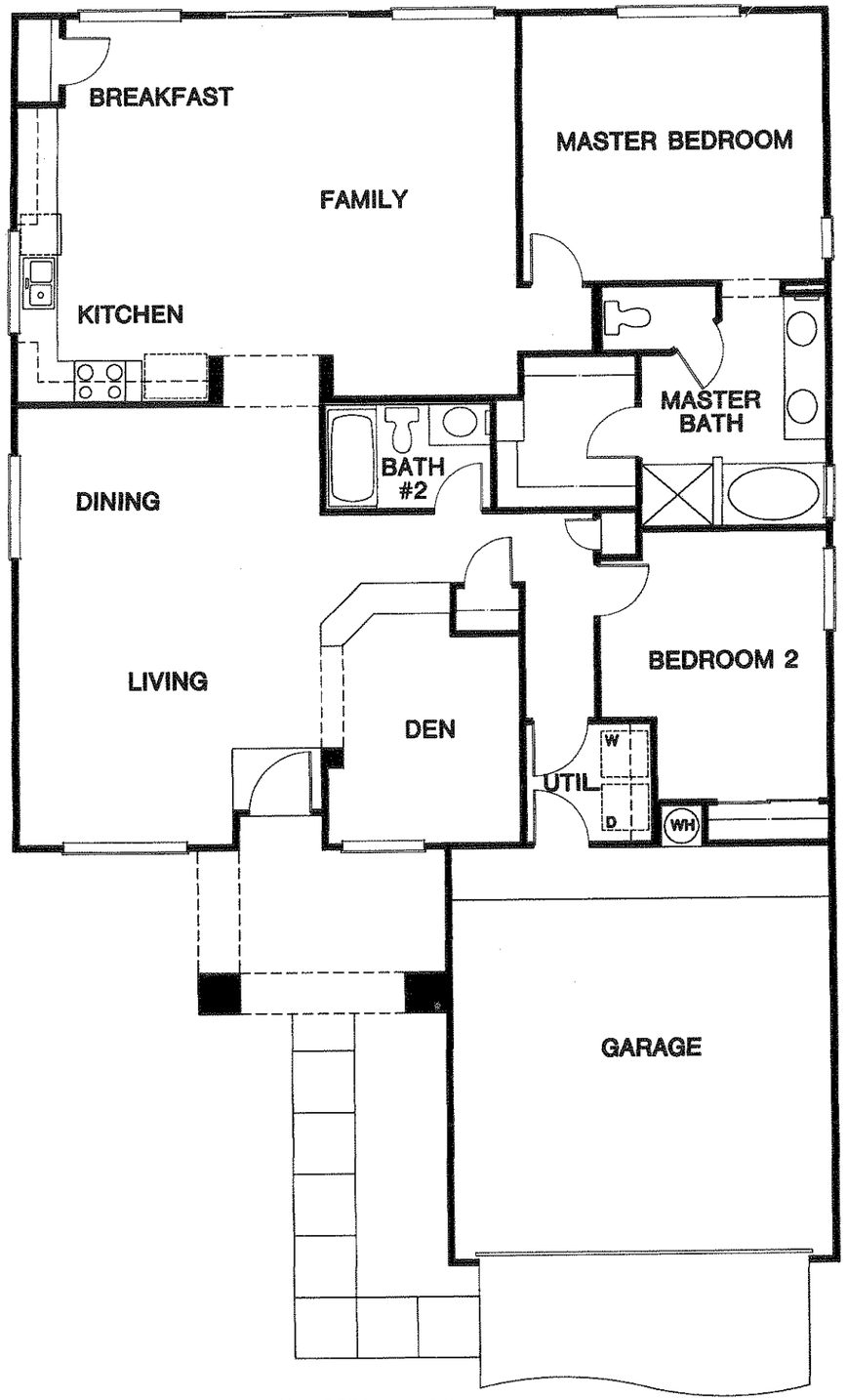
Elevation B



Elevation C

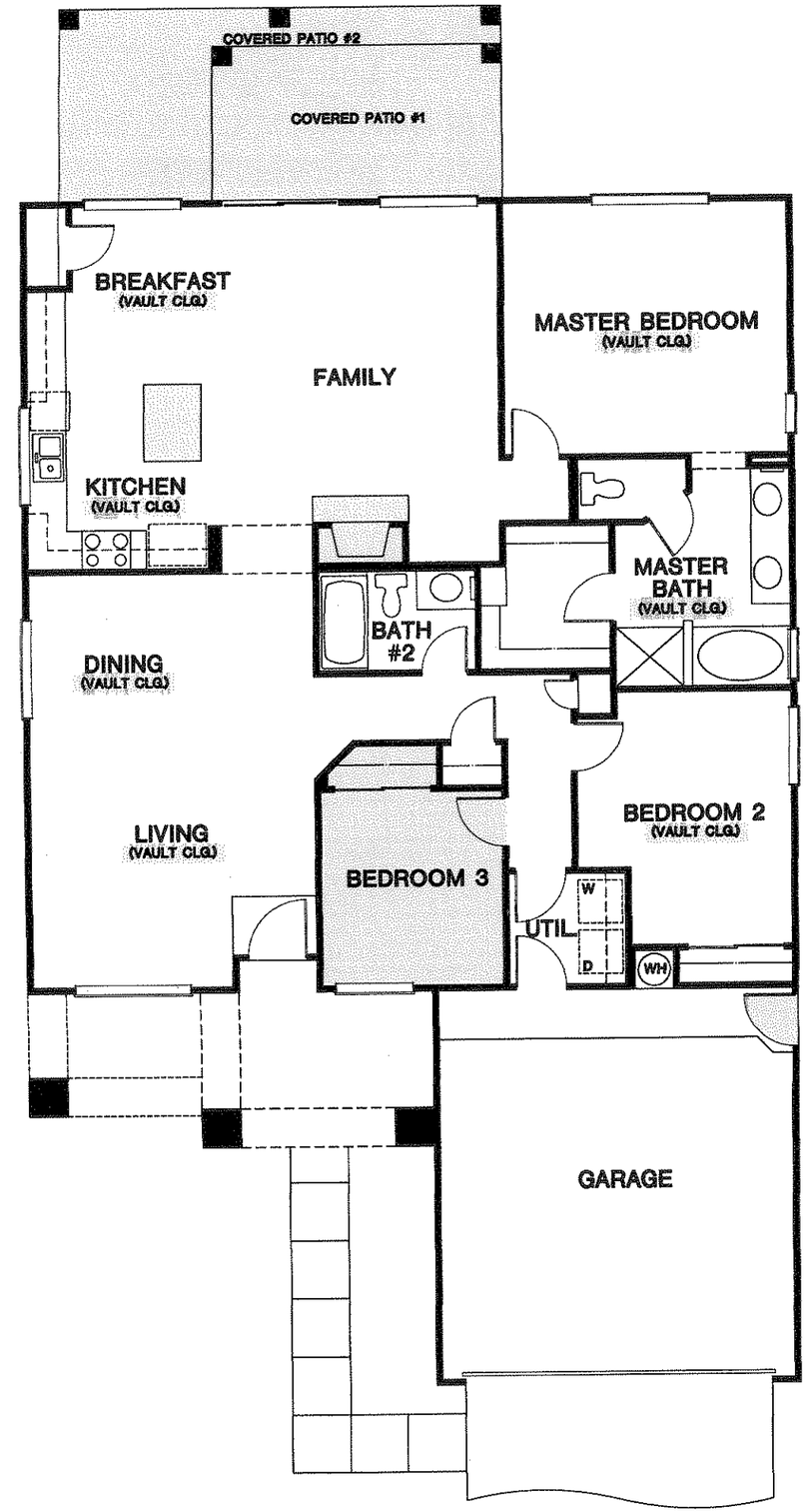
FLOORPLAN 2731

Base Floorplan

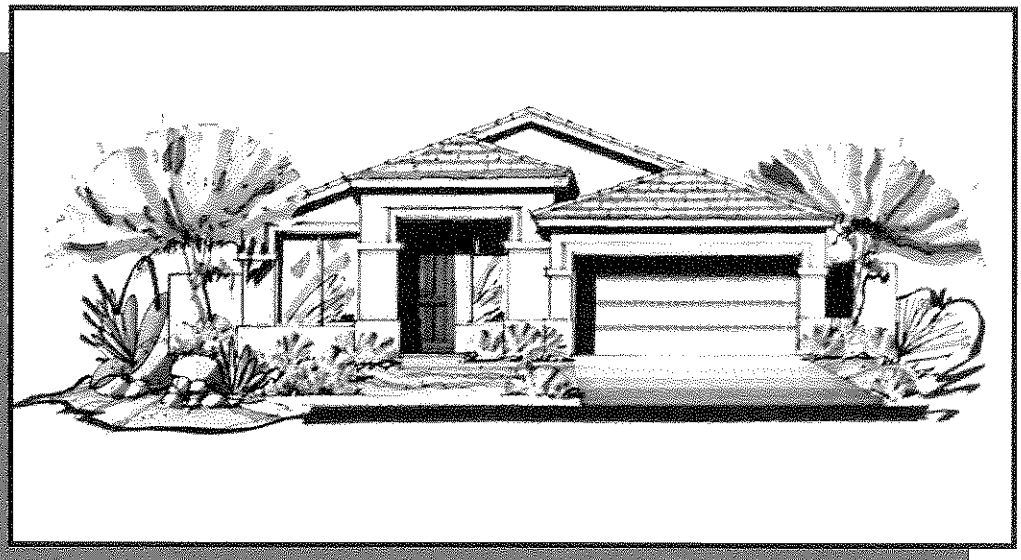


Plan 2731 ◆ 1629 Square Feet
2 Bedrooms or Optional 3rd Bedroom, 2 Baths, Family Room, 2 Car Garage

Floorplan With Options

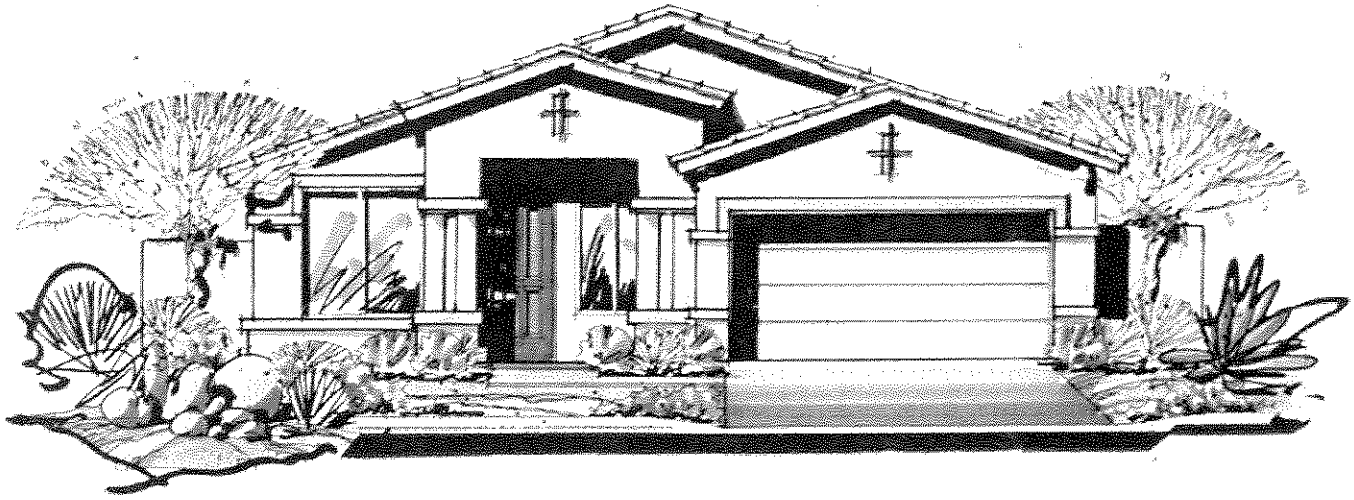


BEAZER HOMES

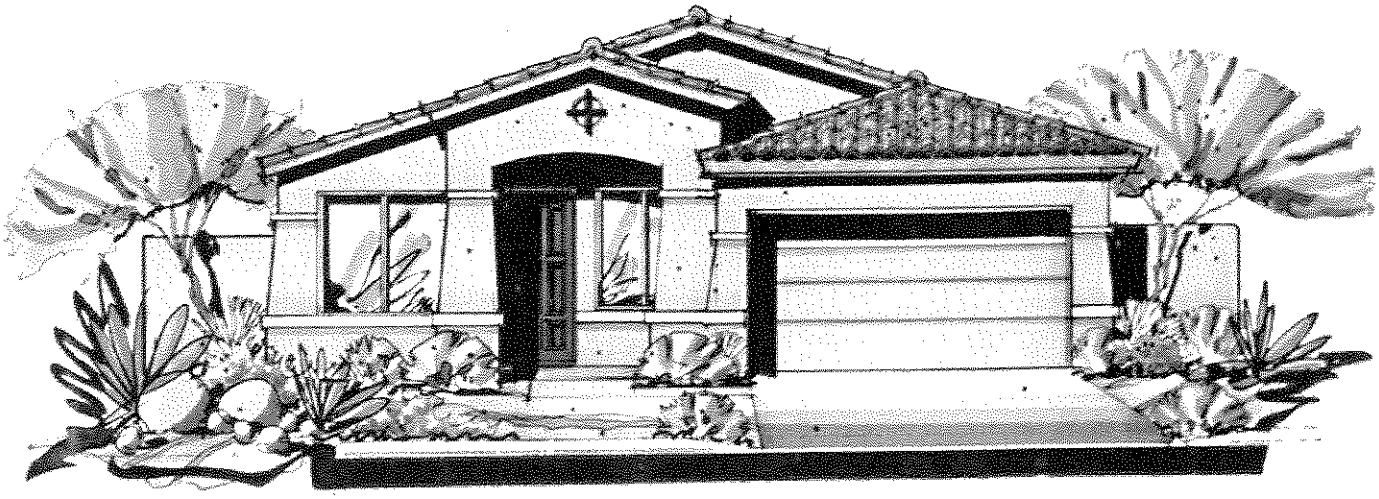


FLOORPLAN

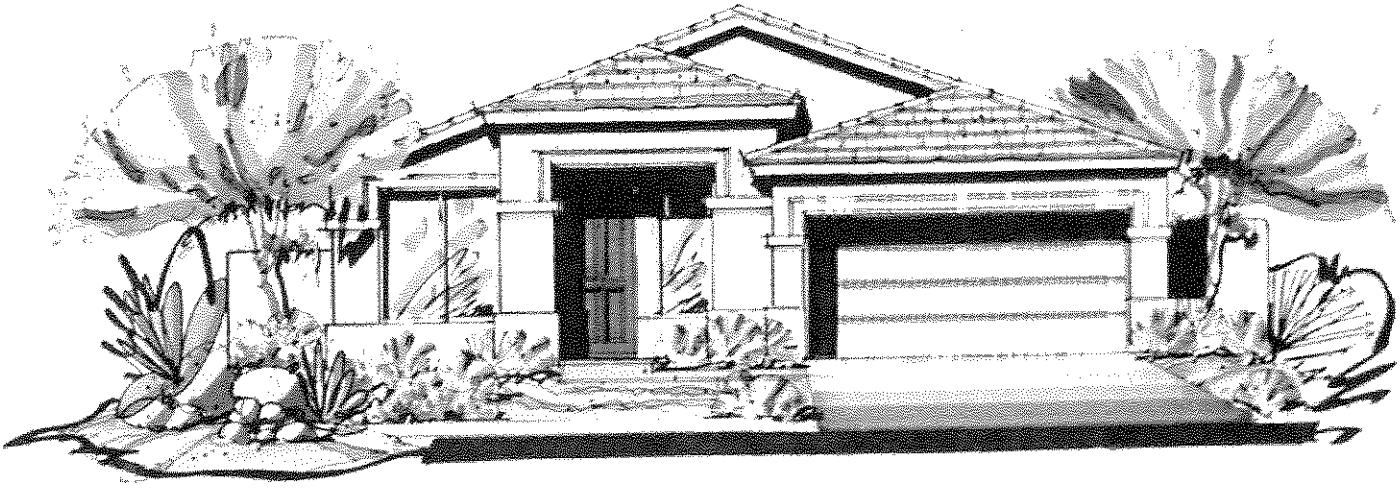
2751



Elevation A

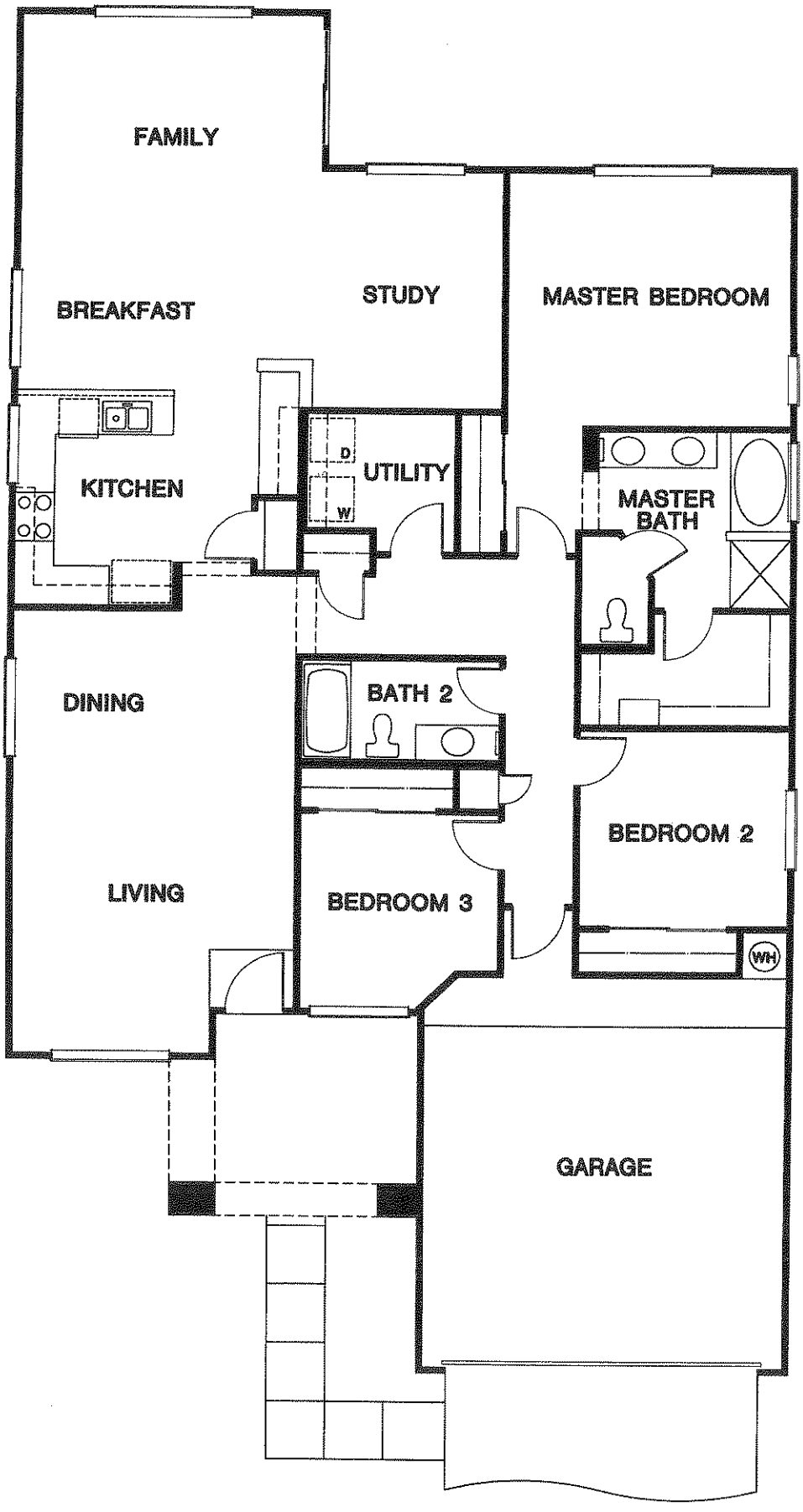


Elevation B



Elevation C

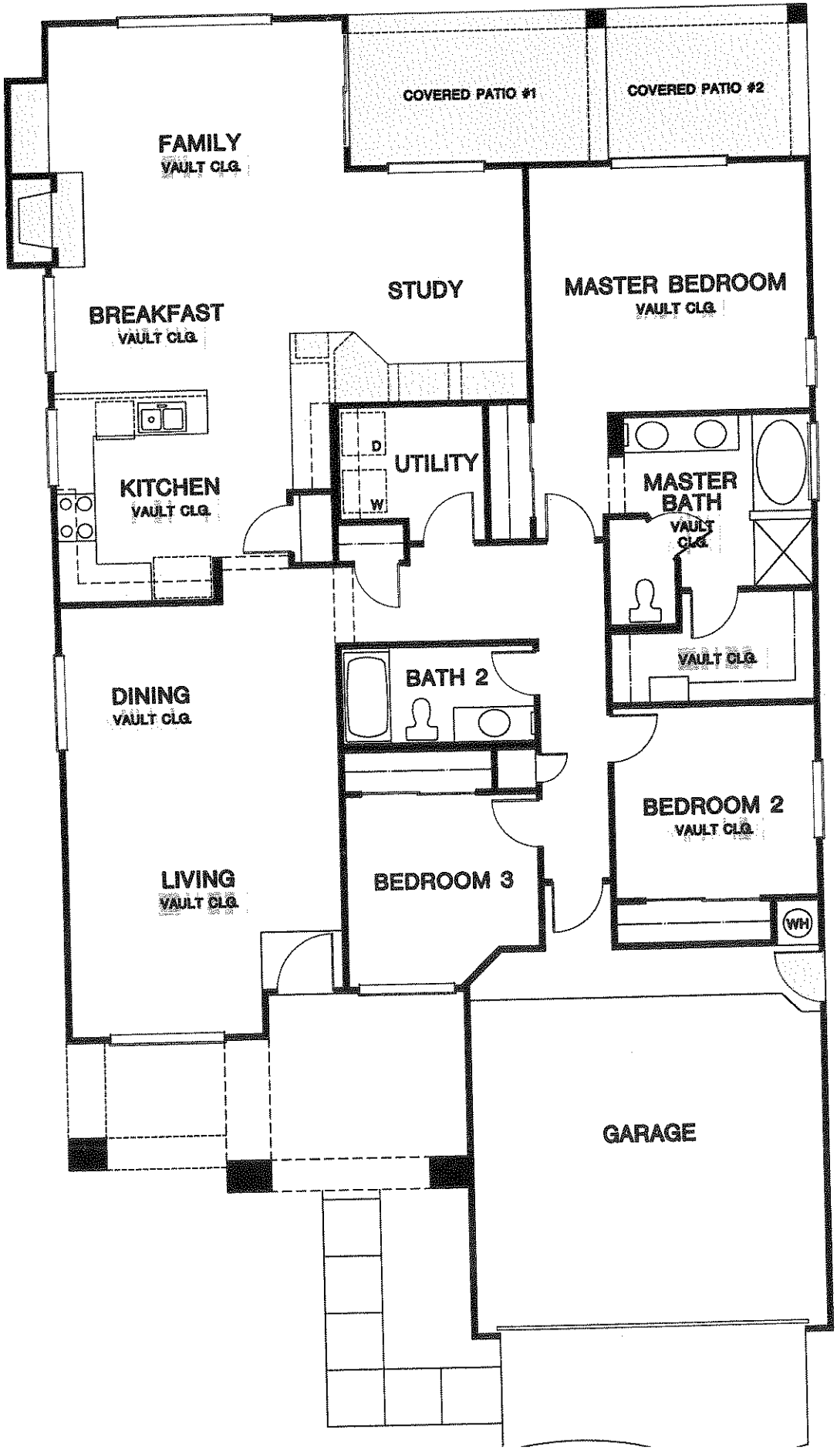
Base Floorplan



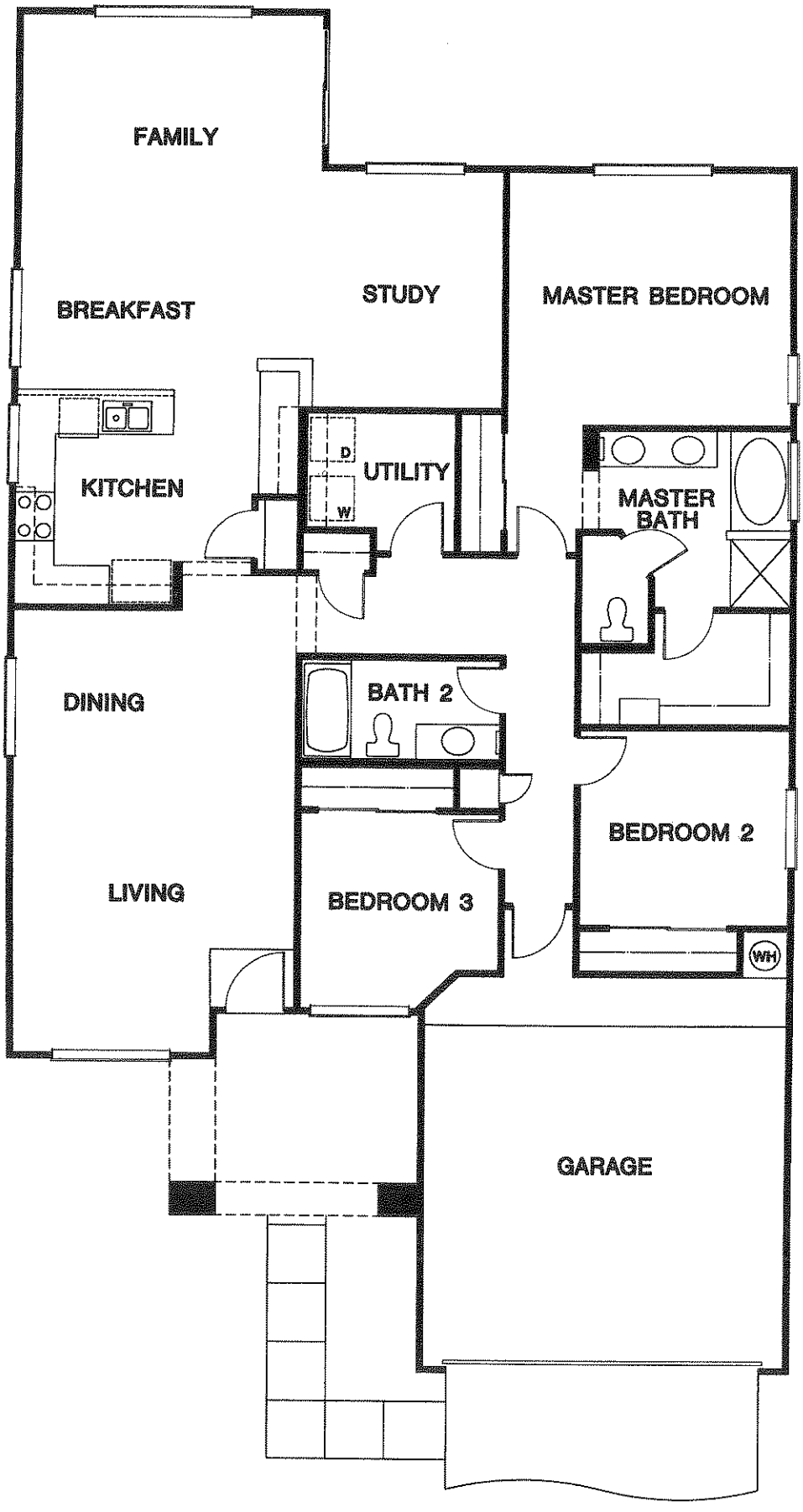
Plan 2751 ◆ 1845 Square Feet

3 Bedrooms with Study or Optional 4th Bedroom, 2 Baths, Family Room, 2 Car Garage

FLOORPLAN WITH OPTIONS



Base Floorplan



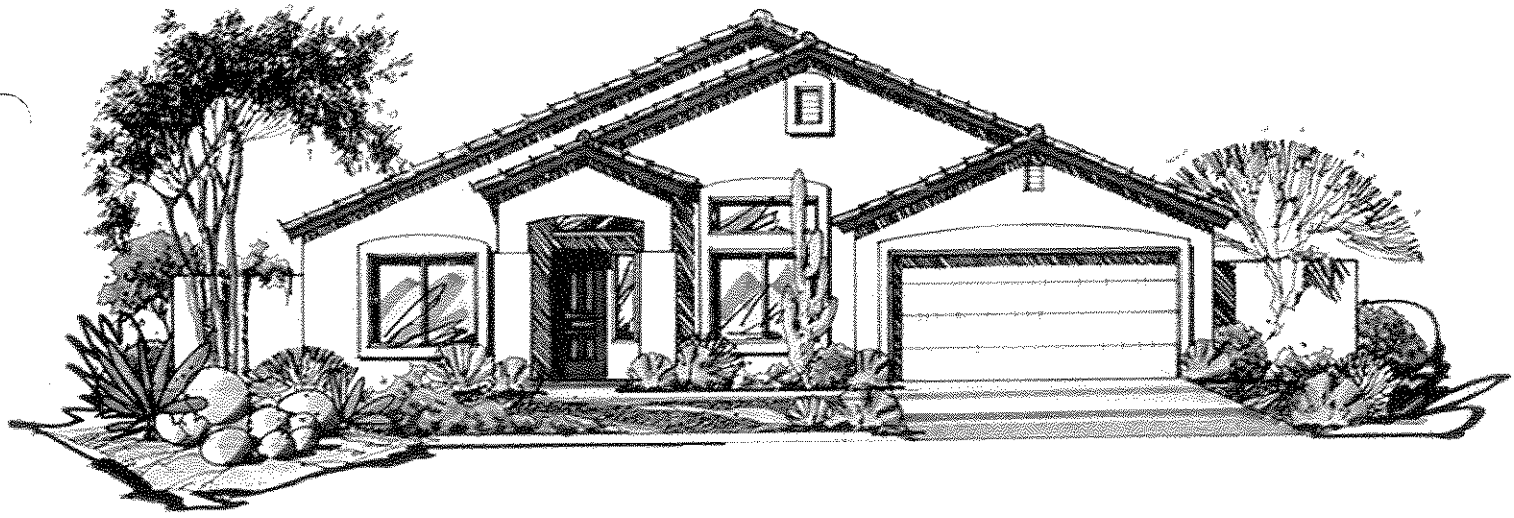
Plan 2751 ◆ 1845 Square Feet

3 Bedrooms with Study or Optional 4th Bedroom, 2 Baths, Family Room, 2 Car Garage

BEAZER HOMES

FLOORPLAN

L3511

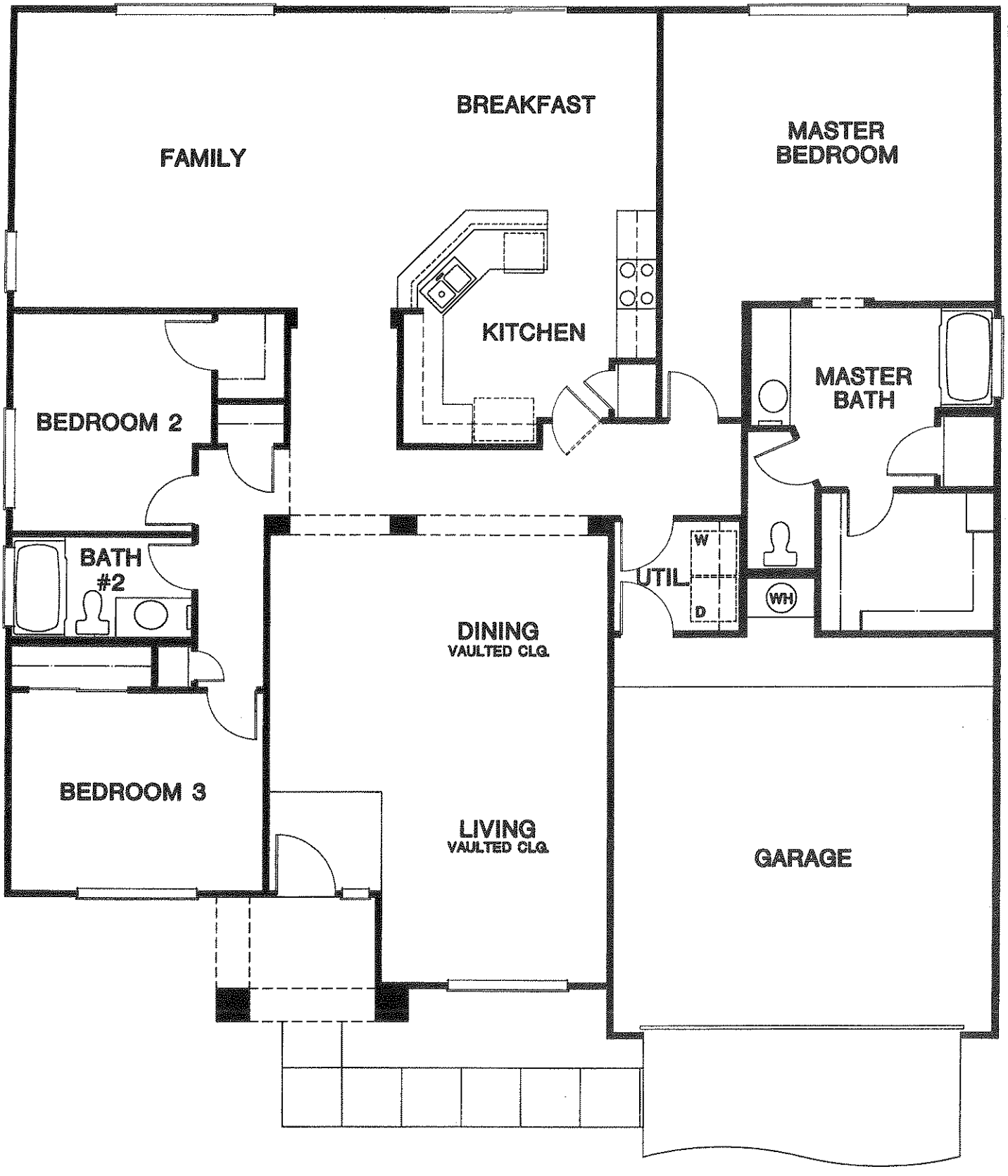


Elevation B

Elevation D

Elevation E

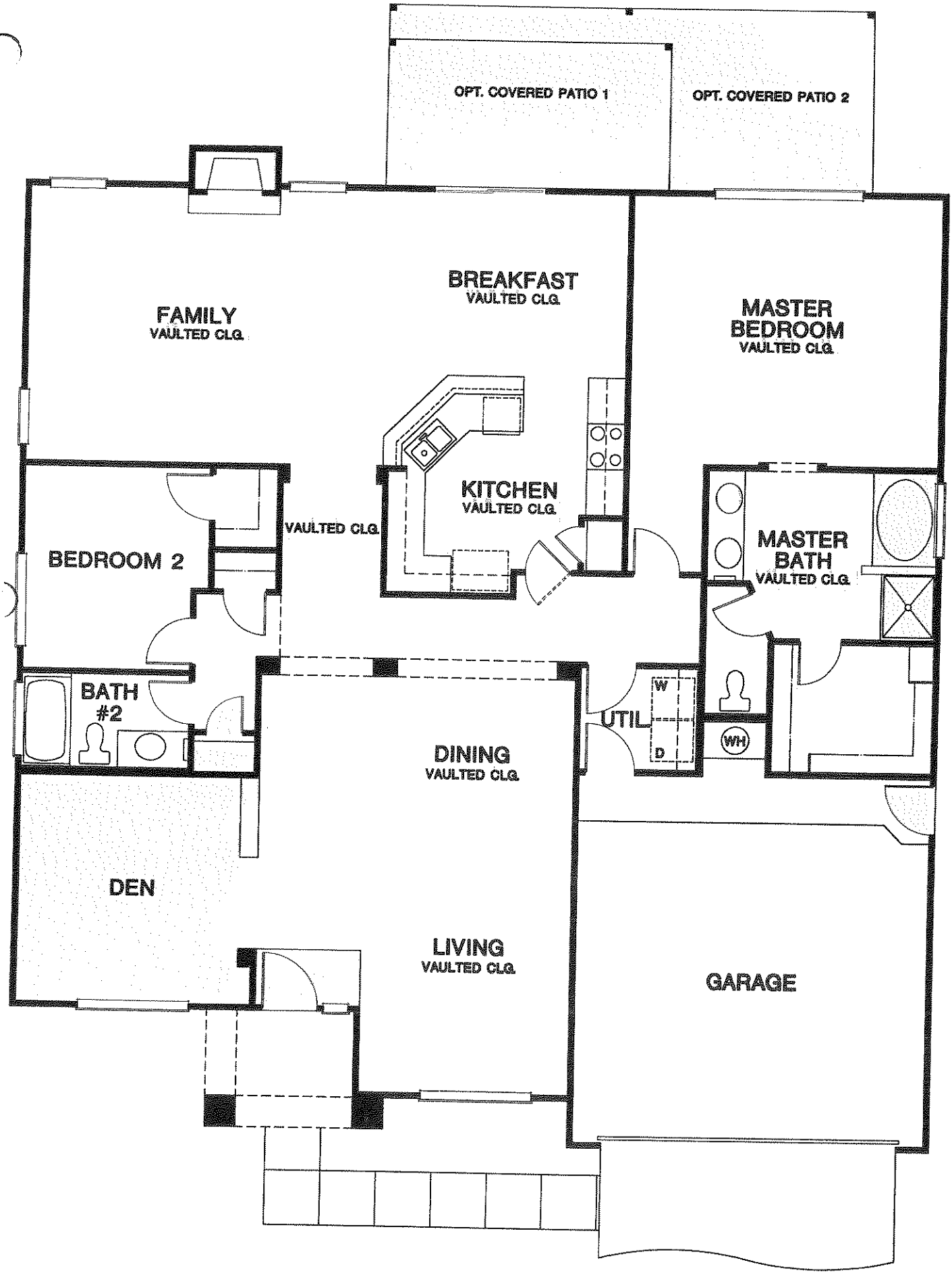
Base Floorplan



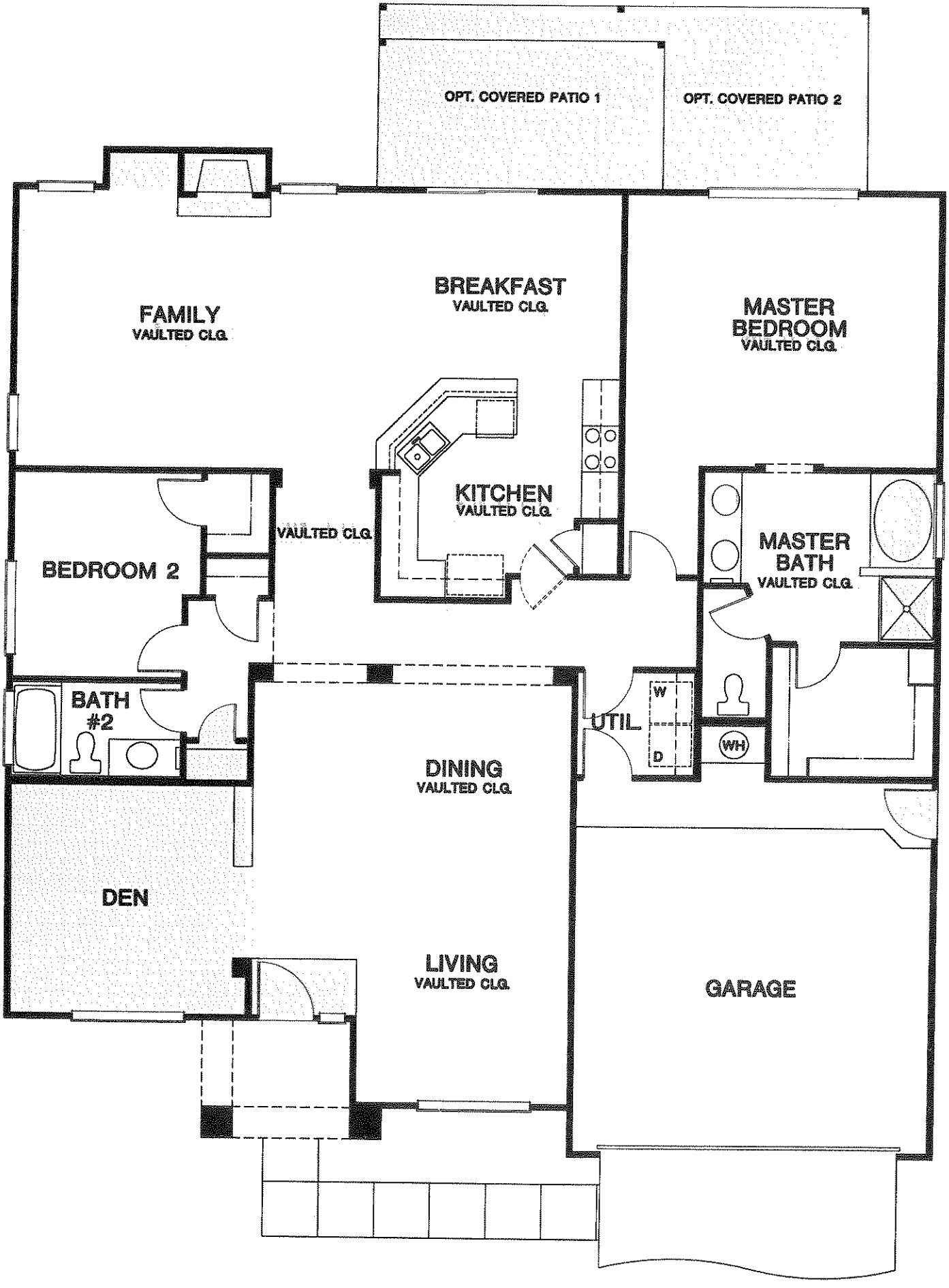
Plan L3511 ◆ 2059 Square Feet

2 Bedrooms, 2 Baths, 2 Car Garage

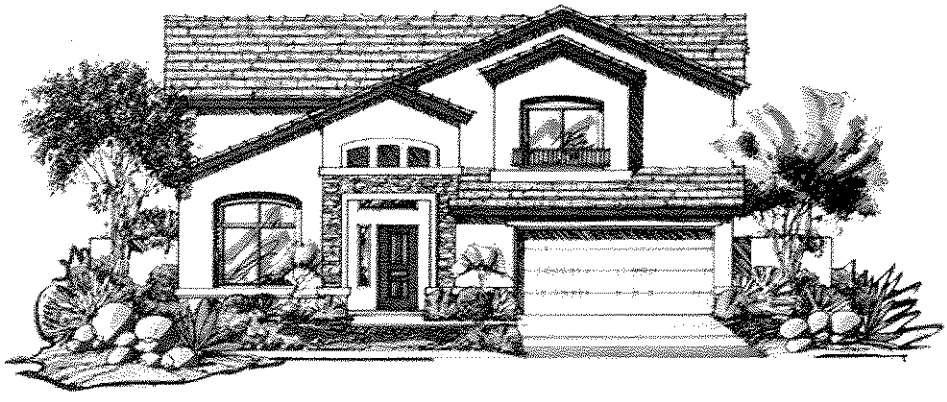
Floorplan With Options



Alternate Option Plan



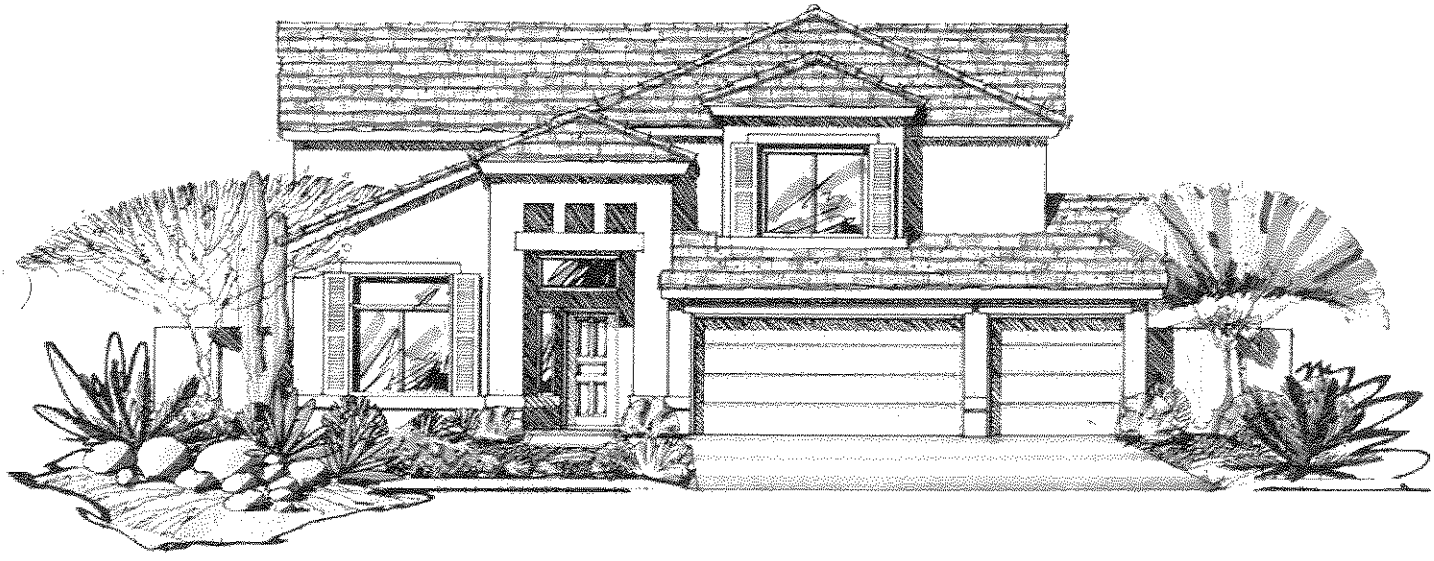
BEAZER HOMES



FLOORPLAN

3532

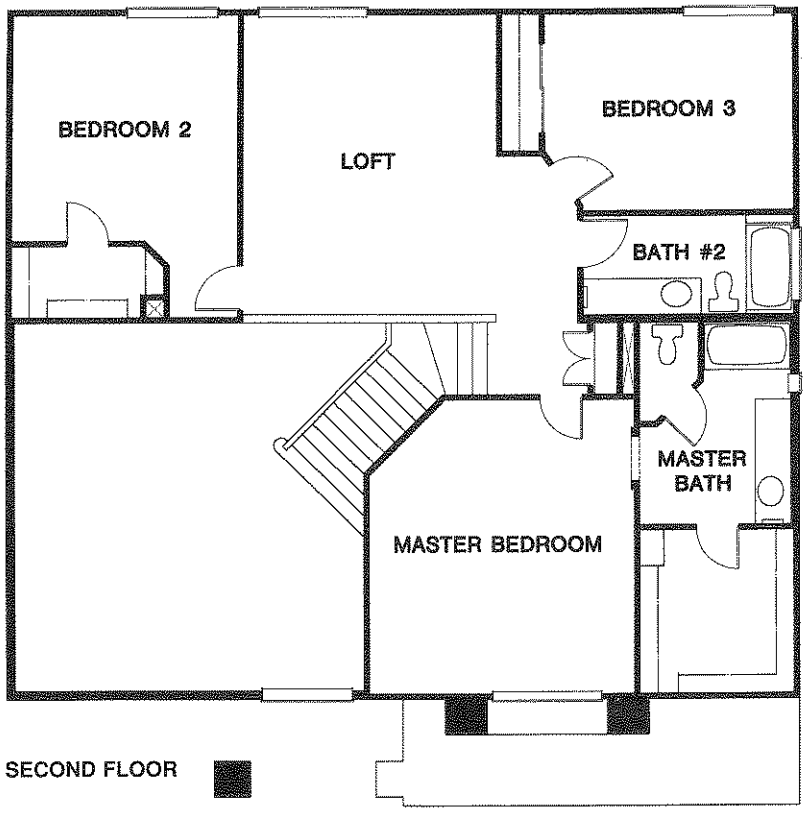
Elevation B

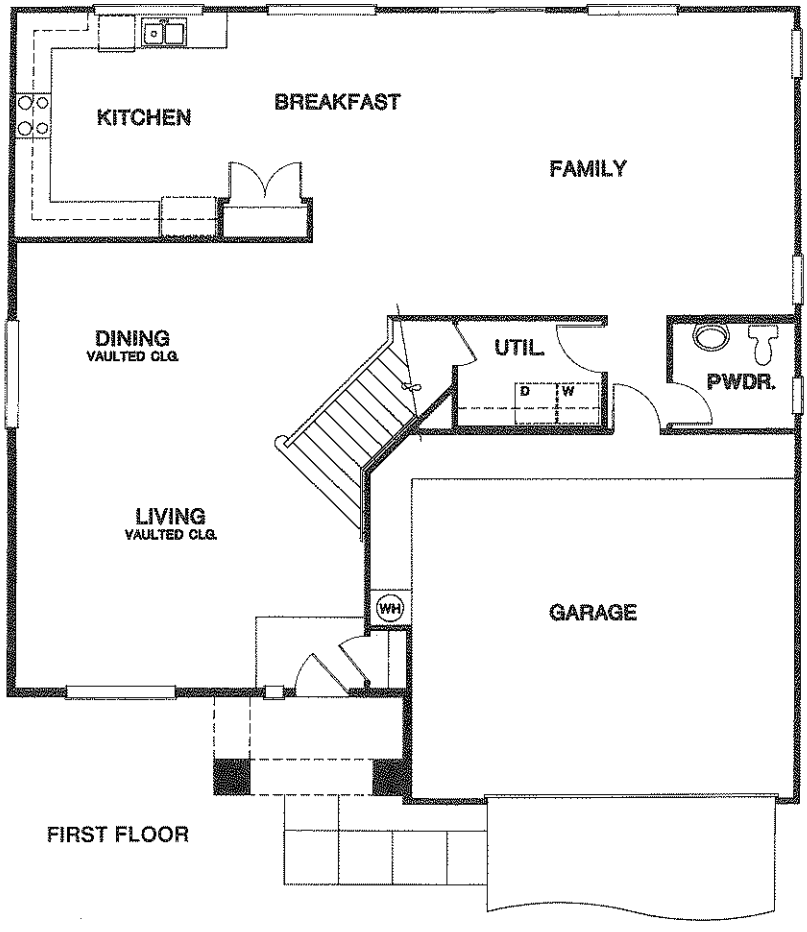


Elevation D

Elevation E

BASE FLOORPLAN

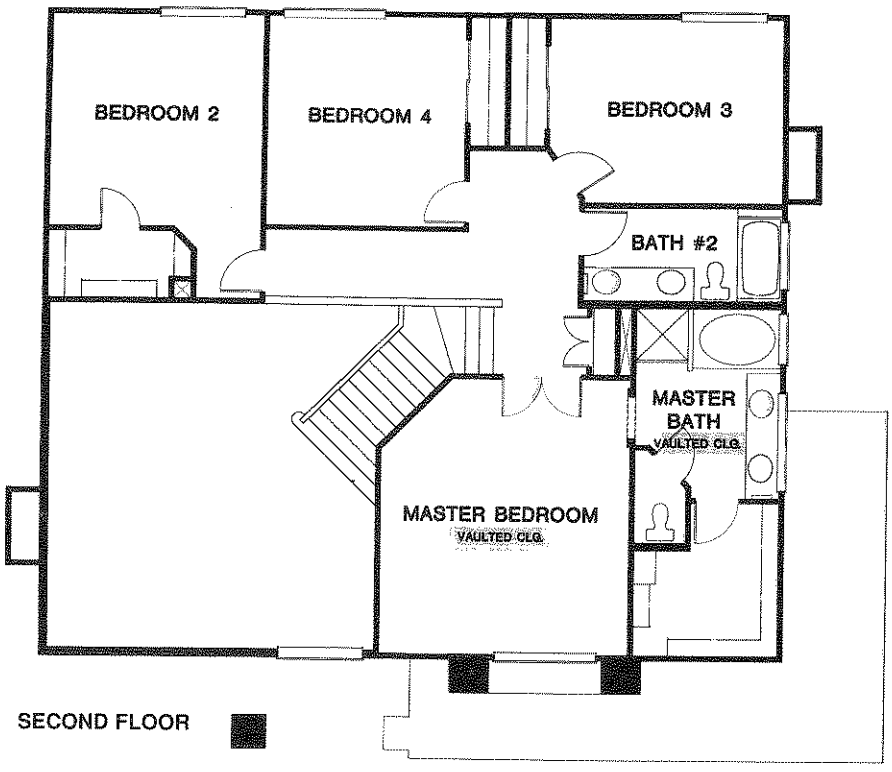


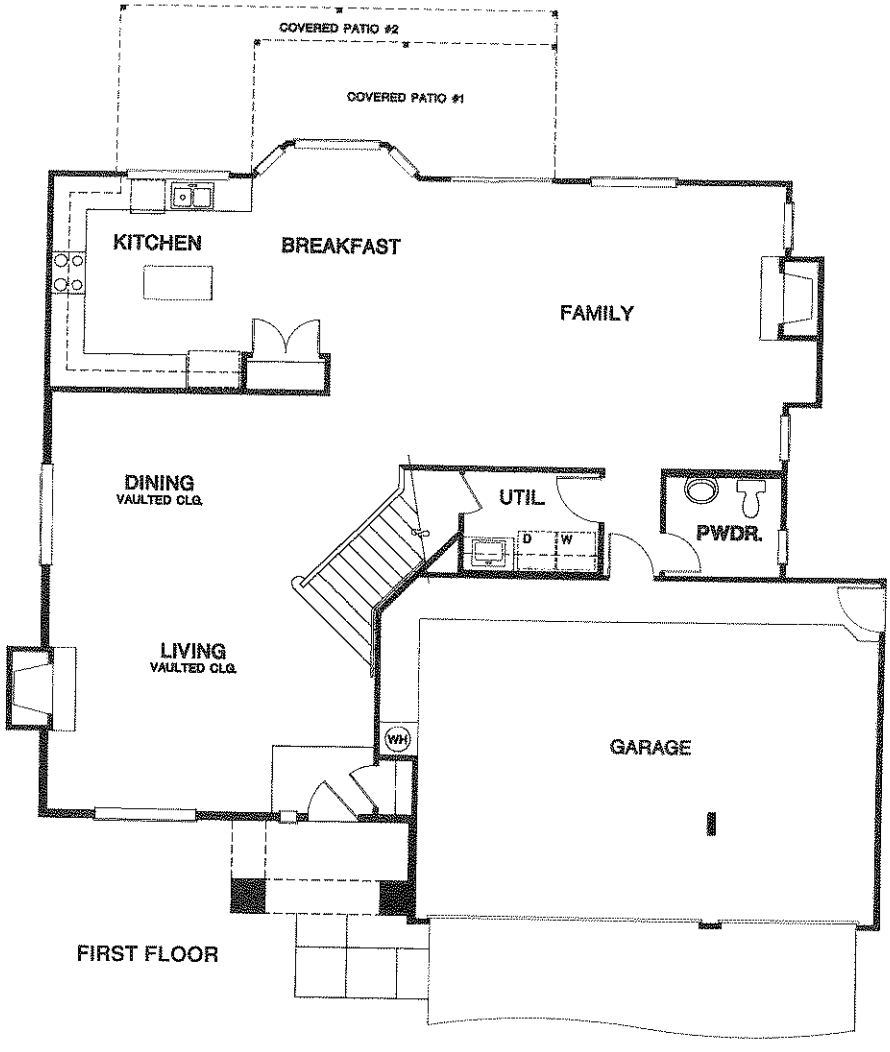


Plan 3532 ◆ 2606 Square Feet

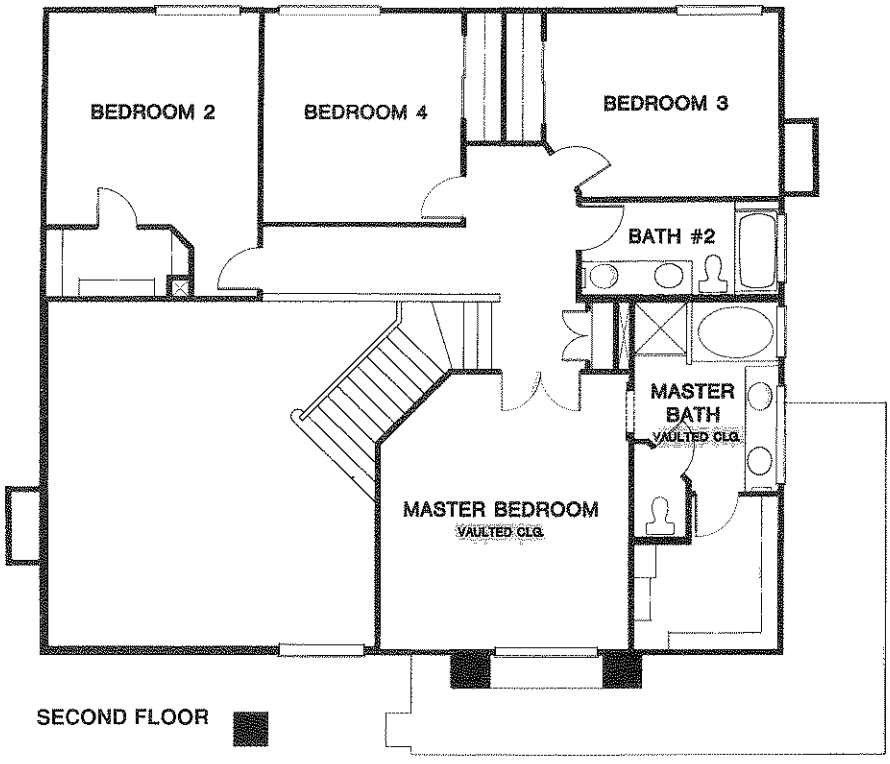
3 Bedrooms & Loft, 2½ Baths, Optional 4th Bedroom, 2 Car Garage/Optional 3 Car Garage

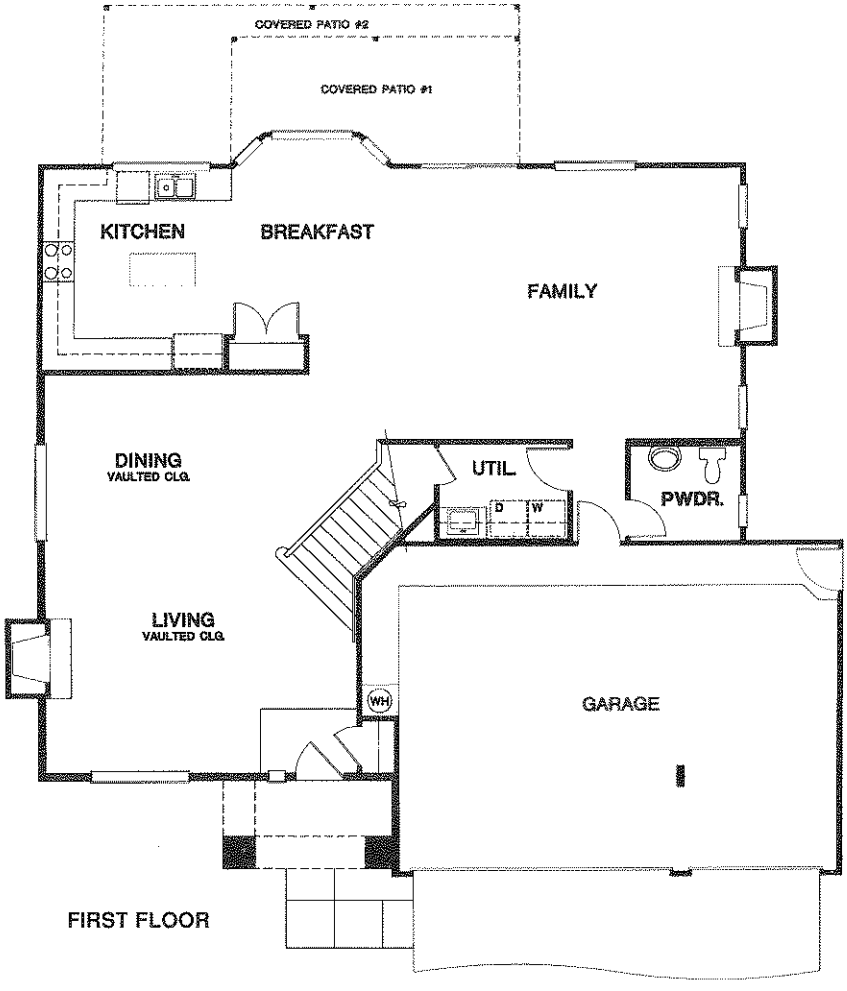
ALTERNATE OPTION PLAN



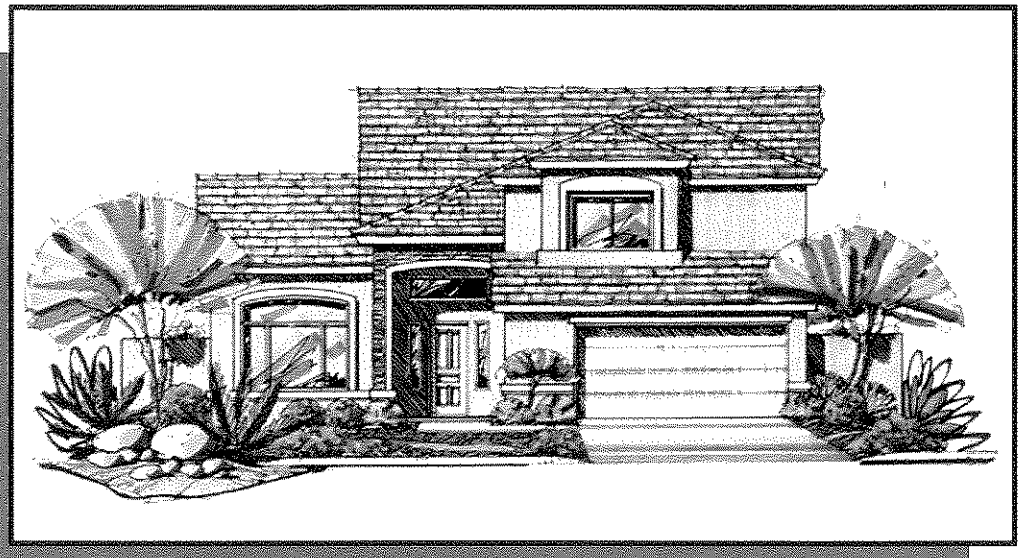


FLOORPLAN WITH OPTIONS



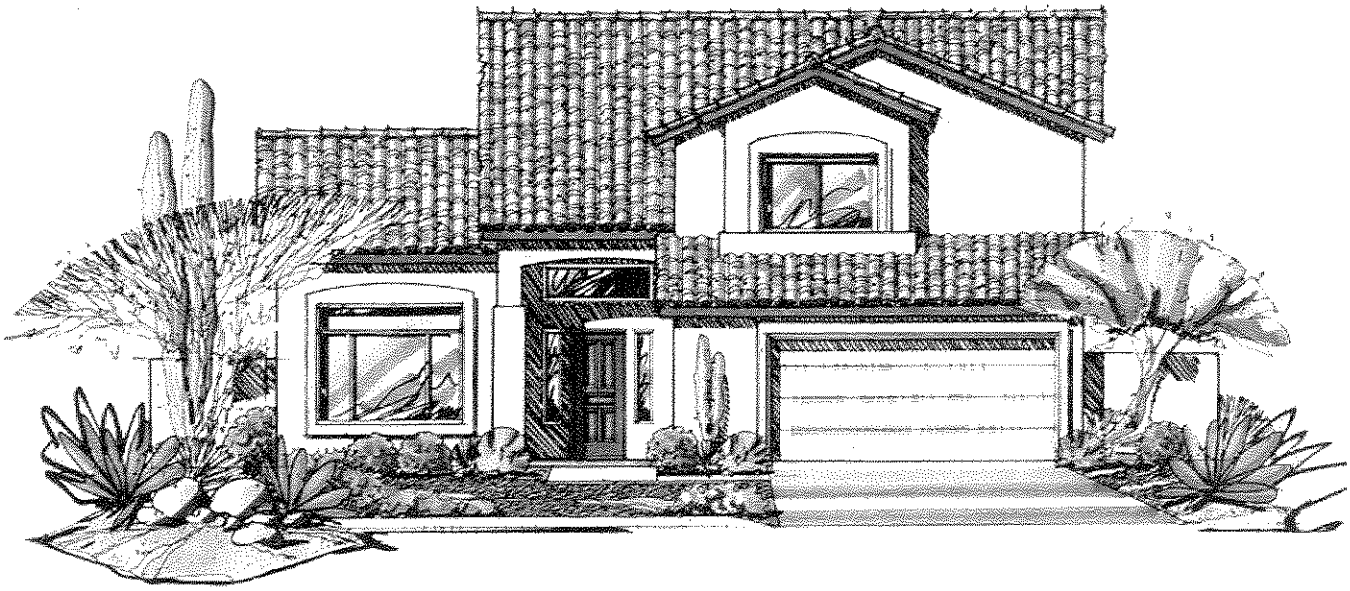


BEAZER HOMES

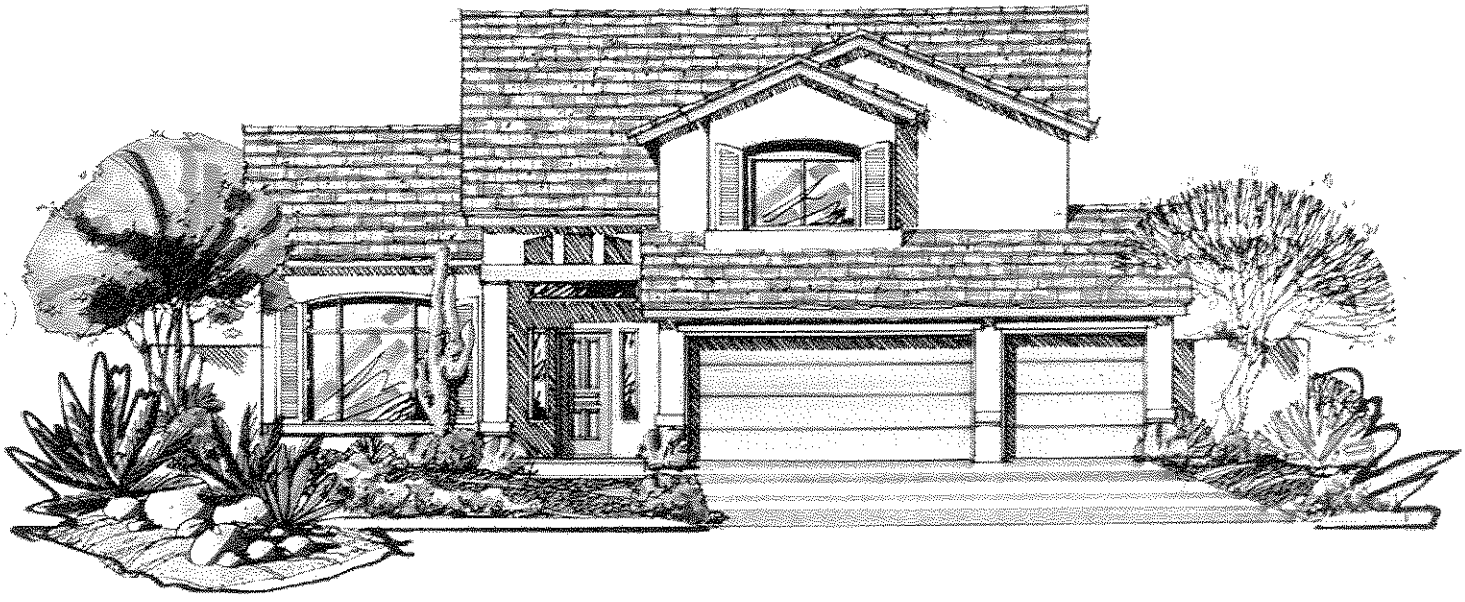


FLOORPLAN

3552



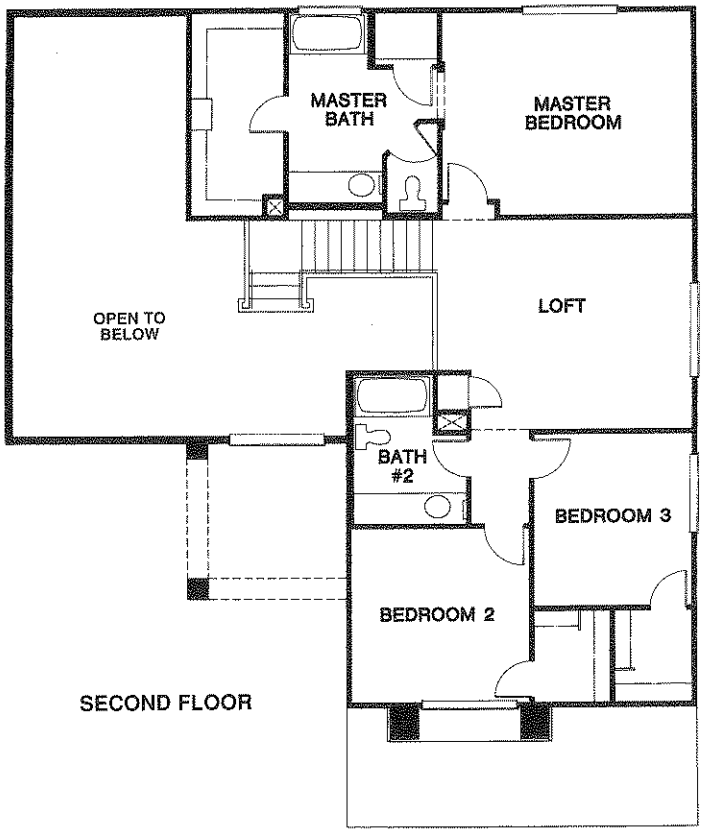
Elevation B

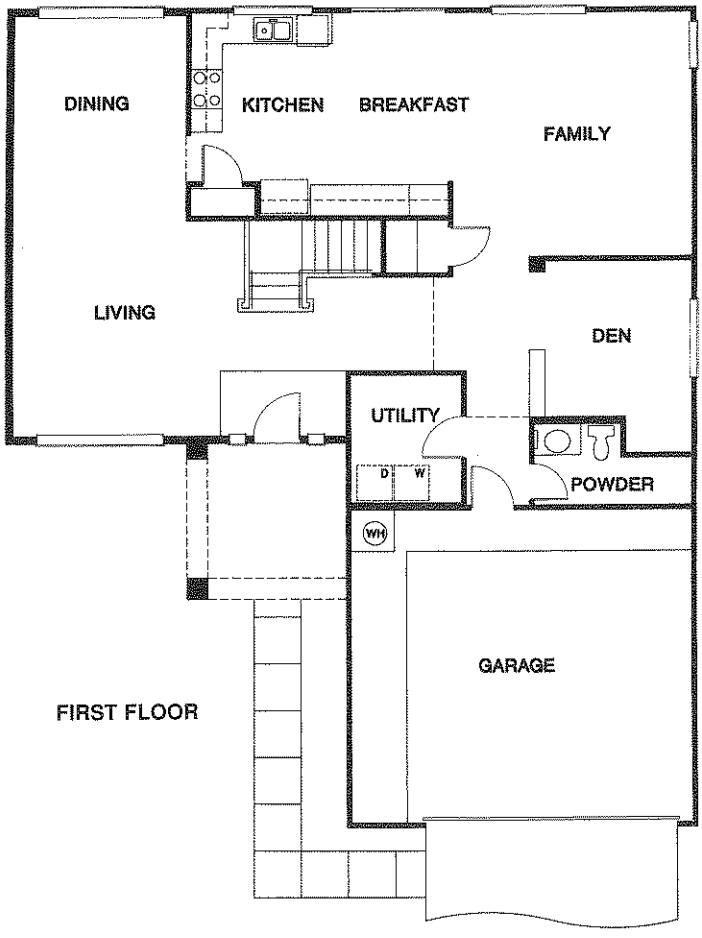


Elevation D

Elevation E

Base Floorplan

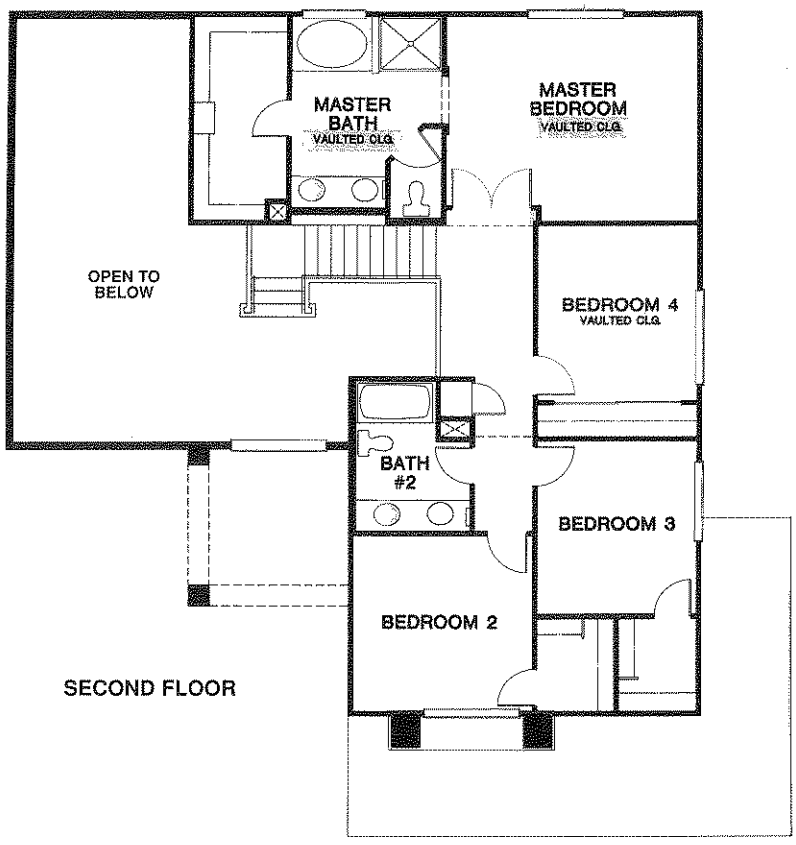


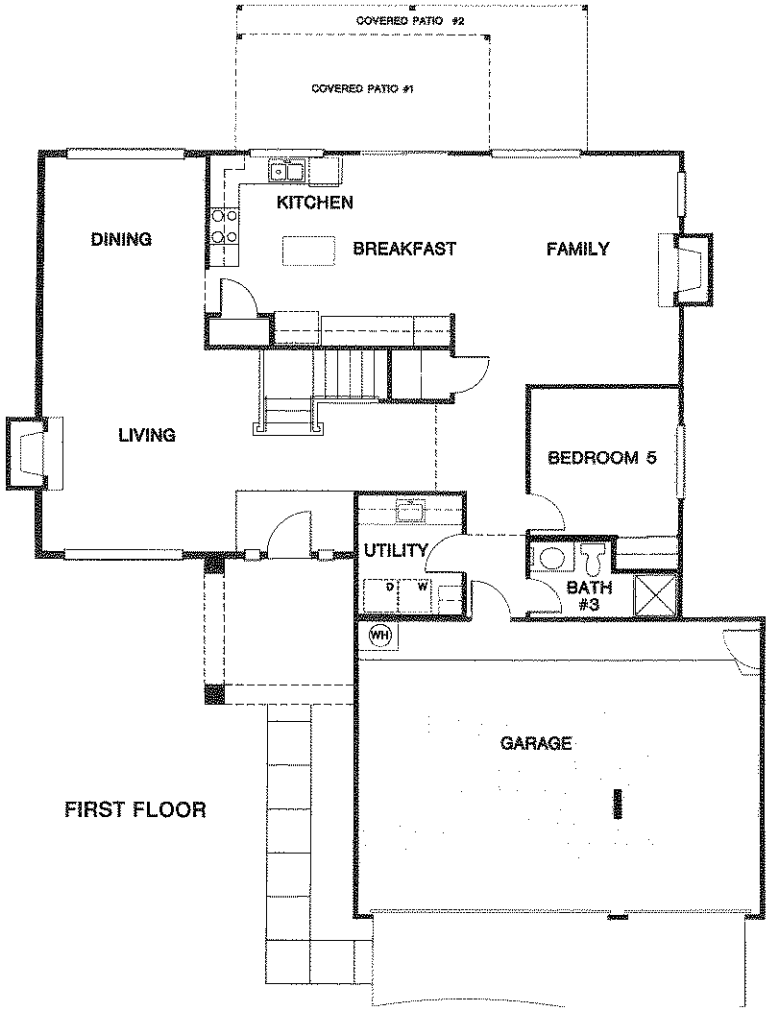


Plan 3552 ◆ 2418 Square Feet

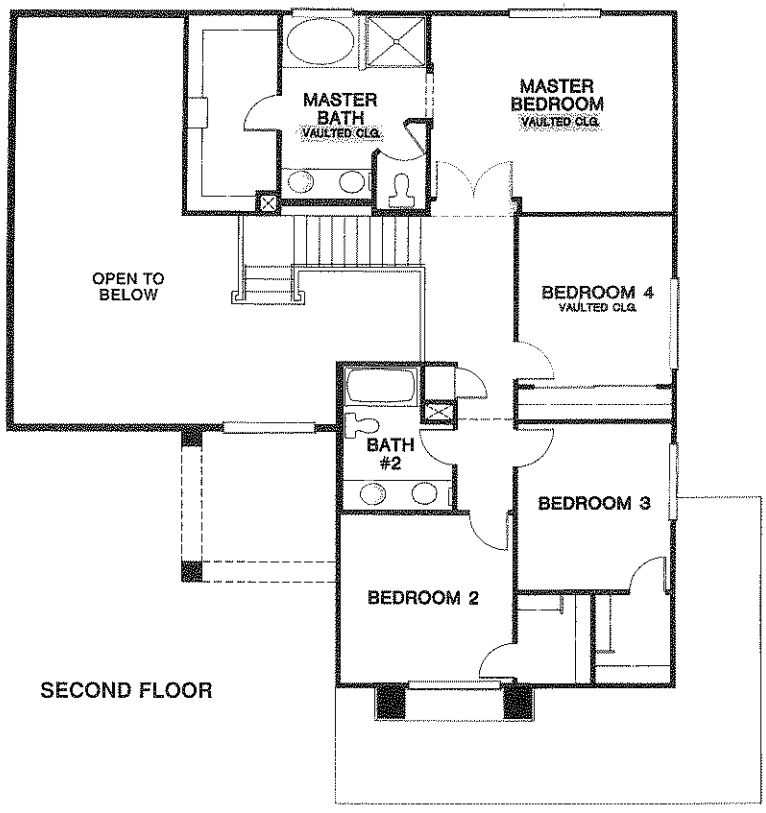
3 Bedrooms/Den & Loft, 2½ Baths, Optional 4th & 5th Bedroom, 2 Car Garage/Optional 3 Car Garage

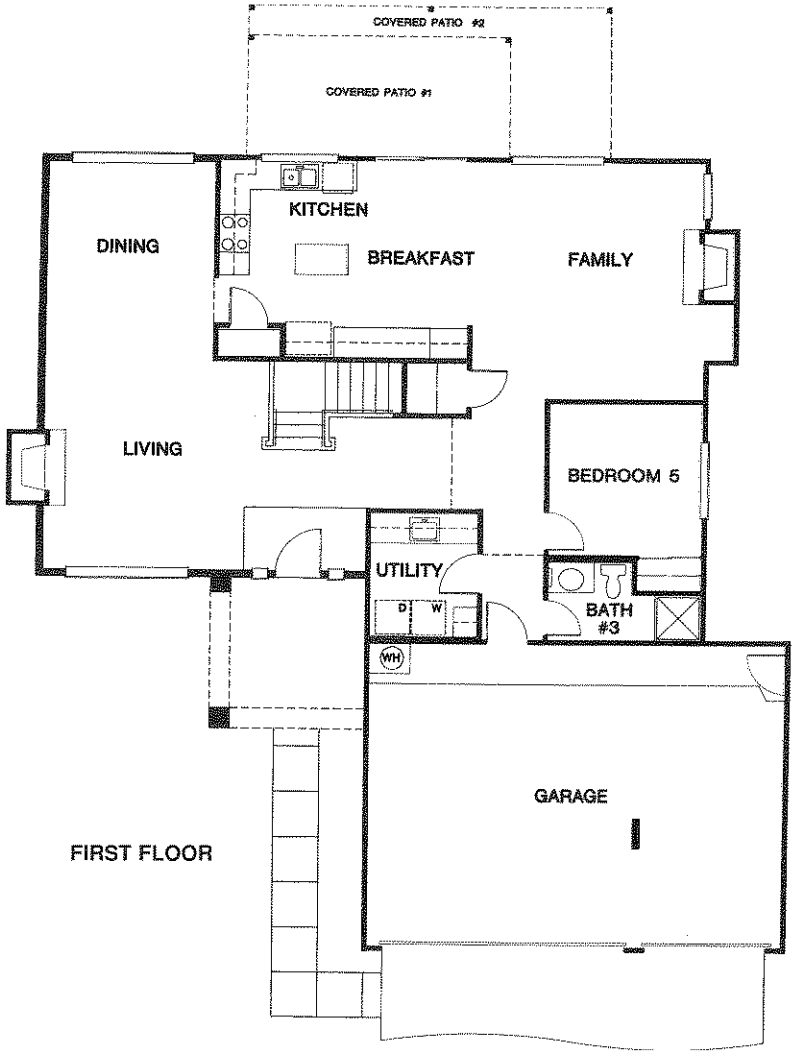
ALTERNATE OPTION PLAN

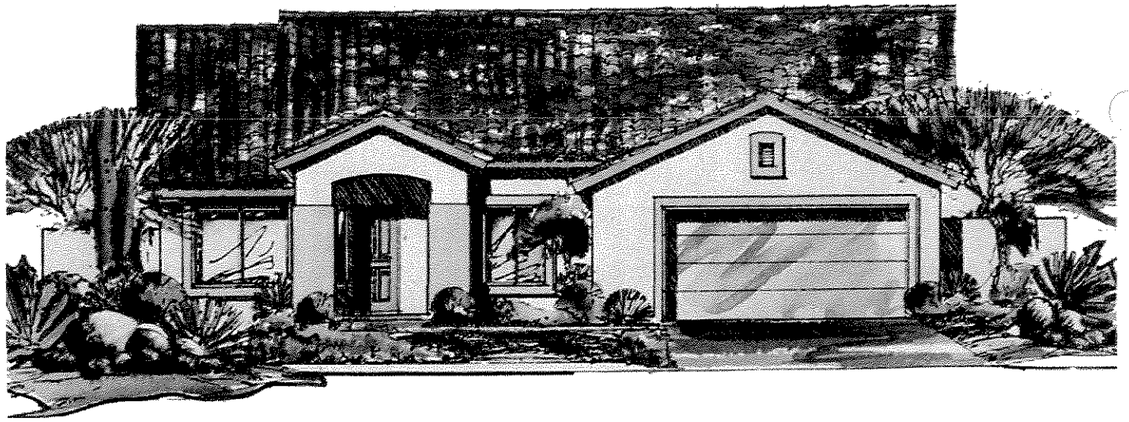




FLOORPLAN WITH OPTIONS

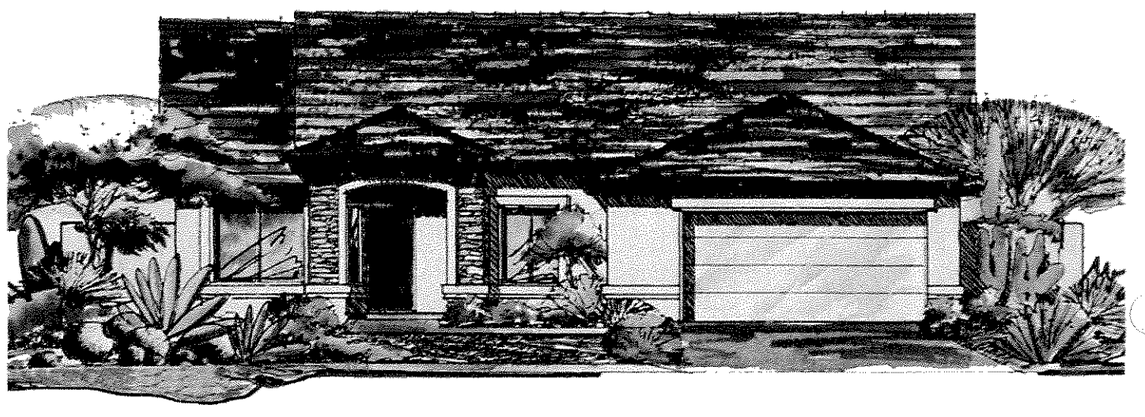






Elevation B

Elevation D

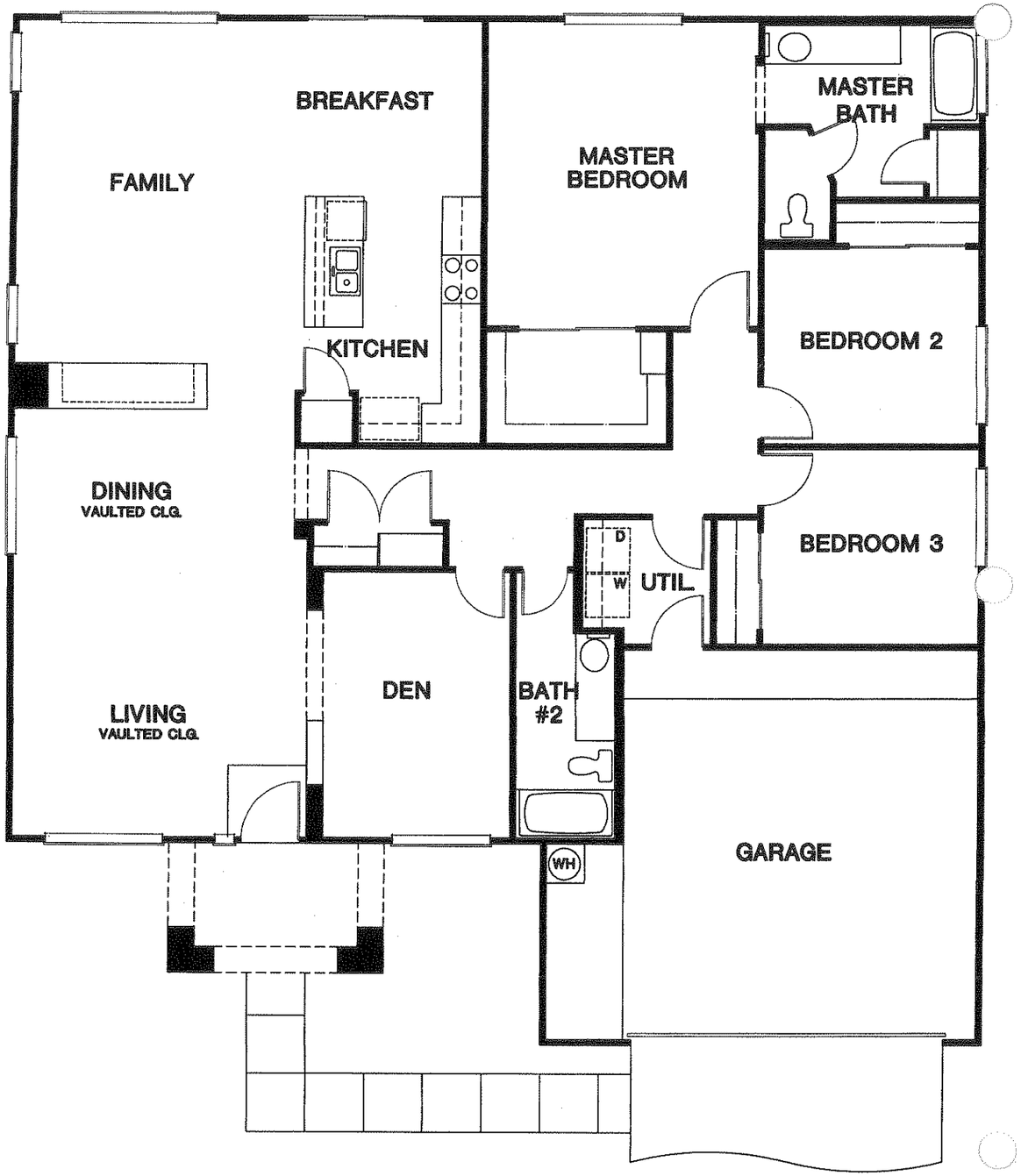


Elevation E

HOMES BEAZER

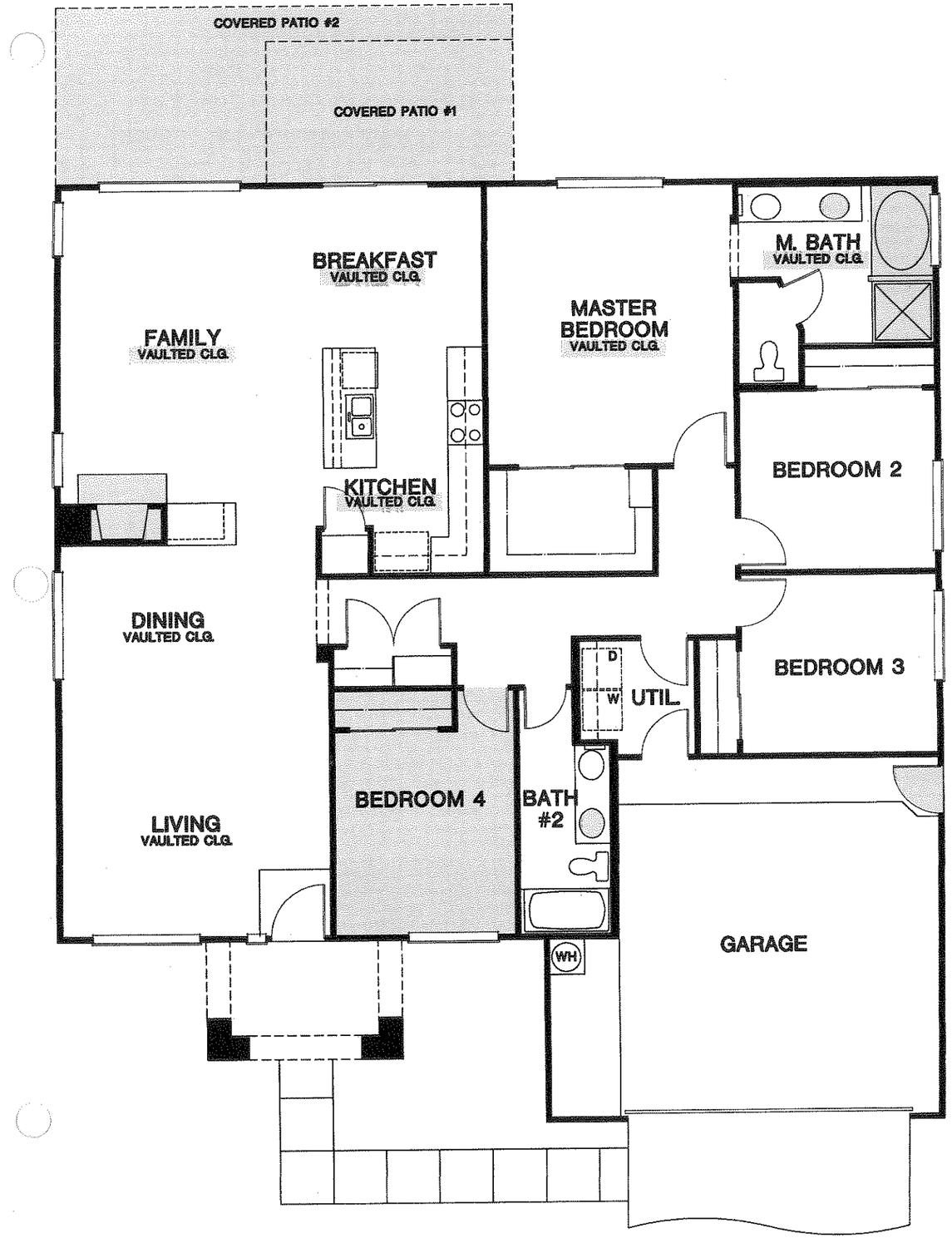
FLOORPLAN 3571

Base Floorplan

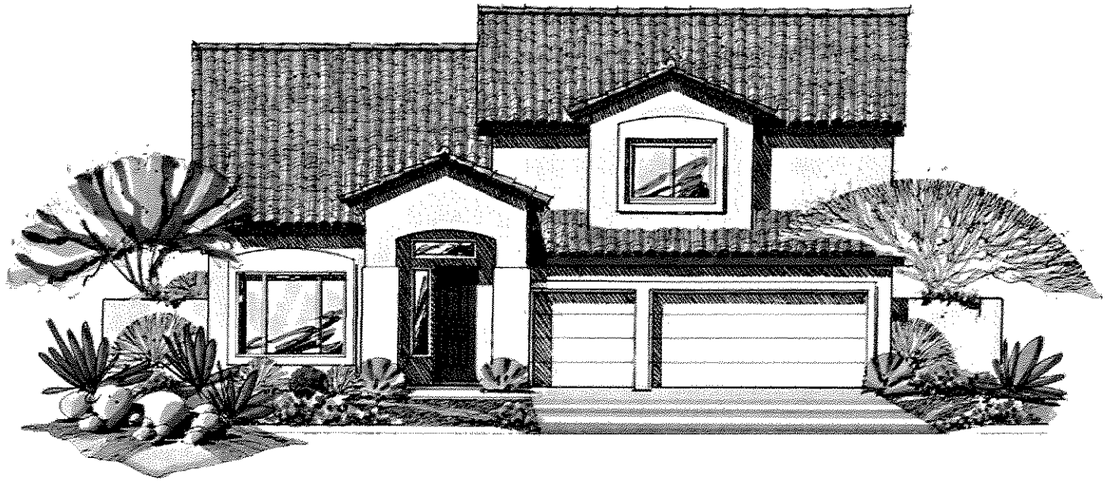


Plan 3571 ◈ 1949 Square Feet
3 Bedrooms/Den, 2 Baths, 2 Car Garage

Floorplan With Options

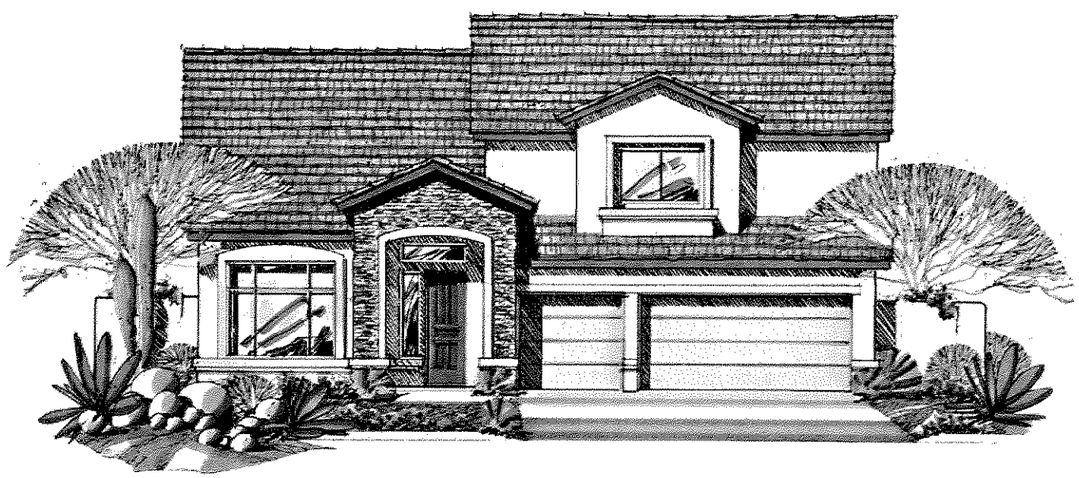


HOMES BEAZER

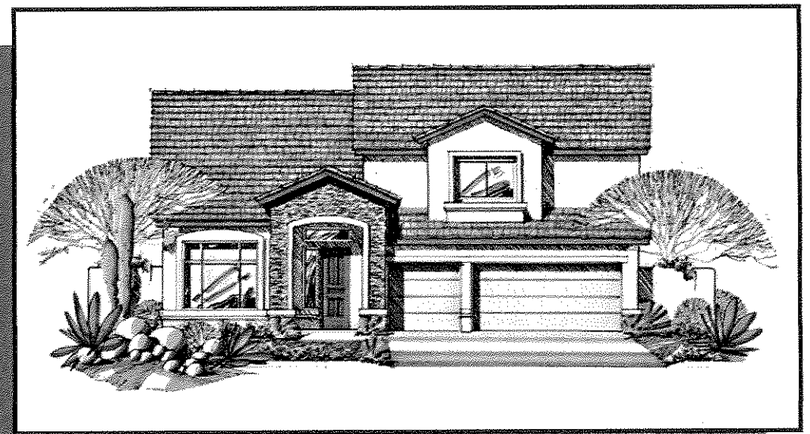


Elevation B

Elevation D

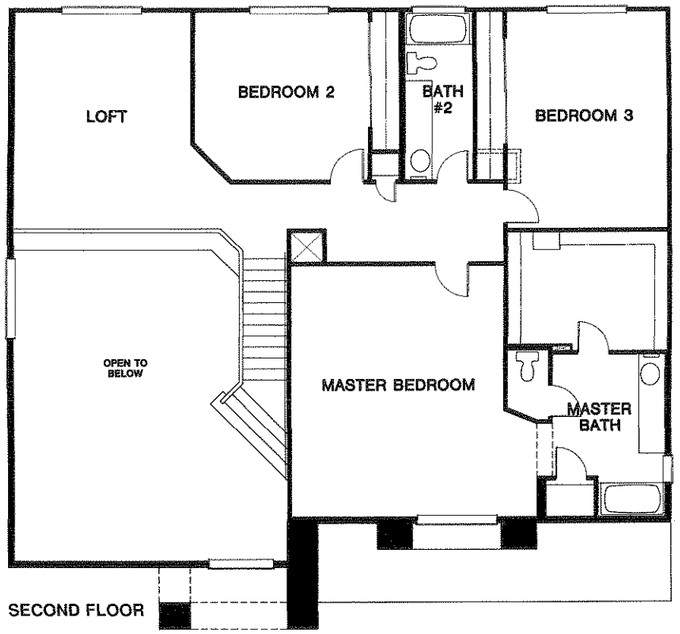


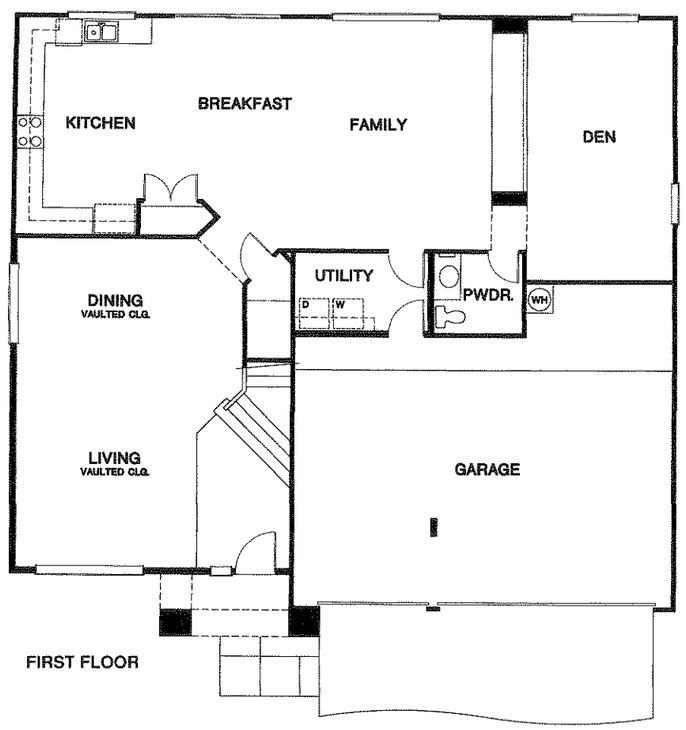
Elevation E



FLOORPLAN 3582

Base Floorplan

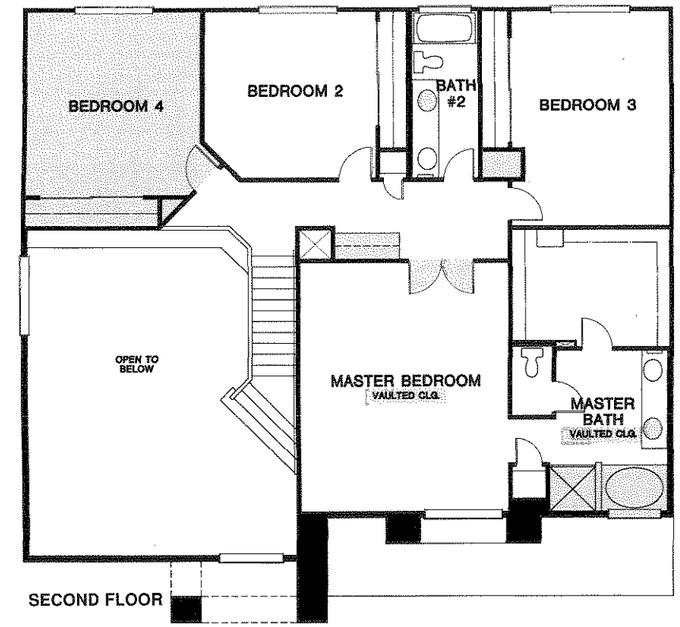


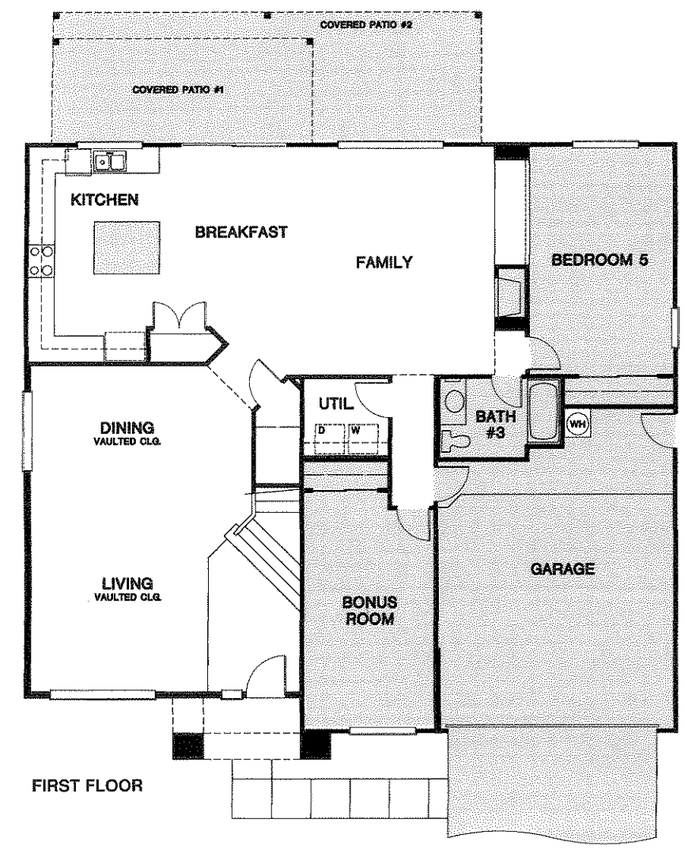


Plan 3582 ◆ 3050 Square Feet

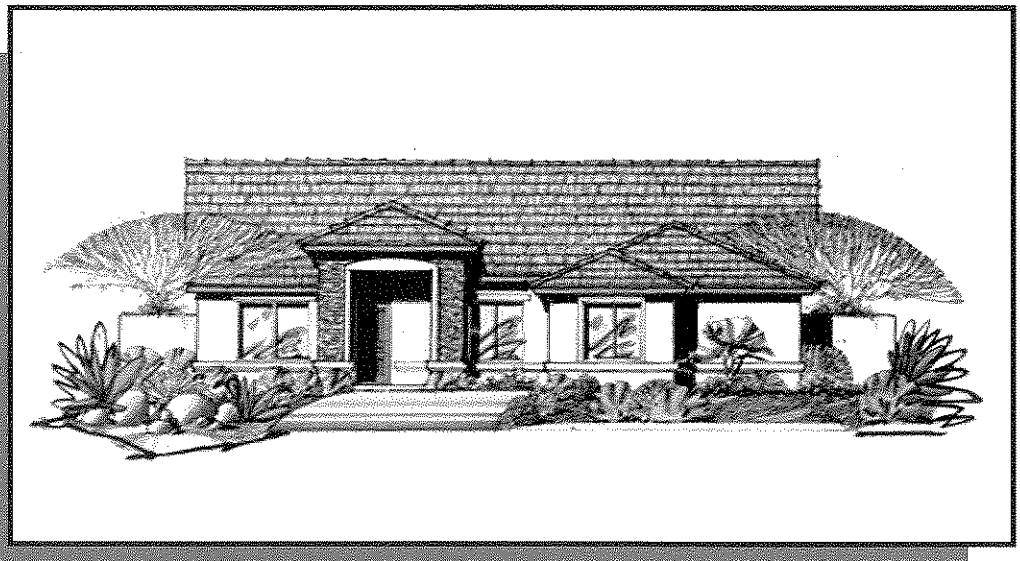
3 Bedrooms/Den & Loft, 2½ Baths, Optional 4th & 5th Bedroom/Bonus Room, 3 Car Garage

Floorplan With Options



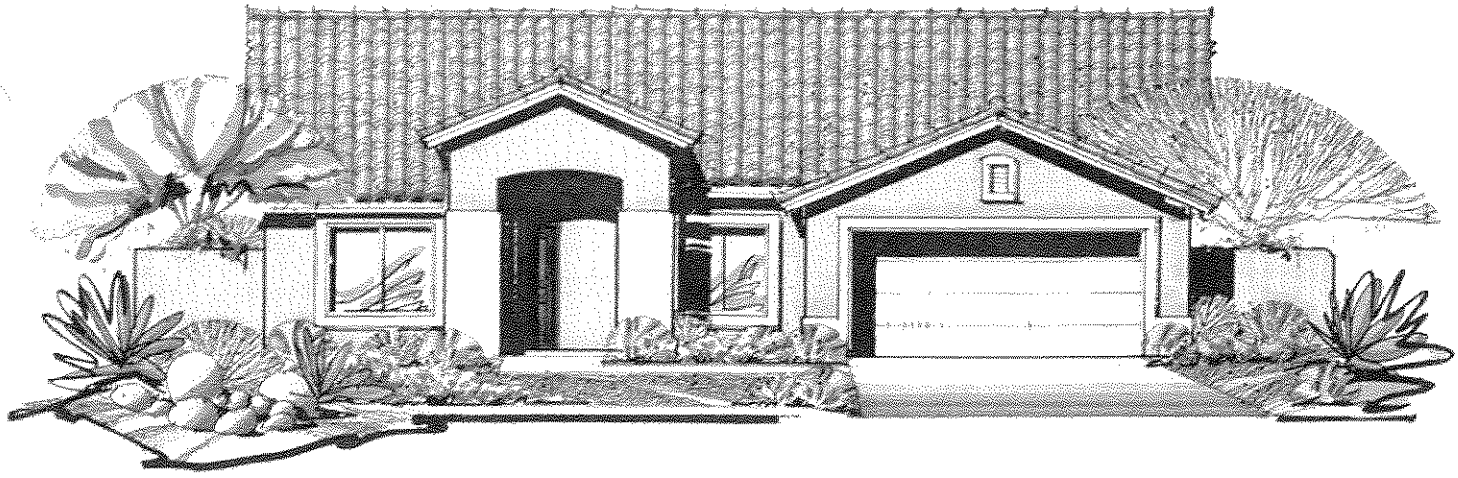


BEAZER HOMES

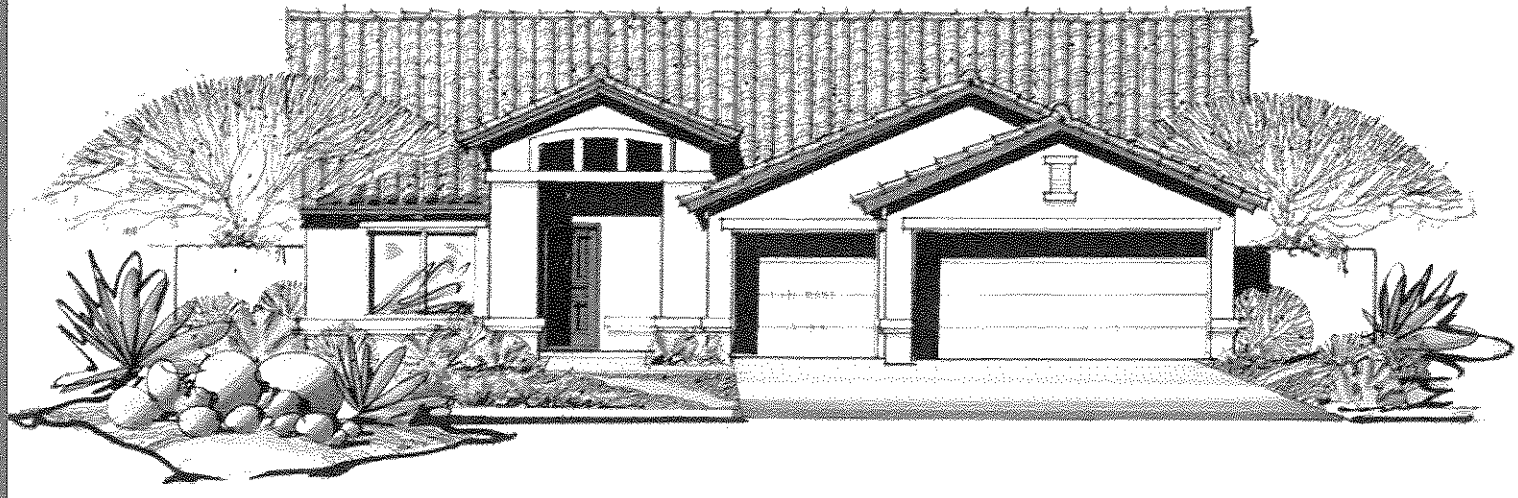


FLOORPLAN

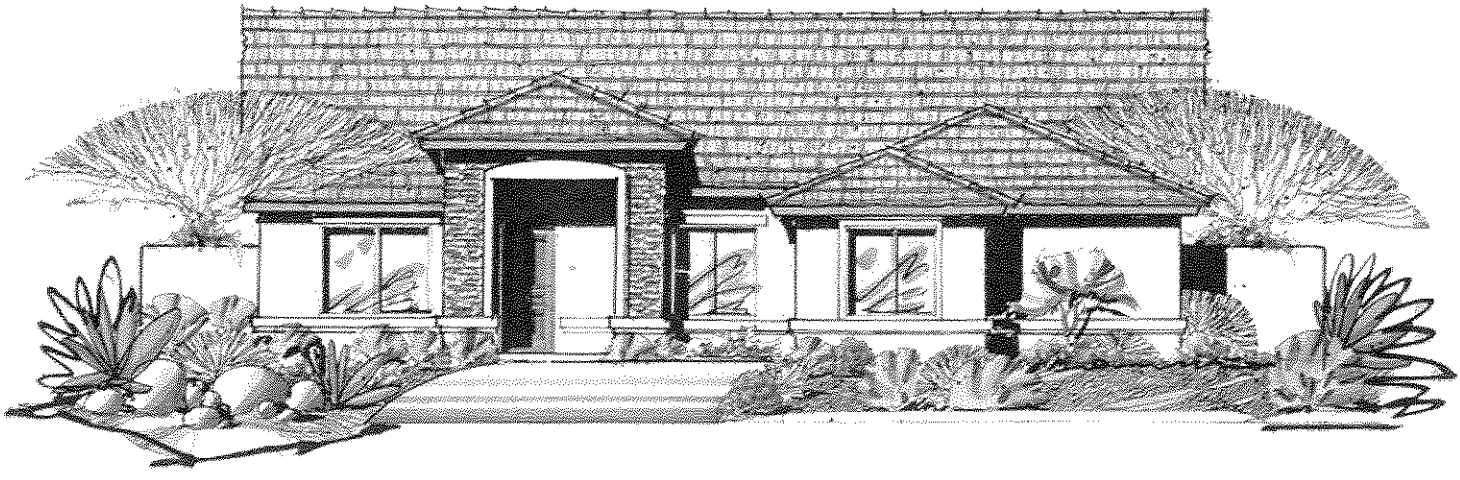
3591



Elevation B

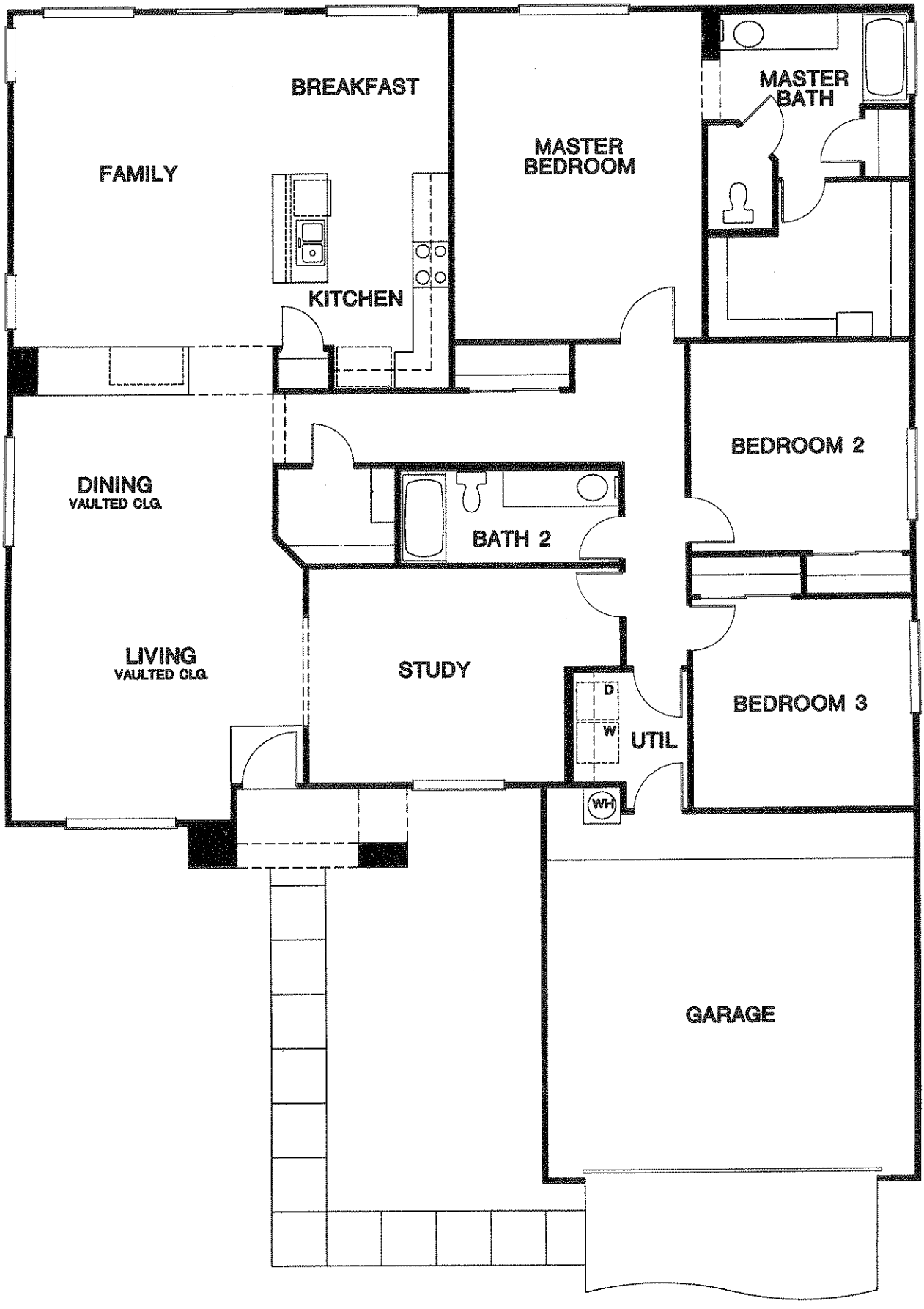


Elevation D



Elevation E

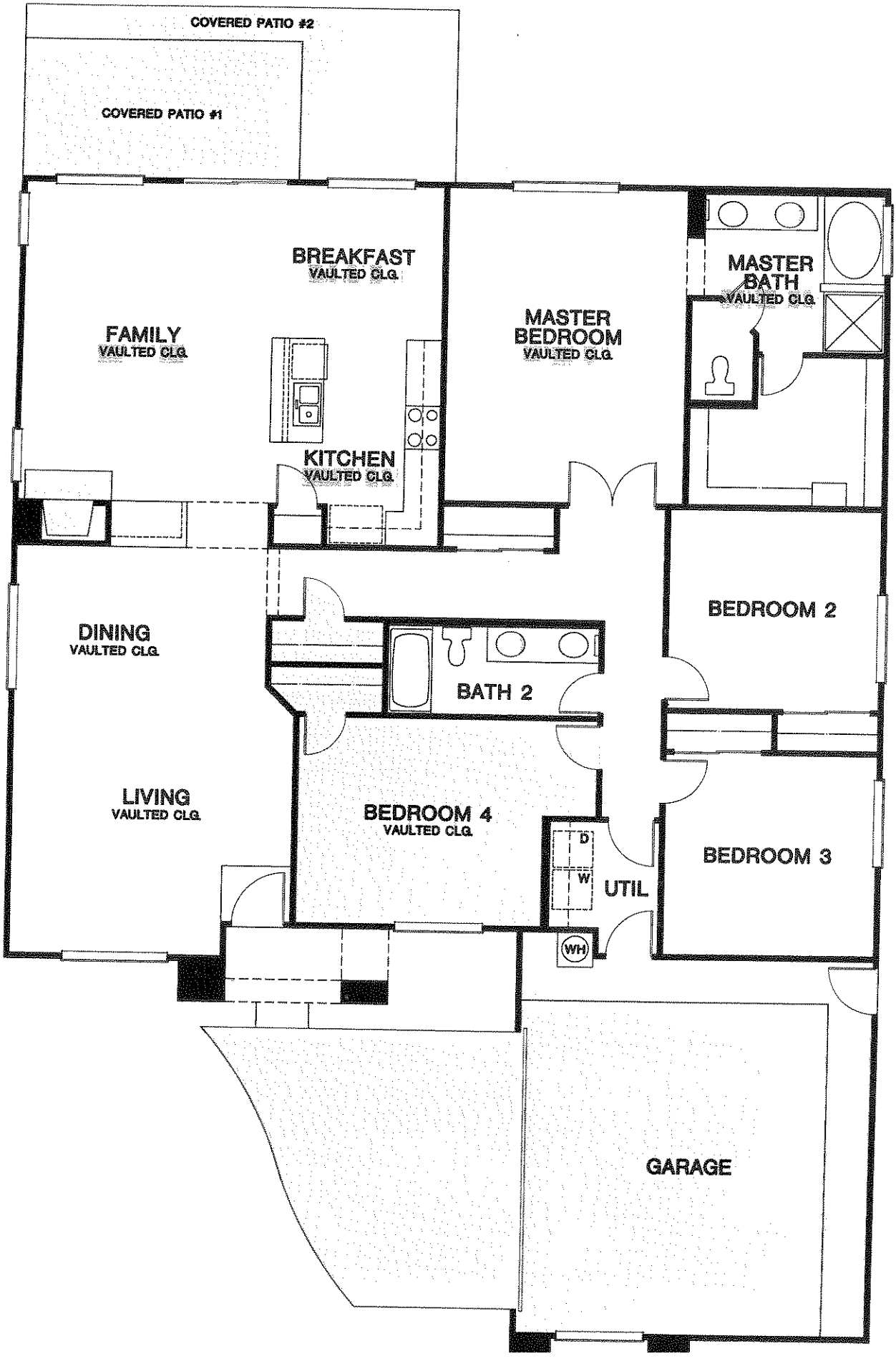
Base Floorplan



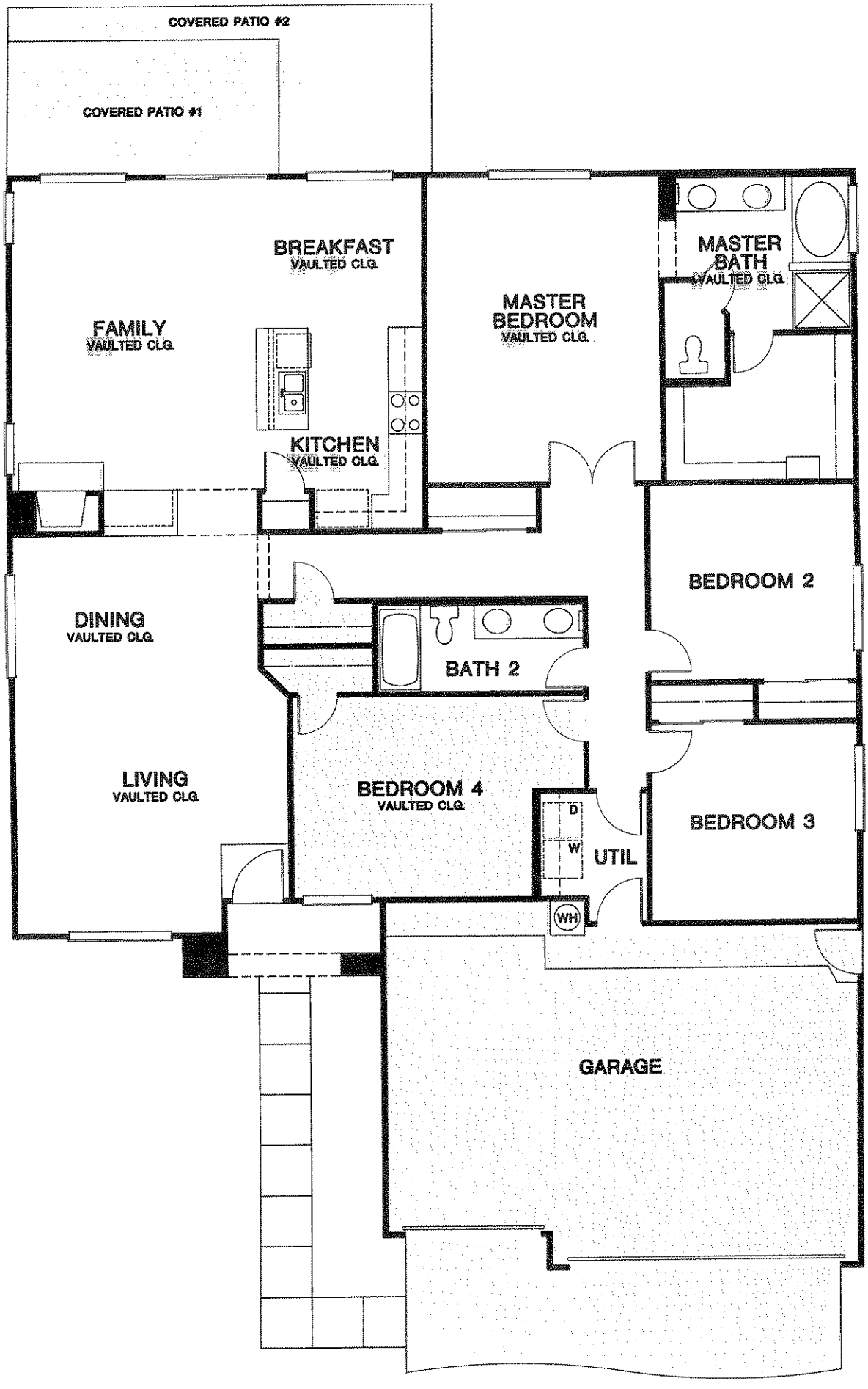
Plan 3591 ◆ 2208 Square Feet

3 Bedrooms & Den or 4 Bedrooms, 2 Baths, 2 Car Garage/Optional 3 Car Garage

ALTERNATE OPTION PLAN



FLOORPLAN WITH OPTIONS



Architectural Design Guidelines

Housing Product

- Three product series shall be offered.
- Five (5) different floor plans shall be offered with each product series.
- Three (3) elevations shall be offered with each floor plan.

Exterior Colors

- Four (4) exterior colors shall be offered with each floor plan.
- Colors shall be used to create visual harmony within Ashton Ranch. Beazer Homes shall submit a color palette to the City of Surprise for review and approval.

Exterior Materials

- Masonry and stucco exterior finishes shall be provided.
- Stone and brick may be used as accent materials.
- Wood and exterior architectural plywood shall not be allowed, unless approved by the City of Surprise and the Residential Design Review Committee ("RDRC").

Architectural Design Features

- Architectural design features, such as pop-outs, shutters, and wrought iron detail, shall be incorporated into each elevation.

Roof Materials

- Sloped roofs shall be constructed of concrete tile.
- The same type and style of tile shall be used throughout each individual neighborhood.
- A minimum of three (3) complementary roof tile colors shall be offered with each series.

Ground Mounted Mechanical Equipment

- All mechanical equipment shall be ground mounted.
- Solar panels shall not be permitted unless approved by the RDRC. Any approved solar panel shall blend with the existing roof.

Roof Vent Pipes

- All vent pipes extending through a roof shall be painted to match the roof tile.
- All flashing shall also be painted to match the roof tile.

Housing Landscaping Guidelines

- Each resident shall be required to landscape his or her yard no later than ninety (90) days after issuance of a Certificate of Occupancy.
- Each resident shall be required to plant a minimum of two (2) trees in the front yard--one (1) 24" box tree and one (1) 15 gallon tree.
- The RDRC shall provide an approved plant material list using the plant species listed on the Conceptual Plan Palette (*Exhibit L-"Conceptual Plant Palette"*).
- Five (5) decomposed granite colors and sizes shall also be specified.

Engineering Documents and Exhibits

The following exhibits contain the technical engineering information for Ashton Ranch. The information is presented in accordance with the following stated Surprise Development Guide Policies:

- Policy A-1a, A-1b and A-1c, addressing the extension and installation of public utilities and facilities;

- Policy F-2a, stating that the City shall require the use of public sewer systems in all new development to minimize the potential for groundwater contamination;

- Policy I-1c, stating that the City shall work with private developers to insure that the new street system segments are constructed on an orderly basis in conjunction with new development;

- Policy I-1d, which encourages creative neighborhood street design in every new subdivision that will service localized traffic and foster neighborhood integrity, while discouraging through traffic;

- Policy L-1/2/3a, requiring developers to install all public utilities and facilities to State and municipal standards, as required by their proposed development projects.

MASTER SEWER REPORT

FOR

ASHTON RANCH

March 24, 1997

Registered Professional Engineer (Civil)
CERTIFICATE NO.
26961
BRUCE P.
LARSON
Date Signed 3/25/97
ARIZONA, U.S.A.

CITY OF SURPRISE

Based on the submitted information, these plans are to the best of my knowledge, in accordance with the City of Surprise Codes. This authorization is not to be construed as an approval of any violation of any City Codes and/or M.A.G. specifications.

By EMD Date 9-15-97

Final approval contingent on favorable field inspection.

Prepared by
Ji-Hyoung Kim, E.I.T. & Bruce P. Larson, P.E.

American Engineering Company
21442 North 20th Avenue
Phoenix, Arizona 85027
(602) 582-0260

AEC Job No. 96296

TABLE OF CONTENTS

Introduction 1

Site Description 1

Sewer Line Design 1

Appendix 3

Conceptual Sewer Line Design
Exhibit 1: Sewer System on Bullard Avenue
Exhibit 2: Onsite Sewer Line Sizes
Master Sewer Map

INTRODUCTION

This report studies the master sewer design of Ashton Ranch development. It is located west of Bullard Avenue and between Greenway Road and Waddell Road in the City of Surprise. The master sewer system will be located on Bullard Avenue and will handle the sewer flow from Bell Road to Cactus Road and then tap into the existing 30-inch sewer line on Cactus Road.

SITE DESCRIPTION

Ashton Ranch is a 320-acre single family residential development located in the east half of Section 8, Township 3 North, Range 1 West, Gila and Salt River Base and Meridian, Maricopa County, Arizona. Exhibit 1 in the Appendix illustrates the project area. It is currently undeveloped farm land, and the natural ground slopes to southeast at approximately 0.55 percent.

SEWER LINE DESIGN

Ashton Ranch is expected to have a maximum of 1600 dwelling units, a school site, and some open spaces. The sewer design rate was obtained from "Engineering Bulletin No. 11" by the Arizona Department of Health Services, July, 1978. The design assumptions are as follows:

Site Density:	3200 dwelling units/sq mile onsite
	2400 dwelling units/sq mile offsite
Population Density:	3.2 persons/dwelling unit
Average Daily Flow:	100 gallons per capita per day
Peak Factor:	2.7
Pipe Flow:	80% Full

Conceptual Sewer Line Design is tabulated in the Appendix. Natural ground slopes are used for the pipe sizing. Between Greenway Road and Waddell Road, Bullard Avenue will require 15-inch sewer pipes to handle the flow from Section 5 and the project site (See Exhibit 1 in

Appendix). For a quarter mile on Waddell Road west of Bullard Avenue 15-inch pipes will be placed to handle the wastewater flow from the west half of Section 8 and some from the project site. Twenty-four inch pipes will be needed on Bullard Road from Waddell Road to Cactus Road to tap into the existing 30-inch sewer on Cactus Road which will lead to the sewer plant located half mile north of Peoria Avenue and half way between Litchfield Road and Dysart Road.

The Master Sewer Map in the Appendix illustrates the sewer layout in onsite collector roads.

APPENDIX

Conceptual Sewer Line Design

Exhibit 1: Sewer System on Bullard Avenue

Exhibit 2: Onsite Sewer Line Sizes

Master Sewer Map

Conceptual Sewer Line Design -- Ashton Ranch

Sewer Pipe No.	From MH #	To MH #	From Elevation	To Elevation	Length (ft)	Lots Served	Cumm. Lots	Cumm. Population	Avg. Flow (GPD)	Peak Factor	Peak Flow (GPD)	Peak Flow (cfs)	Peak Flow (gpm)	Invert Elev From	Invert Elev To	Slope (ft/ft)	Pipe Dia (in)	Area (ft^2)	Capacity (cfs)	Velocity (fps)
1	2	3	1203.1	1202.5	250	161	161	515.2	51520	2.7	139104	0.216	96.8	1196.1	1195.3	0.00336	8	0.279	0.634	2.27
2	3	4	1202.5	1201.9	230	105	266	851.2	85120	2.7	229824	0.356	159.9	1195.3	1194.5	0.00330	8	0.279	0.629	2.25
3	4	5	1201.9	1201.3	190	0	266	851.2	85120	2.7	229824	0.356	159.9	1194.5	1193.9	0.00332	8	0.279	0.630	2.26
4	5	6	1201.3	1199.5	350	0	266	851.2	85120	2.7	229824	0.356	159.9	1193.9	1192.5	0.00391	8	0.279	0.685	2.45
5	6	7	1199.5	1197.7	380	66	332	1062.4	106240	2.7	286848	0.445	199.5	1192.5	1190.7	0.00474	8	0.279	0.753	2.70
6	7	8	1197.7	1197.0	400	19	351	1123.2	112320	2.7	303264	0.470	211.0	1190.7	1188.3	0.00608	8	0.279	0.853	3.05
7	9	10	1201.8	1202.0	270	81	81	259.2	25920	2.7	69984	0.108	48.7	1194.8	1193.9	0.00333	8	0.279	0.632	2.26
8	10	11	1202.0	1201.0	270	50	131	419.2	41920	2.7	113184	0.175	78.7	1193.9	1193.0	0.00333	8	0.279	0.632	2.26
9	11	12	1201.0	1200.2	180	25	156	499.2	49920	2.7	134784	0.209	93.8	1193.0	1192.4	0.00333	8	0.279	0.632	2.26
10	12	13	1200.2	1198.7	270	0	156	499.2	49920	2.7	134784	0.209	93.8	1192.4	1191.5	0.00330	8	0.279	0.628	2.25
11	13	14	1198.7	1197.6	300	0	156	499.2	49920	2.7	134784	0.209	93.8	1191.5	1190.5	0.00330	8	0.279	0.629	2.25
12	14	15	1197.6	1196.4	350	0	156	499.2	49920	2.7	134784	0.209	93.8	1190.5	1189.4	0.00323	8	0.279	0.622	2.23
13	15	8	1196.4	1197.0	340	19	175	560	56000	2.7	151200	0.234	105.2	1189.4	1188.3	0.00332	8	0.279	0.631	2.26
14	8	16	1197.0	1195.5	230	0	526	1683.2	168320	2.7	454464	0.704	316.1	1188.3	1187.7	0.00248	10	0.436	0.988	2.26
15	16	17	1195.5	1194.8	150	0	526	1683.2	168320	2.7	454464	0.704	316.1	1187.7	1187.3	0.00240	10	0.436	0.972	2.23
16	17	19	1194.8	1194.0	350	0	526	1683.2	168320	2.7	454464	0.704	316.1	1187.3	1186.5	0.00240	10	0.436	0.972	2.23
17	1	18	1205.0	1196.0	1070	2400	2400	7680	768000	2.7	2073600	3.214	1442.5	1198.0	1189.0	0.00841	15	0.982	5.365	5.46
18	18	19	1196.0	1194.0	530	229	2629	8412.8	841280	2.7	2271456	3.521	1580.1	1189.0	1187.0	0.00377	15	0.982	3.593	3.66
19	19	20	1194.0	1192.0	1670	83	3238	10361.6	1036160	2.7	2797632	4.336	1946.1	1187.0	1177.8	0.00551	15	0.982	4.342	4.42
20	20	21	1192.0	1183.9	450	57	3295	10544	1054400	2.7	2846880	4.413	1980.4	1177.8	1175.2	0.00578	15	0.982	4.446	4.53
21	21	22	1183.9	1182.5	200	339	3634	11628.8	1162880	2.7	3139776	4.867	2184.2	1175.2	1173.8	0.00700	15	0.982	4.894	4.98
22	23	24	1198.3	1198.2	250	58	58	185.6	18560	2.7	50112	0.078	34.9	1191.3	1190.5	0.00340	8	0.279	0.638	2.28
23	24	25	1198.2	1197.2	260	36	94	300.8	30080	2.7	81216	0.126	56.5	1190.5	1189.6	0.00331	8	0.279	0.629	2.25
24	25	26	1197.2	1194.5	190	67	161	515.2	51520	2.7	139104	0.216	96.8	1189.6	1187.5	0.01100	8	0.279	1.148	4.11
25	26	27	1194.5	1193.2	300	40	201	643.2	64320	2.7	173664	0.269	120.8	1187.5	1186.2	0.00433	8	0.279	0.720	2.58
26	27	28	1193.2	1191.3	380	31	232	742.4	74240	2.7	200448	0.311	139.4	1186.2	1184.3	0.00500	8	0.279	0.774	2.77
27	28	29	1191.3	1189.7	160	0	232	742.4	74240	2.7	200448	0.311	139.4	1184.3	1182.7	0.01000	8	0.279	1.094	3.92
28	29	30	1189.7	1189.1	250	134	366	1171.2	117120	2.7	316224	0.490	220.0	1182.7	1180.6	0.00840	8	0.279	1.003	3.59
29	30	31	1189.1	1188.4	1310	0	366	1171.2	117120	2.7	316224	0.490	220.0	1180.6	1177.4	0.00244	8	0.279	0.541	1.94
30	31	22	1188.4	1182.5	1319	0	1566	5011.2	501120	2.7	1353024	2.097	941.2	1177.4	1173.8	0.00273	15	0.982	3.056	3.11
31	22	32	1182.5	1182.5	2640	0	5200	16640	1664000	2.7	4492800	6.964	3125.4	1173.8	1170.5	0.00125	24	2.513	7.242	2.88
32	32	33	1182.5	1171.0	2640	1200	6400	20480	2048000	2.7	5529600	8.571	3846.6	1170.5	1164.0	0.00246	24	2.513	10.164	4.04

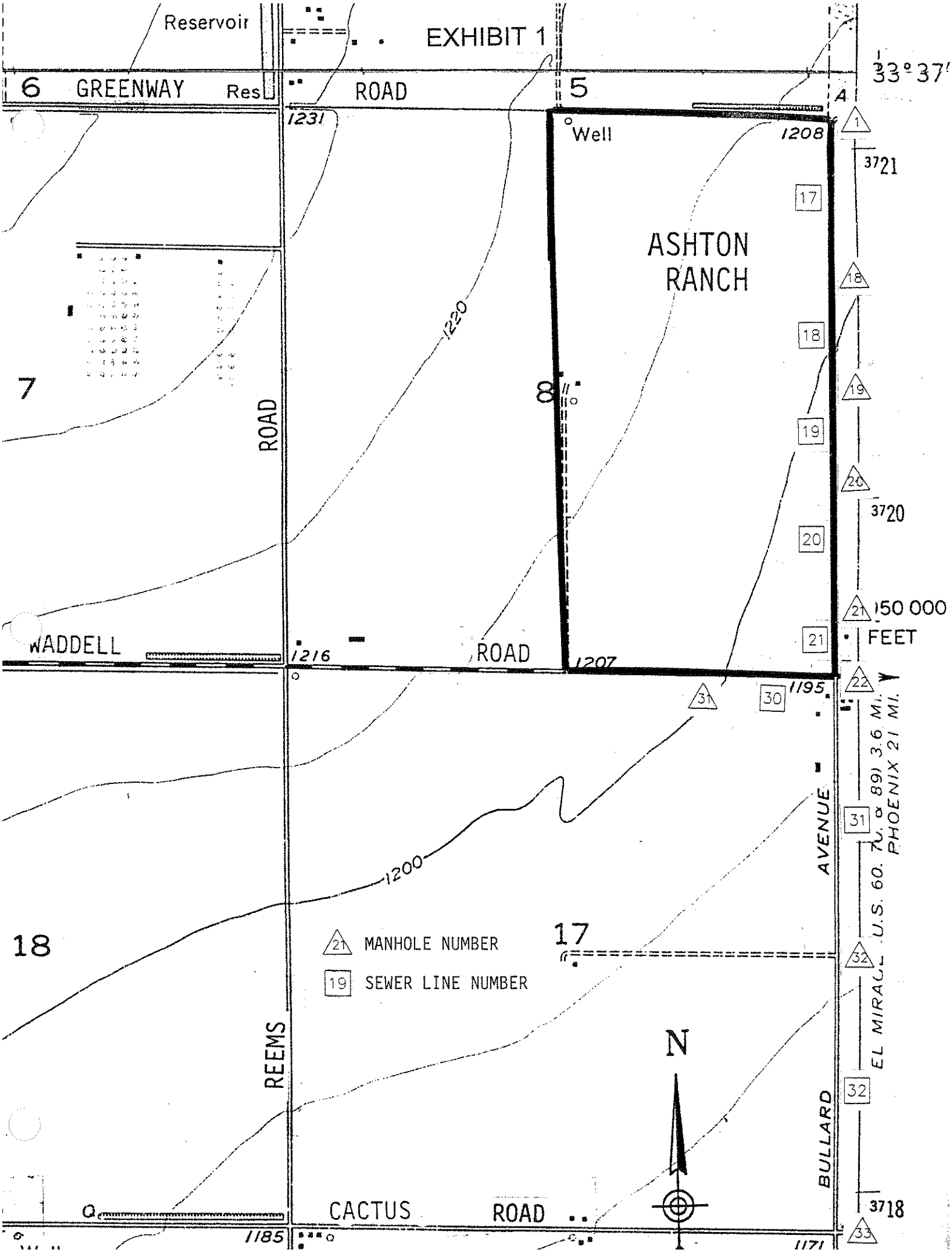
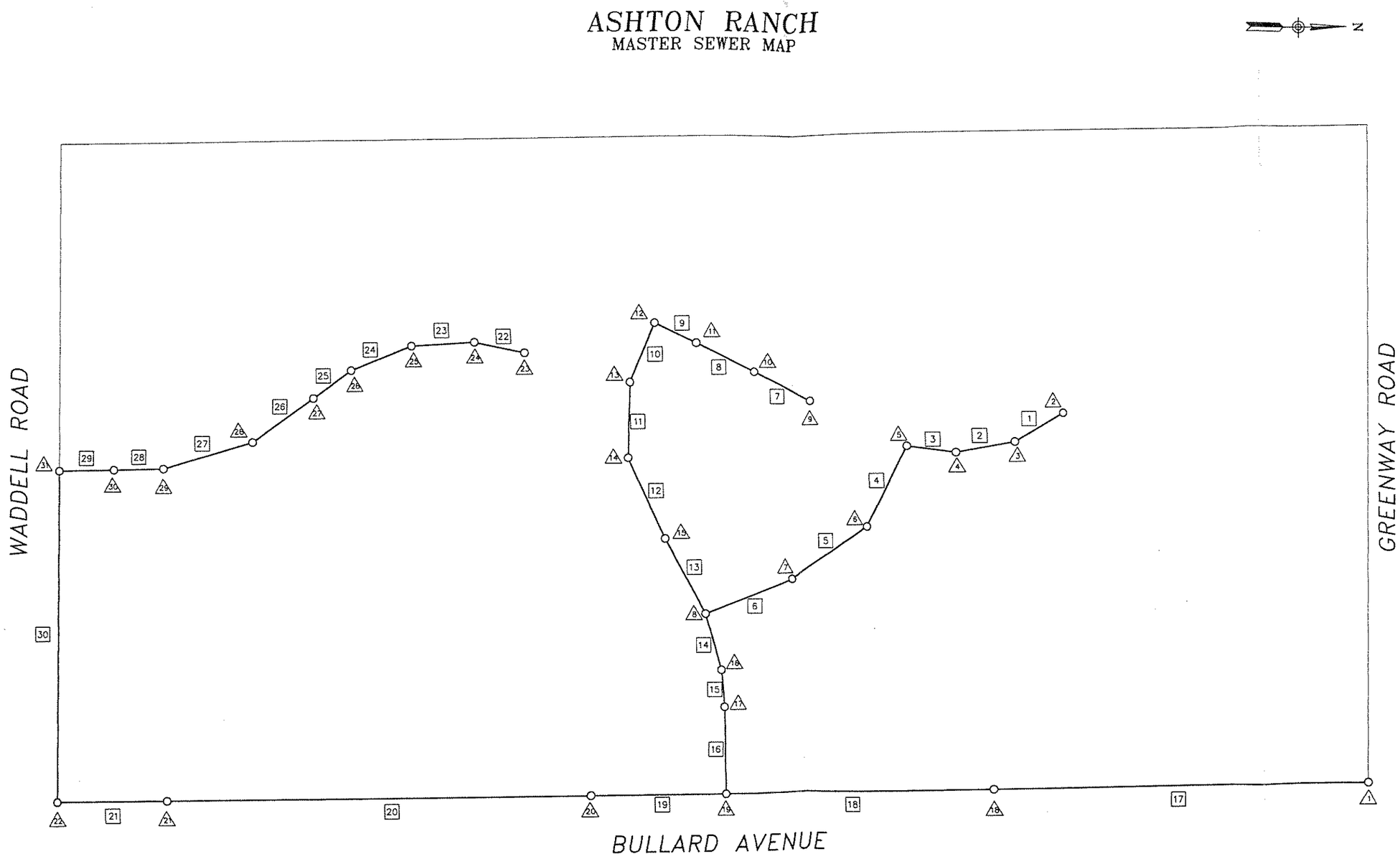


EXHIBIT 1
Reservoir
6
GREENWAY
Res
ROAD
5
33° 37'
A
1231
Well
1208
3721
17
ASHTON
RANCH
18
1220
7
8
ROAD
19
20
3720
150 000
FEET
WADDELL
1216
ROAD
1207
21
1195
22
30
31
AVENUE
PHOENIX 21 MI.
U.S. 60, 70, & 89 3.6 MI.
EL MIRAGE
1200
18
17
MANHOLE NUMBER
SEWER LINE NUMBER
32
REEMS
N
BULLARD
CACTUS
ROAD
3718
1185
1171
33

ASHTON RANCH
MASTER SEWER MAP



LEGEND

△1 MANHOLE NUMBER

[1] SEWER LINE NUMBER

MANAGING ENGINEER/SURVEYOR: BRUCE P. LARSON P.E.
PROJECT COORDINATOR: JOSEPH E. CABLE E.I.T.
FIELD SURVEY: DRAFTED: CHECKED:
DESIGN/LAYOUT: JK DRAFTED: BSS CHECKED: BPL
DRAWING SCALE(S): NOT TO SCALE

AMERICAN ENGINEERING CO.
consulting engineers/surveyors
21442 NORTH 20TH AVENUE PHOENIX, ARIZONA 85027 582-0280

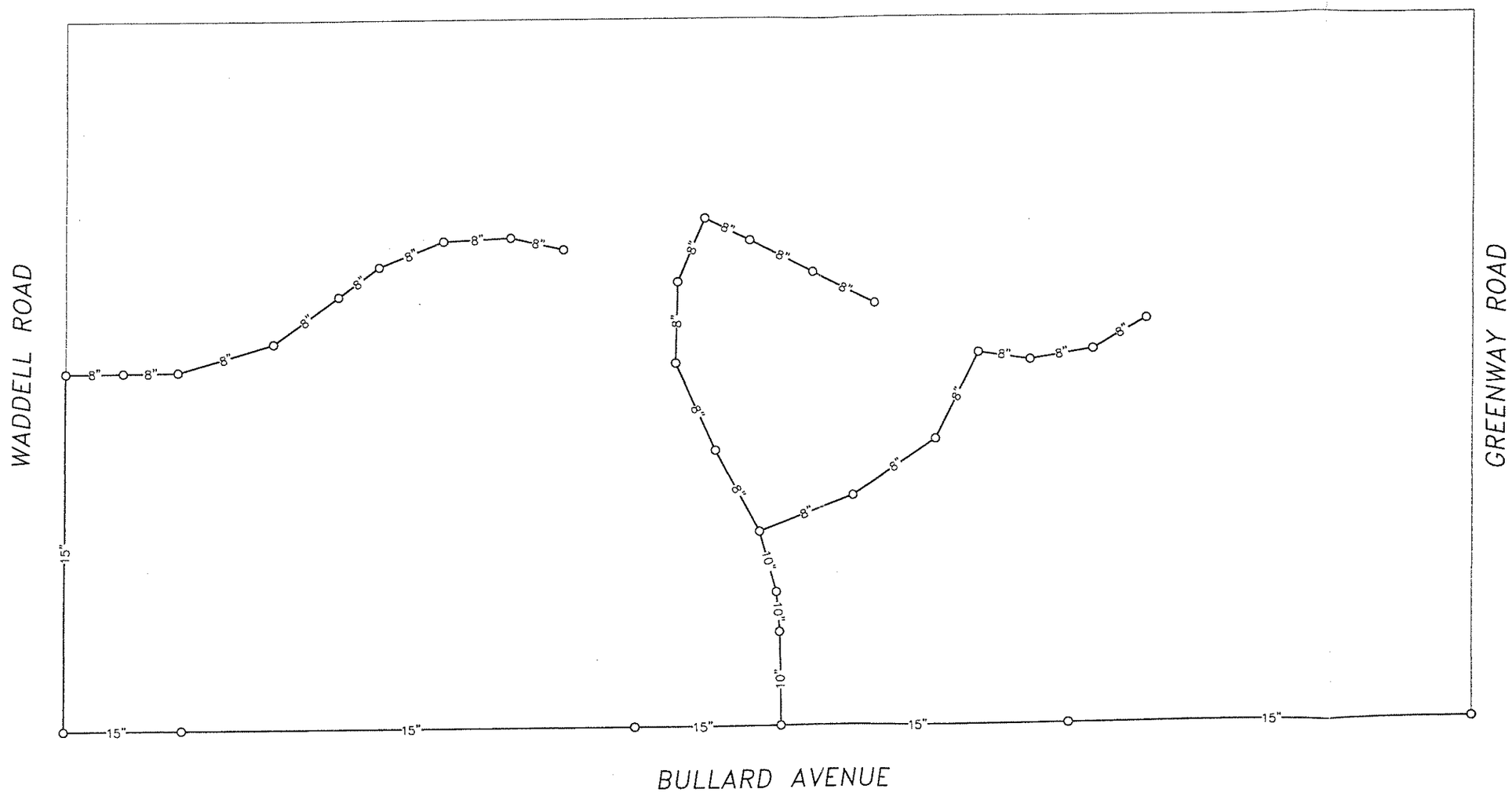
OWNER/DEVELOPER: STARDUST DEVELOPMENT
PROJECT NAME: ASHTON RANCH
PLAN TYPE: MASTER SEWER MAP

SEALED

ORIGINAL PLAN DATE: MAR/1997
LATEST REVISION DATE:

SHEET NUMBER: 1 of 1
PROJECT NUMBER: 96296

EXHIBIT 2
ONSITE SEWER LINE SIZES



AMERICAN ENGINEERING CO.
consulting engineers/surveyors
21442 NORTH 30TH AVENUE PHOENIX, ARIZONA 85027 582-0260

OWNER/DEVELOPER: STARDUST DEVELOPMENT
PROJECT NAME: ASHTON RANCH
PLAN TYPE: ONSITE SEWER LINE SIZES

ORIGINAL PLAN DATE: MAR/1997
LATEST REVISION DATE:
SHEET NUMBER: 1 of 1
PROJECT NUMBER: 96296

ENGINEER: BRUCE P. LARSON P.E.
PROJECT COORDINATOR: JOSEPH E. CABLE E.I.T.
FIELD SURVEY: DRAFTED: JK CHECKED: BPL
DESIGN/LAYOUT: DRAWING SCALE(S): NOT TO SCALE

MASTER WATER REPORT

for

ASHTON RANCH

April 7, 1997

CITY OF SURPRISE
Based on the submitted information, these plans are to the best of my knowledge, in accordance with the City of Surprise Codes. This authorization is not to be construed as an approval of any violation of any City Codes and/or M.A.G. specifications.
By acceptable Date 9-15-97
Final approval contingent on favorable field inspection.

Registered Professional Engineer (Civil)
Certificate No. 26961
BRUCE P. LARSON
Date Signed 4/07/97
ARIZONA, U.S.A.

Prepared by
Ji-Hyoung Kim, E.I.T. and Bruce P. Larson, P.E.

AMERICAN ENGINEERING COMPANY
21442 North 20th Avenue
Phoenix, AZ 85027
(602) 582-0260

AEC Job No. 96296

TABLE OF CONTENTS

INTRODUCTION 1

SITE DESCRIPTION 1

METHODOLOGY 2

OFF-SITE WATER SYSTEM 2

WATER CONSUMPTION RATE 2

RESULTS AND DISCUSSION 3

Average Daily Demand 3

APPENDIX 4

Exhibit 1: Vicinity Map
Exhibit 2: Water Lines and Nodes
Exhibit 3: Elevations at Nodes
Exhibit 4: System Peak Demand (GPM)
Exhibit 5: Pipe Diameter (Inches)
Exhibit 6: System Pressure (PSI) Peak Flow Demand
Table 1: Tabulated Maximum Instantaneous Flows
Table 2: Total Domestic Peak Flow
Table 3: EPANET Calculation

INTRODUCTION

This report presents the master water design of Ashton Ranch development located west of Bullard Avenue and between Greenway Road and Waddell Road in the City of Surprise. It encompasses the on site water consumption and the water distribution system for the project. A conceptual design for the location and size of the main water lines is also provided.

The City of Surprise is in the process of determining the master water plan for the city and has not yet determined if the Ashton Ranch water system will be regional or local. There are two existing wells on this site which may or may not be included in the city's master water plan. For purposes of the on-site water system portion of this study, the well located near the center of the section was assumed to be the water source. Once the city defines its master water plan, the complete master water system for this development will be redesigned accordingly.

SITE DESCRIPTION

Ashton Ranch is a single family residential development located in the east half of Section 8, Township 3 North, Range 1 West, of the Gila and Salt River Base and Meridian, Maricopa County, Arizona. It is currently undeveloped farm land with the natural ground sloping to southeast at approximately 0.55 percent. The gross area is approximately 320 acres. The project will contain a maximum of 1600 single family residential lots which will be developed in four phases. Exhibit 1 in the Appendix shows the project area. A 10-acre school site is located in the center of the project. An equivalent number of residential lots was determined for the school and was used to calculate the water consumption rate.

METHODOLOGY

A computer program called EPANET, which was designed by United States Environmental Protection Agency, was used to calculate the distribution system requirements for this project. The water source for the on-site water system is assumed to be the well located at the west end of the site for the EPANET calculation as shown in Exhibits 2 to 6. The guidelines from Bulletin No. 10 by Arizona Department of Health Services were used to calculate the instantaneous peak flows for the distribution system. The main water line is illustrated in Exhibit 2. The numbers shown represent nodes which are created to run the EPANET program. The four phases of the project will each have water lines loop to the main trunks. The flow rate at each node is calculated based on the total number of lots served at the node.

OFF-SITE WATER SYSTEM

The water design presented in this report excludes all offsite water systems. The onsite water will eventually be connected to the City of Surprise water system, however, the design of the city's master water system has not been completed. Citizens Utilities is currently performing a water study that will evaluate and provide all the necessary information. After the Citizens Utilities study is complete, this report will be modified to address the specifics of connecting to the city's master water system.

WATER CONSUMPTION RATE

The number of homes served determines the amount of the water consumption. To calculate the equivalent number of lots for the school site, the following figures are used:

Estimated Population for the School:	500 students
Average Water Usage for the School:	25 gallons/day-capita
Population Density:	3.2 persons/D.U.
Average per Capita Usage:	140 gallons/capita-day

Equivalent number of D.U. = (500 x 25)/(3.2 x 140) = 28 Dwelling Units
Maximum number of D.U. = 1600
Number of single family D.U. allowed = Max number - equivalent number for school
= 1572 lots

Engineering Bulletin No. 10 Chapter 5 Table 3 was used to determine the total peak flow. For 1,600 lots the maximum instantaneous flow is 1228 gpm. The peak flow at each connection (or node) is calculated based on this total flow and the total number of lots served at that connection. The water is estimated to be pumped at 75 psi. Exhibit 4 in Appendix shows the peak demand in gallons per minute.

RESULTS AND DISCUSSION

Average Daily Demand

The distribution of average daily demands is found to be satisfactory throughout the modeled system with all the operating pressures in the desirable range of 60-79 psi (See Exhibit 6 in Appendix). Six-inch pipes are sufficient in most places, as shown in Exhibit 5, except for the areas south and east of the tank which will require 10-inch and 8-inch pipes, respectively.

APPENDIX

Exhibit 1: Vicinity Map

Exhibit 2: Water Lines and Nodes

Exhibit 3: Elevations at Nodes

Exhibit 4: System Peak Demand (GPM)

Exhibit 5: Pipe Diameter (Inches)

Exhibit 6: System Pressure (PSI) Peak Flow Demand

Table 1: Tabulated Maximum Instantaneous Flows

Table 2: Total Domestic Peak Flow

Table 3: EPANET Calculation

EXHIBIT 1
VICINITY MAP

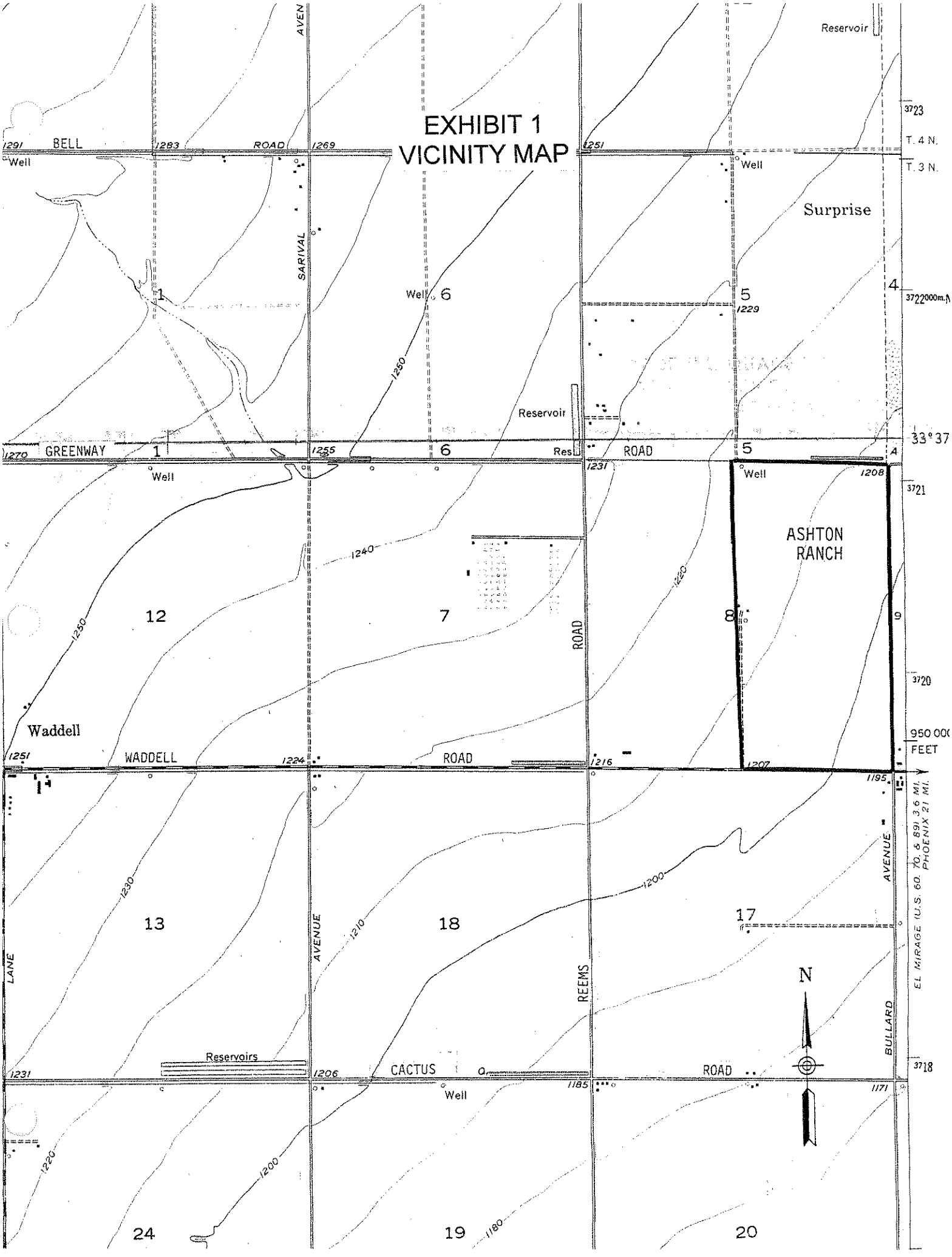


EXHIBIT 2
WATER LINES AND NODES

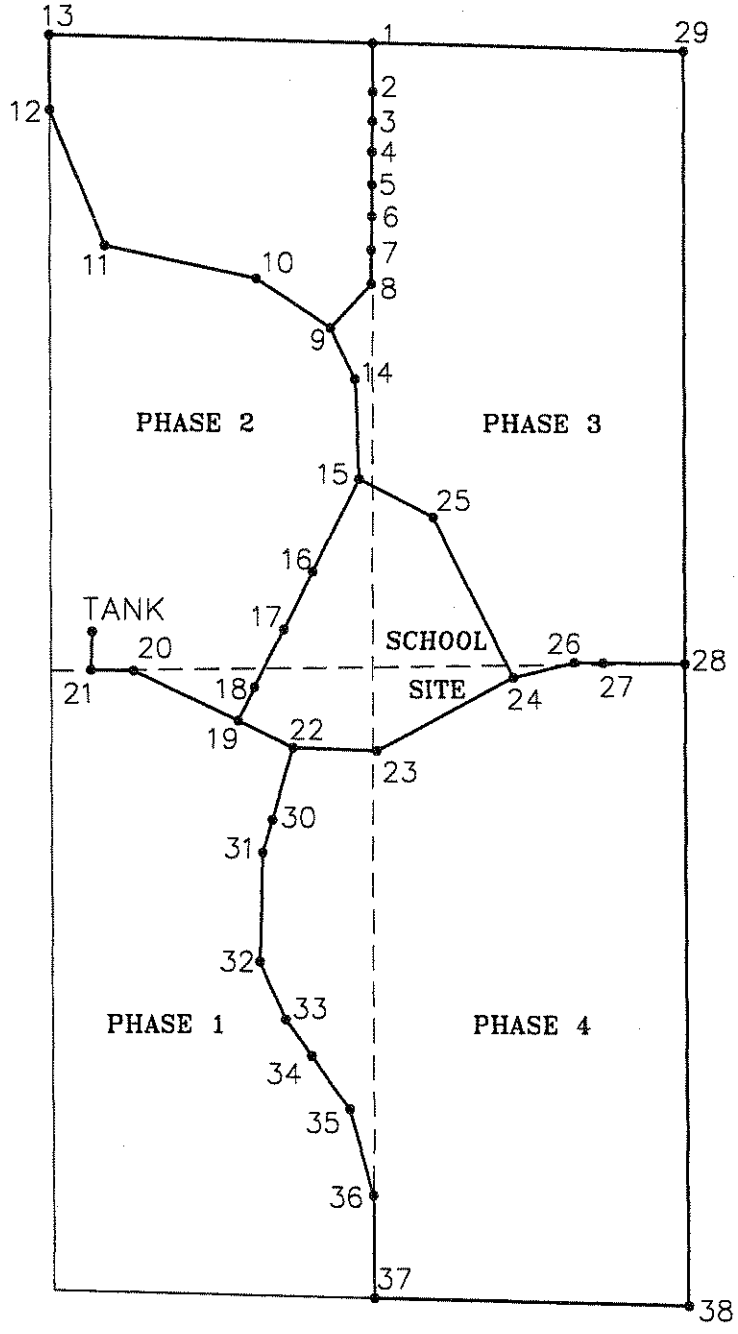


EXHIBIT 3
ELEVATIONS AT NODES

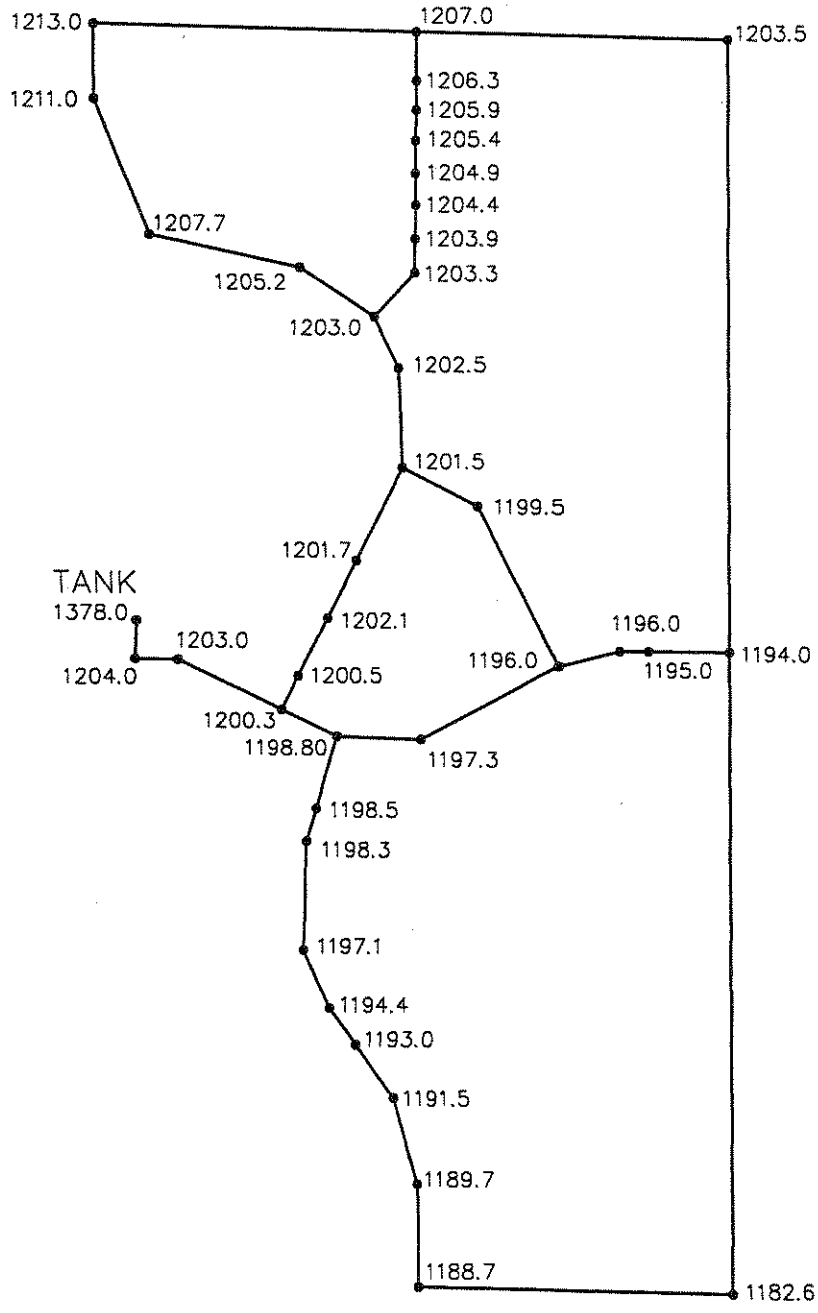


EXHIBIT 4
SYSTEM PEAK DEMAND (GPM)

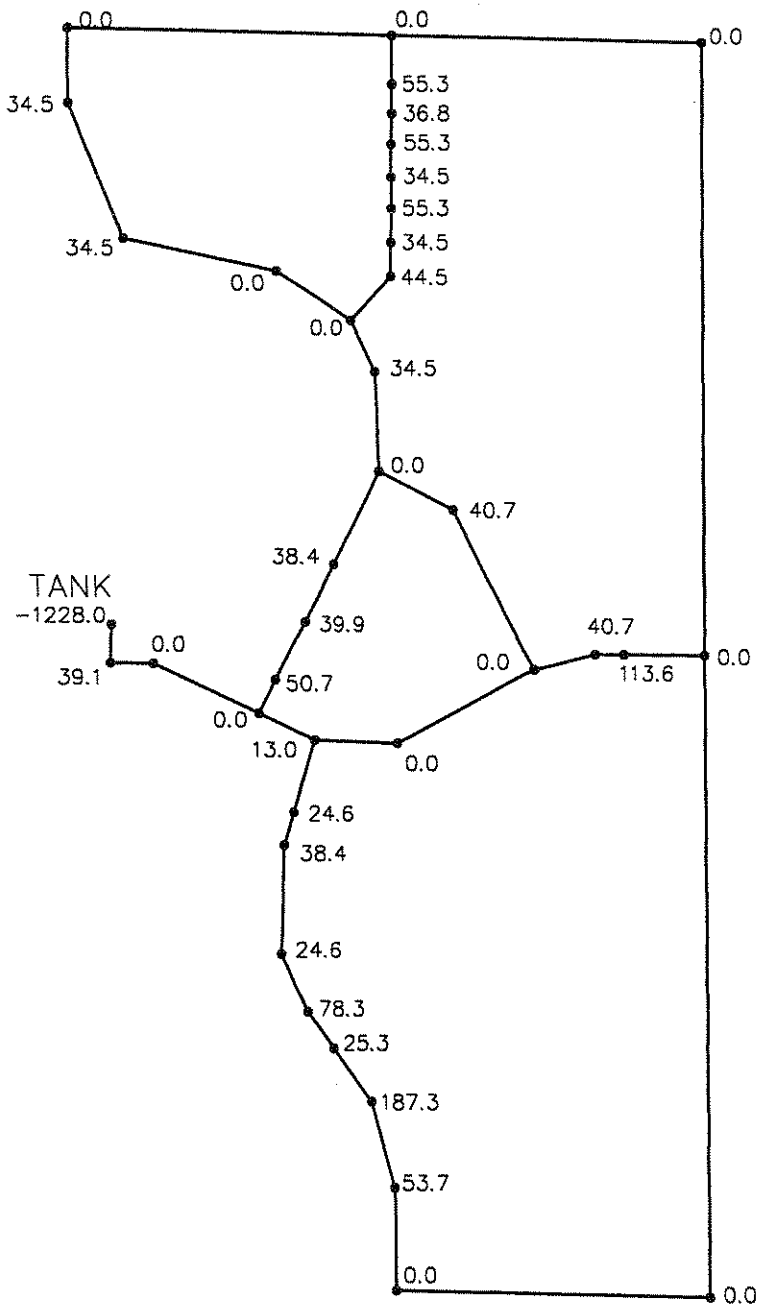


EXHIBIT 5
PIPE DIAMETER (INCHES)

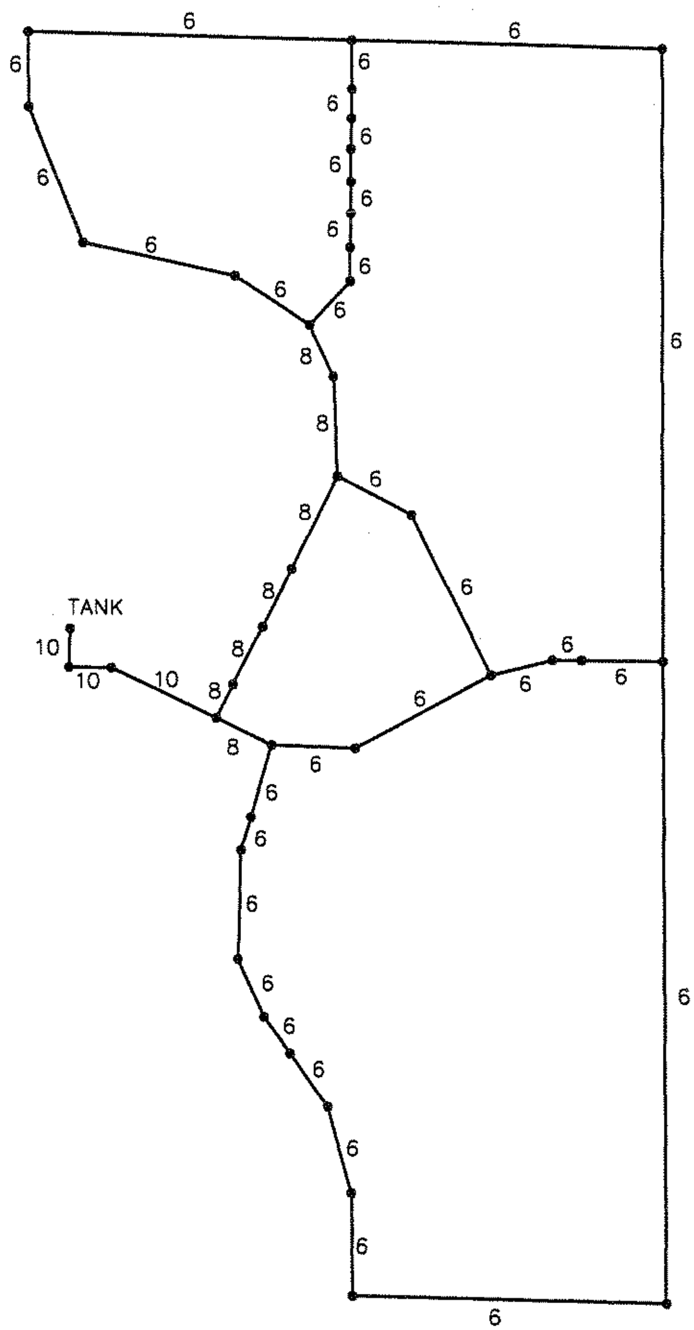
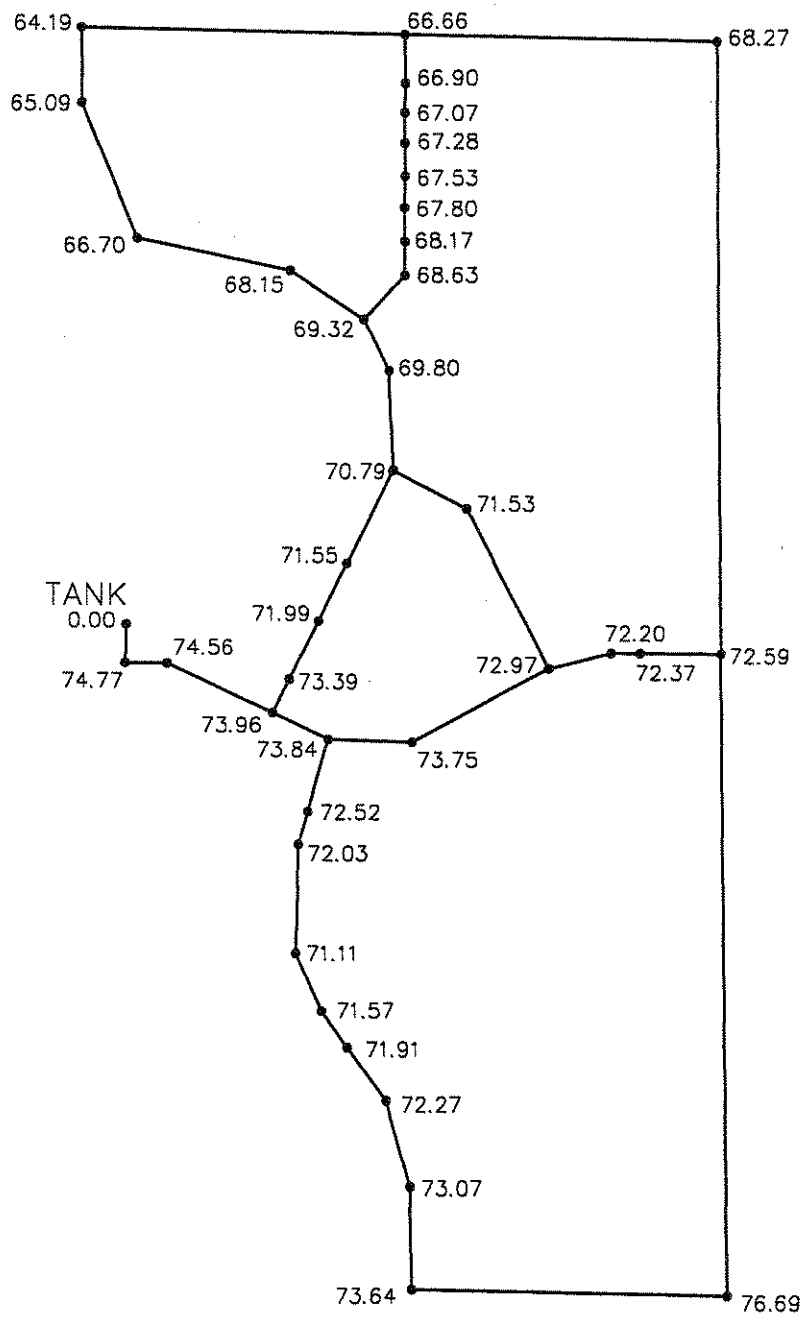


EXHIBIT 6
SYSTEM PRESSURE (PSI)
PEAK FLOW DEMAND



Engineering Bulletin No. 10 Ch. 5

TABLE 1

TABULATED MAXIMUM INSTANTANEOUS FLOWS

Number of Connections vs. Maximum Instantaneous Demand Flows for Residential Use *

No.	Flow	No.	Flow	No.	Flow	No.	Flow
1	20.0	45	98.9	89	151.9	133	195.1
2	22.1	46	100.3	90	152.9	134	196.0
3	24.2	47	101.7	91	153.9	135	196.9
4	26.3	48	103.1	92	154.9	136	197.8
5	28.4	49	104.5	93	155.9	137	198.7
6	30.5	50	105.9	94	156.9	138	199.6
7	32.6	51	107.2	95	157.9	139	200.5
8	34.7	52	108.5	96	158.9	140	201.4
9	36.8	53	109.8	97	159.9	141	202.3
10	38.9	54	111.1	98	160.9	142	203.2
11	41.0	55	112.4	99	161.9	143	204.1
12	43.1	56	113.7	100	162.9	144	205.0
13	45.2	57	115.0	101	163.9	145	205.9
14	47.3	58	116.3	102	164.9	146	206.8
15	49.4	59	117.6	103	165.9	147	207.7
16	51.5	60	118.9	104	166.9	148	208.6
17	53.6	61	120.1	105	167.9	149	209.5
18	55.7	62	121.3	106	168.9	150	210.4
19	57.8	63	122.5	107	169.9	151	211.2
20	59.9	64	123.7	108	170.9	152	212.0
21	61.6	65	124.9	109	171.9	153	212.8
22	63.3	66	126.1	110	172.9	154	213.6
23	65.0	67	127.3	111	173.9	155	214.4
24	66.7	68	128.5	112	174.9	156	215.2
25	68.4	69	129.7	113	175.9	157	216.0
26	70.1	70	130.9	114	176.9	158	216.8
27	71.8	71	132.0	115	177.9	159	217.6
28	73.5	72	133.1	116	178.9	160	218.4
29	75.2	73	134.2	117	179.9	161	219.2
30	76.9	74	135.3	118	180.9	162	220.0
31	78.4	75	136.4	119	181.9	163	220.8
32	79.9	76	137.5	120	182.9	164	221.6
33	81.4	77	138.6	121	183.9	165	222.4
34	82.9	78	139.7	122	184.9	166	223.2
35	84.4	79	140.8	123	185.9	167	224.0
36	85.9	80	141.9	124	186.9	168	224.8
37	87.4	81	143.0	125	187.9	169	225.6
38	88.9	82	144.1	126	188.8	170	226.4
39	90.4	83	145.2	127	189.7	171	227.2
40	91.9	84	146.3	128	190.6	172	228.0
41	93.3	85	147.4	129	191.5	173	228.8
42	94.7	86	148.5	130	192.4	174	229.6
43	96.1	87	149.6	131	193.3	175	230.4
44	97.5	88	150.7	132	194.2	176	231.1

For each connection in excess of 176, add an additional 0.7 gpm.

* Add fire flow, where applicable.

TABLE 2
TOTAL DOMESTIC PEAK FLOW

NODE NO.	LOTS SERVED	PEAK FLOW
1	0	0.0
2	72	55.3
3	48	36.8
4	72	55.3
5	45	34.5
6	72	55.3
7	45	34.5
8	58	44.5
9	0	0.0
10	0	0.0
11	45	34.5
12	45	34.5
13	0	0.0
14	45	34.5
15	0	0.0
16	50	38.4
17	52	39.9
18	66	50.7
19	0	0.0
20	0	0.0
21	51	39.1
22	17	13.0
23	0	0.0
24	0	0.0
25	53	40.7
26	53	40.7
27	148	113.6
28	0	0.0
29	0	0.0
30	32	24.6
31	50	38.4
32	32	24.6
33	102	78.3
34	33	25.3
35	244	187.3
36	70	53.7
37	0	0.0
38	0	0.0
TOTAL	1600	1227.9 GPM

TABLE 3
EPANET CALCULATION

[TITLE]
ASHTON RANCH

[JUNCTIONS]

; ID	Elev ft	Demand gpm
1	1207	0
2	1206.3	55.3
3	1205.9	36.8
4	1205.4	55.3
5	1204.9	34.5
6	1204.4	55.3
7	1203.9	34.5
8	1203.3	44.5
9	1203	0
10	1205.2	0
11	1207.7	34.5
12	1211	34.5
13	1213	0
14	1202.5	34.5
15	1201.5	0
16	1201.7	38.4
17	1202.1	39.9
18	1200.5	50.7
19	1200.3	0
20	1203	0
21	1204	39.1
22	1198.8	13.0
23	1197.3	0
24	1196	0
25	1199.5	40.7
26	1196	40.7
27	1195	113.6
28	1194	0
29	1203.5	0
30	1198.5	24.6
31	1198.3	38.4
32	1197.1	24.6
33	1194.4	78.3
34	1193	25.3
35	1191.5	187.3
36	1189.7	53.7
37	1188.7	0
38	1182.6	0

[TANKS]

; ID	Elev ft	Init Level	Min Level	Max Level	Diam. ft
1001	1378				

[PIPES]

; ID	Start Node	End Node	Length ft	Diam in	Rough. Coeff.

100	1	2	200	6	130
101	2	3	120	6	130
102	3	4	125	6	130
103	4	5	135	6	130
104	5	6	130	6	130
105	6	7	140	6	130
106	7	8	140	6	130
107	8	9	250	6	130
108	9	10	372	6	130
109	10	11	641	6	130
110	11	12	605	6	130
111	12	13	308	6	130
112	9	14	237	8	130
113	14	15	414	8	130
114	15	16	433	8	130
115	16	17	270	8	130
116	17	18	270	8	130
117	18	19	157	8	130
118	19	20	478	10	130
119	20	21	173	10	130
120	19	22	257	8	130
121	22	23	352	6	130
122	23	24	645	6	130
123	24	25	746	6	130
124	25	15	347	6	130
125	24	26	258	6	130
126	26	27	121	6	130
127	27	28	342	6	130
128	28	29	2638	6	130
129	22	30	312	6	130
130	30	31	141	6	130
131	31	32	450	6	130
132	32	33	260	6	130
133	33	34	185	6	130
134	34	35	269	6	130
135	35	36	365	6	130
136	36	37	417	6	130
137	37	38	1309	6	130
138	38	28	2638	6	130
139	13	1	1344	6	130
140	1	29	1289	6	130
1000	1001	21	160	10	130

```
[VALVES]
;-----------------------------------------------
;ID     NODE1    NODE2    DIAM    VALVE    PRESSURE
;                          in     TYPE     SETTING
;-----------------------------------------------

[OPTIONS]
;-----------------------------------------------
 MAP       6296.map  ; Map coordinates file

[END]
```

MASTER DRAINAGE REPORT

for

ASHTON RANCH

March 28, 1997

Reviewed
9-19-97
acceptable EMalesky

Prepared by:
Bruce P. Larson, P.E. & Joseph E. Cable
American Engineering Company
21442 N. 20th Avenue
Phoenix, Arizona 85027

AEC Job #96296

Table of Contents

I. Introduction 1

A. Site Location and Description 1

B. Scope of Study 1

II. Offsite Drainage 1

A. Area Drainage Master Study 1

B. Current Condition 2

C. Developed Condition 4

III. On-site Drainage 4

A. On-site Flow Routing 4

B. Retention Requirements 5

IV. References 6

Appendix

Vicinity Map

FEMA Floodplain Map

Waddell Quadrangle Map

Aerial Topographic Map

Phasing Plan

White Tanks/Agua Fria ADMS Major Drainage Basins Map

White Tanks/Agua Fria ADMS Existing Conditions Map

White Tanks/Agua Fria ADMS Area Drainage Master Plan for Lower El Mirage Wash

I. Introduction

A. Site Location and Description

Ashton Ranch is a proposed 320 acre single family subdivision located in the City of Surprise. It is the East half of Section 8, Township 3 North, Range 1 West of the Gila and Salt River Base and Meridian. The site is bounded by Waddell Road on the south, Bullard Avenue on the east, Greenway Road on the north and undeveloped farmland to the west (see Vicinity Map in the Appendix). The site has a slope of approximately 0.55% to the southeast. A portion of the United States Geological Survey Quadrangle Map for the area as well as an aerial topography map are included in the Appendix.

The current floodplain designation for this site is Zone X as shown in the FEMA Flood Insurance Rate Map No. 04013C1585 F (refer to the Appendix). Zone X is defined as "Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood."

The site is currently agricultural farmland. It is located in an area surrounded by farmland and orchards. The 320 acre site will be developed in four 80 acre phases (see Phasing Plan in the Appendix). On site retention will be provided for each phase.

B. Scope of Study

This Master Drainage Report has been prepared as part of the Planned Area Development (PAD) report submittal to the City of Surprise. The drainage study addresses offsite runoff conditions from surrounding areas and on-site flow characteristics within this development. Field investigation, Maricopa County Flood Control District reports and master drainage reports of other developments in the area have been used in conjunction with accepted hydrologic and hydraulic methods in order to analyze the existing and future drainage conditions.

II. Offsite Drainage

A. Area Drainage Master Study

The White Tanks/Agua Fria Area Drainage Master Study was completed in December 1994 by WLB Group, Inc. for the Flood Control District of Maricopa County. It addresses the drainage patterns and includes some improvements that are planned for the future in order to alleviate some of the drainage problems and concerns of the area.

Ashton Ranch is located in the Lower El Mirage Watershed, as shown on the Major Drainage Basins map in the Appendix. This watershed drains to the southeast towards the Agua Fria River. Section 9 of the ADMS discusses the drainage for the Lower El Mirage Watershed area. The area is primarily agricultural land with some developed areas and many areas that are planned for development.

Most of the area that lies north of Bell Road is either currently being developed or is planned for development. At the time that the ADMS was completed, it was stated that this area generated approximately 2700 cfs that traveled south along Reems Road (refer to the ADMS Existing Condition Map in the Appendix). Once it reached the intersection of Greenway Road, it was reported that much of the flow (2600 cfs) turned to sheet flow in a southeasterly direction across the West half of Section 8 until it reached Waddell Road at the midsection line. Because of the pumpback ponds, irrigation ditches and berms that exist on the west side of the midsection line, the sheet flow did not cross over into the Ashton Ranch site. Most of the flow (2100 cfs) then crossed Waddell Road and headed south and never reached the Ashton Ranch site. However, approximately 800 cfs was directed east along Waddell Road, which is the south border of the Ashton Ranch site.

According to the ADMS, the area directly north of the Ashton Ranch site generated flow that was contained on the north side of Greenway Road until it reached Bullard Avenue. A 30" pipe (which still exists) allowed 160 cfs to pass under Greenway Road and into a ditch along the east side of the Ashton Ranch site and the west side of Bullard Avenue. This flow traveled south to Waddell Road and combined with the 800 cfs that was flowing east along the north side of Waddell Road. A flow split occurred at this intersection causing 170 cfs to travel south along Bullard Avenue and 800 cfs to continue East along Waddell Road.

A field investigation was performed to verify the flow patterns stated in the ADMS report. The general direction of flow is correct, however, the flow rates seemed to have decreased as some development has occurred. These developments were designed to retain runoff from the 100-yr, 2 hour storm event and therefore reduced the amount of flow that travels toward our site. The next section discusses the current flow conditions of the area.

B. Current Condition

Phase 1 of Del Webb's Grand Avenue Property is currently being developed. This development will significantly impact the amount of flow that concentrates at the Bell Road and Reems Road intersection. The Master Drainage Report for that project, which was prepared by Stanley Consultants, Inc. in December 1994, reports that approximately 1585 cfs flows south along Reems Road from the

intersection at Bell Road (see page 34 of the Grand Avenue Property report). This is significantly less than the 2700 cfs reported by the ADMS. The Grand Avenue Property report states that a portion of the ADMS data was used to evaluate the existing conditions for the project area, but some modifications were made to the HEC-1 model parameters and a Grand Avenue Property revised HEC-1 model was created (see Page 26 of the Grand Avenue Property report).

Also included in the Master Drainage Report for Del Webb's Grand Avenue Property is the drainage flow conditions during phasing of construction and an analysis for the fully developed project. The drainage impact on the Ashton Ranch site as a result of the fully developed Grand Avenue Property will be addressed in the next section. However, Phase 1 of the development of the Grand Avenue Property is under way and is expected to be completed before the development of Ashton Ranch. The development of Phase 1 will further reduce the flow along Reems Road south of Bell Road from 1585 cfs to 1050 cfs (see page 39 of the Grand Avenue Property report). This will reduce the amount of flow that travels across the west half of Section 8 and enters the Ashton Ranch site at Waddell Road and the midsection line. The ADMS report states that the flow at this point in Waddell Road splits sending 2100 cfs flowing south and 790 cfs flowing east which traverses the south portion of the site. With a significant reduction from 2700 cfs to 1050 cfs at the Bell Road and Reems Road intersection, there will be a reduction in the amount of flow along Waddell Road and south boundary of the Ashton Ranch site.

Currently, Waddell Road is a county maintained paved road without curb and gutter. There is an existing earth channel along the south side of Waddell Road (which is not within the boundary of Ashton Ranch) and an irrigation tailwater ditch along the north side of the road (which traverses the south part of the site). Most of the flow is carried on the south side of the road in the channel. The flow crosses over to the south side of Waddell Road in two locations: at the midsection as previously discussed, and at a dip in the road which is located 1/4 mile west of Bullard Avenue. To evaluate the carrying capacity of the ditches and roadway, elevation shots were taken in the field. These sections are shown in the Appendix. Manning's equation for open channel flow was used to determine the capacity of the sections. The roadway and ditch on the south side will convey 140 to 180 cfs in an easterly direction before spilling over to sheetflow to the south. Even though very little flow travels along the north side of Waddell Road and crosses the south portion of the site, a future channel is planned for the north side of the road which would have an impact on the site. The next section addresses the impact of this future channel. Since very little flow travels along the north side of Waddell Road and since the site will be designed to retain the 100-year 2 hour storm event, the only improvements needed are the widening of Waddell Road with construction of curb and gutter and the placement of an open space/retention area which will be provided along the south portion of the site.

B. Retention Requirements

Retention areas will be provided to retain the 100-year, 2 hour storm event as required by Maricopa County Drainage Design guidelines. The entire area will be single family residential land use with the exception of the school site.

The Drainage Design Manual for Maricopa County was used in calculating the retention volume required for the site:

$V = C * (P/12) * A$

Where:

V = Volume of retention required (in acre-feet)
C = 100 year Runoff coefficient (from Table 3-2 in manual)
P = Rainfall depth (in inches)
A = Drainage area (in acres)

Using the above formula, the required retention for the each phase is:

$V = (0.70) * (2.7/12) * 80$

V = 12.6 acre-feet or 548,856 cubic feet

The total retention required for the entire 320 acre site is:

V = 50.4 acre-feet or 2,195,424 cubic feet

This volume of retention will be provided in areas adjacent to the arterial roadway as well as in the interior of the site including near the school site. Retention basins will not be more than 3 feet in depth and will have a maximum side slope of 4 to 1.

The 30" pipe under Greenway Road currently directs approximately 160 cfs to the ditch which is along the east side of the property adjacent to Bullard Avenue. This condition will remain until the property directly to the north of Ashton Ranch is developed. A site plan for that site, which is called The Orchards, has been submitted to the City of Surprise. Open space will be provided adjacent to Bullard Avenue for either a channel or a storm drain pipe to be constructed that will continue to carry the flow to the south.

C. Developed Condition

According to the Master Drainage Report for the Grand Avenue Property, once that property is fully developed the flow along Reems Road will be reduced from 1585 cfs to 260 cfs (see page 34 of the Grand Avenue Property report). This flow will be carried in a channel which will be constructed on the west side of Reems Road by the Flood Control District of Maricopa County as shown in the ADMS Area Drainage Master Plan map in the Appendix. This channel will direct this flow south past Waddell Road and therefore will no longer impact the Ashton Ranch site. In addition, another channel will be constructed by the Flood Control District along the north side of Waddell Road which will begin approximately 1/4 mile east of Reems Road and will continue to Dysart Road. This channel will collect runoff from Sections 8, 9 and 10 and direct it to a retention basin that will be constructed in the southeast corner of Section 10. The Flood Control District has not placed the construction of this channel and basin in their 10 year schedule. An open space / retention area will be placed along Waddell Road that may be used for this future channel once the channel design and timing of the construction has been determined. The minimum width for the open space / retention tract will be 20 feet from the right-of-way of Waddell Road.

III. On-site Drainage

A. On-site Flow Routing

On-site runoff will be conveyed in the streets to retention areas which will be located throughout the site. Roll curb and gutter will be used where possible to carry this flow. Vertical curb and gutter will be constructed in all collector roads and in local roadways where needed to convey the storm flows. The streets will be designed so that the runoff from the 10-year storm will not over top the curb and so that the 100-year storm flow will not exceed a gutter depth of 0.8'. Storm drain will be placed where necessary to meet these requirements. Depressed curb and sidewalk or catch basins will be constructed to divert the street flow into the retention areas. Each phase will be developed separately and the on-site drainage design will be separate and complete for each phase.

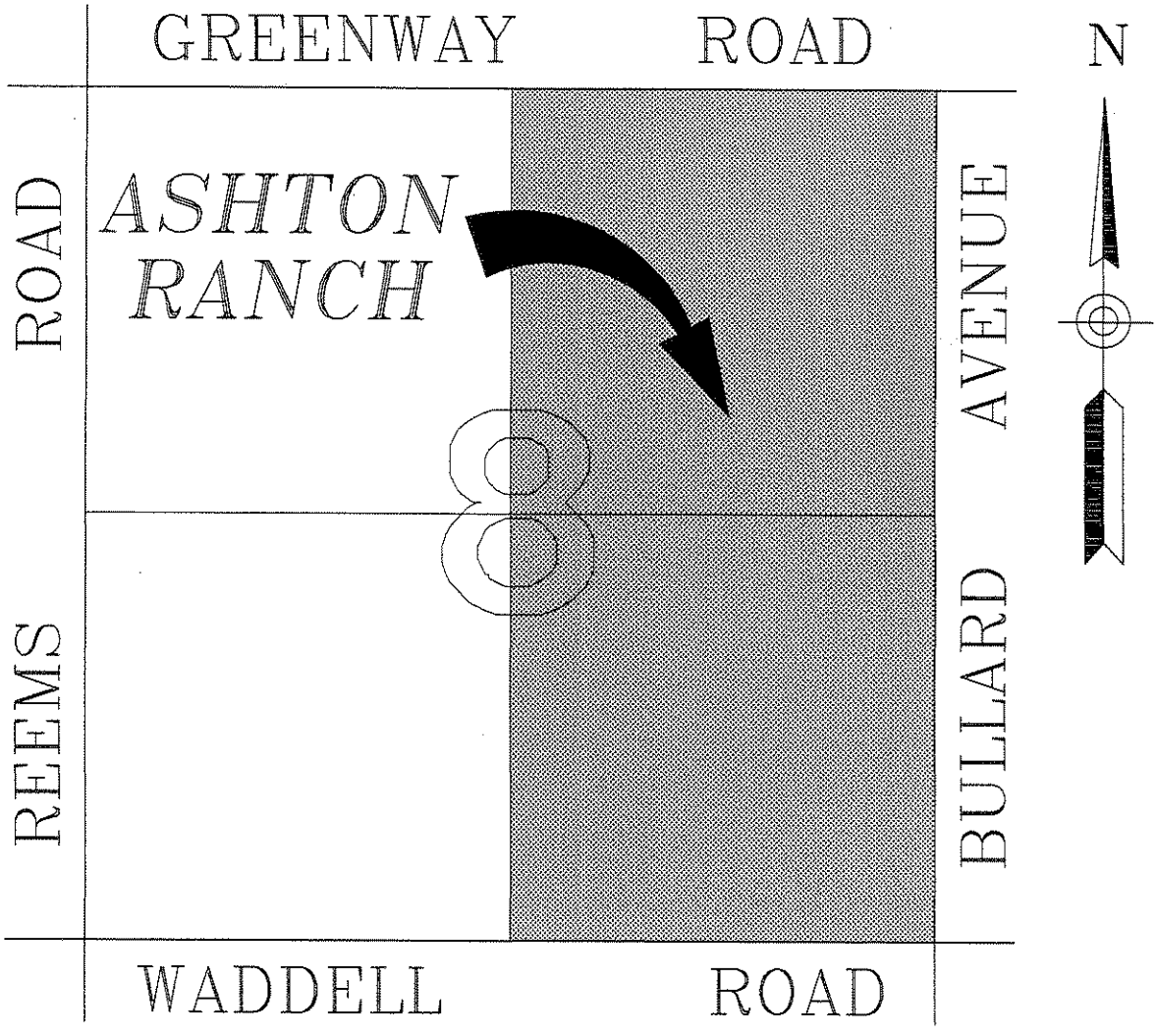
IV. References

1. White Tanks/Agua Fria Area Drainage Master Study, Part B: Area Drainage Master Plan, prepared by The WLB Group Inc., December, 1994.

2. Master Drainage Report for Del Webb's Grand Avenue Property, prepared by Stanley Consultants, Inc., December, 1994.

3. Drainage Design Manual for Maricopa County, Arizona; Volume 1 - Hydrology; Flood Control District of Maricopa County; June, 1992 (with revisions).

APPENDIX



VICINITY MAP

NTS

APPROXIMATE SCALE IN FEET

1000 0 1000

NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA AND INCORPORATED AREAS

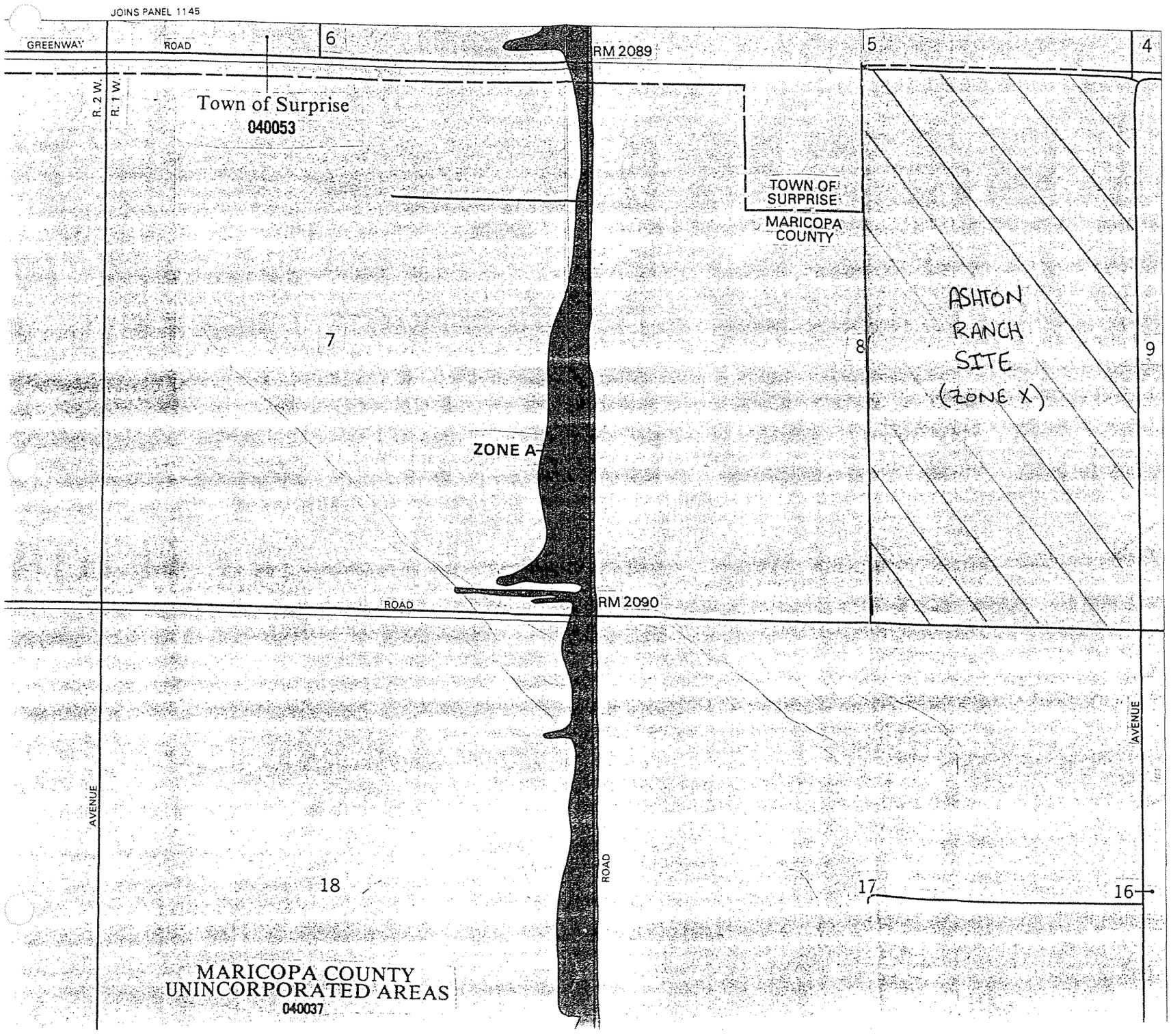
CONTAINS:

COMMUNITY	NUMBER	PANEL	SUFFIX
GLENDALE, CITY OF	040045	1585	F
MARICOPA COUNTY, UNINCORPORATED AREAS	040037	1585	F
SURPRISE, TOWN OF	040053	1585	F

MAP NUMBER
04013C1585 F

MAP REVISED:
SEPTEMBER 30, 1995

Federal Emergency Management Agency



LEGEND

SPECIAL FLOOD HAZARD AREAS INUNDATED BY 100-YEAR FLOOD

- **ZONE A** — No base flood elevations determined.
- **ZONE AE** — Base flood elevations determined.
- **ZONE AH** — Flood depths of 1 to 3 feet (usually areas of ponding); base flood elevations determined.
- **ZONE AO** — Flood depths of 1 to 3 feet (usually sheet flow on sloping terrain); average depths determined. For areas of alluvial fan flooding, velocities also determined.
- **ZONE A99** — To be protected from 100-year flood by Federal flood protection system under construction; no base elevations determined.
- **ZONE V** — Coastal flood with velocity hazard (wave action); no base flood elevations determined.
- **ZONE VE** — Coastal flood with velocity hazard (wave action); base flood elevations determined.

FLOODWAY AREAS IN ZONE AE

OTHER FLOOD AREAS

- **ZONE X** — Areas of 500-year flood; areas of 100-year flood with average depths of less than 1 foot or with drainage areas less than 1 square mile; and areas protected by levees from 100-year flood.

OTHER AREAS

- **ZONE X** — Areas determined to be outside 500-year flood plain.
- **ZONE D** — Areas in which flood hazards are undetermined.

Flood Boundary

Floodway Boundary

Zone D Boundary

Boundary Dividing Special Flood Hazard Zones, and Boundary Dividing Areas of Different Coastal Base Flood Elevations Within Special Flood Hazard Zones.

513 — Base Flood Elevation Line; Elevation in Feet*

D — D — Cross Section Line

(EL 987) — Base Flood Elevation in Feet Where Uniform Within Zone*

RM7 X — Elevation Reference Mark

*Referenced to the National Geodetic Vertical Datum of 1929

NOTES

This map is for use in administering the National Flood Insurance Program; it does not necessarily identify all areas subject to flooding, particularly from local drainage sources of small size, or all planimetric features outside Special Flood Hazard Areas.

Areas of special flood hazard (100-year flood) include Zones A, A1-30, AE, AH, AO, A99, V, V1-30 AND VE.

Certain areas not in Special Flood Hazard Areas may be protected by flood control structures.

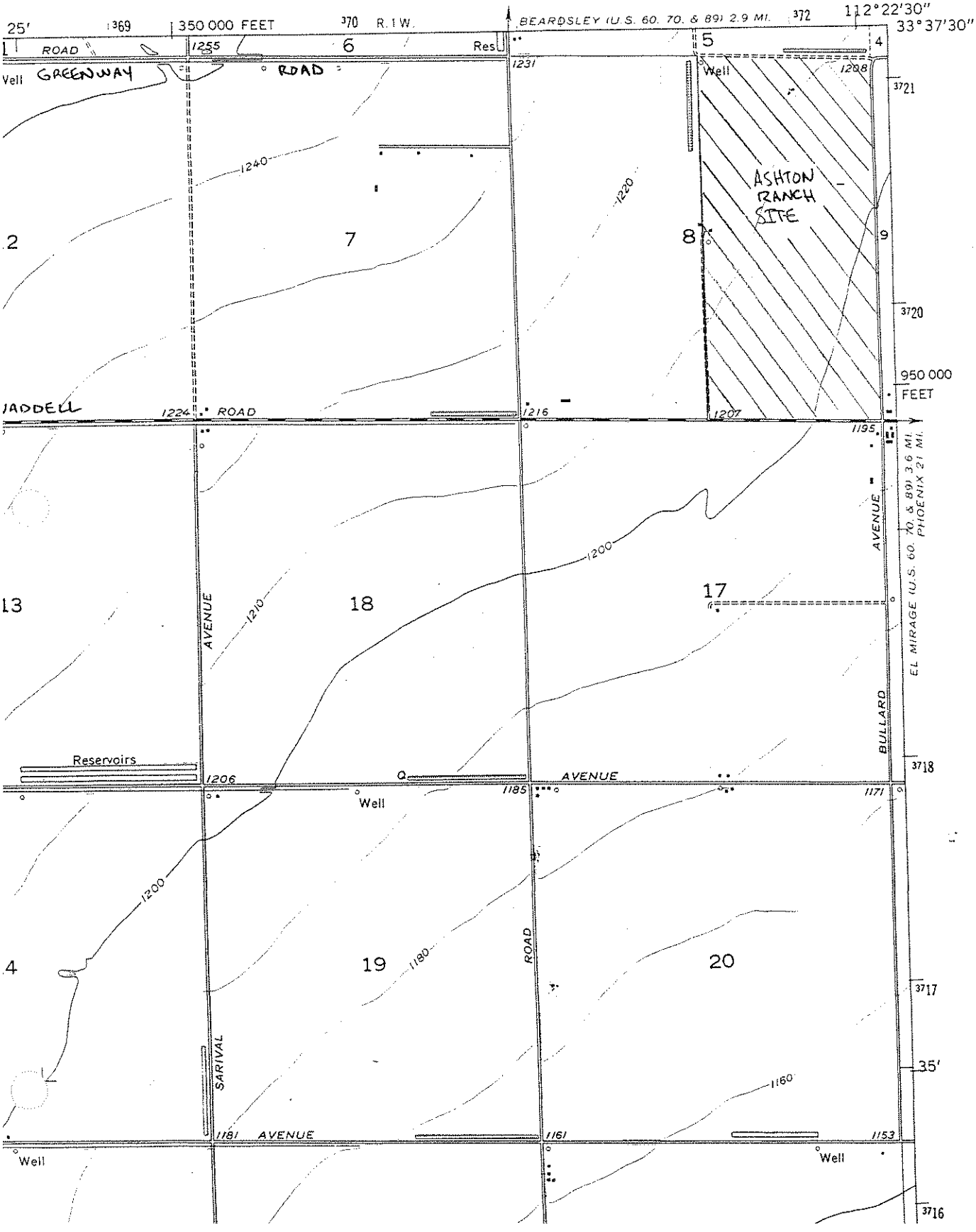
Boundaries of the floodways were computed at cross sections and interpolated between cross sections. The floodways were based on hydraulic considerations with regard to requirements of the Federal Emergency Management Agency.

Floodway widths in some areas may be too narrow to show to scale. Floodway widths are provided in the Flood Insurance Study Report.

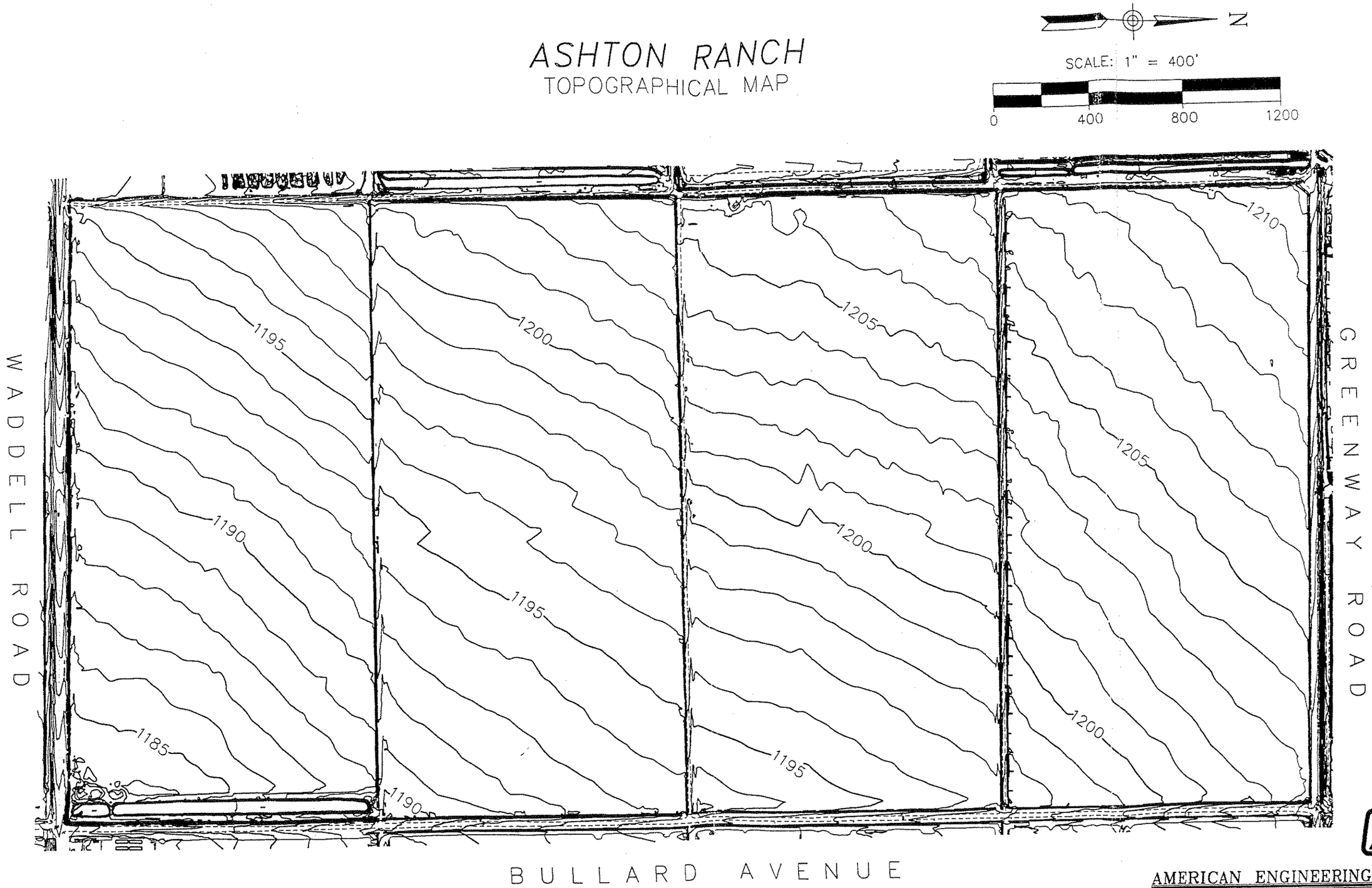
Coastal base flood elevations apply only landward of the shoreline.

Corporate limits shown are current as of the date of this map. The user should contact appropriate community officials to determine if corporate limits have changed subsequent to the issuance of the map.

WADDELL QUADRANGLE
ARIZONA—MARICOPA CO.
7.5 MINUTE SERIES (TOPOGRAPHIC)



ASHTON RANCH
TOPOGRAPHICAL MAP

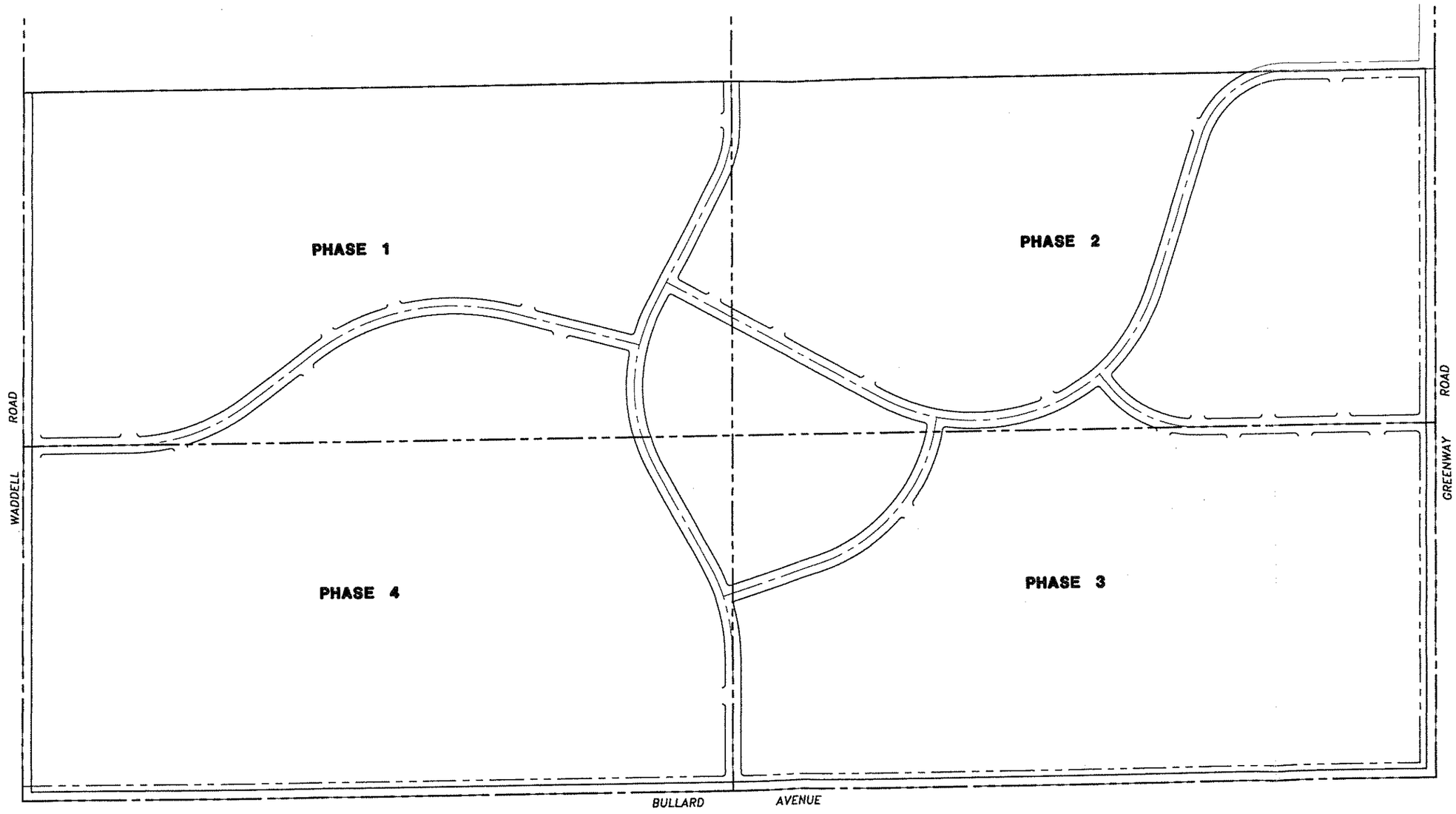


AMERICAN ENGINEERING CO.
consulting engineers/surveyors

ASHTON RANCH
PHASING EXHIBIT

N

NOT TO SCALE



Registered Professional Engineer (Civil)
CERTIFICATE NO. 26961
BRUCE R. LARSON
ARIZONA, U.S.A.

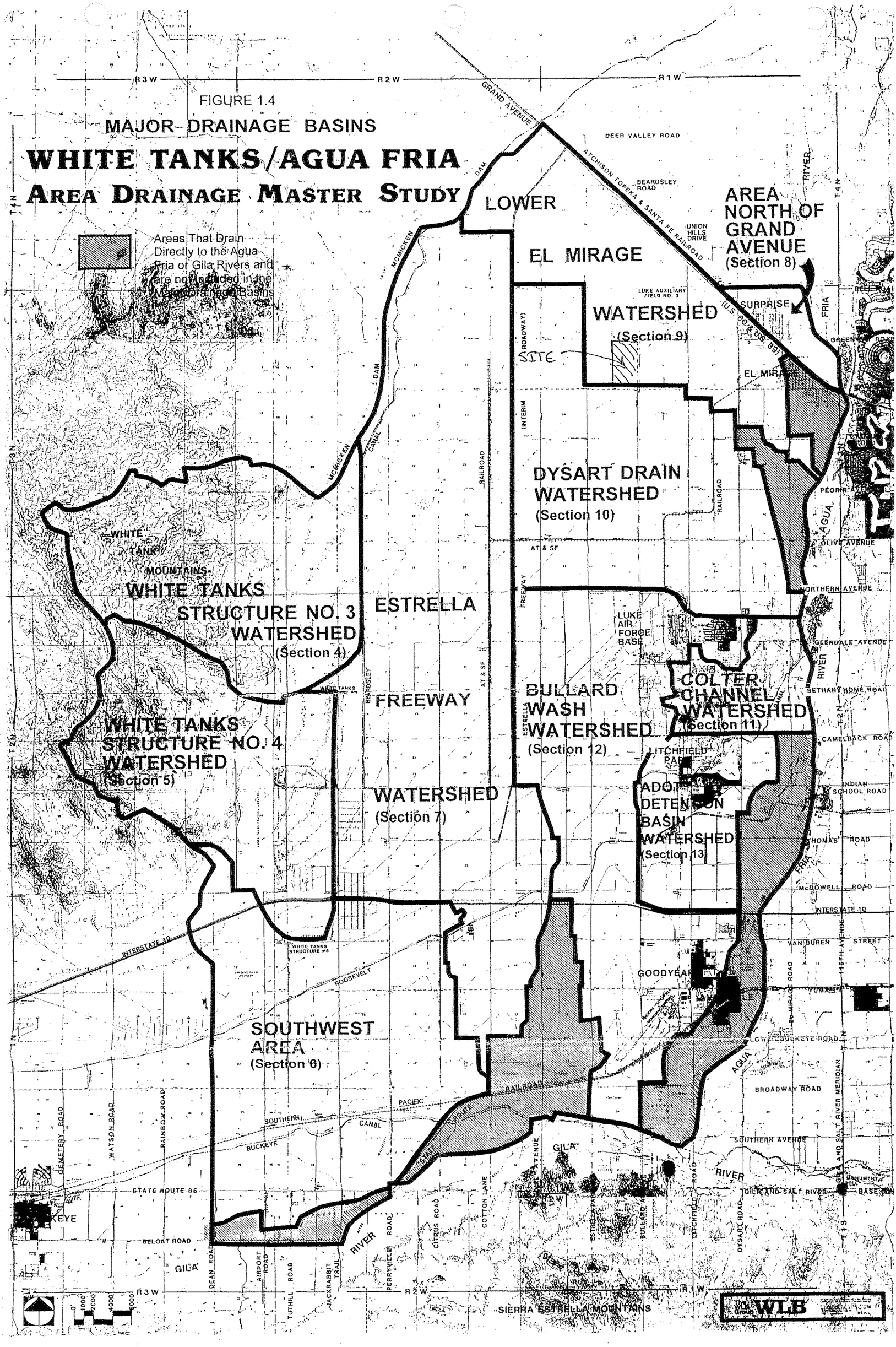
AMERICAN ENGINEERING CO.
consulting engineers/surveyors
21442 NORTH 20TH AVENUE · PHOENIX, ARIZONA 85027 · 863-0260

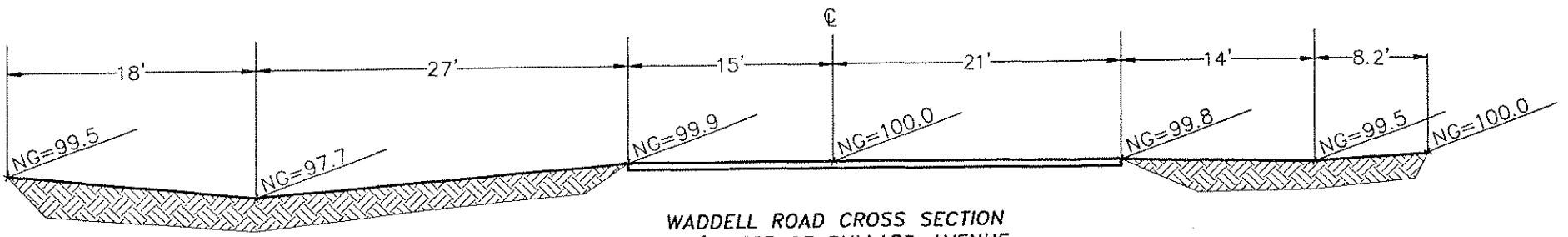
ASHTON RANCH 96296
PHASING EXHIBIT 4/1/97

FIGURE 1.4

MAJOR DRAINAGE BASINS

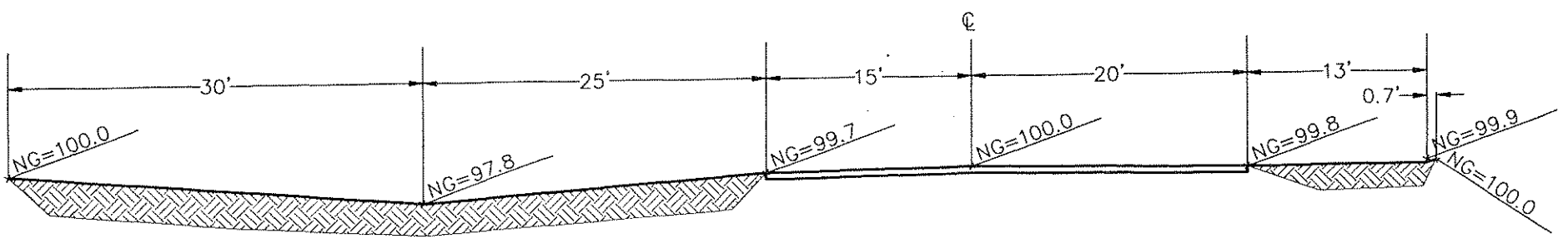
WHITE TANKS/AGUA FRIA AREA DRAINAGE MASTER STUDY





WADDELL ROAD CROSS SECTION
200' WEST OF BULLARD AVENUE

AREA=69.2 SF
WETTED PERIMETER=103.88 FT
SLOPE=0.40%
CAPACITY=142 CFS



WADDELL ROAD CROSS SECTION
100' WEST OF BULLARD AVENUE

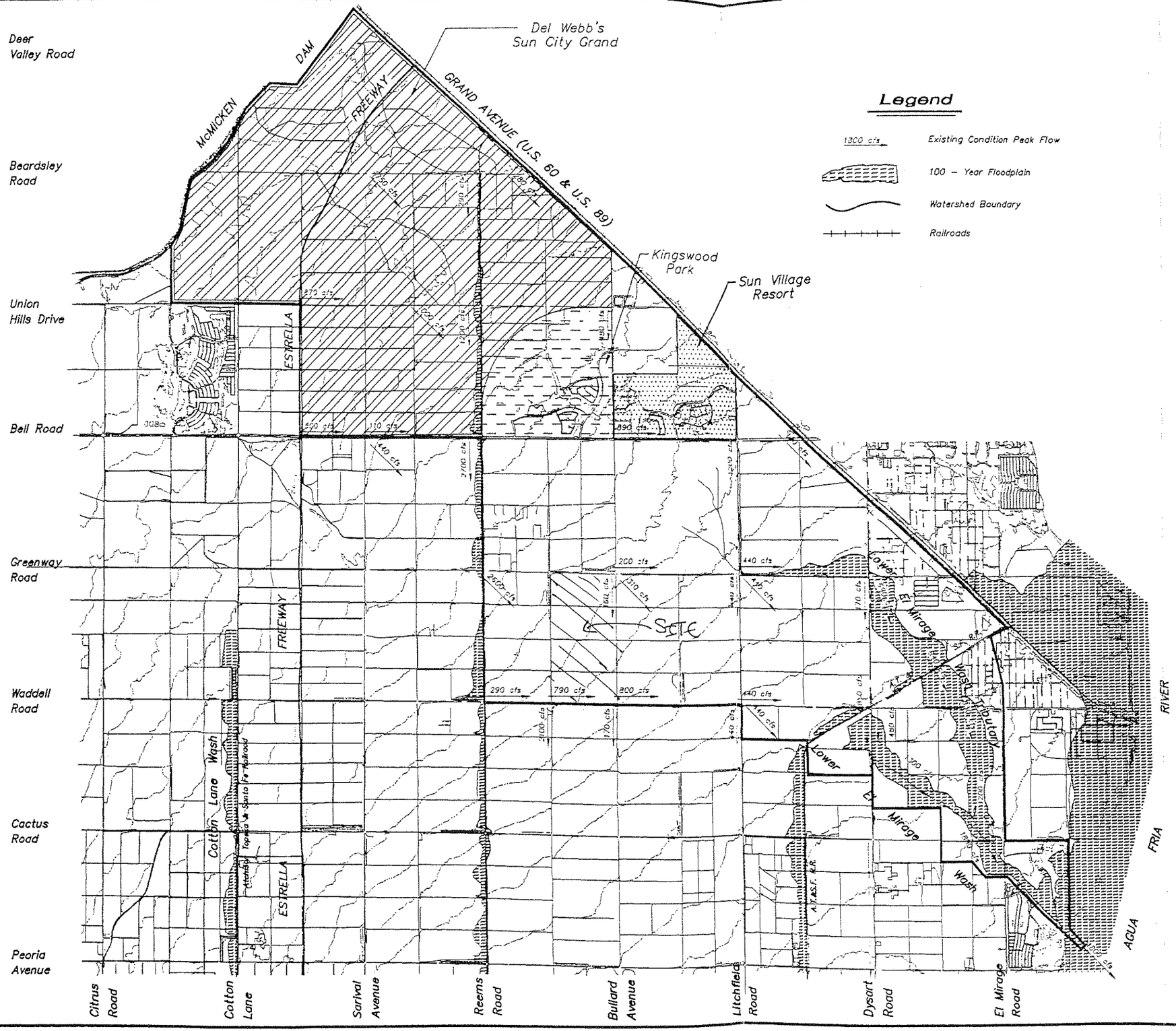
AREA=79.3 SF
WETTED PERIMETER=103.86 FT
SLOPE=0.40%
CAPACITY=178 CFS

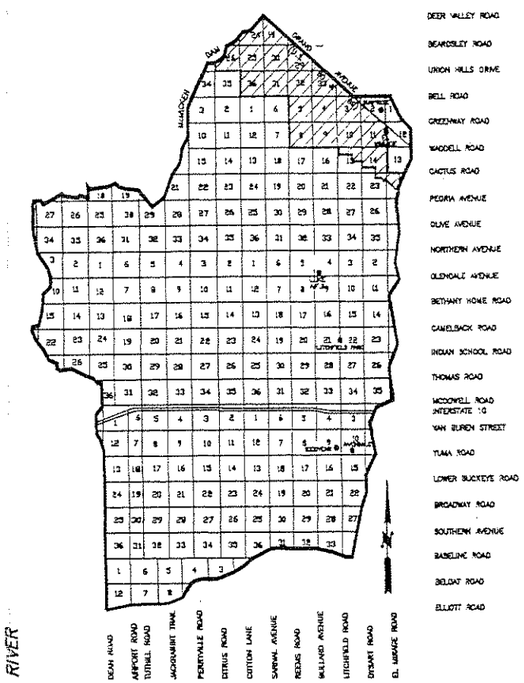
Figure 9.1

Existing Conditions

Lower El Mirage Wash Watershed

WHITE TANKS/AGUA FRIA AREA DRAINAGE MASTER STUDY





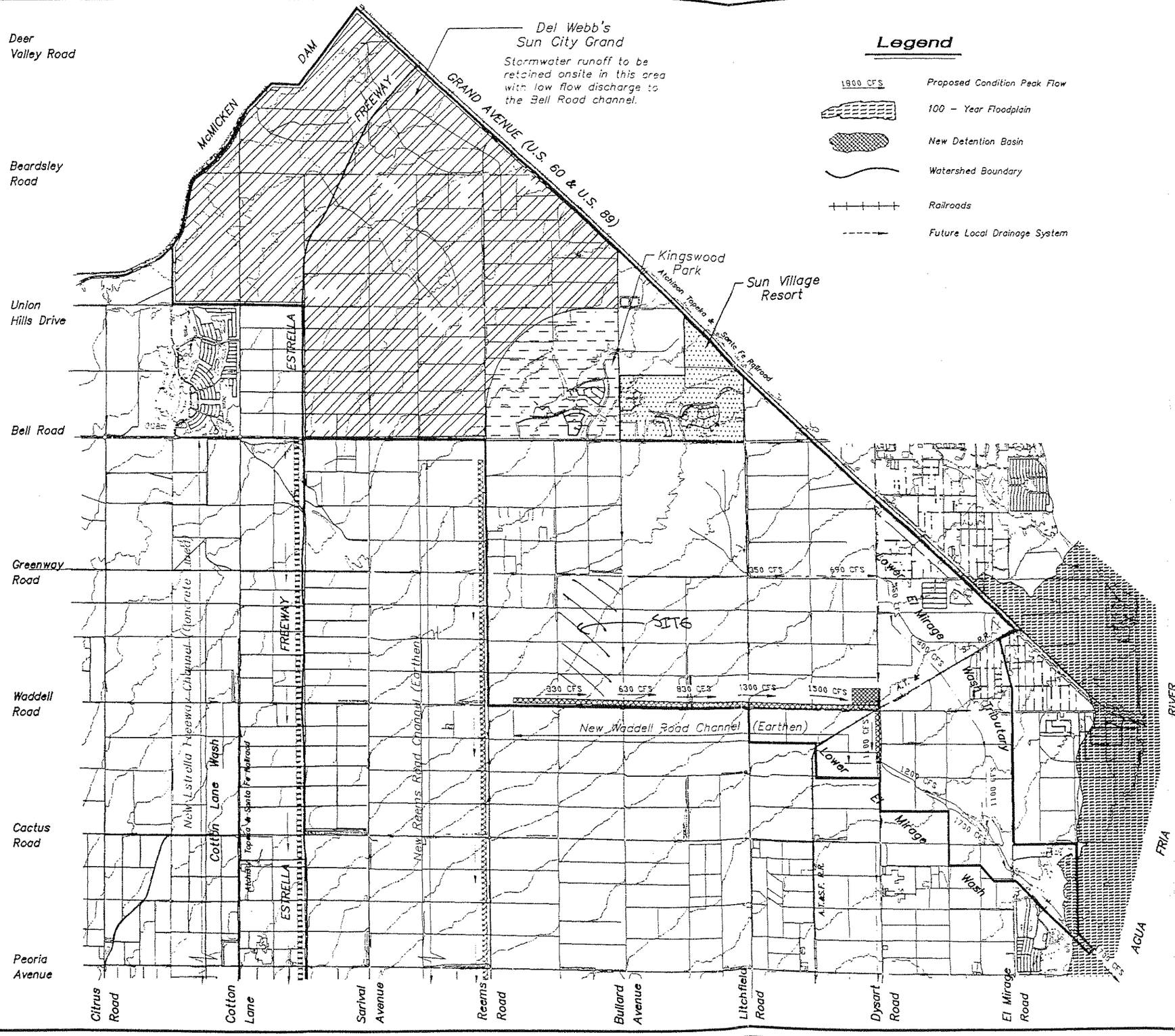
Location Map

The WLB Group INC. **WLB**

Figure 9.2

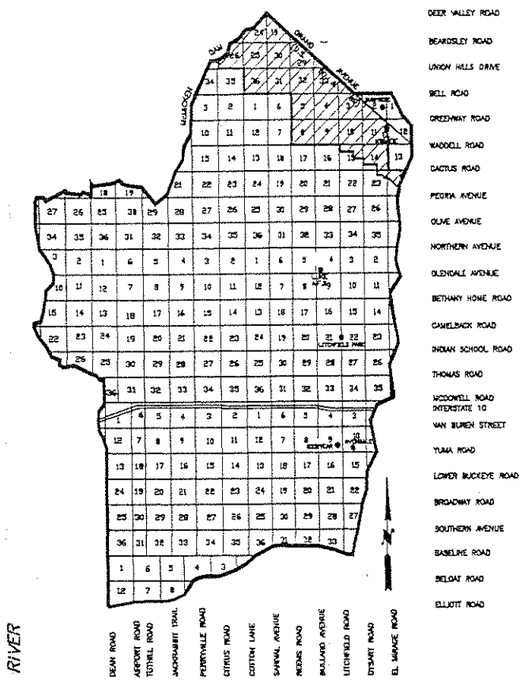
Area Drainage Master Plan for Lower El Mirage Watershed

WHITE TANKS/AGUA FRIA
AREA DRAINAGE MASTER STUDY



Legend

1800 CFS	Proposed Condition Peak Flow
	100 – Year Floodplain
	New Detention Basin
	Watershed Boundary
	Railroads
	Future Local Drainage System



Location Map

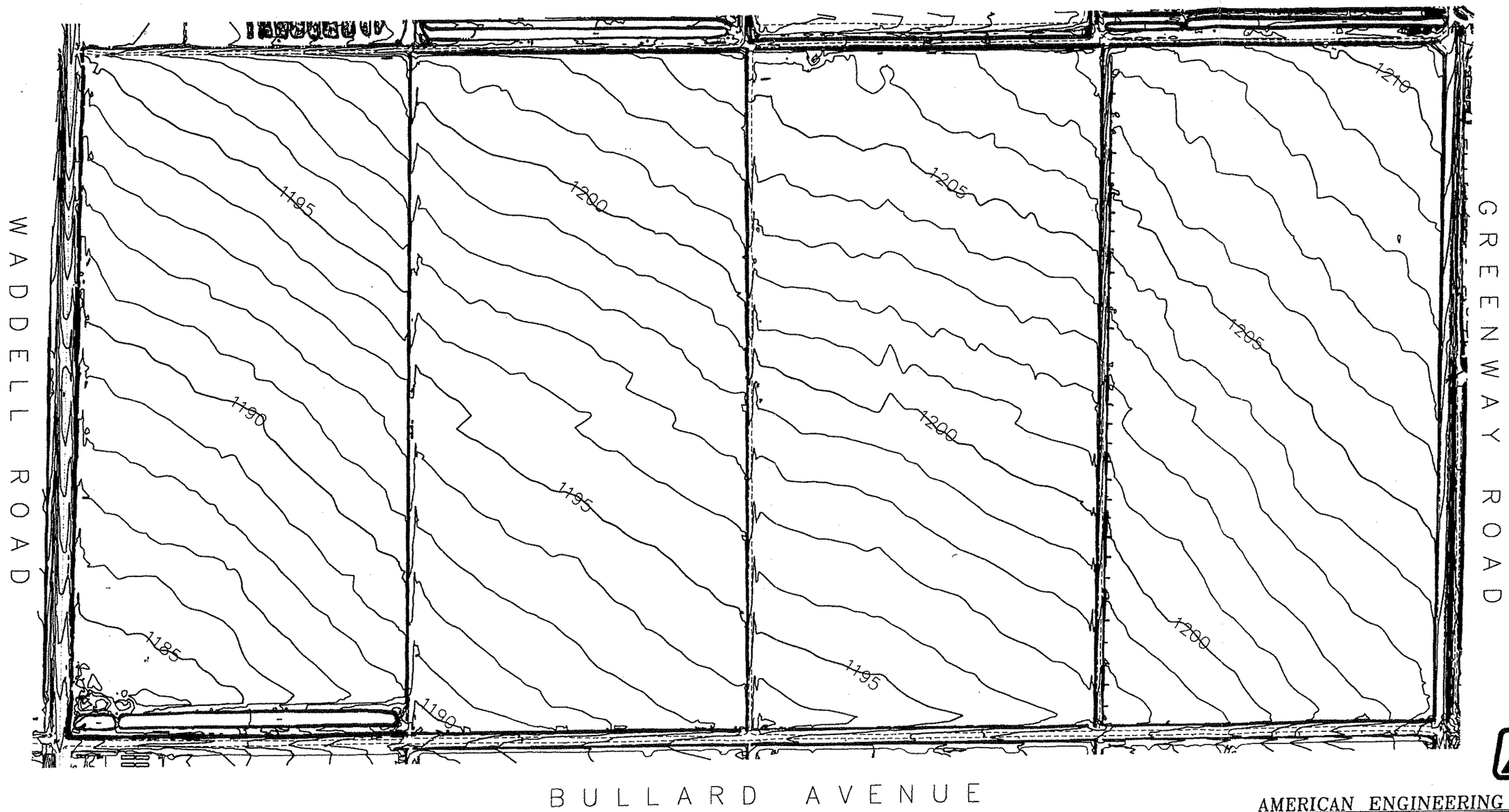
The WLB Group INC. **WLB**

ASHTON RANCH
TOPOGRAPHICAL MAP

N

SCALE: 1" = 400'

0 400 800 1200

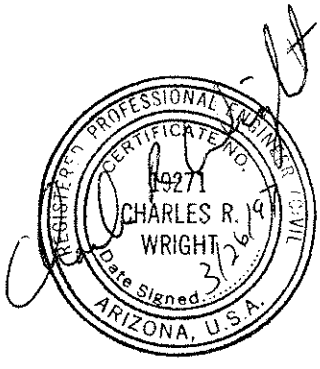


AMERICAN ENGINEERING CO.
consulting engineers/surveyors

Design Concept Report

ASHTON RANCH DEVELOPMENT

Prepared by:
KIMLEY-HORN & ASSOCIATES
7600 N. 15th Street, Suite 250
Phoenix, AZ 85020
944-5500



091111.03
March 1997

© Kimley-Horn and Associates, Inc. 1997

TABLE OF CONTENTS

INTRODUCTION 1
1.0 Introduction 1
1.1 Purpose of the Report and Study Objectives 1

PROPOSED DEVELOPMENT 2
2.0 Site Location 2
2.1 Land Use Intensity 2
2.2 Development Phasing and Timing 2

STUDY AREA CONDITIONS 5
3.0 Study Area 5
3.1 Land Use and Zoning 5
3.2 Site Accessibility and Internal Circulation 5

ANALYSIS OF EXISTING CONDITIONS 7
4.0 Physical Roadway Characteristics/Existing Traffic Volumes 7
4.1 Capacity and Level-of-Service Analysis 7

PROJECTED TRAFFIC 9
5.0 Site Traffic Forecasting 9
5.1 Trip Distribution and Assignment 10
5.2 Non-Site Traffic Forecasting 14

TRAFFIC and IMPROVEMENT ANALYSIS 17
6.0 Capacity and Level-of-Service (LOS) Analysis 17
6.1 Queuing Analysis 19

FINDINGS and RECOMMENDATIONS 21
7.0 Internal Circulation and Site Access 21
7.1 Auxiliary Lanes 21
7.2 Adjacent Arterials 21

APPENDIX

LIST OF FIGURES

Figure		Page
1	Vicinity Map	3
2	Site Plan	4
3	Study Area	6
4	Existing Conditions	8
5	Trip Assignment	10
6	Street Classification and ADT	11
7	Site Generated Traffic (Internal Streets)	12
8	Site Traffic (Arterial Streets)	13
9	Total Traffic (Internal Streets)	15
10	Total Traffic (Arterial Streets)	16
11	2020 Lane Configuration	20

LIST OF TABLES

Table		Page
1	Trip Generation	9
2	Trip Distribution	10
3	AM Peak Hour Intersection LOS in 2020	18
4	PM Peak Hour Intersection LOS in 2020	19
5	Turn Lane Storage Requirements	19

1.0 Introduction

Ashton Ranch is a proposed ± 320 acre development located along Bullard Avenue south of Greenway Road and north of Waddell Road in the City of Surprise, Arizona. The land use proposed for this master planned project consists of single-family homes and an elementary school. The project site is classified in the *Surprise Comprehensive Development Plan* as agricultural use and is currently zoned Residential (R-1).

1.1 Purpose of the Report and Study Objectives

Kimley-Horn and Associates, Inc. was retained to conduct a traffic study for the proposed development to evaluate the site's internal circulation requirements and impact of the site's traffic on the adjacent area's roadway network and to determine the necessary improvements, if any, to this roadway network to accommodate these impacts. The general requirements for this study have been discussed with City Staff and conform to the Category III analysis requirements stated in *MCDOT Traffic Impact Procedures.*

The following summarizes the objectives of this analysis:

- Evaluate traffic impact of the proposed development on the adjacent street network and recommend improvements. The analysis includes site access drives, main project roadways' cross-section requirements, turn lane needs, driveway capacity to accommodate the site generated traffic, and adjacent off-site intersections.

PROPOSED DEVELOPMENT

2.0 Site Location

The project site is bound by Bullard Avenue from the east, Greenway Road from the north and Waddell Road from south. The site occupies approximately 320 acres of land (1/2 section) and is located in the City of Surprise, Arizona. A site vicinity map is shown in Figure 1.

2.1 Land Use and Intensity

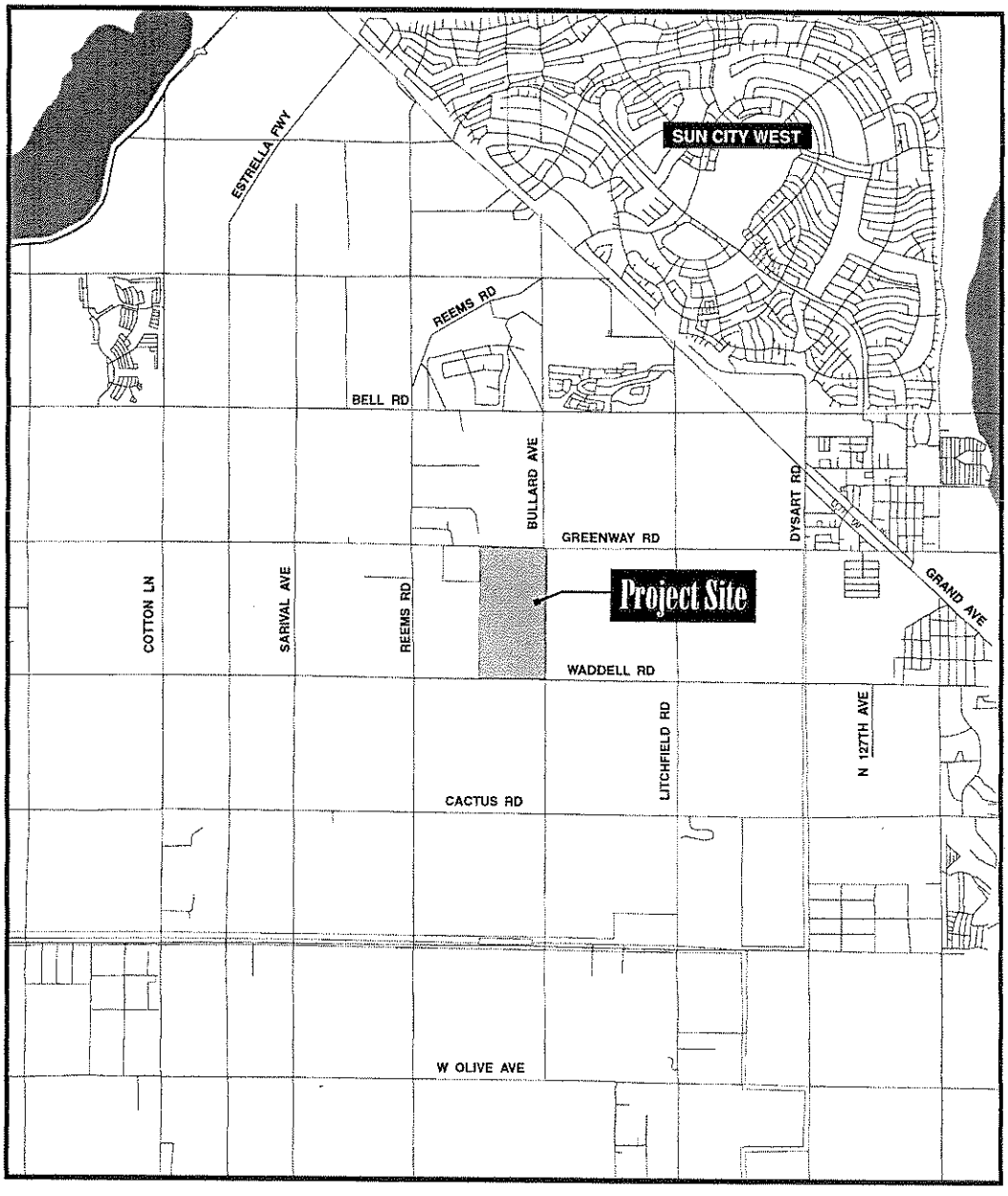
The Ashton Ranch development is proposed to consist of ± 1484 homes and a 10-acre elementary school site with estimated attendance of approximately 1000 students. The project site consists of ± 320 acres resulting in a proposed approximate gross density of 4.64 dwelling units per acre. A preliminary site plan is provided in Figure 2.

2.2 Development Phasing and Timing

The project is proposed to be constructed in four phases with an estimated opening year of 1998; however, the project is not anticipated to be completely built-out in 1998. The build-out of the development is expected to occur gradually after the year 1998. This study uses year 2020 as the buildout horizon year for the purposes of traffic analysis, in accordance with the Category III analysis requirements of *MCDOT Traffic Impact Procedures.* It was therefore assumed that the project would be 100 percent occupied upon buildout and so the magnitude of the traffic impacts is the maximum that can be expected.

Kimley-Horn and Associates, Inc.

Vicinity Map

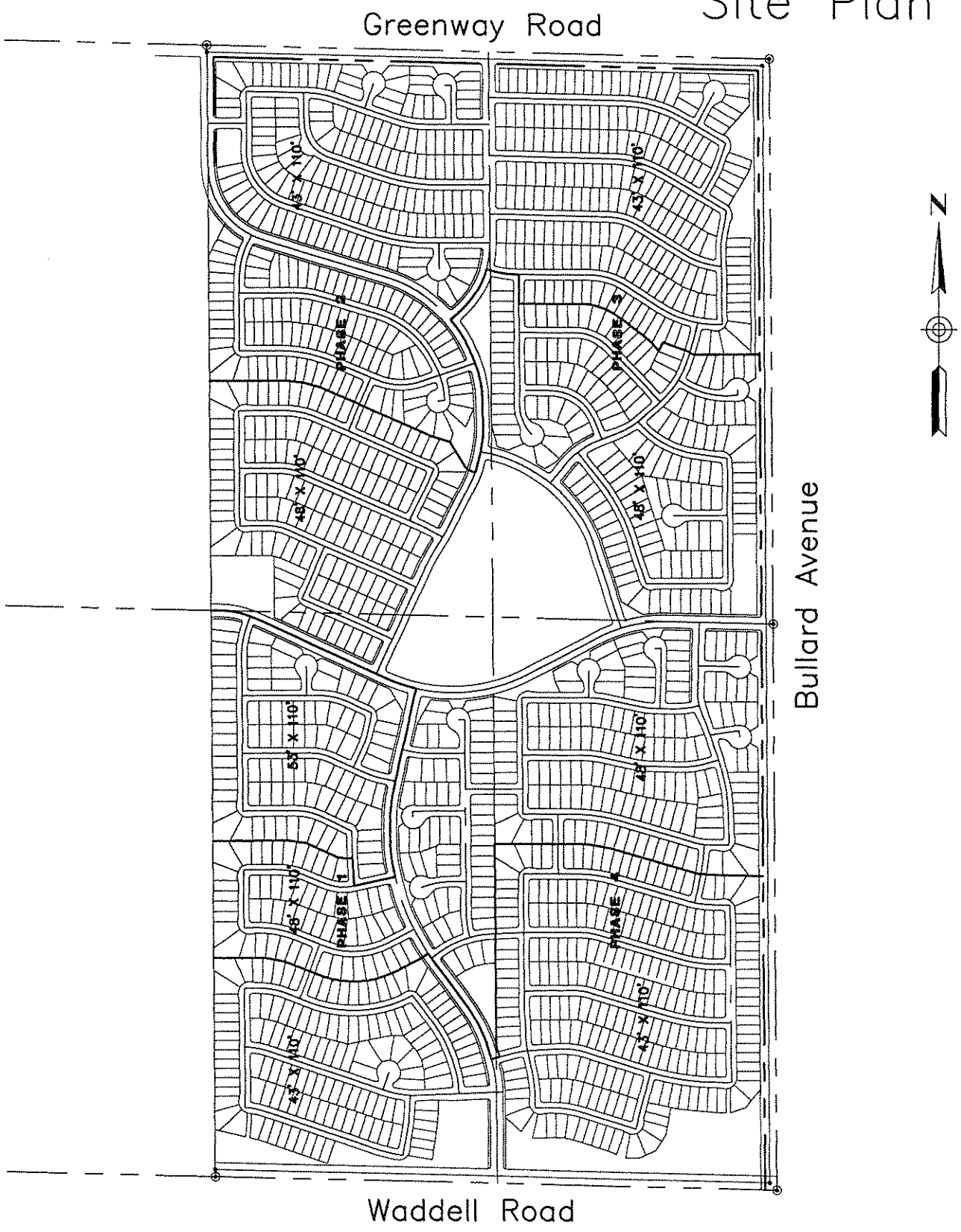


ASHTON RANCH

Figure 1

Kimley-Horn and Associates, Inc.

Site Plan

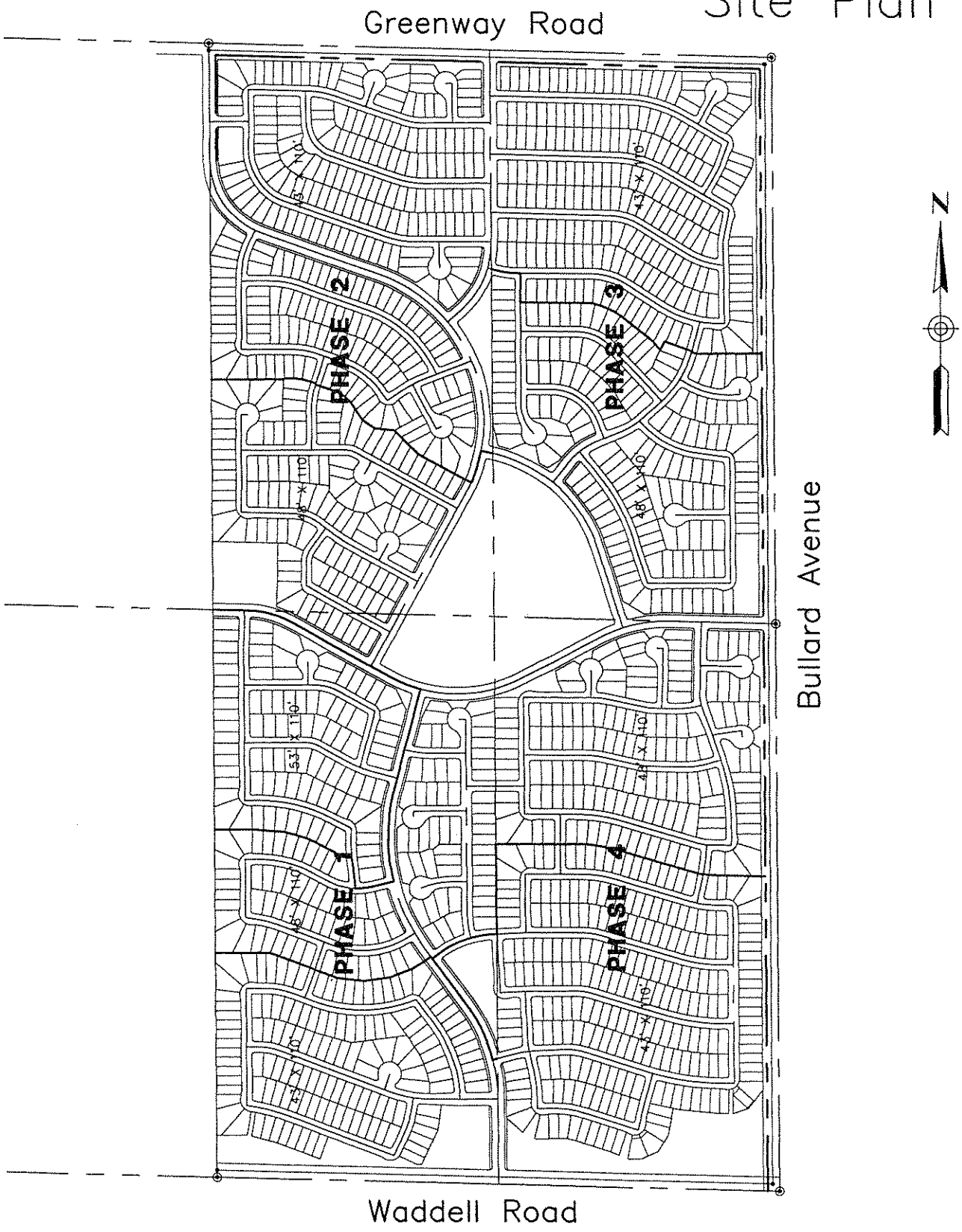


ASHTON RANCH

Figure 2

Kimley-Horn and Associates, Inc.

Site Plan



ASHTON RANCH

Figure 2

STUDY AREA CONDITIONS

3.0 Study Area

Based upon *MCDOT Traffic Impact Procedures* and the expected trip generation potential of the site, Ashton Ranch is considered a large development requiring a Category III Traffic Impact Analysis. The study area for a Category III Analysis includes the site access drives and signal controlled intersections and/or major street intersections without signal control and major driveways within one mile from the site. Based on these requirement, the project's study area, including study area arterial intersections are shown in Figure 3.

Based upon Table 2 of *MCDOT Traffic Impact Procedures*, the market area for Ashton Ranch has been assumed to be a distance of 10 miles from the project site.

3.1 Land Use and Zoning

The site is currently used for agricultural purposes, with parts of the site remaining undeveloped. It is listed in the *Surprise Comprehensive Development Plan* as agricultural use and is currently zoned residential (R-1). The land uses of the areas adjacent to the site are agricultural, with the exception of a vacant section located in the northwest corner of Greenway Road/Bullard Avenue (the City of Phoenix abandoned airstrip). In addition, based on the information provided by the City of Surprise, the following developments are planned for the area northeast of the project site: Albertson's shopping center (1998), Safeway shopping center (1998), and West Point commercial center (1999). An elementary school currently exists north of Bell Road, between Reems Road and Bullard Avenue. The majority of the parcels adjacent to the site are also zoned residential (R-1), with a small parcel to the northwest of the site zoned I-1 and the parcel immediately north of the site zoned PAD/C-2.

3.2 Site Accessibility and Internal Circulation

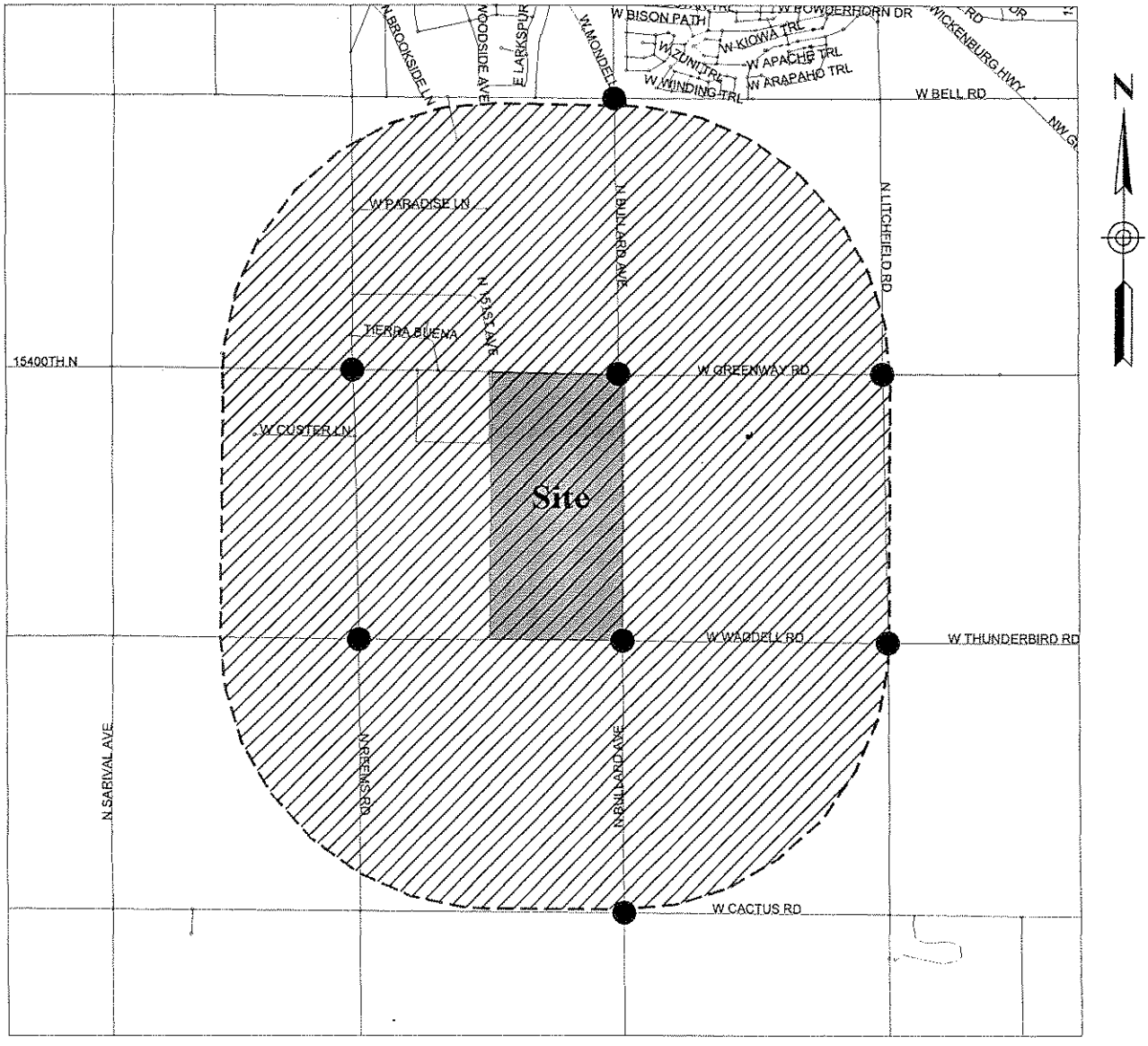
Regional access to the site, within the market area, will be provided by Bullard Avenue for the north-south direction and by Greenway and Waddell Roads for the east-west direction. Direct access to the project site is proposed as follows:

- From the North: a north-south collector street along the 151st Avenue alignment, entering the site along its west boundary and connecting to the site's internal collector circulation system; a north-south collector street along the quarter section line between Bullard Avenue and Reems Road, connecting to Greenway Road.
- From the East: a collector street along the mid-section line between Greenway Road and Waddell Road, connecting to Bullard Avenue;
- From the South: a collector street along the quarter section line between Bullard Avenue and Reems Road, connecting to Waddell Road; and
- From the West: a collector street along the mid-section between Greenway Road and Waddell Road, anticipated to extend into a future east-west external collector street, connecting to Reems Road.

The right-of-way (ROW) of the site's collector streets is proposed at 60 feet, as provided in the *Surprise Comprehensive Development Guidelines* for Primary and Secondary collector roadways. The collector street network will extend throughout the site in both the north-south and east-west directions. The site's internal circulation will be accommodated through a network of local streets, with a proposed ROW of 50 feet. The internal circulation network is depicted on the site plan, shown on the previously referenced Figure 2.

Kimley-Horn and Associates, Inc.

Study Area



● Study Area Arterial Intersections

ASHTON RANCH

Figure 3

ANALYSIS OF EXISTING CONDITIONS

4.0 Physical Roadway Characteristics/Existing Traffic Volumes

The existing roadway network within the study area consists of Greeway Road, Bullard Avenue, and Waddell Road.

Greenway Road is an east-west facility which extends continuously from Litchfield Road to the east to Reems Road to the west. Greenway Road is presently classified as a minor arterial. The roadway is currently unimproved within the study area; no speed limit is posted on this facility. Bullard Avenue forms a "T" intersection at Greenway Road, as does Greenway Road at Litchfield Road. The intersection of Greenway Road and Reems Road is controlled by stop signs for the east-west traffic. Information on existing average daily traffic (ADT) within the study area was not available for that facility.

Bullard Avenue is a north-south facility extending from Olive Avenue to the south to Greenway Road to the north. Bullard Avenue is classified as a minor arterial within the study area and is currently unimproved. The intersection of Bullard Avenue and Waddell Road is controlled by stop signs on Bullard Avenue. No historic ADT data for Bullard Avenue were available.

Waddell Road is an east-west major arterial, extending from U.S. 60 to the east to Bearsdley Canal to the west. Waddell Road currently provides two lanes of travel in each direction. The posted speed limit on this facility is 55 mph. Waddell Road forms four-way stop intersections at Reems Road and Litchfield Road. The 1995 ADT on Waddell Road was reported at approximately 1000 vehicles per day (*1995 Annual Report,* Maricopa County Department of Transportation Traffic Counts Program).

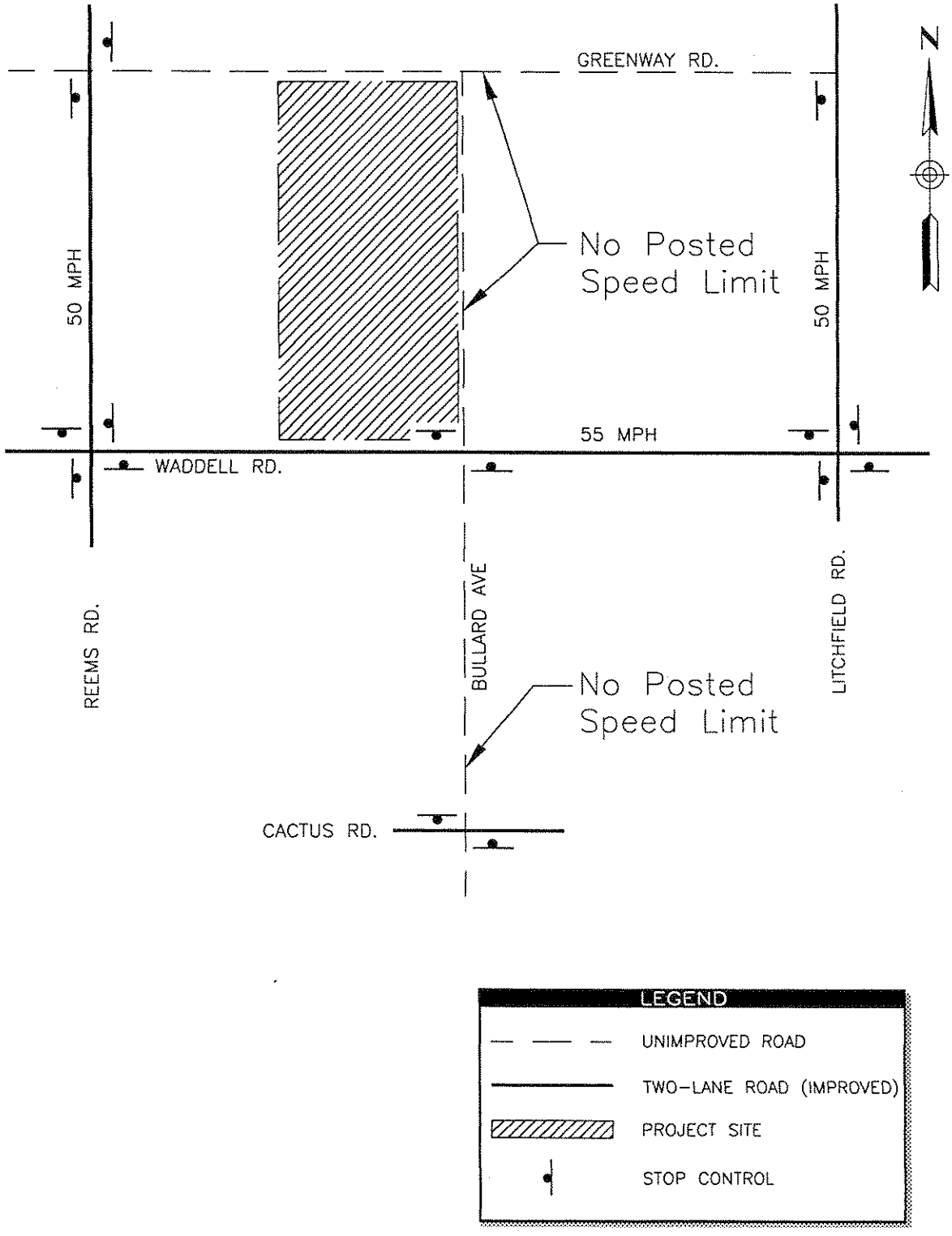
The existing configuration of the study area intersections is depicted on Figure 4.

4.1 Capacity and Level-of-Service Analysis

Due to the lack of existing traffic data for the study area off-site intersections and because of the low existing traffic volumes in that area, no level-of-service (LOS) analysis of the existing intersections was performed. LOS analysis was performed, however, for the year 2020 horizon, in accordance with the Category III analysis requirements of the *MCDOT Traffic Impact Procedures.*

Kimley-Horn and Associates, Inc.

Existing Conditions



ASHTON RANCH

Figure 4

5.0 Site Traffic Forecasting

Trip generation potential of the proposed development was determined using the trip generation equations published in the Institute of Transportation Engineers (ITE) *Trip Generation Report*, (5th edition, 1991) and the *February 1995 Update to the 5th Edition*, as applicable. Trip generation rates for single-family detached housing (ITE Land Use Code 210) and elementary schools (ITE Land Use Code 520) were used to calculate the trip generation of the site. The trip generation of the development's proposed land uses and densities are represented in Table 1.

Table 1
Ashton Ranch Development
Trip Generation

Land use	Intensity (X)	Daily Trips	AM Peak Hour			PM Peak Hour		
			Total	In	Out	Total	In	Out
Residential Dwellings:								
At end of Phase I	371 D.U.	3,452	251	65	183	352	229	123
At end of Phase II	742 D.U.	6,537	459	119	333	658	428	230
At end of Phase III	1,113 D.U.	9,496	652	170	474	949	617	332
At end of Phase IV	1,484 D.U.	12,377	837	218	608	1,230	800	431
School Site:	1,000 Students	915	300	180	120	210	118	92
Total*		**13,292**	**1,137**	**398**	**739**	**1,440**	**917**	**523**

* Total = (school site trips) + (end of Phase IV residential trips)

Note: Trip Generation was calculated using the following data:

Daily Traffic Generation
- Single Family Homes [ITE 210] = Ln(T)=0.921*Ln(# of D.U.) +2.698
- School [ITE 520] = [(1.113/X)-0.00002]^-1

AM Peak Hour Traffic Generation
- Single Family Homes [ITE 210] = Ln(T)=0.867*Ln(# of D.U.) +0.398; (26% in/74% out)
- School [ITE 520] = Average rate = 0.30 vph

PM Peak Hour Traffic Generation
- Single Family Homes [ITE 210] = Ln(T)=0.902*Ln(D.U.)+0.528; (65% in/35% out)
- School [ITE 520] = Ln(T)=0.881*Ln(X)-0.737

Notes: T= Trip Ends

5.1 Trip Distribution and Assignment

The site generated traffic, shown in Table 1, was distributed onto the study area street network based on the anticipated trip attractions within the site's market area for the residential trips and based on the projected trip origins within the school's market area. The market areas for the two trip generators were delineated based on an average 10-mile travel length for employment trips and an assumed average 2 mile school trip. Traffic Analysis Zone (TAZ) data published in the *Update of the Population and Socioeconomic Database for Maricopa County, Arizona* (MCDOT, March 1993) were used to arrive at the directional distribution of the site-generated trips. The assignment of site generated traffic was based on the layout of the site access points and on the configuration of the surrounding street network. The distribution and assignment percentages are shown in Table 2 and Figure 5. Figure 6 illustrates the projected site-generated ADT volumes on the internal street network and the resulting roadway classification while Figures 7 and 8 show the AM and PM peak hour site-generated traffic.

Table 2
Trip Distribution

Direction (to/from)	% Total	
	Residential Trips	School Trips
North	7	40
South	26	6
East	65	50
West	2	4

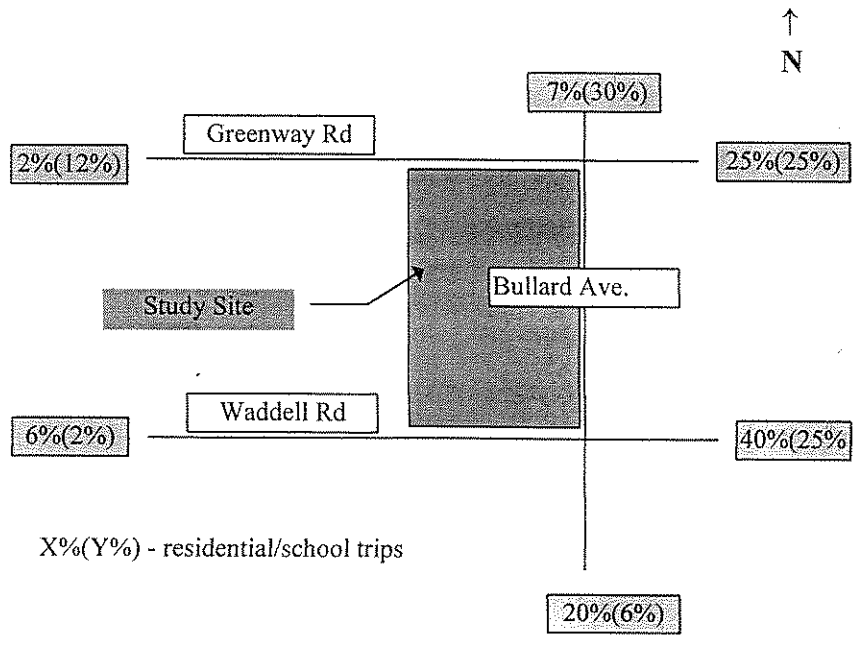
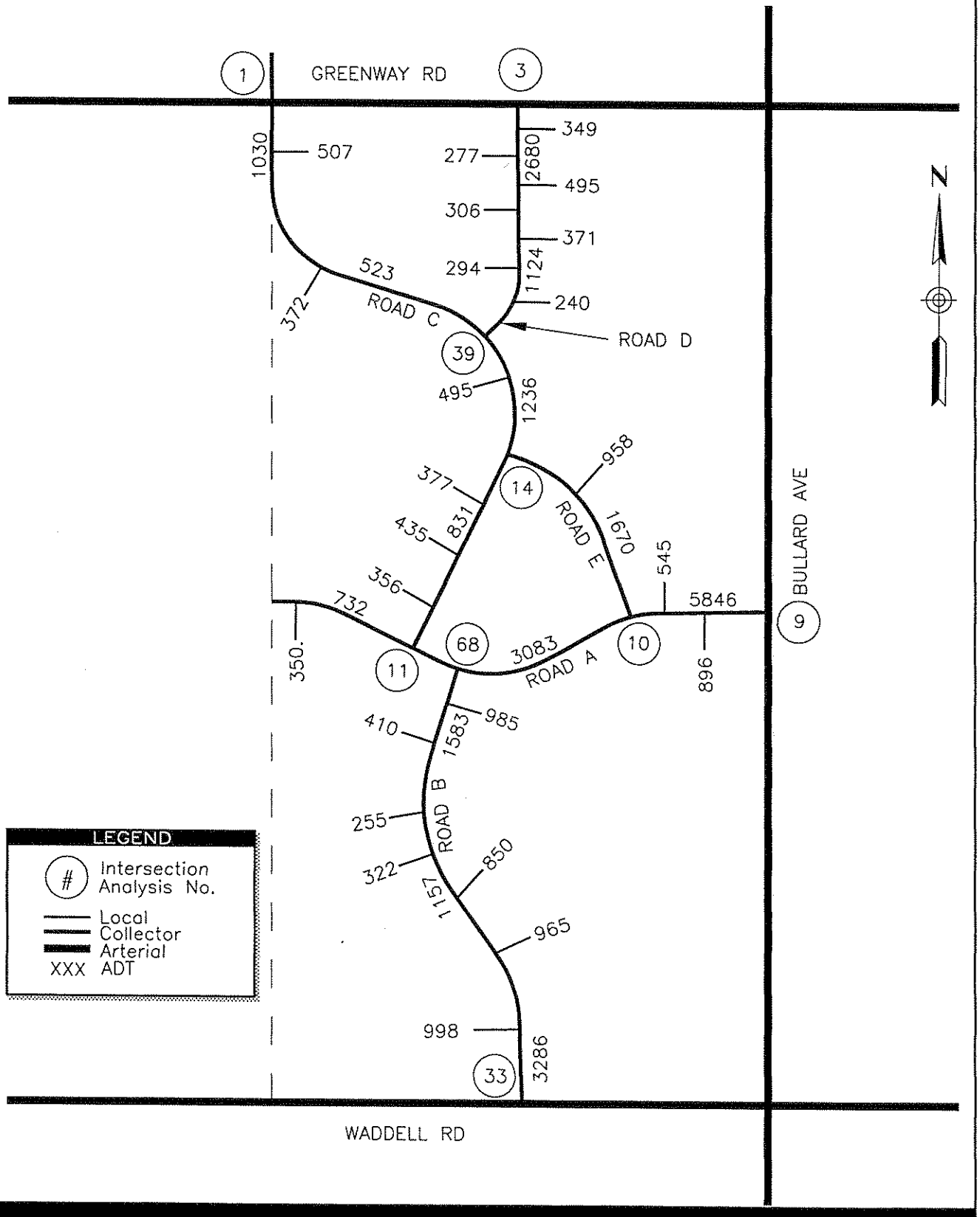


Figure 5
Trip Assignment

Kimley-Horn and Associates, Inc.

Street Classification and ADT

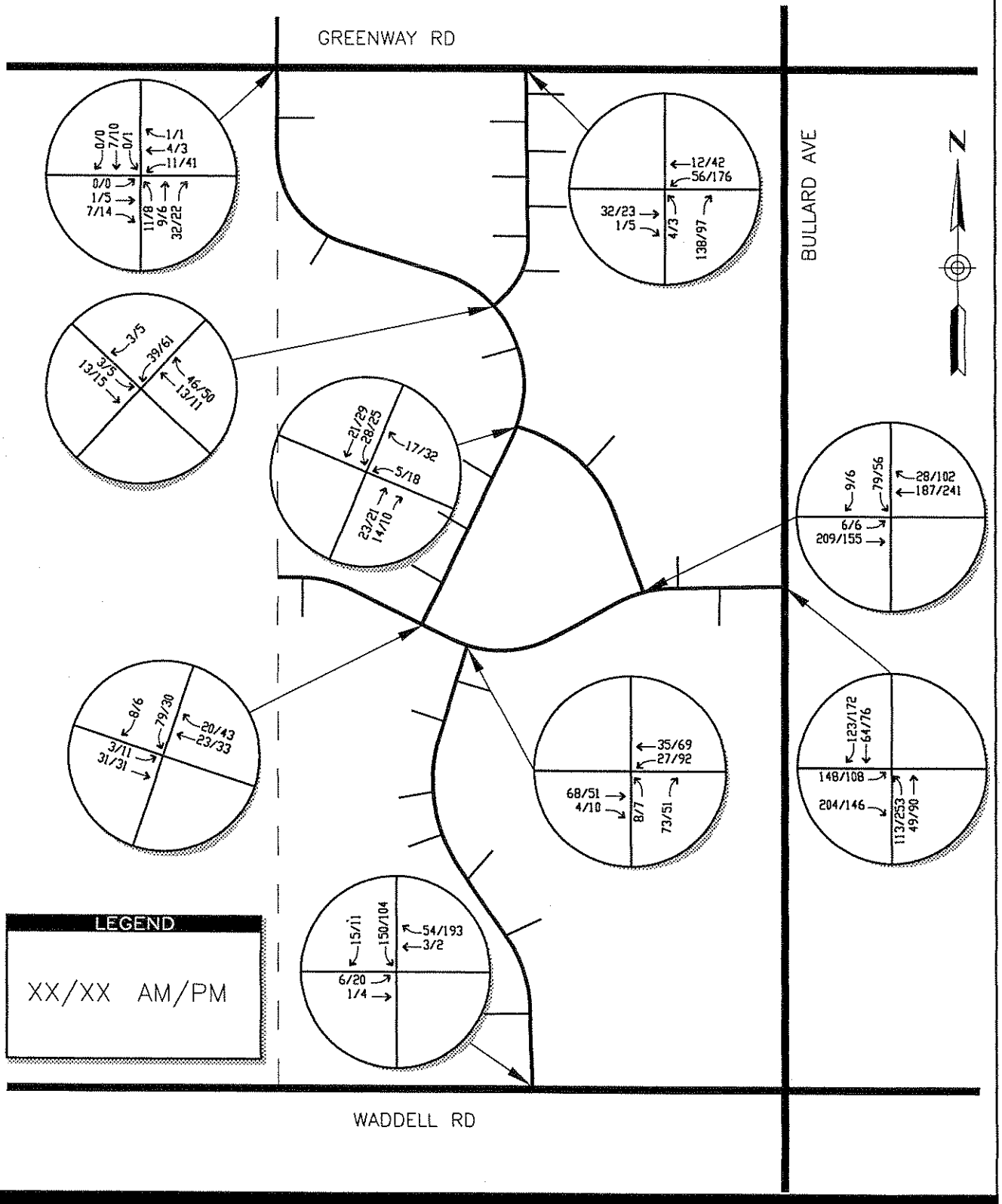


ASHTON RANCH

Figure 6

Kimley-Horn and Associates, Inc.

Site Generated Traffic
Internal Streets



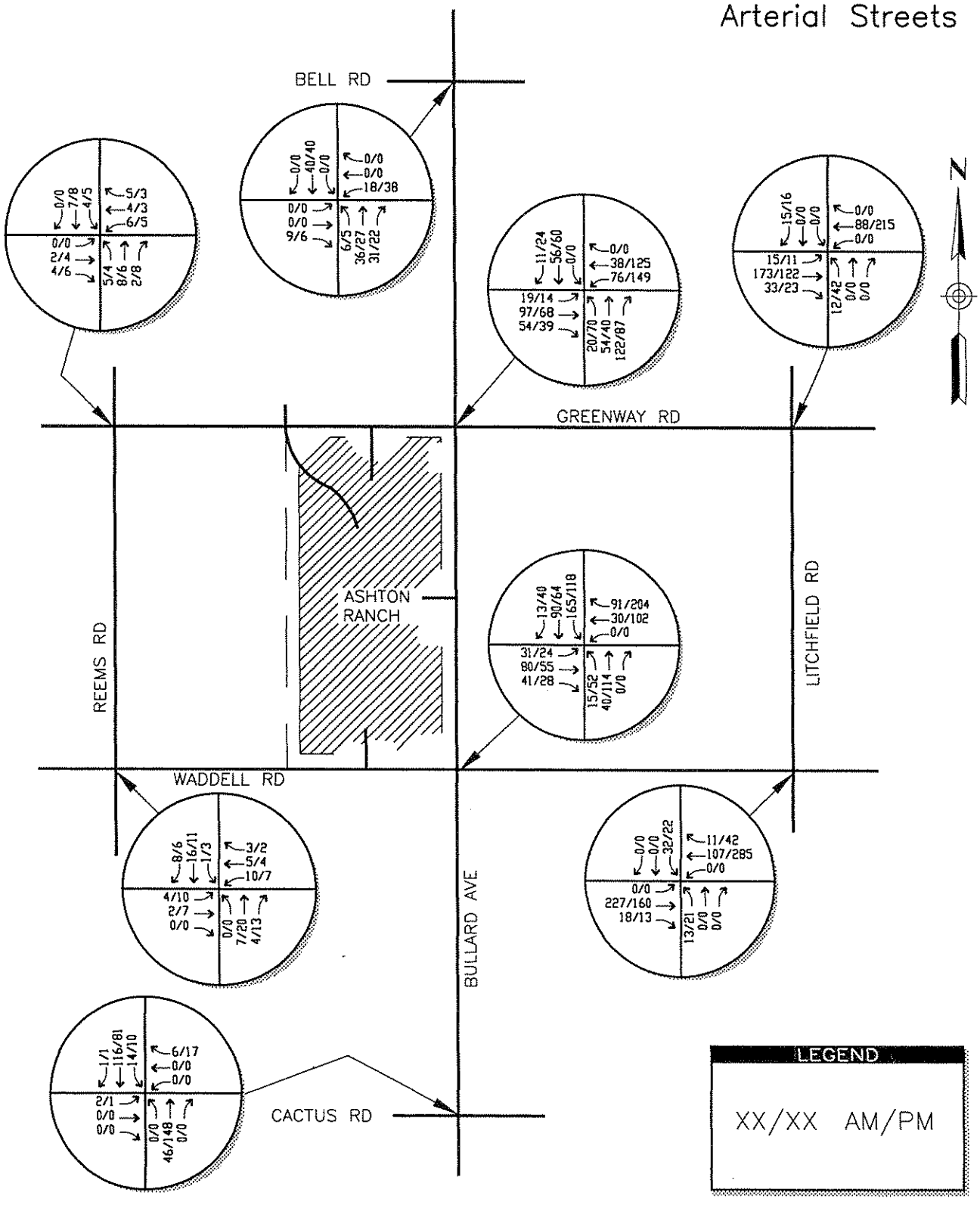
ASHTON RANCH

Figure 7

Kimley-Horn and Associates, Inc.

Site Generated Traffic

Arterial Streets



ASHTON RANCH

Figure 8

5.2 Non-Site Traffic Forecasting

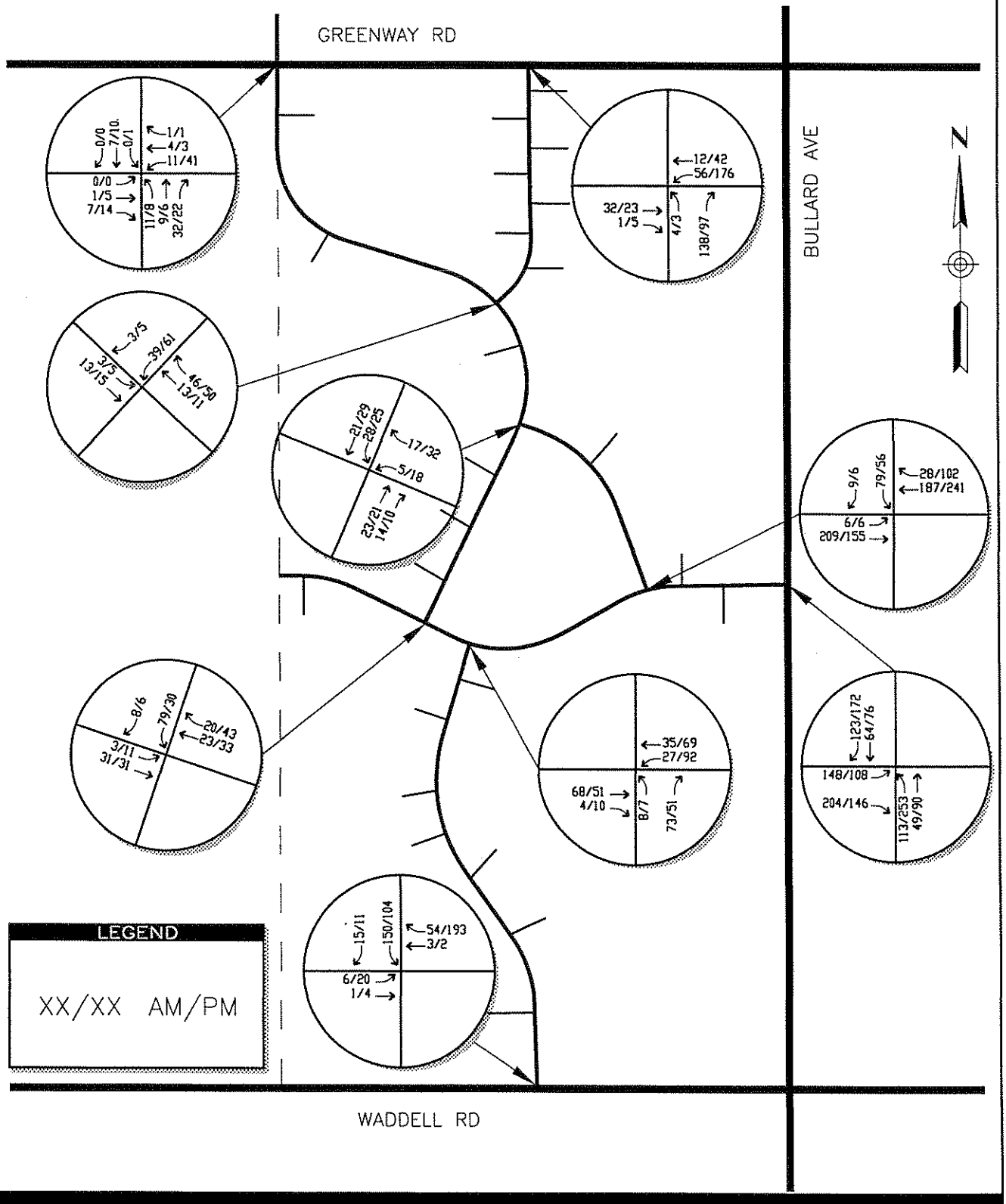
Year 2020 background traffic volumes for the study area arterial street network were estimated based on MAG's year 2010 ADT forecasts. These ADT volumes are shown below. Peak hour link volumes were calculated at 8 percent of the projected ADTs, with an assumed 60/40 directional split of traffic and a 10-80-10 and 10-70-20 (left-through-right) approach traffic volume distribution in the east-west and north-south directions, respectively. The resulting peak hour intersection background volumes were combined with the site-generated traffic. These total projected intersection volumes are shown on Figures 9 and 10.

Year 2020 ADT Projections for the Study Area Arterial Street Network:

Segment	From	To	2020 ADT	ADT on Links External to Study Area
Greenway Road	Reems	Bullard	10,000	W. of Reems - 10.000
	Bullard	Litchfield	12,000	E. of Litchfield - 18,000
Waddell Road	Reems	Bullard	10,000	W. of Reems - 6,000
	Bullard	Litchfield	10,000	E. of Litchfield - 10,000
Reems Road	Waddell	Greenway	15,000	N. of Greenway - 15,000 S. of Greenway - 15,000
Bullard Avenue	Cactus	Waddell	6,000	S. of Cactus - 12,000
	Waddell	Greenway	9,000	
	Greenway	Bell	10,000	N. of Bell - 10,000
Litchfield Road	Waddell	Greenway	18,000	S. of Waddell - 25,000 N. of Greenway - 30,000
Bell Road	Reems	Bullard	15,000	
	Bullard	Litchfield	18,000	
Cactus Road	Reems	Bullard	6,000	
	Bullard	Litchfield	6,000	

Kimley-Horn and Associates, Inc.

Total Traffic
Internal Streets



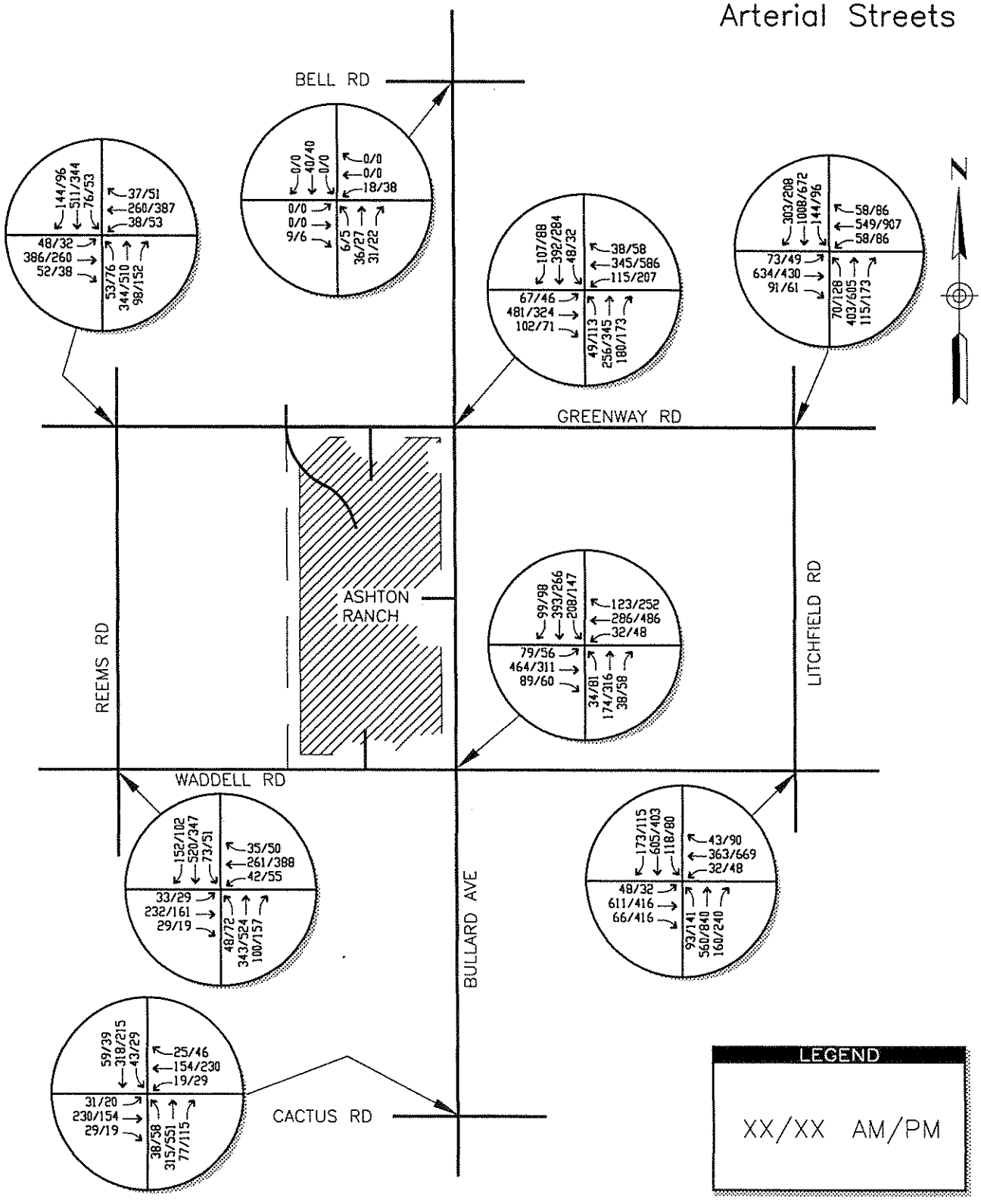
ASHTON RANCH

Figure 9

Kimley-Horn and Associates, Inc.

Total Traffic

Arterial Streets



ASHTON RANCH

Figure 10

6.0 Capacity and Level of Service (LOS) Analysis

In accordance with the Category III analysis requirements of MCDOT's *Traffic Impact Procedures*, the key study area intersections were evaluated to determine the expected level of service for background and total traffic conditions during the AM and PM peak hour at project buildout. The following is a list of the intersection analyzed:

Intersection	Analysis Type	Location Description
Bell Rd/Bullard Ave	Signalized	Adjacent to site
Greenway Rd/Reems Rd	Signalized	External intersection
Greenway Rd/Bullard Ave	Signalized	Adjacent to site
Greenway Rd/Litchfield Rd	Signalized	External intersection
Waddell Rd/Reems Rd	Signalized	External intersection
Waddell Rd/Bullard Ave	Signalized	Adjacent to site
Waddell Rd/Litchfield Rd	Signalized	External intersection
Cactus Rd/Bullard Ave	Signalized	External intersection
#1 (Greenway Rd/Road C)	Unsignalized	Site access, see Figure 6
#3 (Greenway Rd/Road D)	Unsignalized	Site access, see Figure 6
#9 (Bullard Ave/Road A)	Unsignalized	Site access, see Figure 6
#33 (Waddell Rd/Road B)	Unsignalized	Site access, see Figure 6
#10 (Road A/Road E)	Unsignalized	Collector/collector, see Figure 6
#11 (Road A/Road C)	Unsignalized	Collector/collector, see Figure 6
#14 (Road C/Road E)	Unsignalized	Collector/collector, see Figure 6
#39 (Road C/Road D)	Unsignalized	Collector/collector, see Figure 6
#68 (Road A/Road B)	Unsignalized	Collector/collector, see Figure 6

The southbound right-turn volume into the site from Bullard Avenue (onto Road A, access point #9) is estimated at 172 vehicles during the PM peak hour. Similarly, the intersection of Road B at Waddell Road (intersection #33) is expected to accommodate approximately 193 westbound right-turns during the PM peak hour.

Although not warranted by the site-generated traffic, its is expected that the four-leg intersection of the collector road along the 151st Avenue alignment (Road C) with Greenway will become signalized at some point in the future. Similarly, the east access point to the site (Road A, intersection #9) on Bullard Avenue will likely become signalized in the future as well. While the turn volumes at Road C and Greenway Road do not require right-turn channelization, the eastbound right-turns of 204 vehicles per hour at Road A and Bullard Avenue do warrant an exclusive right-turn lane. Without an exclusive right-turn lane, the future eastbound through movement (the intersection is expected to become a four-leg intersection) would experience a potential delay due to these high right-turns.

In addition, it is anticipated that exclusive right-turn lanes will be required in the future at Greenway Road/Bullard Avenue and at Waddell Road/Bullard Avenue to accommodate future off-site traffic. It is therefore recommended that ROW be provided at the southwest corner of Greenway Road/Bullard Avenue and at the northwest corner of Waddell Road/Bullard Avenue to accommodate these future right-turn lanes.

Based upon a review of site generated volumes at the major access points, exclusive right-turn lanes are proposed at the following locations:

- #9 (Bullard Ave/Road A): 150 feet of storage for southbound right-turns
- #9 (Bullard Ave/Road A): 150 feet of storage for eastbound right-turns
- #33 (Waddell Rd/Road B): 150 feet of storage for westbound right-turns

In addition:

- Greenway Road/Bullard Avenue: provide sufficient ROW for a future exclusive eastbound right-turn lane
- Waddell Road/Bullard Avenue: provide sufficient ROW for a future exclusive southbound right-turn lane

The location of each of the analyzed intersections is shown on Figure 6. The lane configuration of the base year 2020 street network used in the analysis is shown in Figure 11. This configuration was based on the discussions with the City of Surprise and on the recommendations for exclusive right-turn lanes discussed above. The results of the level of service analysis for the intersections above are summarized in Tables 3 and 4.

Table 3
AM Peak Hour Intersection LOS in 2020

Signalized Intersections	Year 2020 Background		Year 2020 Total Traffic		Change in V/C
	LOS	V/C	LOS	V/C	
Bell Rd/Bullard Ave	B	0.301	B	0.327	0.026
Greenway Rd/Reems Rd	B	0.350	B	0.360	0.010
Greenway Rd/Bullard Ave	B	0.282	C	0.399	0.117
Greenway Rd/Litchfield Rd	B	0.469	C	0.536	0.067
Waddell Rd/Reems Rd	B	0.284	B	0.295	0.011
Waddell Rd/Bullard Ave	B	0.224	C	0.302	0.078
Waddell Rd/Litchfield Rd	B	0.302	C	0.358	0.056
Cactus Rd/Bullard Ave	B	0.242	B	0.296	

Unsignalized Intersection	NB			SB			EB			WB		
	L	T	R	L	T	R	L	T	R	L	T	R
#1 (Greenway Rd/Road C)												
#3 (Greenway Rd/Road D)	A	-	A	-	-	-	-	-	-	A	-	-
#9 (Bullard Ave/Road A)	A	-	-	-	-	-	A	-	A	-	-	-
#33 (Waddell Rd/Road B)	-	-	-	A	-	A	A	-	-	-	-	-
#10 (Road A/Road E)	-	-	-	-	-	-	A	-	-	-	-	-
#11 (Road A/Road C)	-	-	-	-	-	-	A	-	-	-	-	-
#14 (Road C/Road E)	-	-	-	-	-	-	A	-	-	-	-	-
#39 (Road C/Road D)	A	-	-	-	-	-	-	-	-	-	-	-
#68 (Road A/Road B)	-	-	-	-	-	-	-	-	-	A	-	-

Table 4
PM Peak Hour Intersection LOS in 2020

Signalized Intersections	Year 2020 Background		Year 2020 Total Traffic		Change in V/C
	LOS	V/C	LOS	V/C	
Bell Rd/Bullard Ave	B	0.321	B	0.336	0.150
Greenway Rd/Reems Rd	B	0.350	B	0.359	0.009
Greenway Rd/Bullard Ave	B	0.293	C	0.397	0.104
Greenway Rd/Litchfield Rd	C	0.460	C	0.552	0.092
Waddell Rd/Reems Rd	B	0.307	B	0.324	0.017
Waddell Rd/Bullard Ave	B	0.193	C	0.374	0.181
Waddell Rd/Litchfield Rd	B	0.350	B	0.426	0.076
Cactus Rd/Bullard Ave	B	0.198	B	0.211	0.013

Unsignalized Intersection	NB			SB			EB			WB		
	L	T	R	L	T	R	L	T	R	L	T	R
#1 (Greenway Rd/Road C)												
#3 (Greenway Rd/Road D)	B	-	A	-	-	-	-	-	-	A	-	-
#9 (Bullard Ave/Road A)	A	-	-	-	-	-	C	-	A	-	-	-
#33 (Waddell Rd/Road B)	-	-	-	A	-	A	A	-	-	-	-	-
#10 (Road A/Road E)	-	-	-	-	-	-	A	-	-	-	-	-
#11 (Road A/Road C)	-	-	-	-	-	-	A	-	-	-	-	-
#14 (Road C/Road E)	-	-	-	-	-	-	A	-	-	-	-	-
#39 (Road C/Road D)	A	-	-	-	-	-	-	-	-	-	-	-
#68 (Road A/Road B)	-	-	-	-	-	-	-	-	-	A	-	-

The level of service analysis, summarized above, indicates that all of the study area intersections are expected to operate at an acceptable level of service. As a result, the project's impact on the adjacent external street network is estimated as minimal, and requiring no improvements to these roadways. Similarly, the layout and lane geometry of the site access points and the internal collector and residential street network if found to adequately accommodate the traffic volumes generated by the site. The capacity calculations worksheets are included in the Appendix.

6.1 QUEUING ANALYSIS

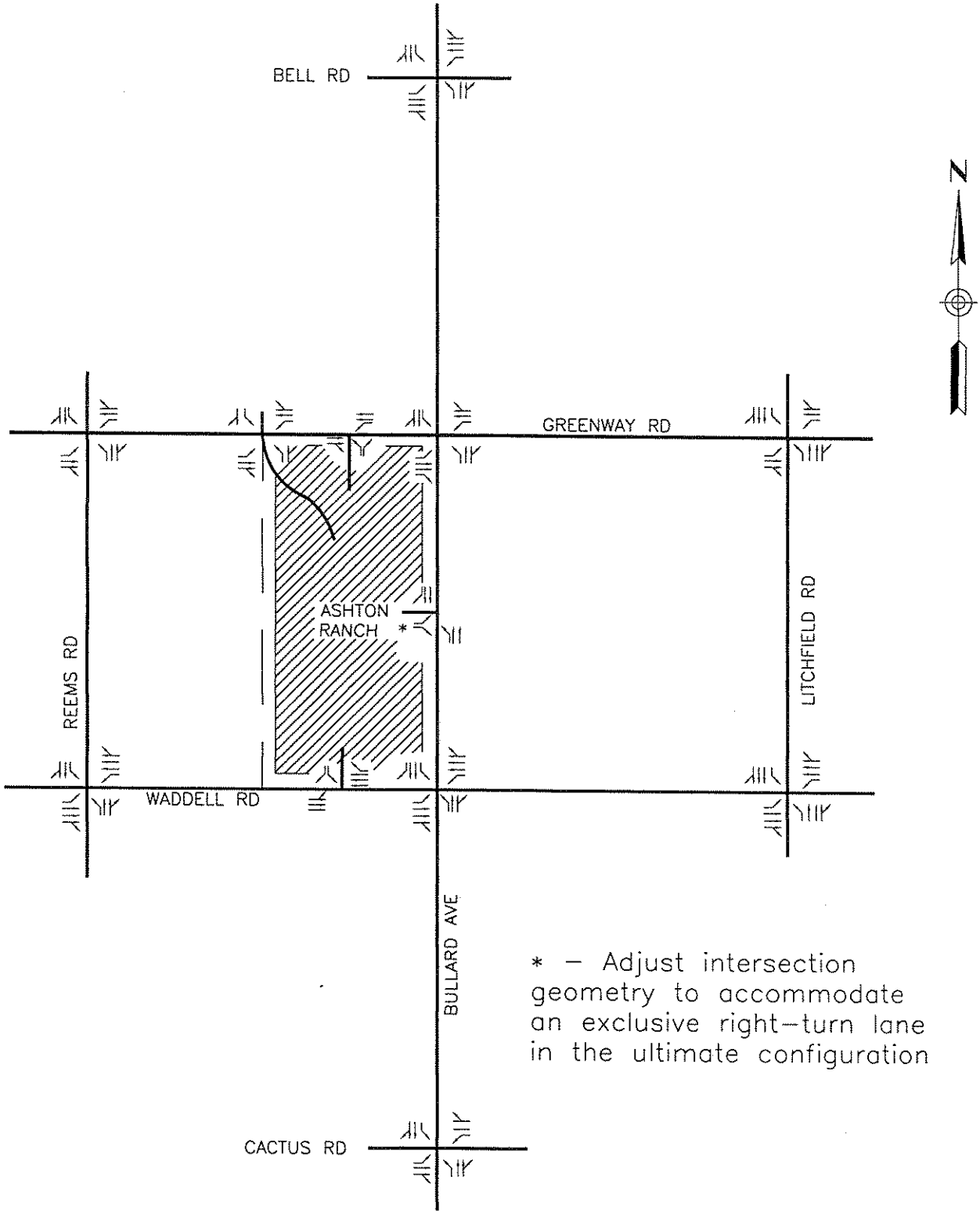
The recommended turn lane storage lengths at the site access points were calculated based on the equations described in the MCDOT *Traffic Impact Procedures* for left-turns and on the standard volume criteria for right-turn lanes. The calculations of left-turn storage requirements are included in the Appendix. Table 4 summarizes the storage length recommendations for the site's access points.

Table 5
Turn Lane Storage Requirements

Intersection	NB		SB		EB		WB	
	Left	Right	Left	Right	Left	Right	Left	Right
#1 (Greenway Rd/Road C)	-	-	-	-	-	-	75	-
#3 (Greenway Rd/Road D)	-	-	-	-	-	-	50	-
#9 (Bullard Ave/Road A)	-	-	-	150	-	150	-	-
#33 (Waddell Rd/Road B)	-	-	-	-	50	-	-	150

Kimley-Horn and Associates, Inc.

2020 Lane Configuration



* – Adjust intersection geometry to accommodate an exclusive right–turn lane in the ultimate configuration

ASHTON RANCH

Figure 11

7.0 Internal Circulation and Site Access

The traffic analysis of the site's projected buildout conditions indicates that access to the proposed development and internal circulation can be adequately accommodated by the proposed a system of local and collector streets shown on Figure 6. It is anticipated, based on the site's trip generation potential and the proposed internal circulation configuration, that the total daily traffic volumes will result in internal street classifications as depicted on Figure 6. Accordingly, it is recommended that the internal site roadways, shown on Figure 6 as collectors, be designed as principal collector roadways (60 feet of ROW) in accordance with the *Surprise Comprehensive Development Guide* detail 24.

The layout of the residential street network attempts to optimize subdivision access and traffic safety. Access to the internal collectors is facilitated via a series of "T" intersections with the residential streets, using a minimum spacing of approximately 125 feet between the intersections, as recommended by ITE[1].

This spacing is generally employed to improve safety by reducing "corner cutting" between adjacent intersections. Corner cutting, however, is not anticipated to be an issue within the development as trips between residences are not expected to occur frequently and access "shortcuts" through residential streets are discouraged by a well laid out internal collector street network.

7.1 Auxiliary Lanes

Minimum left-turn storage is recommended for the following intersections:

- #1 (Greenway Road/Road C): 75 feet of storage for westbound left-turns
- #3 (Greenway Road/Road D): 50 feet of storage for westbound left-turns
- #33 (Waddell Rd/Road B): 50 feet of storage for eastbound left-turns

Exclusive right-turn lanes are recommended at these intersections:

- #9 (Bullard Ave/Road A): 150 feet of storage for southbound right-turns
- #9 (Bullard Ave/Road A): 150 feet of storage for eastbound right-turns
- #33 (Waddell Rd/Road B): 150 feet of storage for westbound right-turns

7.2 Adjacent Arterials

The ROW requirements and lane geometry for the adjacent off-site roadways are recommended to follow the City's guidelines as follows:

- Waddell Road - 130 ft ROW, 6 lanes with raised median and a median opening at the ¼-mile point from Bullard Avenue
- Greenway Road - 110 ft ROW, 5 lanes, 64 - 68 foot roadway width, two-way left-turn lane
- Bullard Avenue - 110 ft ROW, 5 lanes, 64 - 68 foot roadway width, two-way left-turn lane

1 Guidelines for Residential Subdivision Street Design, A recommended Practice, ITE, 1993.

In addition, it is recommended that ROW be dedicated at the southwest corner of Greenway Road/Bullard Avenue and at the northwest corner of Waddell Road/Bullard Avenue to accommodate future right-turn lanes at these intersections.

APPENDIX

HCM CAPACITY CALCULATIONS WORKSHEETS

Kimley-Horn
and Associates, Inc.

AM PEAK CAPACITY CALCULATIONS

SIGNALIZED INTERSECTIONS

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #123 BELL/BULLARD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.301
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	32	224	64	48	336	96	72	576	72	58	461	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	224	64	48	336	96	72	576	72	58	461	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	32	224	64	48	336	96	72	576	72	58	461	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	32	224	64	48	336	96	72	576	72	58	461	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	32	235	67	48	353	101	72	634	79	58	507	64
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.56	0.44	1.00	1.56	0.44	1.00	2.67	0.33	1.00	2.66	0.34
Final Sat.:	1805	2868	818	1805	2866	820	1805	4967	619	1805	4960	626
Capacity Analysis Module:												
Vol/Sat:	0.02	0.08	0.08	0.03	0.12	0.12	0.04	0.13	0.13	0.03	0.10	0.10
Crit Moves:	****				****			****		****		

****

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

Intersection #123 BELL/BULLARD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

****

Intersection #123 BELL/BULLARD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.327
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	32	224	64	48	336	96	72	576	72	58	461	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	32	224	64	48	336	96	72	576	72	58	461	58
Added Vol:	6	36	31	0	40	0	0	0	9	18	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	260	95	48	376	96	72	576	81	76	461	58
[illegible]er Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
[illegible]F Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	260	95	48	376	96	72	576	81	76	461	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	260	95	48	376	96	72	576	81	76	461	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	38	273	99	48	395	101	72	634	89	76	507	64
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.47	0.53	1.00	1.59	0.41	1.00	2.63	0.37	1.00	2.66	0.34
Final Sat.:	1805	2677	971	1805	2935	751	1805	4898	688	1805	4960	626
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.03	0.13	0.13	0.04	0.13	0.13	0.04	0.10	0.10
Crit Moves:	****				****			****		****		

****

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

****
Intersection #123 BELL/BULLARD
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 2 1 0			1 0 2 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.96	0.96	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.96	0.96	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.96	0.96	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < No > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

****

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****
Intersection #134 GREENWAY/REEMS
****

Cycle (sec):	100	Critical Vol./Cap. (X):	0.350
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	35	Level Of Service:	B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	48	336	96	72	504	144	48	384	48	32	256	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	48	336	96	72	504	144	48	384	48	32	256	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	48	336	96	72	504	144	48	384	48	32	256	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	48	336	96	72	504	144	48	384	48	32	256	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	48	353	101	72	529	151	48	403	50	32	269	34
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.56	0.44	1.00	1.56	0.44	1.00	1.78	0.22	1.00	1.78	0.22
Final Sat.:	1805	2866	820	1805	2867	819	1805	3313	411	1805	3306	418
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.12	0.04	0.18	0.18	0.03	0.12	0.12	0.02	0.08	0.08
Crit Moves:	****				****			****		****		

****

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

Intersection #134 GREENWAY/REEMS

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < No > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #134 GREENWAY/REEMS

Cycle (sec): 100 Critical Vol./Cap. (X): 0.360
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	48	336	96	72	504	144	48	384	48	32	256	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	48	336	96	72	504	144	48	384	48	32	256	32
Added Vol:	5	8	2	4	7	0	0	2	4	6	4	5
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	344	98	76	511	144	48	386	52	38	260	37
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	344	98	76	511	144	48	386	52	38	260	37
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	344	98	76	511	144	48	386	52	38	260	37
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	53	361	103	76	537	151	48	405	54	38	273	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.56	0.44	1.00	1.56	0.44	1.00	1.76	0.24	1.00	1.76	0.24
Final Sat.:	1805	2868	818	1805	2877	809	1805	3286	438	1805	3269	455
Capacity Analysis Module:												
Vol/Sat:	0.03	0.13	0.13	0.04	0.19	0.19	0.03	0.12	0.12	0.02	0.08	0.08
Crit Moves:	****				****			****		****		

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

Intersection #134 GREENWAY/REEMS

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < No > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #5 GREENWAY/BULLARD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.282
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	29	202	58	48	336	96	48	384	48	39	307	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	202	58	48	336	96	48	384	48	39	307	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	202	58	48	336	96	48	384	48	39	307	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	202	58	48	336	96	48	384	48	39	307	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	29	212	61	48	353	101	48	403	50	39	322	40
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.55	0.45	1.00	1.56	0.44	1.00	1.78	0.22	1.00	1.78	0.22
Final Sat.:	1805	2862	824	1805	2866	820	1805	3313	411	1805	3313	411
Capacity Analysis Module:												
Vol/Sat:	0.02	0.07	0.07	0.03	0.12	0.12	0.03	0.12	0.12	0.02	0.10	0.10
Crit Moves:	****				****			****		****		

****

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

Intersection #5 GREENWAY/BULLARD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 1 1 0			1 0 1 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:	0			0			0			0		
Grade:	0%			0%			0%			0%		
Parking/Hr:	No			No			No			No		
Bus Stp/Hr:	0			0			0			0		
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:	0			0			0			0		
ExclusiveRT:	Include			Include			Include			Include		
% RT Prtct:	0			0			0			0		
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

****

Intersection #5 GREENWAY/BULLARD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.399
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	29	202	58	48	336	96	48	384	48	39	307	38
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	202	58	48	336	96	48	384	48	39	307	38
Added Vol:	20	54	122	0	56	11	19	97	54	76	38	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	49	256	180	48	392	107	67	481	102	115	345	38
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	49	256	180	48	392	107	67	481	102	115	345	38
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	49	256	180	48	392	107	67	481	102	115	345	38
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	49	269	189	48	412	112	67	505	107	115	362	40
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.94	0.94	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.99	0.99
Lanes:	1.00	1.17	0.83	1.00	1.57	0.43	1.00	1.65	0.35	1.00	1.80	0.20
Final Sat.:	1805	2098	1474	1805	2898	788	1805	3042	644	1805	3388	374
Capacity Analysis Module:												
Vol/Sat:	0.03	0.13	0.13	0.03	0.14	0.14	0.04	0.17	0.17	0.06	0.11	0.11
Crit Moves:	****				****			****		****		

****

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

Intersection #5 GREENWAY/BULLARD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.94	0.94	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.99	0.99
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.94	0.94	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.99	0.99
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.94	0.94	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.99	0.99
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #117 GREENWAY/LITCHFIELD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.469
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 43 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	58	403	115	144	1008	288	58	461	58	58	461	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	403	115	144	1008	288	58	461	58	58	461	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	58	403	115	144	1008	288	58	461	58	58	461	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	403	115	144	1008	288	58	461	58	58	461	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	58	443	127	144	1109	317	58	484	61	58	484	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	2.33	0.67	1.00	2.33	0.67	1.00	1.78	0.22	1.00	1.78	0.22
Final Sat.:	1805	4297	1232	1805	4300	1229	1805	3307	417	1805	3307	417
Capacity Analysis Module:												
Vol/Sat:	0.03	0.10	0.10	0.08	0.26	0.26	0.03	0.15	0.15	0.03	0.15	0.15
Crit Moves:	****				****		****				****	

****

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

Intersection #117 GREENWAY/LITCHFIELD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 2 1 0			1 0 2 1 0			1 0 1 1 0			1 0 1 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	3	3	1	3	3	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

****

Intersection #117 GREENWAY/LITCHFIELD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.536
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 49 Level Of Service: C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	58	403	115	144	1008	288	58	461	58	58	461	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	403	115	144	1008	288	58	461	58	58	461	58
Added Vol:	12	0	0	0	0	15	15	173	33	0	88	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	70	403	115	144	1008	303	73	634	91	58	549	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	70	403	115	144	1008	303	73	634	91	58	549	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	70	403	115	144	1008	303	73	634	91	58	549	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	70	443	127	144	1109	333	73	665	95	58	577	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.99	0.99
Lanes:	1.00	2.33	0.67	1.00	2.31	0.69	1.00	1.75	0.25	1.00	1.81	0.19
Final Sat.:	1805	4297	1232	1805	4252	1277	1805	3259	466	1805	3402	360
Capacity Analysis Module:												
Vol/Sat:	0.04	0.10	0.10	0.08	0.26	0.26	0.04	0.20	0.20	0.03	0.17	0.17
Crit Moves:	****				****			****		****		

****

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

Intersection #117 GREENWAY/LITCHFIELD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 2 1 0			1 0 2 1 0			1 0 1 1 0			1 0 1 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	3	3	1	3	3	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.99	0.99
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.99	0.99
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.99	0.99
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #131 WADDELL/REEMS

****

Cycle (sec):	100	Critical Vol./Cap. (X):	0.284
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	32	Level Of Service:	B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	48	336	96	72	504	144	29	230	29	32	256	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	48	336	96	72	504	144	29	230	29	32	256	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	48	336	96	72	504	144	29	230	29	32	256	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	48	336	96	72	504	144	29	230	29	32	256	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	48	353	101	72	529	151	29	253	32	32	282	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.56	0.44	1.00	1.56	0.44	1.00	2.66	0.34	1.00	2.67	0.33
Final Sat.:	1805	2866	820	1805	2867	819	1805	4959	627	1805	4969	617
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.12	0.04	0.18	0.18	0.02	0.05	0.05	0.02	0.06	0.06
Crit Moves:	****				****		****				****	

****

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

Intersection #131 WADDELL/REEMS

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < No > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #131 WADDELL/REEMS

Cycle (sec): 100 Critical Vol./Cap. (X): 0.295
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	48	336	96	72	504	144	29	230	29	32	256	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	48	336	96	72	504	144	29	230	29	32	256	32
Added Vol:	0	7	4	1	16	8	4	2	0	10	5	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	48	343	100	73	520	152	33	232	29	42	261	35
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	48	343	100	73	520	152	33	232	29	42	261	35
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	48	343	100	73	520	152	33	232	29	42	261	35
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	48	360	105	73	546	160	33	255	32	42	287	38
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.55	0.45	1.00	1.55	0.45	1.00	2.67	0.33	1.00	2.65	0.35
Final Sat.:	1805	2854	832	1805	2851	835	1805	4963	623	1805	4933	653
Capacity Analysis Module:												
Vol/Sat:	0.03	0.13	0.13	0.04	0.19	0.19	0.02	0.05	0.05	0.02	0.06	0.06
Crit Moves:	****				****		****				****	

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

Intersection #131 WADDELL/REEMS

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #19 WADDELL/BULLARD

Cycle (sec):	100	Critical Vol./Cap. (X):	0.224
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	29	Level Of Service:	B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	19	134	38	43	303	86	48	384	48	32	256	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	134	38	43	303	86	48	384	48	32	256	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	19	134	38	43	303	86	48	384	48	32	256	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	19	134	38	43	303	86	48	384	48	32	256	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	19	141	40	43	318	90	48	422	53	32	282	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.56	0.44	1.00	1.56	0.44	1.00	2.67	0.33	1.00	2.67	0.33
Final Sat.:	1805	2871	815	1805	2873	813	1805	4963	623	1805	4969	617
Capacity Analysis Module:												
Vol/Sat:	0.01	0.05	0.05	0.02	0.11	0.11	0.03	0.09	0.09	0.02	0.06	0.06
Crit Moves:	****				****			****		****		

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

Intersection #19 WADDELL/BULLARD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 2 1 0			1 0 2 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

****

Intersection #19 WADDELL/BULLARD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.302
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	19	134	38	43	303	86	48	384	48	32	256	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	19	134	38	43	303	86	48	384	48	32	256	32
Added Vol:	15	40	0	165	90	13	31	80	41	0	30	91
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	174	38	208	393	99	79	464	89	32	286	123
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	34	174	38	208	393	99	79	464	89	32	286	123
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	174	38	208	393	99	79	464	89	32	286	123
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	34	182	40	208	413	104	79	510	98	32	314	135
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.96	0.96
Lanes:	1.00	1.64	0.36	1.00	1.60	0.40	1.00	2.52	0.48	1.00	2.10	0.90
Final Sat.:	1805	3022	664	1805	2945	741	1805	4686	900	1805	3827	1645
Capacity Analysis Module:												
Vol/Sat:	0.02	0.06	0.06	0.12	0.14	0.14	0.04	0.11	0.11	0.02	0.08	0.08
Crit Moves:		****		****				****		****		

****

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

Intersection #19 WADDELL/BULLARD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 2 1 0			1 0 2 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.96	0.96
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.96	0.96
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.96	0.96
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #120 WADDELL/LITCHFIELD

Cycle (sec): 100 Critical Vol./Cap. (X): 0.302
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	80	560	160	86	605	173	48	384	48	32	256	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	80	560	160	86	605	173	48	384	48	32	256	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	80	560	160	86	605	173	48	384	48	32	256	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	80	560	160	86	605	173	48	384	48	32	256	32
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	80	616	176	86	666	190	48	422	53	32	282	35
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	2.33	0.67	1.00	2.33	0.67	1.00	2.67	0.33	1.00	2.67	0.33
Final Sat.:	1805	4300	1229	1805	4302	1227	1805	4963	623	1805	4969	617
Capacity Analysis Module:												
Vol/Sat:	0.04	0.14	0.14	0.05	0.15	0.15	0.03	0.09	0.09	0.02	0.06	0.06
Crit Moves:	****				****			****		****		

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

Intersection #120 WADDELL/LITCHFIELD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 2 1 0			1 0 2 1 0			1 0 2 1 0			1 0 2 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	3	3	1	3	3	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

****

Intersection #120 WADDELL/LITCHFIELD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.358
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	80	560	160	86	605	173	48	384	48	32	256	32
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	80	560	160	86	605	173	48	384	48	32	256	32
Added Vol:	13	0	0	32	0	0	0	227	18	0	107	11
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	93	560	160	118	605	173	48	611	66	32	363	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	93	560	160	118	605	173	48	611	66	32	363	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	93	560	160	118	605	173	48	611	66	32	363	43
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	93	616	176	118	666	190	48	672	73	32	399	48
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	1.00	2.33	0.67	1.00	2.33	0.67	1.00	2.71	0.29	1.00	2.68	0.32
Final Sat.:	1805	4300	1229	1805	4302	1227	1805	5090	553	1805	4986	600
Capacity Analysis Module:												
Vol/Sat:	0.05	0.14	0.14	0.07	0.15	0.15	0.03	0.13	0.13	0.02	0.08	0.08
Crit Moves:		****		****				****		****		

****

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

Intersection #120 WADDELL/LITCHFIELD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 2 1 0			1 0 2 1 0			1 0 2 1 0			1 0 2 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	3	3	1	3	3	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.99	0.99	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.99	0.99	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.99	0.99	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #127 CACTUS/BULLARD

Cycle (sec): 100 Critical Vol./Cap. (X): 0.198
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 28 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	38	269	77	29	202	58	29	230	29	19	154	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	38	269	77	29	202	58	29	230	29	19	154	19
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	269	77	29	202	58	29	230	29	19	154	19
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	269	77	29	202	58	29	230	29	19	154	19
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	38	282	81	29	212	61	29	242	30	19	162	20
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.55	0.45	1.00	1.55	0.45	1.00	1.78	0.22	1.00	1.78	0.22
Final Sat.:	1805	2864	822	1805	2862	824	1805	3313	411	1805	3315	409
Capacity Analysis Module:												
Vol/Sat:	0.02	0.10	0.10	0.02	0.07	0.07	0.02	0.07	0.07	0.01	0.05	0.05
Crit Moves:		****		****				****		****		

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

Intersection #127 CACTUS/BULLARD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 1 1 0			1 0 1 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

****

Intersection #127 CACTUS/BULLARD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.211
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 29 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	38	269	77	29	202	58	29	230	29	19	154	19
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	38	269	77	29	202	58	29	230	29	19	154	19
Added Vol:	0	46	0	14	116	1	2	0	0	0	0	6
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	38	315	77	43	318	59	31	230	29	19	154	25
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	38	315	77	43	318	59	31	230	29	19	154	25
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	38	315	77	43	318	59	31	230	29	19	154	25
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	38	331	81	43	334	62	31	242	30	19	162	26
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.61	0.39	1.00	1.69	0.31	1.00	1.78	0.22	1.00	1.72	0.28
Final Sat.:	1805	2961	725	1805	3141	583	1805	3313	411	1805	3209	515
Capacity Analysis Module:												
Vol/Sat:	0.02	0.11	0.11	0.02	0.11	0.11	0.02	0.07	0.07	0.01	0.05	0.05
Crit Moves:	****				****			****		****		

****

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

Intersection #127 CACTUS/BULLARD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

UNSIGNALIZED SITE ACCESS POINTS

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN, FULL STREET NAMES
REV 1, REPORT LIMITED TO INTERNAL INTERSECTIONS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #1 GREENWAY RD/ROAD C
****
Average Delay (sec/veh): 2.5 Worst Case Level Of Service: A
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0	1	0	1 0 0	1	0	1 0 1	1	0	1 0 1	1	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	11	9	32	0	7	0	0	1	7	11	4	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	9	32	0	7	0	0	1	7	11	4	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	9	32	0	7	0	0	1	7	11	4	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	11	9	32	0	7	0	0	1	7	11	4	1
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	12	10	35	0	8	0	0	1	7	12	4	1
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	xxxxx	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	7.0	6.5	5.5	7.0	6.5	xxxxx	xxxxx	xxxx	xxxxx	5.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	23	21	4	21	23	xxxxx	xxxx	xxxx	xxxxx	8	xxxx	xxxxx
Potent Cap.:	1023	1061	1378	1027	1057	xxxxx	xxxx	xxxx	xxxxx	1697	xxxx	xxxxx
Adj Cap:	0.99	0.99	1.00	0.96	0.99	xxxxx	xxxx	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	1012	1053	1378	988	1049	xxxxx	xxxx	xxxx	xxxxx	1697	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	3.6	3.4	2.7	3.6	3.5	xxxxx	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	1293	xxxx	xxxx	1049	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	2.9	xxxxx	xxxx	3.5	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	A	*	*	A	*	*	*	*	*	*
ApproachDel:	3.0			3.5			0.0			1.5		

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN, FULL STREET NAMES
REV 1, REPORT LIMITED TO INTERNAL INTERSECTIONS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #3 GREENWAY RD/ROAD D
****
Average Delay (sec/veh): 2.3 Worst Case Level Of Service: A
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	4	0	138	0	0	0	0	32	1	56	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	4	0	138	0	0	0	0	32	1	56	12	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	4	0	138	0	0	0	0	32	1	56	12	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	4	0	138	0	0	0	0	32	1	56	12	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	4	0	152	0	0	0	0	32	1	62	12	0
Critical Gap Module:												
MoveUp Time:	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	7.0	xxxx	5.5	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	5.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	101	xxxx	17	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	34	xxxx	xxxxx
Potent Cap.:	912	xxxx	1358	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1645	xxxx	xxxxx
Adj Cap:	0.96	xxxx	1.00	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	878	xxxx	1358	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1645	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	4.1	xxxx	3.0	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.3	xxxx	xxxxx
LOS by Move:	A	*	A	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	3.0			0.0			0.0			1.9		

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN, FULL STREET NAMES
REV 1, REPORT LIMITED TO INTERNAL INTERSECTIONS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #9 BULLARD AVE/ROAD A
****
Average Delay (sec/veh): 2.9 Worst Case Level Of Service: B
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2 0 0			0 0 2 0 1			1 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	113	49	0	0	64	123	148	0	204	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	49	0	0	64	123	148	0	204	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	113	49	0	0	64	123	148	0	204	0	0	0
duct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
inal Vol.:	113	49	0	0	64	123	148	0	204	0	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	1.10	1.10	1.10
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	124	49	0	0	64	123	162	0	225	0	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx
Critical Gp:	5.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.0	xxxx	5.5	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	187	xxxx	xxxxx	xxxx	xxxx	xxxxx	225	xxxx	32	xxxx	xxxx	xxxxx
Potent Cap.:	1361	xxxx	xxxxx	xxxx	xxxx	xxxxx	760	xxxx	1334	xxxx	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.91	xxxx	1.00	xxxx	xxxx	xxxxx
Move Cap.:	1361	xxxx	xxxxx	xxxx	xxxx	xxxxx	691	xxxx	1334	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.9	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.6	xxxx	3.2	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	B	*	A	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
rd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
ared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	2.1			0.0			4.6			0.0		

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN, FULL STREET NAMES
REV 1, REPORT LIMITED TO INTERNAL INTERSECTIONS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #33 WADDELL RD/ROAD B

Average Delay (sec/veh): 3.1 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			1 0 0 0 1			0 1 2 0 0			0 0 2 1 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	150	0	15	6	1	0	0	3	54
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	150	0	15	6	1	0	0	3	54
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	150	0	15	6	1	0	0	3	54
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	150	0	15	6	1	0	0	3	54
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	0	0	165	0	17	6	1	0	0	3	54
Critical Gap Module:												
MoveUp Time:	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	xxxx	xxxxx	7.0	xxxx	5.5	5.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	37	xxxx	28	57	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	1003	xxxx	1340	1597	xxxx	xxxxx	xxxx	xxxx	xxxxx
Adj Cap:	xxxx	xxxx	xxxxx	1.00	xxxx	1.00	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	1000	xxxx	1340	1597	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	4.2	xxxx	2.7	2.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	A	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	0.0			4.1			1.9			0.0		

INTERNAL SITE INTERSECTIONS

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN, FULL STREET NAMES
REV 1, REPORT LIMITED TO INTERNAL INTERSECTIONS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #10 ROAD A/ROAD E
****
Average Delay (sec/veh): 1.2 Worst Case Level Of Service: B
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			0 1 0 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	79	0	9	6	209	0	0	187	28
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	79	0	9	6	209	0	0	187	28
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	79	0	9	6	209	0	0	187	28
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	79	0	9	6	209	0	0	187	28
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	0	0	87	0	10	6	209	0	0	187	28
Critical Gap Module:												
MoveUp Time:	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	416	xxxx	201	215	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	608	xxxx	1096	1355	xxxx	xxxxx	xxxx	xxxx	xxxxx
Adj Cap:	xxxx	xxxx	xxxxx	0.99	xxxx	1.00	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	605	xxxx	1096	1355	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	6.8	xxxx	3.3	2.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	635	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	6.6	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	*	*	*	*	*	*
ApproachDel:	0.0			6.5			0.1			0.0		

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN, FULL STREET NAMES
REV 1, REPORT LIMITED TO INTERNAL INTERSECTIONS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #11 ROAD A/ROAD C

****

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: A

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			0 1 0 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	40	0	8	3	31	0	0	23	20
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	40	0	8	3	31	0	0	23	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	40	0	8	3	31	0	0	23	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	40	0	8	3	31	0	0	23	20
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	0	0	44	0	9	3	31	0	0	23	20
Critical Gap Module:												
MoveUp Time:	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	67	xxxx	33	43	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	968	xxxx	1333	1635	xxxx	xxxxx	xxxx	xxxx	xxxxx
Adj Cap:	xxxx	xxxx	xxxxx	1.00	xxxx	1.00	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	966	xxxx	1333	1635	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	3.9	xxxx	2.7	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	1014	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	3.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	A	*	*	*	*	*	*	*
ApproachDel:	0.0			3.7			0.2			0.0		

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN, FULL STREET NAMES
REV 1, REPORT LIMITED TO INTERNAL INTERSECTIONS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #14 ROAD C/ROAD E
****
Average Delay (sec/veh): 2.1 Worst Case Level Of Service: A
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			0 1 0 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	28	0	21	23	14	0	0	5	17
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	28	0	21	23	14	0	0	5	17
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	28	0	21	23	14	0	0	5	17
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	28	0	21	23	14	0	0	5	17
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	0	0	31	0	24	26	14	0	0	5	17
Critical Gap Module:												
MoveUp Time:	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	50	xxxx	13	22	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	990	xxxx	1363	1674	xxxx	xxxxx	xxxx	xxxx	xxxxx
Adj Cap:	xxxx	xxxx	xxxxx	0.98	xxxx	1.00	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	975	xxxx	1363	1674	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	3.8	xxxx	2.7	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	1111	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	3.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	A	*	*	*	*	*	*	*
ApproachDel:	0.0			3.3			1.4			0.0		

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN, FULL STREET NAMES
REV 1, REPORT LIMITED TO INTERNAL INTERSECTIONS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #39 ROAD C/ROAD D
****
Average Delay (sec/veh): 0.7 Worst Case Level Of Service: A
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0	0	0	0 0 0	1	0	0 0 1!	0	0	0 0 0	0	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	13	46	0	0	39	3	3	0	13	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	13	46	0	0	39	3	3	0	13	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	13	46	0	0	39	3	3	0	13	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	13	46	0	0	39	3	3	0	13	0	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	1.10	1.10	1.10
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	14	46	0	0	39	3	4	0	14	0	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	42	xxxx	xxxxx	xxxx	xxxx	xxxxx	99	xxxx	41	xxxx	xxxx	xxxxx
Potent Cap.:	1637	xxxx	xxxxx	xxxx	xxxx	xxxxx	928	xxxx	1321	xxxx	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.99	xxxx	1.00	xxxx	xxxx	xxxxx
Move Cap.:	1637	xxxx	xxxxx	xxxx	xxxx	xxxxx	919	xxxx	1321	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.9	xxxx	2.8	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	1213	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.0	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:	0.5			0.0			3.0			0.0		

ASHTON RANCH - AM PEAK, YEAR 2020
REVISED SITE PLAN, FULL STREET NAMES
REV 1, REPORT LIMITED TO INTERNAL INTERSECTIONS

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #68 ROAD A/ROAD B

Average Delay (sec/veh): 1.5 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 0 1 0			0 1 0 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	8	0	73	0	0	0	0	68	4	27	35	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	0	73	0	0	0	0	68	4	27	35	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	0	73	0	0	0	0	68	4	27	35	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	8	0	73	0	0	0	0	68	4	27	35	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	9	0	80	0	0	0	0	68	4	29	35	0
Critical Gap Module:												
MoveUp Time:	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	xxxx	5.5	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	131	xxxx	70	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	72	xxxx	xxxxx
Potent Cap.:	889	xxxx	1277	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1585	xxxx	xxxxx
Adj Cap:	0.98	xxxx	1.00	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	872	xxxx	1277	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1585	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	4.2	xxxx	3.0	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.3	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	1222	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	3.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	A	*	*	*	*	*	*	*	*	*	*
ApproachDel:		3.1			0.0			0.0			1.0	

PM PEAK CAPACITY CALCULATIONS

SIGNALIZED INTERSECTIONS

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #123 BELL/BULLARD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.321
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	48	336	96	32	224	64	48	384	48	86	691	86
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	48	336	96	32	224	64	48	384	48	86	691	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	48	336	96	32	224	64	48	384	48	86	691	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	48	336	96	32	224	64	48	384	48	86	691	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	48	353	101	32	235	67	48	422	53	86	760	95
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.56	0.44	1.00	1.56	0.44	1.00	2.67	0.33	1.00	2.67	0.33
Final Sat.:	1805	2866	820	1805	2868	818	1805	4963	623	1805	4965	621
Capacity Analysis Module:												
Vol/Sat:	0.03	0.12	0.12	0.02	0.08	0.08	0.03	0.09	0.09	0.05	0.15	0.15
Crit Moves:		****		****			****				****	

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

Intersection #123 BELL/BULLARD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 2 1 0			1 0 2 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #123 BELL/BULLARD

Cycle (sec): 100 Critical Vol./Cap. (X): 0.336
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	48	336	96	32	224	64	48	384	48	86	691	86
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	48	336	96	32	224	64	48	384	48	86	691	86
Added Vol:	5	27	22	0	40	0	0	0	6	38	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	53	363	118	32	264	64	48	384	54	124	691	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	53	363	118	32	264	64	48	384	54	124	691	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	53	363	118	32	264	64	48	384	54	124	691	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	53	381	124	32	277	67	48	422	59	124	760	95
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.96	0.96	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.51	0.49	1.00	1.61	0.39	1.00	2.63	0.37	1.00	2.67	0.33
Final Sat.:	1805	2752	896	1805	2968	718	1805	4901	685	1805	4965	621
Capacity Analysis Module:												
Vol/Sat:	0.03	0.14	0.14	0.02	0.09	0.09	0.03	0.09	0.09	0.07	0.15	0.15
Crit Moves:		****		****			****				****	

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

Intersection #123 BELL/BULLARD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 2 1 0			1 0 2 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:	0			0			0			0		
Grade:	0%			0%			0%			0%		
Parking/Hr:	No			No			No			No		
Bus Stp/Hr:	0			0			0			0		
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:	0			0			0			0		
ExclusiveRT:	Include			Include			Include			Include		
% RT Prtct:	0			0			0			0		
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.96	0.96	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.96	0.96	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.96	0.96	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #134 GREENWAY/REEMS

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.350
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	72	504	144	48	336	96	32	256	32	48	384	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	72	504	144	48	336	96	32	256	32	48	384	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	72	504	144	48	336	96	32	256	32	48	384	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	504	144	48	336	96	32	256	32	48	384	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	72	529	151	48	353	101	32	269	34	48	403	50
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.56	0.44	1.00	1.56	0.44	1.00	1.78	0.22	1.00	1.78	0.22
Final Sat.:	1805	2867	819	1805	2866	820	1805	3306	418	1805	3313	411
Capacity Analysis Module:												
Vol/Sat:	0.04	0.18	0.18	0.03	0.12	0.12	0.02	0.08	0.08	0.03	0.12	0.12
Crit Moves:		****		****			****				****	

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

****
Intersection #134 GREENWAY/REEMS
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

****

Intersection #134 GREENWAY/REEMS

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.359
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	72	504	144	48	336	96	32	256	32	48	384	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	72	504	144	48	336	96	32	256	32	48	384	48
Added Vol:	4	6	8	5	8	0	0	4	6	5	3	3
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	76	510	152	53	344	96	32	260	38	53	387	51
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	76	510	152	53	344	96	32	260	38	53	387	51
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	76	510	152	53	344	96	32	260	38	53	387	51
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	76	535	160	53	362	101	32	274	40	53	406	54
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.54	0.46	1.00	1.56	0.44	1.00	1.75	0.25	1.00	1.77	0.23
Final Sat.:	1805	2837	849	1805	2882	804	1805	3250	474	1805	3287	437
Capacity Analysis Module:												
Vol/Sat:	0.04	0.19	0.19	0.03	0.13	0.13	0.02	0.08	0.08	0.03	0.12	0.12
Crit Moves:		****		****			****				****	

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

****
Intersection #134 GREENWAY/REEMS
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 1 1 0			1 0 1 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #5 GREENWAY/BULLARD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.293
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	43	305	86	32	224	64	32	256	32	58	461	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	305	86	32	224	64	32	256	32	58	461	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	43	305	86	32	224	64	32	256	32	58	461	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	43	305	86	32	224	64	32	256	32	58	461	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	43	320	90	32	235	67	32	269	34	58	484	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.56	0.44	1.00	1.56	0.44	1.00	1.78	0.22	1.00	1.78	0.22
Final Sat.:	1805	2877	809	1805	2868	818	1805	3306	418	1805	3307	417
Capacity Analysis Module:												
Vol/Sat:	0.02	0.11	0.11	0.02	0.08	0.08	0.02	0.08	0.08	0.03	0.15	0.15
Crit Moves:		****		****			****				****	

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

****
Intersection #5 GREENWAY/BULLARD
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 1 1 0			1 0 1 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

****

Intersection #5 GREENWAY/BULLARD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.397
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 38 Level Of Service: C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	43	305	86	32	224	64	32	256	32	58	461	58
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	43	305	86	32	224	64	32	256	32	58	461	58
Added Vol:	70	40	87	0	60	24	14	68	39	149	125	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	113	345	173	32	284	88	46	324	71	207	586	58
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	113	345	173	32	284	88	46	324	71	207	586	58
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	113	345	173	32	284	88	46	324	71	207	586	58
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	113	362	182	32	298	92	46	340	74	207	615	61
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.95	0.95	0.95	0.96	0.96	0.95	0.97	0.97	0.95	0.99	0.99
Lanes:	1.00	1.33	0.67	1.00	1.53	0.47	1.00	1.64	0.36	1.00	1.82	0.18
Final Sat.:	1805	2402	1208	1805	2787	861	1805	3027	659	1805	3423	339
Capacity Analysis Module:												
Vol/Sat:	0.06	0.15	0.15	0.02	0.11	0.11	0.03	0.11	0.11	0.11	0.18	0.18
Crit Moves:	****				****			****		****		

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

****
Intersection #5 GREENWAY/BULLARD
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 1 1 0			1 0 1 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.95	0.95	xxxx	0.96	0.96	xxxx	0.97	0.97	xxxx	0.99	0.99
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.95	0.95	0.95	0.96	0.96	0.95	0.97	0.97	0.95	0.99	0.99
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.95	0.95	0.95	0.96	0.96	0.95	0.97	0.97	0.95	0.99	0.99
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

Intersection #117 GREENWAY/LITCHFIELD

Cycle (sec):	100	Critical Vol./Cap. (X):	0.460
Loss Time (sec):	0 (Y+R = 4 sec)	Average Delay (sec/veh):	xxxxxx
Optimal Cycle:	42	Level Of Service:	C

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	86	605	173	96	672	192	38	308	38	86	692	86
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	605	173	96	672	192	38	308	38	86	692	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	86	605	173	96	672	192	38	308	38	86	692	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	86	605	173	96	672	192	38	308	38	86	692	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	86	666	190	96	739	211	38	323	40	86	727	90
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	2.33	0.67	1.00	2.33	0.67	1.00	1.78	0.22	1.00	1.78	0.22
Final Sat.:	1805	4302	1227	1805	4301	1228	1805	3314	410	1805	3314	410
Capacity Analysis Module:												
Vol/Sat:	0.05	0.15	0.15	0.05	0.17	0.17	0.02	0.10	0.10	0.05	0.22	0.22
Crit Moves:	****				****		****				****	

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

****
Intersection #117 GREENWAY/LITCHFIELD
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 2 1 0			1 0 2 1 0			1 0 1 1 0			1 0 1 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	3	3	1	3	3	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

****

Intersection #117 GREENWAY/LITCHFIELD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.552
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 51 Level Of Service: C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	86	605	173	96	672	192	38	308	38	86	692	86
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	86	605	173	96	672	192	38	308	38	86	692	86
Added Vol:	42	0	0	0	0	16	11	122	23	0	215	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	128	605	173	96	672	208	49	430	61	86	907	86
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	128	605	173	96	672	208	49	430	61	86	907	86
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	128	605	173	96	672	208	49	430	61	86	907	86
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	128	666	190	96	739	229	49	452	64	86	952	90
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.96	0.96	0.95	0.98	0.98	0.95	0.99	0.99
Lanes:	1.00	2.33	0.67	1.00	2.29	0.71	1.00	1.75	0.25	1.00	1.83	0.17
Final Sat.:	1805	4302	1227	1805	4177	1295	1805	3262	462	1805	3437	325
Capacity Analysis Module:												
Vol/Sat:	0.07	0.15	0.15	0.05	0.18	0.18	0.03	0.14	0.14	0.05	0.28	0.28
Crit Moves:	****				****		****				****	

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

Intersection #117 GREENWAY/LITCHFIELD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 2	1 0		1 0 2	1 0		1 0 1	1 0		1 0 1	1 0	
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	3	3	1	3	3	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:	0			0			0			0		
Grade:	0%			0%			0%			0%		
Parking/Hr:	No			No			No			No		
Bus Stp/Hr:	0			0			0			0		
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:	0			0			0			0		
ExclusiveRT:	Include			Include			Include			Include		
RT Prtct:	0			0			0			0		
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.96	0.96	xxxx	0.98	0.98	xxxx	0.99	0.99
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.96	0.96	0.95	0.98	0.98	0.95	0.99	0.99
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.96	0.96	0.95	0.98	0.98	0.95	0.99	0.99
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #131 WADDELL/REEMS

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.307
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	72	504	144	48	336	96	19	154	19	48	384	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	72	504	144	48	336	96	19	154	19	48	384	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	72	504	144	48	336	96	19	154	19	48	384	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	504	144	48	336	96	19	154	19	48	384	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	72	529	151	48	353	101	19	169	21	48	422	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.56	0.44	1.00	1.56	0.44	1.00	2.67	0.33	1.00	2.67	0.33
Final Sat.:	1805	2867	819	1805	2866	820	1805	4969	617	1805	4963	623
Capacity Analysis Module:												
Vol/Sat:	0.04	0.18	0.18	0.03	0.12	0.12	0.01	0.03	0.03	0.03	0.09	0.09
Crit Moves:		****		****			****				****	

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

****
Intersection #131 WADDELL/REEMS
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 2 1 0			1 0 2 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

Intersection #131 WADDELL/REEMS

Cycle (sec): 100 Critical Vol./Cap. (X): 0.324
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 34 Level Of Service: B

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	72	504	144	48	336	96	19	154	19	48	384	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	72	504	144	48	336	96	19	154	19	48	384	48
Added Vol:	0	20	13	3	11	6	10	7	0	7	4	2
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	72	524	157	51	347	102	29	161	19	55	388	50
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	72	524	157	51	347	102	29	161	19	55	388	50
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	72	524	157	51	347	102	29	161	19	55	388	50
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	72	550	165	51	364	107	29	177	21	55	426	55
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.54	0.46	1.00	1.55	0.45	1.00	2.68	0.32	1.00	2.66	0.34
Final Sat.:	1805	2835	851	1805	2849	837	1805	4994	592	1805	4947	639
Capacity Analysis Module:												
Vol/Sat:	0.04	0.19	0.19	0.03	0.13	0.13	0.02	0.04	0.04	0.03	0.09	0.09
Crit Moves:		****		****			****				****	

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

****
Intersection #131 WADDELL/REEMS
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 2 1 0			1 0 2 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1 xxxx	xxxx		1 xxxx	xxxx		1 xxxx	xxxx		1 xxxx	xxxx	
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #19 WADDELL/BULLARD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.193
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 28 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	29	202	58	29	202	58	32	256	32	48	384	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	202	58	29	202	58	32	256	32	48	384	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	29	202	58	29	202	58	32	256	32	48	384	48
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	29	202	58	29	202	58	32	256	32	48	384	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	29	212	61	29	212	61	32	282	35	48	422	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.55	0.45	1.00	1.55	0.45	1.00	2.67	0.33	1.00	2.67	0.33
Final Sat.:	1805	2862	824	1805	2862	824	1805	4969	617	1805	4963	623
Capacity Analysis Module:												
Vol/Sat:	0.02	0.07	0.07	0.02	0.07	0.07	0.02	0.06	0.06	0.03	0.09	0.09
Crit Moves:	****				****		****				****	

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

Intersection #19 WADDELL/BULLARD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	3	3	1	2	1
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

****

Intersection #19 WADDELL/BULLARD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.374
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: C

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	29	202	58	29	202	58	32	256	32	48	384	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	29	202	58	29	202	58	32	256	32	48	384	48
Added Vol:	52	114	0	118	64	40	24	55	28	0	102	204
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	81	316	58	147	266	98	56	311	60	48	486	252
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	81	316	58	147	266	98	56	311	60	48	486	252
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	81	316	58	147	266	98	56	311	60	48	486	252
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.10	1.10	1.00	1.05	1.00
Final Vol.:	81	332	61	147	279	103	56	343	66	48	511	252
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.98	0.98	0.95	0.96	0.96	0.95	0.98	0.98	0.95	1.00	0.85
Lanes:	1.00	1.69	0.31	1.00	1.46	0.54	1.00	2.52	0.48	1.00	2.00	1.00
Final Sat.:	1805	3146	578	1805	2664	984	1805	4685	901	1805	3800	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.11	0.11	0.08	0.10	0.10	0.03	0.07	0.07	0.03	0.13	0.16
Crit Moves:		****		****			****					****

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

****
Intersection #19 WADDELL/BULLARD
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 1 1 0			1 0 1 1 0			1 0 2 1 0			1 0 2 0 1		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	T	R
#LnsInGrps:	1	2	2	1	2	2	1	3	3	1	2	1
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	xxxx	2
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	xxxx	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	xxxx	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.98	0.98	xxxx	0.96	0.96	xxxx	0.98	0.98	xxxx	xxxx	0.85
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.98	0.98	0.95	0.96	0.96	0.95	0.98	0.98	0.95	1.00	0.85
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.98	0.98	0.95	0.96	0.96	0.95	0.98	0.98	0.95	1.00	0.85
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #120 WADDELL/LITCHFIELD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.350
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 35 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 1	0	1 0	2 1	0
Volume Module:												
Base Vol:	120	840	240	58	403	115	32	256	32	48	384	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	120	840	240	58	403	115	32	256	32	48	384	48
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	120	840	240	58	403	115	32	256	32	48	384	48
duct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	120	840	240	58	403	115	32	256	32	48	384	48
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	120	924	264	58	443	127	32	282	35	48	422	53
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	2.33	0.67	1.00	2.33	0.67	1.00	2.67	0.33	1.00	2.67	0.33
Final Sat.:	1805	4300	1229	1805	4297	1232	1805	4969	617	1805	4963	623
Capacity Analysis Module:												
Vol/Sat:	0.07	0.21	0.21	0.03	0.10	0.10	0.02	0.06	0.06	0.03	0.09	0.09
Crit Moves:		****		****			****				****	

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

****
Intersection #120 WADDELL/LITCHFIELD
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0 2 1 0			1 0 2 1 0			1 0 2 1 0			1 0 2 1 0		
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	3	3	1	3	3	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

****

Intersection #120 WADDELL/LITCHFIELD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.426
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 40 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	2	1 0	1 0	2	1 0	1 0	2	1 0	1 0	2	1 0
Volume Module:												
Base Vol:	120	840	240	58	403	115	32	256	32	48	384	48
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	120	840	240	58	403	115	32	256	32	48	384	48
Added Vol:	21	0	0	22	0	0	0	160	13	0	285	42
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	141	840	240	80	403	115	32	416	45	48	669	90
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	141	840	240	80	403	115	32	416	45	48	669	90
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	141	840	240	80	403	115	32	416	45	48	669	90
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.10	1.10	1.00	1.10	1.10
Final Vol.:	141	924	264	80	444	127	32	458	50	48	736	99
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.99	0.99	0.95	0.98	0.98
Lanes:	1.00	2.33	0.67	1.00	2.33	0.67	1.00	2.70	0.30	1.00	2.64	0.36
Final Sat.:	1805	4300	1229	1805	4299	1230	1805	5088	555	1805	4924	662
Capacity Analysis Module:												
Vol/Sat:	0.08	0.21	0.21	0.04	0.10	0.10	0.02	0.09	0.09	0.03	0.15	0.15
Crit Moves:		****		****			****				****	

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

Intersection #120 WADDELL/LITCHFIELD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0	2 1	0	1 0	2 1	0	1 0	2 1	0	1 0	2 1	0
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	3	3	1	3	3	1	3	3	1	3	3
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.97	0.97	xxxx	0.99	0.99	xxxx	0.98	0.98
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.99	0.99	0.95	0.98	0.98
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.99	0.99	0.95	0.98	0.98
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Base Volume Alternative)

****

Intersection #127 CACTUS/BULLARD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.242
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 30 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	58	403	115	19	134	38	19	154	19	29	230	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	403	115	19	134	38	19	154	19	29	230	29
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	58	403	115	19	134	38	19	154	19	29	230	29
duct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	403	115	19	134	38	19	154	19	29	230	29
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	58	423	121	19	141	40	19	162	20	29	242	30
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98
Lanes:	1.00	1.56	0.44	1.00	1.56	0.44	1.00	1.78	0.22	1.00	1.78	0.22
Final Sat.:	1805	2866	820	1805	2871	815	1805	3315	409	1805	3313	411
Capacity Analysis Module:												
Vol/Sat:	0.03	0.15	0.15	0.01	0.05	0.05	0.01	0.05	0.05	0.02	0.07	0.07
Crit Moves:		****		****			****				****	

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Base Volume Alternative

Intersection #127 CACTUS/BULLARD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1 xxxx	xxxx		1 xxxx	xxxx		1 xxxx	xxxx		1 xxxx	xxxx	
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Hev Veh Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Grade Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Parking Adj:	xxxx 1.00	1.00		xxxx 1.00	1.00		xxxx 1.00	1.00		xxxx 1.00	1.00	
Bus Stp Adj:	xxxx 1.00	1.00		xxxx 1.00	1.00		xxxx 1.00	1.00		xxxx 1.00	1.00	
Area Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
RT Adj:	xxxx 0.97	0.97		xxxx 0.97	0.97		xxxx 0.98	0.98		xxxx 0.98	0.98	
LT Adj:	0.95 xxxx	xxxxx		0.95 xxxx	xxxxx		0.95 xxxx	xxxxx		0.95 xxxx	xxxxx	
HCM Sat Adj:	0.95 0.97	0.97		0.95 0.97	0.97		0.95 0.98	0.98		0.95 0.98	0.98	
Usr Sat Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
MLF Sat Adj:	1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00		1.00 1.00	1.00	
Fnl Sat Adj:	0.95 0.97	0.97		0.95 0.97	0.97		0.95 0.98	0.98		0.95 0.98	0.98	
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85 0.85	0.85		0.85 0.85	0.85		0.85 0.85	0.85		0.85 0.85	0.85	

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Computation Report
1994 HCM Operations Method (Future Volume Alternative)

****

Intersection #127 CACTUS/BULLARD

****

Cycle (sec): 100 Critical Vol./Cap. (X): 0.296
Loss Time (sec): 0 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Protected			Protected			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Volume Module:												
Base Vol:	58	403	115	19	134	38	19	154	19	29	230	29
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	58	403	115	19	134	38	19	154	19	29	230	29
Added Vol:	0	148	0	10	81	1	1	0	0	0	0	17
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	58	551	115	29	215	39	20	154	19	29	230	46
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	58	551	115	29	215	39	20	154	19	29	230	46
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	58	551	115	29	215	39	20	154	19	29	230	46
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05	1.00	1.05	1.05
Final Vol.:	58	579	121	29	226	41	20	162	20	29	242	48
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98	0.95	0.97	0.97
Lanes:	1.00	1.65	0.35	1.00	1.69	0.31	1.00	1.78	0.22	1.00	1.67	0.33
Final Sat.:	1805	3049	637	1805	3152	572	1805	3315	409	1805	3076	610
Capacity Analysis Module:												
Vol/Sat:	0.03	0.19	0.19	0.02	0.07	0.07	0.01	0.05	0.05	0.02	0.08	0.08
Crit Moves:		****		****			****				****	

****

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN
REV. No. 1

Level Of Service Detailed Computation Report
1994 HCM Operations Method
Future Volume Alternative

Intersection #127 CACTUS/BULLARD

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
HCM Ops Adjusted Lane Utilization Module:												
Lanes:	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0	1 0	1 1	0
Lane Group:	L	RT	RT	L	RT	RT	L	RT	RT	L	RT	RT
#LnsInGrps:	1	2	2	1	2	2	1	2	2	1	2	2
HCM Ops Input Saturation Adj Module:												
Lane Width:	12	12	12	12	12	12	12	12	12	12	12	12
% Hev Veh:		0			0			0			0	
Grade:		0%			0%			0%			0%	
Parking/Hr:		No			No			No			No	
Bus Stp/Hr:		0			0			0			0	
Area Type:	< < < < < < < < < < < < < < < < Other > > > > > > > > > > > > > > > >											
Cnft Ped/Hr:		0			0			0			0	
ExclusiveRT:		Include			Include			Include			Include	
% RT Prtct:		0			0			0			0	
HCM Ops f(rt) and f(lt) Adj Case Module:												
f(rt) Case:	xxxx	5	5	xxxx	5	5	xxxx	5	5	xxxx	5	5
f(lt) Case:	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx	1	xxxx	xxxx
HCM Ops Saturation Adj Module:												
Ln Wid Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Hev Veh Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Grade Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Parking Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Bus Stp Adj:	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00	xxxx	1.00	1.00
Area Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
RT Adj:	xxxx	0.97	0.97	xxxx	0.98	0.98	xxxx	0.98	0.98	xxxx	0.97	0.97
LT Adj:	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx	0.95	xxxx	xxxxx
HCM Sat Adj:	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98	0.95	0.97	0.97
Usr Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Sat Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Fnl Sat Adj:	0.95	0.97	0.97	0.95	0.98	0.98	0.95	0.98	0.98	0.95	0.97	0.97
Delay Adjustment Factor Module:												
Coordinated:	< < < < < < < < < < < < < < < < No > > > > > > > > > > > > > > > >											
Signal Type:	< < < < < < < < < < < < < < Actuated > > > > > > > > > > > > > >											
DelAdjFctr:	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85	0.85

UNSIGNALIZED SITE ACCESS POINTS

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN, REPORT LIMITED TO INTERNAL INTERSECTIONS
REV. No. 1

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #1 GREENWAY RD/ROAD C

****

Average Delay (sec/veh): 2.3 Worst Case Level Of Service: A

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L -	T -	R	L -	T -	R	L -	T -	R	L -	T -	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0	1	0	1 0 0	1	0	1 0 1	1	0	1 0 1	1	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	8	6	22	1	10	0	0	5	14	41	3	1
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	8	6	22	1	10	0	0	5	14	41	3	1
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	8	6	22	1	10	0	0	5	14	41	3	1
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	8	6	22	1	10	0	0	5	14	41	3	1
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	9	7	24	2	11	0	0	5	14	45	3	1
Critical Gap Module:												
MoveUp Time:	3.4	3.3	2.6	3.4	3.3	xxxxx	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	7.0	6.5	5.5	7.0	6.5	xxxxx	xxxxx	xxxx	xxxxx	5.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	60	56	9	52	62	xxxxx	xxxx	xxxx	xxxxx	18	xxxx	xxxxx
Potent Cap.:	969	1012	1370	981	1003	xxxxx	xxxx	xxxx	xxxxx	1676	xxxx	xxxxx
Adj Cap:	0.97	0.97	1.00	0.96	0.97	xxxxx	xxxx	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	941	984	1370	939	976	xxxxx	xxxx	xxxx	xxxxx	1676	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	3.9	3.7	2.7	3.8	3.7	xxxxx	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx
LOS by Move:	A	*	*	A	*	*	*	*	*	A	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	1260	xxxx	xxxx	976	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	2.9	xxxxx	xxxx	3.7	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	A	*	*	A	*	*	*	*	*	*
ApproachDel:	3.1			3.7			0.0			2.1		

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN, REPORT LIMITED TO INTERNAL INTERSECTIONS
REV. No. 1

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #3 GREENWAY RD/ROAD D

****

Average Delay (sec/veh): 2.1 Worst Case Level Of Service: B

****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 0 0 1			0 0 0 0 0			0 0 1 1 0			1 0 2 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	3	0	97	0	0	0	0	23	5	176	42	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	3	0	97	0	0	0	0	23	5	176	42	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	3	0	97	0	0	0	0	23	5	176	42	0
duct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
inal Vol.:	3	0	97	0	0	0	0	23	5	176	42	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	3	0	107	0	0	0	0	23	5	194	42	0
Critical Gap Module:												
MoveUp Time:	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	7.0	xxxx	5.5	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	5.5	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	244	xxxx	14	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	28	xxxx	xxxxx
Potent Cap.:	739	xxxx	1362	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1656	xxxx	xxxxx
Adj Cap:	0.88	xxxx	1.00	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	653	xxxx	1362	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1656	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	5.5	xxxx	2.8	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.4	xxxx	xxxxx
LOS by Move:	B	*	A	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
rd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
ared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	2.9			0.0			0.0			2.0		

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN, REPORT LIMITED TO INTERNAL INTERSECTIONS
REV. No. 1

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #9 BULLARD AVE/ROAD A
****
Average Delay (sec/veh): 3.1 Worst Case Level Of Service: C
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	1 0 2 0 0			0 0 2 0 1			1 0 0 0 1			0 0 0 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	253	90	0	0	76	172	108	0	146	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	253	90	0	0	76	172	108	0	146	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	253	90	0	0	76	172	108	0	146	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	253	90	0	0	76	172	108	0	146	0	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	1.10	1.10	1.10
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	278	90	0	0	76	172	118	0	161	0	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx
Critical Gp:	5.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	7.0	xxxx	5.5	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	247	xxxx	xxxxx	xxxx	xxxx	xxxxx	418	xxxx	38	xxxx	xxxx	xxxxx
Potent Cap.:	1263	xxxx	xxxxx	xxxx	xxxx	xxxxx	572	xxxx	1325	xxxx	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.78	xxxx	1.00	xxxx	xxxx	xxxxx
Move Cap.:	1263	xxxx	xxxxx	xxxx	xxxx	xxxxx	446	xxxx	1325	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	3.6	xxxx	xxxxx	xxxxx	xxxx	xxxxx	10.6	xxxx	3.1	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	C	*	A	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	2.7			0.0			6.3			0.0		

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN, REPORT LIMITED TO INTERNAL INTERSECTIONS
REV. No. 1

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

Intersection #33 WADDELL RD/ROAD B

Average Delay (sec/veh): 1.8 Worst Case Level Of Service: A

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			1 0 0 0 1			0 1 2 0 0			0 0 2 1 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	104	0	11	20	4	0	0	2	193
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	104	0	11	20	4	0	0	2	193
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	104	0	11	20	4	0	0	2	193
duct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
inal Vol.:	0	0	0	104	0	11	20	4	0	0	2	193
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	0	0	115	0	12	22	4	0	0	2	193
Critical Gap Module:												
MoveUp Time:	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	xxxx	xxxxx	7.0	xxxx	5.5	5.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	122	xxxx	97	195	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	885	xxxx	1236	1347	xxxx	xxxxx	xxxx	xxxx	xxxxx
Adj Cap:	xxxx	xxxx	xxxxx	0.98	xxxx	1.00	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	870	xxxx	1236	1347	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	4.7	xxxx	2.9	2.7	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	A	*	A	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
rd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
ared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	0.0			4.5			2.3			0.0		

INTERNAL SITE INTERSECTIONS

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN, REPORT LIMITED TO INTERNAL INTERSECTIONS
REV. No. 1

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #10 ROAD A/ROAD E
****
Average Delay (sec/veh): 0.8 Worst Case Level Of Service: B
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			0 1 0 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	56	0	6	6	155	0	0	241	102
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	56	0	6	6	155	0	0	241	102
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	56	0	6	6	155	0	0	241	102
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	56	0	6	6	155	0	0	241	102
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	0	0	62	0	7	7	155	0	0	241	102
Critical Gap Module:												
MoveUp Time:	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	453	xxxx	292	343	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	579	xxxx	985	1177	xxxx	xxxxx	xxxx	xxxx	xxxxx
Adj Cap:	xxxx	xxxx	xxxxx	0.99	xxxx	1.00	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	575	xxxx	985	1177	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	6.9	xxxx	3.7	3.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	600	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	6.7	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	B	*	*	*	*	*	*	*
ApproachDel:	0.0			6.6			0.1			0.0		

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN, REPORT LIMITED TO INTERNAL INTERSECTIONS
REV. No. 1

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #11 ROAD A/ROAD C
****
Average Delay (sec/veh): 1.1 Worst Case Level Of Service: A
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 0			0 0 1! 0 0			0 1 0 0 0			0 0 0 1 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	30	0	6	11	31	0	0	33	43
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	30	0	6	11	31	0	0	33	43
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	30	0	6	11	31	0	0	33	43
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	30	0	6	11	31	0	0	33	43
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	0	0	33	0	7	12	31	0	0	33	43
Critical Gap Module:												
MoveUp Time:	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	96	xxxx	54	76	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	932	xxxx	1300	1577	xxxx	xxxxx	xxxx	xxxx	xxxxx
Adj Cap:	xxxx	xxxx	xxxxx	0.99	xxxx	1.00	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	924	xxxx	1300	1577	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	4.0	xxxx	2.8	2.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	972	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	3.8	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	A	*	*	*	*	*	*	*
ApproachDel:	0.0			3.8			0.6			0.0		

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN, REPORT LIMITED TO INTERNAL INTERSECTIONS
REV. No. 1

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #14 ROAD C/ROAD E
****
Average Delay (sec/veh): 1.7 Worst Case Level Of Service: A
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0 0		0 0	1! 0	0	0 1	0 0	0	0 0	0 1	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	0	0	0	25	0	29	21	10	0	0	18	32
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	0	25	0	29	21	10	0	0	18	32
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	0	25	0	29	21	10	0	0	18	32
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	0	0	0	25	0	29	21	10	0	0	18	32
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	0	0	0	28	0	31	23	10	0	0	18	32
Critical Gap Module:												
MoveUp Time:	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Critical Gp:	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	65	xxxx	34	50	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	xxxxx	971	xxxx	1331	1623	xxxx	xxxxx	xxxx	xxxx	xxxxx
Adj Cap:	xxxx	xxxx	xxxxx	0.99	xxxx	1.00	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	xxxxx	957	xxxx	1331	1623	xxxx	xxxxx	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	xxxxx	xxxx	xxxxx	3.9	xxxx	2.8	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	A	*	*	*	*	*
Movement:	LT - LTR		- RT	LT - LTR		- RT	LT - LTR		- RT	LT - LTR		- RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	1125	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	3.4	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	A	*	*	*	*	*	*	*
ApproachDel:	0.0			3.3			1.6			0.0		

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN, REPORT LIMITED TO INTERNAL INTERSECTIONS
REV. No. 1

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #39 ROAD C/ROAD D
****
Average Delay (sec/veh): 0.6 Worst Case Level Of Service: A
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 1 0 0 0			0 0 0 1 0			0 0 1! 0 0			0 0 0 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	11	50	0	0	61	5	5	0	15	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	11	50	0	0	61	5	5	0	15	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	11	50	0	0	61	5	5	0	15	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Final Vol.:	11	50	0	0	61	5	5	0	15	0	0	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.00	1.00	1.10	1.00	1.00	1.10	1.10	1.10	1.10	1.10	1.10
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	12	50	0	0	61	5	5	0	17	0	0	0
Critical Gap Module:												
MoveUp Time:	2.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx
Critical Gp:	5.0	xxxx	xxxxx	xxxxx	xxxx	xxxxx	6.5	xxxx	5.5	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	66	xxxx	xxxxx	xxxx	xxxx	xxxxx	125	xxxx	64	xxxx	xxxx	xxxxx
Potent Cap.:	1594	xxxx	xxxxx	xxxx	xxxx	xxxxx	897	xxxx	1285	xxxx	xxxx	xxxxx
Adj Cap:	1.00	xxxx	xxxxx	xxxx	xxxx	xxxxx	0.99	xxxx	1.00	xxxx	xxxx	xxxxx
Move Cap.:	1594	xxxx	xxxxx	xxxx	xxxx	xxxxx	889	xxxx	1285	xxxx	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	2.3	xxxx	xxxxx	xxxxx	xxxx	xxxxx	4.1	xxxx	2.8	xxxxx	xxxx	xxxxx
LOS by Move:	A	*	*	*	*	*	*	*	*	*	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	1161	xxxxx	xxxx	xxxx	xxxxx
Shrd StpDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	3.2	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	A	*	*	*	*
ApproachDel:	0.5			0.0			3.1			0.0		

ASHTON RANCH - PM PEAK, YEAR 2020
REVISED SITE PLAN, REPORT LIMITED TO INTERNAL INTERSECTIONS
REV. No. 1

Level Of Service Computation Report
1994 HCM Unsignalized Method (Future Volume Alternative)

****
Intersection #68 ROAD A/ROAD B
****
Average Delay (sec/veh): 1.5 Worst Case Level Of Service: A
****

Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1! 0 0			0 0 0 0 0			0 0 0 1 0			0 1 0 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	0	0	0	0	0
Added Vol:	7	0	51	0	0	0	0	51	10	92	69	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	7	0	51	0	0	0	0	51	10	92	69	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	7	0	51	0	0	0	0	51	10	92	69	0
duct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
nal Vol.:	7	0	51	0	0	0	0	51	10	92	69	0
Adjusted Volume Module:												
Grade:	0%			0%			0%			0%		
% Cycle/Cars:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
% Truck/Comb:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
PCE Adj:	1.10	1.10	1.10	1.10	1.10	1.10	1.10	1.00	1.00	1.10	1.00	1.00
Cycl/Car PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Trck/Cmb PCE:	xxxx	xxxx		xxxx	xxxx		xxxx	xxxx		xxxx	xxxx	
Adj Vol.:	7	0	56	0	0	0	0	51	10	101	69	0
Critical Gap Module:												
MoveUp Time:	3.4	xxxx	2.6	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.1	xxxx	xxxxx
Critical Gp:	6.5	xxxx	5.5	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	5.0	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	217	xxxx	56	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	61	xxxx	xxxxx
Potent Cap.:	793	xxxx	1297	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1604	xxxx	xxxxx
Adj Cap:	0.93	xxxx	1.00	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1.00	xxxx	xxxxx
Move Cap.:	741	xxxx	1297	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	1604	xxxx	xxxxx
Level Of Service Module:												
Stopped Del:	4.9	xxxx	2.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	2.4	xxxx	xxxxx
LOS by Move:	*	*	*	*	*	*	*	*	*	A	*	*
Movement:	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT	LT	LTR	RT
Shared Cap.:	xxxx	1192	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
rd StpDel:	xxxxx	3.2	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
ared LOS:	*	A	*	*	*	*	*	*	*	*	*	*
ApproachDel:		3.1			0.0			0.0			1.4	

Kimley-Horn
and Associates, Inc.

TURN LANE STORAGE REQUIREMENTS CALCULATIONS

ASHTON RANCH
LEFT-TURN LANE STORAGE CALCULATIONS

INTERSECTION	AM PEAK				PM PEAK			
	DIR	VPH	VEH/2MIN	STORAGE	DIR	VPH	VEH/2MIN	STORAGE
#3 (Greenway Rd/North Drwy):	NBL	4	1	25	NBL	3	1	25
	SBL	0	0	0	SBL	0	0	0
	EBL	0	0	0	EBL	0	0	0
	WBL	56	2	50	WBL	176	6	150
#9 (Bullard Ave/East Drwy):	NBL	113	4	100	NBL	253	9	225
	SBL	0	0	0	SBL	0	0	0
	EBL	148	5	125	EBL	108	4	100
	WBL	0	0	0	WBL	0	0	0
#33 (Waddell Rd/South Drwy):	NBL	0	0	0	NBL	0	0	0
	SBL	150	5	125	SBL	104	4	100
	EBL	6	1	25	EBL	20	1	25
	WBL	0	0	0	WBL	0	0	0
#1 (Greenway Rd/Road X):	NBL	11	1	25	NBL	8	1	25
	SBL	0	0	0	SBL	1	1	25
	EBL	0	0	0	EBL	0	0	0
	WBL	11	1	25	WBL	41	2	50

ASHTON RANCH
PHASING NARRATIVE

INTRODUCTION:

Ashton Ranch is a proposed 320 acre single family development located in the East half of Section 8, Township 3 North, Range 1 West of the Gila and Salt River Base and Meridian, Maricopa County, Arizona. It is bounded by Greenway Road to the north, Bullard Avenue to the east, Waddell Road to the south and vacant land to the west.

The development of the site will be phased in four units. The following is a brief description of the improvements that will be completed with each unit.

UNIT 1:

Unit 1 is located in the southwest corner of the site. All grading, sewer, water, underground utility, street improvements and landscape for the interior local and collector roadways that lie fully within this unit will be completed.

In addition, all required improvements for Waddell Road from the Bullard Avenue intersection to the west boundary of the site will be completed with Unit 1. This will include the water and sewer improvements that are necessary to serve Unit 1. All water and sewer improvements constructed in the arterial roadways are subject to reimbursement as stated in the Pre-Annexation Development Agreement.

There is also a collector road starting at the midpoint of the west boundary of the site (which is the midsection), which runs eastward along the south boundary of the school site and intersects Bullard Avenue at the midpoint of the section. The portion of this collector road that lies in Unit 1 will be fully improved including grading, sewer, water, underground utility, street improvements and landscaping in the open space and right of way. The remaining portion of this collector road will be constructed with Unit 3.

The collector entrance road into the project from Waddell Road will be fully improved from Waddell Road to the intersection with the collector road that runs along the south side of the school site.

Because the roadway layout for Unit 1 only provides one access to the site, a second temporary access will be constructed in the southwest corner of the site. It will consist of a 24 foot wide all weather access road. It will be constructed from Waddell Road to the nearest local roadway in the southwest corner of the site. This temporary access will be removed upon the completion of Unit 2, which will provide access to Unit 1 from the north.

UNIT 2:

Unit 2 is located in the northwest corner of the site. All grading, sewer, water, underground utility, street improvements and landscape for the interior local and collector roadways that lie fully within this unit will be completed.

In addition, all required improvements for Greenway Road from the west boundary to a point that lies one-quarter mile west of Bullard Avenue will be constructed with Unit 2. This will include the water improvements that are necessary to serve this site. All water improvements constructed in the arterial roadways are subject to reimbursement as stated in the Pre-Annexation Development Agreement.

Both of the collector entrance roads from Greenway Road into the project will be constructed as half streets with

Unit 2. Coordination with the adjacent development to the west will take place to insure that an acceptable pavement width can be constructed to accommodate the traffic into the site. The other half of the collector entrance road that is located at the quarter-mile point will be constructed with Unit 3.

UNIT 3:

Unit 3 is located in the northwest corner of the site. All grading, sewer, water, underground utility, street improvements and landscape for the interior local and collector roadways that lie fully within this unit will be completed.

In addition, all required improvements for Greenway Road from Bullard Avenue to a point that lies one-quarter mile west of Bullard Avenue will be constructed with Unit 3. This will include the water improvements that are necessary to serve this site. All water improvements constructed in the arterial roadways are subject to reimbursement as stated in the Pre-Annexation Development Agreement.

All improvements for Bullard Avenue for the portion that is adjacent to Unit 3 will be constructed with Unit 3. This will include the water improvements that are necessary to serve this site. Also included will be the sewer improvements in Bullard Avenue north of the midsection which will serve The Orchards, a project to the north of Ashton Ranch. All water and sewer improvements constructed in the arterial roadways are subject to reimbursement as stated in the Pre-Annexation Development Agreement.

All improvements for the remaining portion of the collector road that runs east and west will be completed in Unit 3, as well as all remaining half street improvements for the collector entrance from Greenway Road.

UNIT 4:

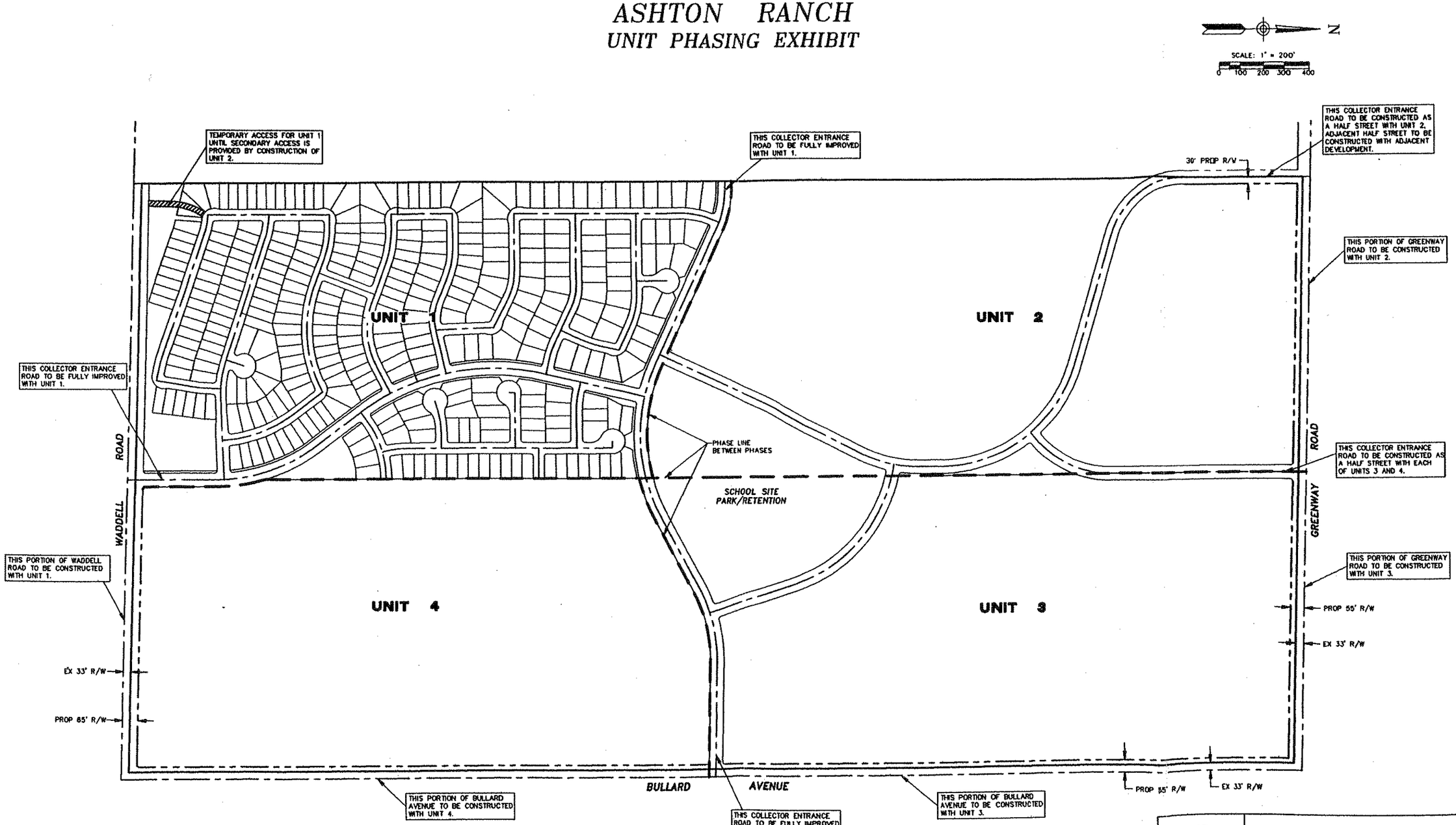
Unit 4 is located in the southeast corner of the site. All grading, sewer, water, underground utility, street improvements and landscape for the interior local and collector roadways that lie fully within this unit will be completed.

In addition, the remaining portion of Bullard Avenue will be fully constructed with Unit 4. This will include the water and sewer improvements that are necessary to serve this site. All water and sewer improvements constructed in the arterial roadways are subject to reimbursement as stated in the Pre-Annexation Development Agreement.

OFFSITE SEWER AND WATER:

All offsite sewer and water improvements that are required to serve this development will be constructed as needed to serve each unit. The offsite sewer improvements in Bullard Avenue from Cactus Road to Waddell Road will be constructed with this development and are subject to reimbursement as stated in the Pre-Annexation Development Agreement. Any offsite water improvements which may need to be constructed as part of the City's master water plan will also be subject to reimbursement as stated in the Pre-Annexation Development Agreement. The master water plan for the City has not been completed. Upon completion of the master plan, an agreement will be made between the City of Surprise and the developer regarding the construction of water lines that the city desires but which are not needed to serve this site.

ASHTON RANCH
UNIT PHASING EXHIBIT



DEVELOPMENT SUMMARY

	UNIT 1	UNIT 2	UNIT 3	UNIT 4	SUBTOTAL
AREA	76.6 AC	85.1 AC	83.3 AC	73.8 AC	318.8 AC
LOT SIZE/% 43' X 110'	159/47%				
LOT SIZE/% 48' X 110'	92/28%				
LOT SIZE/% 63' X 110'	80/25%				
LOT YIELD	331	412	374	383	1500
DENSITY	4.23 DU/AC	4.84 DU/AC	4.49 DU/AC	5.19 DU/AC	4.7 DU/AC

AMERICAN ENGINEERING CO.
consulting engineers/surveyors

21403 CATHY A. CARS-HART

ASHTON RANCH
UNIT PHASING EXHIBIT

SCALE: 1" = 200'
DATE: 6/18/97
REV:

urban concepts
Planning & Urban Design
Landscape Architecture
P.O. Box 13318

"GENERAL" DESIGN GUIDELINES FOR:

ASHTON RANCH
Planned Area Development

CITY OF SURPRISE

Civil Engineering:
American Engineering
21442 North 20th Avenue
Phoenix, AZ 85027
(602)582-0260

Developer:
Beazer Homes
2005 W. 14th Street, Ste 100
Tempe, AZ 85281
(602)967-8655

TABLE OF CONTENTS

PURPOSE AND INTENT . PAGE 2

PROJECT DESCRIPTION PAGE 2

DESIGN GUIDELINES PAGE 3
- Design Specifications

SITE PLANNING PAGE 4
- Subdivision Neighborhood Concept
- Circulation Concept
- Grading
- Waste AndRefuse
- Signage

ARCHITECTURE PAGE 5
- Style
- Building Orientation
- Design Details
- Massing
- Building Materials
- Roofs
- Colors
- Utility Placement
- Perimeter Screen Walls

ENFORCEMENT PAGE 6

LANDSCAPE CONCEPT PAGE 7
- Design Guidelines
- Plant Palette

APPROVED PLANT LIST PAGE 9

PROHIBITED PLANT LIST PAGE 10

PURPOSE AND INTENT

These "General Design Guidelines" have been prepared to further support and enhance the Ashton Ranch Planned Area Development. Individual subdivision projects will be required to comply with their own site specific design criteria that may be further defined by Covenants, Conditions and Restrictions (CC&R's). The purpose of this document is to establish general development criteria that will support and promote a consistent design theme throughout the Ashton Ranch as well as allow some flexibility in design for each parcel. Each parcel shall be compatible with common community elements however, differences in product type, home owner preferences and other factors may necessitate the need for revisions to these Design Guidelines.

The purpose of these design guidelines are to achieve the following:

A. To provide the City of Surprise with the necessary assurances that the Ashton Ranch project will develop with a high quality community appearance and character.

B. To serve as implementation criteria for use by planners, architects, landscape architects, engineers and builders.

C. To provide guidance to city staff, planning commission and city council members when reviewing specific development projects.

D. To provide a viable framework and clear direction without limiting the creativity of the designer.

PROJECT DESCRIPTION

Ashton Ranch has been designed as a family oriented community that offers a range of housing types, quality controlled architectural styles, and sensitive planning principles that will reinforce the neighborhood concept. The land plan promotes an easy transition of residential densities all linked by an open space system that supports easy pedestrian movement throughout the project.

The Central Park site is intended to offer passive recreational opportunities as well as help satisfy the projects' requirement for storm water retention. Its orientation in the center of the project will also establish a common open space location linking the entire community.

DESIGN GUIDELINES

Design Specifications:

Ashton Ranch will be developed under the design guidelines discussed within this document and the PAD. The design techniques utilized throughout these guidelines will uniquely identify each neighborhood with consistent signage, landscape, and architecture elements to create a signature planned family neighborhood for Surprise. Major entries and product entries will be similar to the entry monument and plant palette.

To some extent, these design guidelines are included in the Covenants, Conditions, and Restrictions (CC&R's). The CC&R's will be utilized to control the size, type, and quality of development, to require proper maintenance; to eliminate activities that may be objectionable to neighbors, to protect property values, and to enhance community appeal. A homeowners association will be established to provide further maintenance and quality control throughout Ashton Ranch.

The design guidelines address those elements which, when working in concert will create the image for the Ashton Ranch. The common elements to be addressed are:

* Site Planning
* Landscape
* Architecture

SITE PLANNING

Subdivision Neighborhood Concept:
The Neighborhood Concept should be a major design concept for Ashton Ranch. It is intended to create a series of smaller living environments within the larger community. Each neighborhood will have a small play area and the entire community will enjoy the large open space located in the middle of the project.

Circulation Concept:
Circulation concepts for residential subdivisions should take full advantage of open space areas and views. Major entrances shall also be enhanced with project monumentation and enhanced landscaping.

Access drives and curb cuts off of major streets must be coordinated to provide safe and efficient traffic flow during peak periods.

On-site pedestrian circulation systems will be provided to meet the needs of the on-site users. Such systems will provide safe, all weather efficient, and visually pleasing means of on-site movement.

Grading:
Grading restrictions in these design guidelines are formulated to balance natural land features wherever possible. Graded slopes shall meet City Engineer and Uniform Building Code standards. Grading of peripheral residential and open space shall conform to the natural topography and result in a harmonious transition of the human-made grade with the natural terrain.

Waste And Refuse:
All waste or refuse materials shall be stored and maintained in closed containers screened from view by permanent structures, fencing, or landscaping compatible with the building's design. All waste and refuse shall be frequently and regularly removed from the site. Provisions shall be made to mitigate any odor conditions. The selection and screening of waste containers are subject to approval by the Architectural Review Committee prior to their use.

Signage:
Signage will be controlled by these design guidelines, the Project CC&R's, and the City's Sign Code. While the project identification, project logo, traffic circulation signage may be consistent throughout the project, subdivision identification and logos along with the builder's name may be modified. All proposed signage is subject to approval by the Architectural Review Committee and the City of Surprise prior to installation.

ARCHITECTURE

Architectural criteria will help to establish visual compatibility throughout Ashton Ranch and assure an overall quality appearance. All structures in a given parcel shall be of materials, colors, and styles that blend with or complement each other.

A. Style:

- Architectural styles may vary from one parcel to the next but shall be compatible throughout Ashton Ranch. Designs incorporating a contemporary southwestern theme are encouraged. Ashton Ranch CC&R's will insure compatibility of architectural style.

B. Building Orientation:

- Minimize east and west exposures to maximize energy efficiency where feasible.
- Single family residential units are encouraged to mix left and right elevations.
- Site plans shall reflect curvilinear street patterns which allow for reduced speeds, variations of views, and flexibility of orientation. Where possible, subdivisions shall be created by the use of cur-de-sacs, small loop streets, or other interesting street pattems.
- Varied building placement is encouraged to create an interesting street scene with dwelling units backed to or sided on arterial or collector streets.

C. Design Details:

- Windows shall generally consist of anodized aluminum or painted frames. Accent trim, divided windows, and rectangular and round openings are encouraged.
- Enclosed garages will be provided on every home. Garage doors shall be sectional.
- Chimneys shall be constructed of similar material and texture as the building.

D. Massing:

- Heights shall be per the City of Surprise standards.
- The architectural image and character of Ashton Ranch will be perceived from public spaces, such as streets and the park.
- Three elevations will be offered with each floor plan.

E. Building Materials:

- Attractive and varied building materials must be applied to buildings and structures. Each material will be used to express its characteristics in an appropriate manner with colors and textures in the general vicinity.
- Permitted exterior finished materials for all homes include stucco and masonry, brick, stone or similar materials.
- Various stucco finishes, such as Spanish Lace, Sand, Silica, and others are encouraged in the developments to encourage diversity.

F. Roofs:

- A diversity in roof covering materials is encouraged. Generally acceptable roof coverings would be concrete or clay tile in an "S" or Flat design, or other compatible type roofing matenals, as approved by the Ashton Ranch Architectural Review Committee. At least three (3) tile colors shall be provided.

G. Colors:

- The predominant colors in Ashton Ranch will be earth tones and other colors compatible with a contemporary southwestern architectural style. At least five (5) house colors shall be provided.

H. Utility Structure Placement:

- All exterior on site utilities, including, but not limited to, sewer and water lines, and electrical, telephone, and communication wires and equipment, shall be installed and maintained underground.
- Mechanical Equipment- All units shall be ground mounted.

I. Perimeter Screen Walls:

- The residential developments within Ashton Ranch will adopt a standard screen wall design that will use the same colors and incorporate the same type of concrete (CMU) block. While the standard screen wall elevations and wall expanses will be of the same material and color, the individual neighborhoods may chose to provide some minor variations for accenting at their entrances. Each neighborhood shall have the option to construct a View Wall adjacent the Open Space, or a Interior Screen Wall. Return walls between units, perpendicular to the View Wall shall be standard CMU block.
- Ashton Ranch has prepared a Wall plan which is included in the Ashton Ranch PAD.
- Gates may not be constructed in any wall or fence without prior City of Surprise and Architectural Review Committee approval of the size, location, color, and material. Gates shall not be permitted in the theme wall or any wall adjacent to Ashton Ranch.

ENFORCEMENT

The Ashton Ranch Homeowners Association and the Architectural Review Committee will provide enforcement of the Design Guidelines and CC&R's as they relate to the development of the projects within Ashton Ranch.

LANDSCAPE CONCEPTS

Landscape Design Guidelines:
The Landscape Design Guidelines prepared for Ashton Ranch are intended to satisfy the City of Surprises' design expectations for the perimeter streetscape. There is a Conceptual Master Landscape Plan already prepared for the offsites associated with the single family residential development as found in the Ashton Ranch PAD. It is this streetscape theme that forms the basis for these guidelines. These guidelines therefore should be considered as a design tool and the mechanism by which a consistent pattern for the project landscape can be established throughout the community.

Landscape Palette / Materials:
The overall landscape concept for Ashton Ranch emphasizes the use of turf only where it is a programmed surface at the neighborhood park for informal play, and where retention functions may inundate areas requiring a more resilient and serviceable surface treatment.

The basic treatment of streetscape includes a water efficient palette of flowering shrubs, groundcovers, and trees. The majority of all proposed plantings with the exception of turf, are taken from the approved Department of Water Resources plant list. This applies to the streetscape, multi-use trail areas, and the entry features into Ashton Ranch. Larger box size trees (24" Box min.) are proposed at major project entries and subdivision entries off the internal collector streets, for a more immediate visual impact. The non turf areas will receive a 2" layer of 1/2" minus of decomposed granite ground cover.

Elements of the project landscape that will help to create the theme will include the following:

1. Master Plant Schedule:
Selection of plant material for the areas within a Public Right-of-Way must satisfy the Arizona Department of Water Resources (ADWR) requirement for low water use plant material. Landscaping outside the public right-of-way may select from a larger plant palette, but the selected species must be listed within the Master Plant Schedule for Ashton Ranch.

2. Landscape Theme:
Landscaping installed along the street frontages with the initial offsite infrastructure work should be considered the standard for future improvements. Although a proposed landscape need not duplicate the exact placement, it is the intent of these design guidelines that there be continuity by selecting a higher percentage of the same plant material, creating similar plant massings, berms, surfed areas, etc. The careful use of color in the landscape can create pedestrian-scale interest and strengthen the overall project association by repeating certain patterns at the main entrances and along different street frontages.

3. Neighborhood Parcels Landscaping:

The CC&R's within Ashton Ranch will require that every home have landscape installed within 90 days of occupancy that is easily maintained and efficiently watered. The use of groundcover is encouraged to help minimize turf areas and to improve the landscape character. All yard areas must be covered by an approved organic material including decomposed granite, or other natural rock material approved by the Architectural Review Committee to provide a neat, dust-tree appearance. Prior to landscaping, the homeowner shall maintain the yard in a neat, weed-free, dust-free condition.

Rocks / boulders, patios, sidewalks, or other features as approved by the Architecture Review Committee may be used to supplement and create imaginative landscape design.

Artificially colored rock yards are not acceptable at any location.

In landscape common areas adjacent to the collector streets all plant material should be drought resistant and water conserving.

4. Entrance Features:

The primal entrances into Ashton Ranch will include entrance features. These features will include accent plant material, special hardscape treatment, sign walls and temporary directional signage structures for the neighborhoods. Continuity in use of materials throughout the project will reinforce a distinctive and unique image for Ashton Ranch from the standpoint of walls, entries, monumentation, signage, and plants. These features are intended to be similar in design appearance but will allow some variations in color accents, and sign copy to identify the individual subdivision neighborhoods.

Approved Plant List

The below listed plants may be duplicatd in the Ashton Ranch PAD. These lists may be revised by the Ashton Ranch Architectural Review Committee. Any species not contained herein may not be planted or installed without written approval from the Design Review Committee, after which the species may be included as an approved species. All species of cacti are acceptable for use within as are any species not listed below which have been found to be indigenous to the area.

Trees:	**Botanical Name**	**Common Name**
	Acacisabyssinica	Abyssinian Acacia
	Acacia aneura	Mulga
	Acacia constricts	White Thorn Acacia
	Acacia schaffnen	Twisted Acacia
	Acacia smallli	Sweet Acacia
	Acacia stenophylla	Shoestring Acacia
	Acacia willardiana	White Bark Acacia
	Caesalpinia cacalaco	Caesalpinia
	Caesa mexicana	Mexican Poinciana
	Camlaloba	Bird of Paradise
	Cercidi	Blue Palo Verde
	Cercidium	Sonoran Palo Verde
	Cercidium praec ox	Palo Verde
	Chilopsis linearis	Desert Willow
	Citrus species	Citrus
	Dalbergia sissoo	Sissoo Tree
	Fraxinus velutina	Fan-Tex Ash
	Lysiloma thornberi	Fern of the Desert
	Olneya tesota	Ironwood
	Pinus eldarica	Mondel Pine
	Pistacia chinensis	Chinese Pistache
	Pithecollobium flexicaule	Texas Ebony
	Pithecollobium mexicana	Mexican Ebony
	Prosopsis chilensis	Chilean Mesquite
	Prosopsis juliflora	Honey Mesquite
	Prosopsis pubescens	Fremont Screwbean
	Pyrus species	Evergreen Pear
	Quercus muhlenbergii	Chinquapin Oak
	Schinus terebinthifolius	Brazilian Pepper Tree
	Ulmus parvifolia	Evergreen Elm
	Washingtonia robusta	Mexican Fan Palm

Shrubs:

Botanical Name	Common Name
Acacia species	Acacia
Agave Species	Century Plants
Asclepias subulata	Desert MilLweed
Buddleia marrubilfolia	Wooly Butterfly Bush
Caesalpinia gillesli	Yellow Butterfly Bush
Caesalpinia pulcherrima	Mexican Bird of Paradise
Calliandra californica	Baja Fairy Duster
Calliandra eriophylla	Fairy Duster,
Canotia holacanU,a	Crucifixion Thorn
Cassia species	Cassia
Chamaerops humilis	Mediterranean Fan Palm
Cordia parviflora	Cordia
Dalea species	Dalea
Dasyliron species	Desert Spoon
Dodonea viscose	Hop Bush
Encelia farinosa	Brittle Bush
Ephedra trifurca	Mormon Tea
Eriogonum fasciculatum	Buckwheat
Eysenhardia polystachia	Kidney Wood
Fallugia paradoxa	Apache Plume
Forestieria neomexicana	Desert Olive
Fouquierli splendens	Ocotillo
Haplopappus laricifolia	Turpentine Bush
Hesperaloe funifera	Hesperaloe
Hesperaloe parviflora	Coral Yucca
Holacanthea emoryi	Crucifixion thorn
Hyptis emoryi	Desert Lavender
Leucaena rents	Ball Tree
Malephora lutea	Rocky Point Ice Plant
Myrtus communis 'Boetica'	Twisted Nlyrtle
Nandina domestica	Heavenly Ban oo
Nolina species	Bear Grass
Penstemon species	Beard Tongue
Photinia fraseri	Fraser~s Phobnia
Ruellia species	Ruellia
Salvia species	Salvia
Sophora secundifolia	Texas Mountain Laurel
Tecomaria capensis .	Cape Honeysuckle
Vauquelinia califonica	Arizona Rosewood
Viguiera tomentosa	Golden eye
Xylosma cong. 'varieties'	Xylosma
Yucca species	Yucca
Zauschneria latifolia	Hummingbird Flower

	Botanical Name	Cometary Name
Groundcovers:		
	Acacia redolens	Trailing Acacia
	Ambrosia deltoidea	Bursage
	Baccharis "centennial"	Desert Broom
	Baileya multiradiata	Desert Marigold
	Bougainvillea species	Bougainvillea
	Carrisa species	Natal Plum
	Convolvulus species	Morning Glory
	Cynodon(hybrids)	Bermuda Hybrids
	Dalea capitata "Stem Gold"	Sierra Gold Dalea
	Dalea greggli	Trailing Indigo
	Ficus pumila	Creeping Fig
	Gazania species	Gazania
	Hemerocallis species	Daylily
	Lantana camera	"New Gold" Lantana
	Lantana montevidensis	Trailing Lantana
	Melampodium leucanthum.	Blackfoot Daisy
	Myoporum parvifolium	Prostrate Myoporum
	Penstemon species	Penstemon
	Psilostrophe species	Paper Flower
	Verbe species	Verbena
Accents	Asclepias subulata	Milkweed
	Carnegia gigantea	Saguaro
	Echinocactus species	Barrel Cactus
	Echinocereus species	Hedgehog Cactus
	Euphorbia rigida	Euphorbia
	Ferocactus species	Barrel Cactus
	Fouquieria splendens	Ocotillo
	Hesperaloe species	Red, Yellow Yucca
	Muhlenbergia species	Deer Grass
	Opuntia species	Prickly Pear
	Pachycerecis species	Organ Pipe Cactus
Vines	Campsis radicans	Trumpet Vine
	Ficus pumila	Creeping Fig
	Podranea ricasoliana	Pink Trumpet Vine
	Rosa banksaie	Lady Banks Rose

Prohibited Plant List:

1. Olive trees (Olea europaea) except for 'Swan Hill', a fruitless variety, will be prohibited for reasons of their profuse production of allergy-producing pollen.

2. Fountain Grass is prohibited as a defined weed, with the potential to spread throughout the area planted and also as a fire hazard.

3. Common Bermuda Grass (Cynodon dactylon) will be prohibited as a defined weed and for its profuse production of allergy-producing pollen.

4. Mexican Palo Verde (Parkinsonia aculeata) will be prohibited as a harborer of pests and its ability to spread throughout the development.

ORDINANCE NO. 97-22

AN ORDINANCE CHANGING THE ZONING OF A PROPERTY BOUNDED GENERALLY BY GREENWAY ROAD ON THE NORTH, BULLARD AVENUE ON THE EAST, WADDELL ROAD ON THE SOUTH, AND THE MID-SECTION OF SECTION 8 ON THE WEST, LOCATED IN SECTION 8, TOWNSHIP 3 NORTH, RANGE 1 WEST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, FROM R1-43 TO PLANNED AREA DEVELOPMENT (PAD) WITH PRELIMINARY DEVELOPMENT PLAN.

WHEREAS, this Ordinance has been properly noticed for public hearing and the necessary hearings have been completed; and

WHEREAS, changes have occurred in the vicinity of Greenway Road on the North, Bullard Avenue on the east, Waddell Road on the south, and the Mid-Section of Section 8 on the west, located in Section 8, Township 3 North, Range 1 West, of the Gila and Salt River Base and Meridian, Maricopa County, Arizona, which require that the zoning of a parcel of land in that area be changed; and

WHEREAS, rezoning of the subject property will enhance the health, safety, and welfare of the community, will not cause traffic congestion or depreciate surrounding property values and, at the same time is in harmony with the purposes and intent of the zoning ordinance, the plan for the area, and the Comprehensive Development Guide; and

WHEREAS, the Planning and Zoning Commission has recommended approval of this rezoning;

NOW THEREFORE BE IT ORDAINED, by the City Council of the City of Surprise, Arizona, that:

Section 1. This Ordinance is not of a general and permanent nature and shall not be codified.

Section 2. The property described in Exhibit "A" is rezoned from R1-43 to Planned Area Development ("PAD") with Preliminary Development Plan.

Section 3. The Preliminary Development Plan for the property described on Exhibit "A", entitled "Ashton Ranch Planned Area Development Plan, dated revised 8/25/97, as Application No. PAD97-74, a copy of which is on file in the Community Development Department, is approved.

Section 4. All present and future owners of the property described on Exhibit "A" shall develop the property only as provided in the approved Preliminary Development Plan and in compliance with Stipulations contained in Exhibit "B".

PASSED AND ADOPTED this _____day of _____, 1997.

_____
Joan H. Shafer
Mayor, City of Surprise

ATTEST:

_____
Sherry A Aguilar, City Clerk

APPROVED AS TO FORM:

_____
David Ward, Assistant City Attorney

Yeas: _____

_____

Nays: _____

_____

LEGAL DESCRIPTION

THE EAST HALF OF SECTION 8, TOWNSHIP 3 NORTH, RANGE 1 WEST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 8; (SAID MONUMENT BEING A 1/2" IRON BAR 0.7 FEET BELOW GROUND)

THENCE SOUTH 00° 17' 50" EAST ALONG THE EASTERLY LINE OF SAID SECTION 8, A DISTANCE OF 2638.12 FEET TO THE EAST QUARTER CORNER OF SECTION 8; (SAID MONUMENT BEING A 1/2" PIPE 1.0 FEET BELOW GROUND)

THENCE SOUTH 00° 18' 00" EAST ALONG THE EASTERLY LINE OF SAID SECTION 8, A DISTANCE OF 2637.98 FEET TO THE SOUTHEAST CORNER OF SECTION 8; (SAID MONUMENT BEING A STONE IN A HAND HOLE 1.03 FEET BELOW PAVEMENT)

THENCE NORTH 88° 48' 07" WEST ALONG THE SOUTHERLY LINE OF SAID SECTION 8, A DISTANCE OF 2633.51 FEET TO THE SOUTH QUARTER CORNER OF SECTION 8; (SAID MONUMENT BEING A 1/2" IRON BAR 0.62 FEET BELOW PAVEMENT)

THENCE NORTH 00° 16' 57" WEST ALONG THE MID-SECTION LINE OF SAID SECTION 8, A DISTANCE OF 5278.28 FEET TO THE NORTH QUARTER CORNER OF SECTION 8; (SAID MONUMENT BEING A 1/2" PIPE 0.63 FEET BELOW GROUND)

THENCE SOUTH 88° 45' 13" EAST ALONG THE NORTHERLY LINE OF SAID SECTION 8, A DISTANCE OF 2632.06 FEET TO THE POINT OF BEGINNING.

GROSS AREA : 13,888,677.04 SQ. FT. 318.8402 ACRES

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
7146
M. LLOYD
WILLIS
Date Signed 6-4-97
ARIZONA, U.S.A.

EXHIBIT - A

TO ORDINANCE NO. 97-22

RECOMMENDATION: (PAD97-74)

The subject request generally follows the intent of the Surprise Comprehensive Development Guide. Furthermore, approval of this request (PAD97-74) would allow for a timely, efficient and orderly development of the property. Additionally, approval of this request will not adversely impact the surrounding area. Planning and Zoning Commission **recommends** that this request, a rezoning of 320 acres from R1-43 to Planned Area Development, **be approved** subject to the following stipulations:

a) Approval of this Planned Area Development (Application No. PAD97-74) is contingent upon adoption of an annexation ordinance increasing and extending the corporate limits as described in the Ashton Ranch Planned Area Development Plan, Section 10, entitled Legal Description;

b) Approval of this Planned Area Development (Application No. PAD97-74) is contingent upon the execution of a Development Agreement between the City of Surprise and the Developer relating to water service. The City shall not be required to provide water service to the property until a Development Agreement which provides a funding mechanism for construction of water service infrastructure has been signed by the City and the Developer;

c) The minimum lot size shall be forty-five (45) feet wide by one hundred fifteen (115) feet deep;

d) A maximum of thirty-five (35%) percent of the total lot yield shall be 45' x 115';

e) A minimum of twenty (20%) percent of the total lot yield shall be equal or greater than 63' x 115';

f) A minimum of forty-five (45%) percent of the total lot yield shall be equal to or greater than 48' x 115';

g) Any minor change to the total lot yield percentages (for 45', 48' and 63' wide lots) as noted under Recommendation Items d, e, and f, will require an administrative approval by the City Manager and the Community Development Director;

h) Developer shall create and record a set of CC&Rs establishing a homeowners' association which shall be responsible for the maintenance of all open space and landscape areas (including within rights-of -way). Said CC&Rs shall be approved by the Community Development Director;

i) All landscaping plans (including recreational equipment and amenities) and wall details (including perimeter theme walls and entry monumentation) and their

EXHIBIT - B

TO ORDINANCE NO. 97-22

placement within the Ashton Ranch community shall be reviewed and approved by the Community Development Director prior to issuing any building permits;

j) Minimum side yard setbacks shall be 5' and 8' (13' aggregate) with a minimum building separation of 10 feet;

k) Corner side yard setbacks shall be a minimum of 13' measured from the property line;

l) Front yard setbacks shall vary in 3' increments with no more than two homes in a row having the same front yard setback. Minimum front yard setback shall be 18 feet measured from the property line;

m) Rear yard setbacks shall be a minimum of 20 feet;

n) All floor plans and elevations shall be required to be submitted to the Community Development Director for review and approval prior to issuing any building permits;

o) Developer shall provide Flag Lot and Side Entry Garage Exhibits for review and approval by the City Manager and Community Development Director prior to Preliminary Plat approval;

p) All ~~footing~~ Lotting shown in the PAD Notebook are for reference only. Approval of lot layout shall occur at the Preliminary and Final Plat stages;

q) All street cross sections are conceptual and shall be subject to additional review and approval at the time of the Preliminary Plat(s) submittal. Said streets shall be constructed to City standards and as approved by the City Engineer;

r) Final Community Site Development and Architectural Design Guidelines shall be submitted to and approved by the Community Development Director prior to issuing any building permits;

s) Final Sewer, Water, Drainage and Traffic reports for the Ashton Ranch development shall be reviewed and approved by the City Engineer prior to any Preliminary Plat approval;

t) Model homes, temporary sales office and construction trailers shall be submitted as Conditional Use Permits to be reviewed and approved by the Planning and zoning Commission in accordance with the Surprise Municipal Code, Section 17.36.050.

STANDARD:

EXHIBIT - B

TO ORDINANCE NO. 97-22

u) Provide four (4) copies of the PAD Notebook, revised as necessary to comply with these approved stipulations to the Community Development Department within thirty (30) days of City Council approval; and

v) Major changes to this PAD rezoning application with respect to land use, intensity and circulation, must be processed as a revised application with approval by the Mayor and City Council upon recommendation from the Planning and Zoning Commission. Minor changes to the PAD rezoning application may be administratively approved by the Community Development Director and City Manager.

EXHIBIT - B

TO ORDINANCE NO. 97-22

REPORT TO THE PLANNING AND ZONING COMMISSION AND THE CITY COUNCIL

PREPARED BY THE CITY OF SURPRISE COMMUNITY DEVELOPMENT DEPARTMENT

CASE NO.: **PAD97-74** (Planned Area Development - Ashton Ranch)

Planning and Zoning Commission Hearing Date: September 2, 1997
Mayor and City Council Hearing Date: September 11, 1997

REQUEST: Beazer Holdings Corporation is requesting rezoning approval from Single-Family Residential (R1-43) to Planned Area Development (PAD).

SITE LOCATION: The area is bounded by Greenway Road on the north, Waddell Road on the south, Bullard Avenue on the east, and the mid-section of Section 8 on the west, in Section 8, Township 3 North, Range 1 West of the Gila and Salt River Base and Meridian, Maricopa County, Arizona.

SITE SIZE: **320** gross acres

CONFORMANCE TO ADOPTED LAND USE PLANS: The previous item on this agenda was a request to amend the Surprise Comprehensive Development Guide Land Use Map. If, approved, this request would comply with the Plan.

COMMENTING JURISDICTIONS:

Town of Buckeye:	No comments were received
City of El Mirage:	No comments were received
City of Peoria:	No comments were received
Maricopa County:	No comments were received
Dysart Unified School District:	No comments were received
Maricopa Water District:	No comments were received
Luke Air Force Base:	No comments were received

DEPARTMENTAL REVIEW:

The **Engineering Department** has reviewed this application and is recommending approval subject to the stipulations listed under "Recommendations".

The **Fire Department** has reviewed this application and is recommending approval subject to the stipulations listed under "Recommendations".

The **Public Works Department** has reviewed this application and is recommending approval subject to the stipulations listed under "Recommendations".

The **Police Department** has reviewed this application and is recommending approval subject to the stipulations listed under "Recommendations".

STAFF RECOMMENDATION: Approve subject to stipulations listed under Recommendations - Items a through v, excepting Item t.

EXISTING AND SURROUNDING ZONING:

1.

ON-SITE:	R1-43
NORTH:	PAD ("The Orchards")
SOUTH:	Rural-43 (Maricopa County)
EAST:	Rural-43 (Maricopa County)
WEST:	PAD ("The Orchards") and Rural-43 (Maricopa County)

EXISTING AND SURROUNDING LAND USE:

2.

ON-SITE:	Vacant, Agricultural
NORTH:	Vacant, Agricultural
SOUTH:	Vacant, Agricultural
EAST:	Vacant, Agricultural
WEST:	Vacant, Agricultural

ADJACENT ROAD STATUS:

3. **GREENWAY ROAD:** Currently exists as an unimproved dirt road. Proposed as a minor arterial (110' right-of-way). The developer will improve the south one half including curb and gutter and a six' wide meandering sidewalk.

4. **WADDELL ROAD:** Currently exists as a two lane paved road with no curb, gutter or sidewalks. Proposed as a major arterial (130' right-of-way). The developer will improve the north one half including curb and gutter and a six' wide meandering sidewalk.

5. **BULLARD AVENUE:** Currently exists as an unimproved dirt road. Proposed as a minor arterial (110' right-of-way). The developer will improve the west one half including curb and gutter and a six' wide meandering sidewalk.

EXISTING UTILITIES AND SERVICES STATUS:

6. **WATER:** City of Surprise

7. **SEWER:** City of Surprise

8. **FIRE PROTECTION:** The Surprise Fire Department currently has a fire station located at 15616 North Hollyhock Street. A second fire station is proposed near the intersection of the proposed Mountain View Boulevard and Reems Road.

9. **POLICE PROTECTION:** The Surprise Police Department currently has a station located at 12425 W. Bell Road.

CONFORMANCE TO ADOPTED LAND USE PLANS:

10. If approved, this request would comply with the previous request (Application No. GPA97-75) which amended the Surprise Comprehensive Development Guide Land Use Map. The proposed General Plan Amendment requested to expand the "Typical Neighborhood" designation to two areas currently designated as commercial.

AREA LAND USE ANALYSIS:

11. The 320 acre subject request is zoned Single-Family Residential (R1-43). The site is currently being farmed and or vacant undeveloped land.

12. The property to the immediate west is being farmed and or vacant undeveloped land and currently within the City of Surprise strip annexation area. However, it has not been annexed into the City of Surprise and is considered in Maricopa County, zoned Rural-43.

13. The property to the east is being farmed and or vacant undeveloped land and currently within the City of Surprise strip annexation area. However, it has not been annexed into the City of Surprise and is considered in Maricopa County, zoned Rural-43.

14. The property to the north is "The Orchards" Planned Area Development. The proposed land use designations are Low Density Residential, Medium Density Residential, High Density Residential, Convenience Commercial, and Community Commercial. Currently the property is being farmed and or vacant undeveloped land.

15. The property to the south is being farmed and or vacant undeveloped land and currently within the City of Surprise strip annexation area. However, it has not been annexed into the City of Surprise and is considered in Maricopa County, zoned Rural-43.

16. Ashton Ranch, with a Typical Neighborhood designation, would be consistent with the overall intent of the Surprise Comprehensive Development Guide and its Land Use Plan.

PLAN ANALYSIS:

17. This request proposes to rezone 320 acres generally bounded by Greenway Road on the north, Waddell Road on the south, Bullard Avenue on the east, and the mid-section of Section 8 on the west from R1-43 to Planned Area Development.

18. The Ashton Ranch site plan provides a maximum of 1,500 dwelling units and an overall density of 4.71 dwelling units per acre.

19. The Ashton Ranch residential community includes three (3) different lot sizes: 45' x 115', 48' x 115' and 63' x 115'. The proposed percentage of lots in each category are 47%, 28% and 25% respectively. **Staff has requested (see Stipulation b and c) that a maximum of 30% of the total lot yield shall be 45' x 115' and that a minimum of 20% of the total lot yield shall be equal or greater than 63' x 115'.**

20. Proposed front and rear yard setbacks are 20 feet. **Staff would like to see front yard staggered setbacks in 3' increments. In return, we propose that the minimum front yard set back be 18' from the property line (see Stipulation i).**

21. Proposed side yard setback (aggregate) is 13 feet, with a minimum side yard setback of 5'. Corner side yard setbacks adjacent to a public street is 13 feet from the property line.

22. The proposed arterial half street rights-of-way for Waddell Road (major arterial), Bullard Avenue (minor arterial) and Greenway Road (minor arterial) shall be 65', 55' and 55' respectively. Six foot wide meandering sidewalks will be constructed in the arterial rights-of-way. All streets will be constructed to City of Surprise standards.

23. The proposed collector full street rights-of-way shall be 60', with 10' landscaping tracts on each side. Six foot wide meandering sidewalks will be constructed in the collector street rights-of-way and landscape tracts.

24. The proposed local full street rights-of-way shall be 50' with attached 4' wide sidewalks on both sides.

25. All streets within Ashton Ranch will be public.

26. Ashton Ranch provides nearly 12% open space and common area. The Ashton Ranch community is centered around a five (5) acre neighborhood park and a ten (10) acre site reserved for a school.

27. Active and passive amenities will be installed in the park as follows: soccer field, 1/2 basketball court, pre-teen play structure, ramada, swing set, spring animals, BBQ grills, picnic table and benches, bike racks, trash receptacles and drinking fountains.

28. The school site will be reserved indefinitely. However, if the school district decides a school will not be constructed on this site, the 10 acres will be added to the existing 5 acre park.

29. All open space areas and landscape tracts (including landscaping within the rights-of-way) will be maintained by the Ashton Ranch Community Association.

30. The entry features and perimeter walls will be constructed of integral color masonry block, accented with split face block and secondary colors.

31. The Developer is requesting that model homes, temporary sales offices and construction trailers be administratively approved by the City's Community Development Director.

32. The development of Ashton Ranch will be phased in four units. Unit 1 is located in the southwest corner of the site; Unit 2 in the northwest corner, Unit 3 in the northeast corner, and Unit 4 in the southeast corner.

RECOMMENDATION: (PAD97-74)

The subject request generally follows the intent of the Surprise Comprehensive Development Guide. Furthermore, approval of this request (PAD97-74) would allow for a timely, efficient and orderly development of the property. Additionally, approval of this request will not adversely impact the surrounding area. Planning and Zoning Commission **recommends** that this request, a rezoning of 320 acres from R1-43 to Planned Area Development, **be approved** subject to the following stipulations:

a) Approval of this Planned Area Development (Application No. PAD97-74) is contingent upon adoption of an annexation ordinance increasing and extending the corporate limits as described in the Ashton Ranch Planned Area Development Plan, Section 10, entitled Legal Description;

b) Approval of this Planned Area Development (Application No. PAD97-74) is contingent upon the execution of a Development Agreement between the City of Surprise and the Developer relating to water service. The City shall not be required to provide water service to the property until a Development Agreement which provides a funding mechanism for construction of water service infrastructure has been signed by the City and the Developer;

c) The minimum lot size shall be forty-five (45) feet wide by one hundred fifteen (115) feet deep;

d) A maximum of thirty-five (35%) percent of the total lot yield shall be 45' x 115';

e) A minimum of twenty (20%) percent of the total lot yield shall be equal or greater than 63' x 115';

f) A minimum of forty-five (45%)0 percent of the total lot yield shall be equal to or greater than 48' x 115';

g) Any minor change to the total lot yield percentages (for 45', 48' and 63' wide lots) as noted under Recommendation Items d, e, and f, will require an administrative approval by the City Manager and the Community Development Director;

h) Developer shall create and record a set of CC&Rs establishing a homeowners' association which shall be responsible for the maintenance of all open space and landscape areas (including within rights-of -way). Said CC&Rs shall be approved by the Community Development Director;

i) All landscaping plans (including recreational equipment and amenities) and wall details (including perimeter theme walls and entry monumentation) and their

u) Provide four (4) copies of the PAD Notebook, revised as necessary to comply with these approved stipulations to the Community Development Department within thirty (30) days of City Council approval; and

v) Major changes to this PAD rezoning application with respect to land use, intensity and circulation, must be processed as a revised application with approval by the Mayor and City Council upon recommendation from the Planning and Zoning Commission. Minor changes to the PAD rezoning application may be administratively approved by the Community Development Director and City Manager.

LEGAL DESCRIPTION

THE EAST HALF OF SECTION 8, TOWNSHIP 3 NORTH, RANGE 1 WEST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHEAST CORNER OF SAID SECTION 8; (SAID MONUMENT BEING A 1/2" IRON BAR 0.7 FEET BELOW GROUND)

THENCE SOUTH 00° 17' 50" EAST ALONG THE EASTERLY LINE OF SAID SECTION 8, A DISTANCE OF 2638.12 FEET TO THE EAST QUARTER CORNER OF SECTION 8; (SAID MONUMENT BEING A 1/2" PIPE 1.0 FEET BELOW GROUND)

THENCE SOUTH 00° 18' 00" EAST ALONG THE EASTERLY LINE OF SAID SECTION 8, A DISTANCE OF 2637.98 FEET TO THE SOUTHEAST CORNER OF SECTION 8; (SAID MONUMENT BEING A STONE IN A HAND HOLE 1.03 FEET BELOW PAVEMENT)

THENCE NORTH 88° 48' 07" WEST ALONG THE SOUTHERLY LINE OF SAID SECTION 8, A DISTANCE OF 2633.51 FEET TO THE SOUTH QUARTER CORNER OF SECTION 8; (SAID MONUMENT BEING A 1/2" IRON BAR 0.62 FEET BELOW PAVEMENT)

THENCE NORTH 00° 16' 57" WEST ALONG THE MID-SECTION LINE OF SAID SECTION 8, A DISTANCE OF 5278.28 FEET TO THE NORTH QUARTER CORNER OF SECTION 8; (SAID MONUMENT BEING A 1/2" PIPE 0.63 FEET BELOW GROUND)

THENCE SOUTH 88° 45' 13" EAST ALONG THE NORTHERLY LINE OF SAID SECTION 8, A DISTANCE OF 2632.06 FEET TO THE POINT OF BEGINNING.

GROSS AREA : 13,888,677.04 SQ. FT. 318.8402 ACRES

REGISTERED LAND SURVEYOR
CERTIFICATE NO.
7146
M. LLOYD
WILLIS
Date Signed 6-4-97
ARIZONA, U.S.A.

ASHTON RANCH
PLANNED AREA DEVELOPMENT

Contact List

Developer:	Beazer Homes 2005 W. 14th Street, Suite 100 Tempe, AZ 85281 Telephone: 967-8655 Fax: 967-2780 Primary Contact: Rob Napoli
Land Planner:	Urban Concepts P. O. Box 13315 Scottsdale, AZ 85267-3315 Telephone: 451-9244 Fax: 661-1522 Primary Contact: Cathy Hart
Engineer:	American Engineering Company 21442 N. 20th Avenue Phoenix, AZ 85027 Telephone: 582-0260 Fax: 582-0953 Primary Contact: Joe Cable
Landscape Architect:	Neill/Vecchia & Associates, Inc. 3295 N. Civic Center Blvd., Suite 11 Scottsdale, AZ 85251 Telephone: 949-7127 Fax: 949-265 Primary Contact: Todd Neill
Legal Representation:	Burch & Cracchiolo, P.A. 702 East Osborn Road Phoenix, AZ 85014 Telephone: 274-7611 Fax: 234-0341 Primary Contact: Marvin Davis

9 Engineering Documents and Exhibits 27
Exhibit O-"Master Sewer Study"
Exhibit P-"Master Water Study"
Exhibit Q-"Master Drainage Study"
Exhibit R-"Topographical Map"
Exhibit S-"Traffic Analysis"
Exhibit T-"Phasing Plan"

10 Beazer Homes "General" Design Guidelines

11 Zoning Ordinance

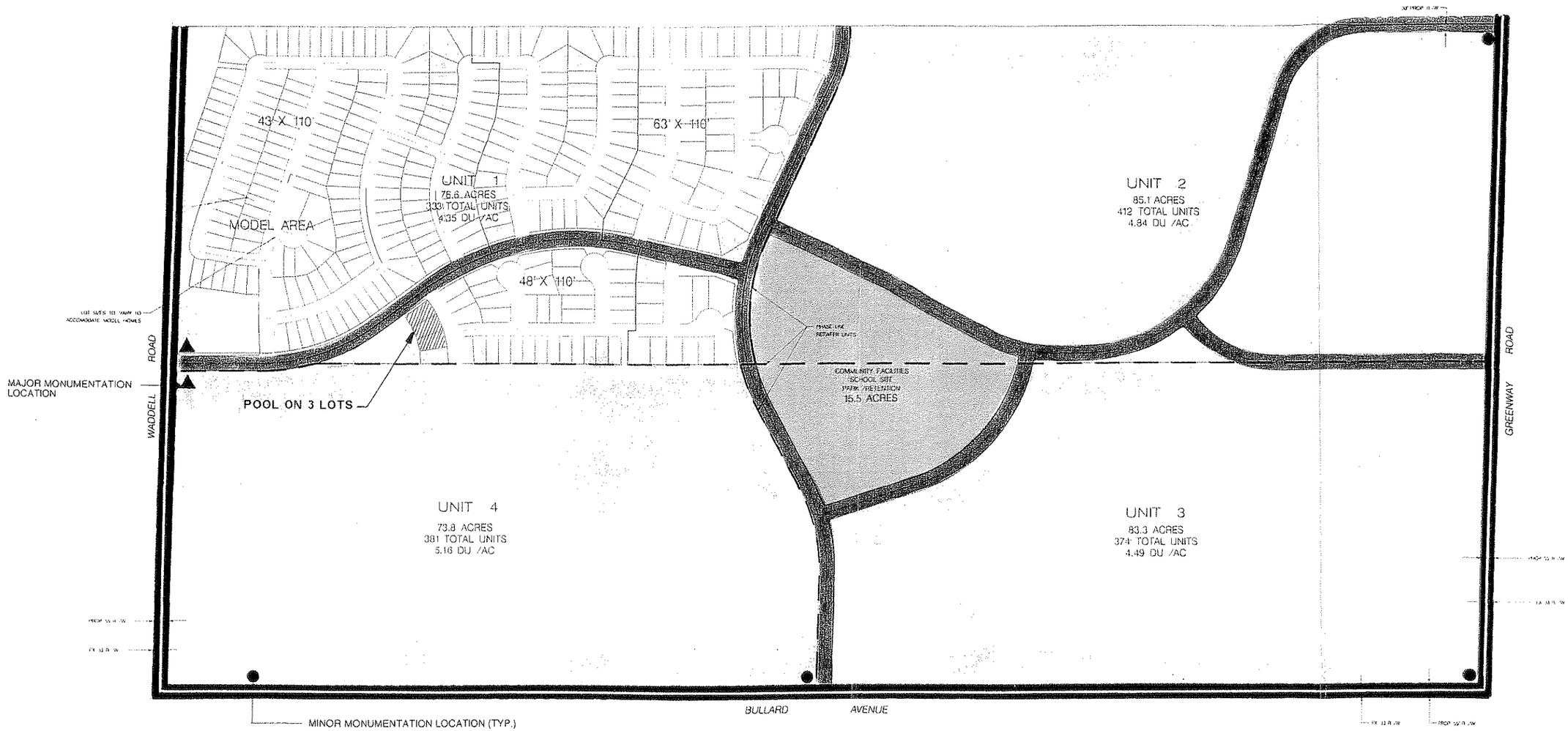
12 Legal Description

13 Contact List

14 Revisions Made on August 31, 1998
Exhibit A-"Conceptual Land Use Plan"
Exhibit B-"Amended Development Standards"
Exhibit D-"Conceptual Site Plan"
Exhibit E-"Setback Exhibit -Local Frontage"
Exhibit F-"Setback Exhibit-Collector Frontage"
Section 5-Community Site Development Design Land Use Plan
Section 6-Community Site Development Design Guidelines
~~*Section 8-Architectural Design Guidelines/Housing Landscaping Design Guidelines*~~ not accepted
Section 10-Beazer Homes "General" Design Guidelines
Section 13-Contact List

CITY OF SURPRISE
PLANNING AND ZONING DEPARTMENT
APPROVED
THIS APPROVAL IS NOT TO BE CONSTRUED AS AN APPROVAL OF ANY VIOLATION OF THE SURPRISE MUNICIPAL CODE, UNIFORM BUILDING, PLUMBING, MECHANICAL AND THE NATIONAL ELECTRICAL CODES.
Case No: PADA 98-59
~~P&Z Comm. Approval:~~ Com Dev. Director:
~~City Council Approval:~~ Ciyt Manager:
B.O.A. Approval:
Site:

RECEIVED
FEB 8 1999
CITY OF SURPRISE



DEVELOPMENT SUMMARY

	UNIT 1	UNIT 2	UNIT 3	UNIT 4	SUBTOTAL
AREA	76.6 AC	85.1 AC	83.3 AC	73.8 AC	318.8 AC
LOT SIZE/% 43' X 110'	159/48%				
LOT SIZE/% 48' X 110'	105/31%				
LOT SIZE/% 63' X 110'	69/21%				
LOT YIELD	333	412	374	381	1500
DENSITY	4.35 DU/AC	4.84 DU/AC	4.49 DU/AC	5.16 DU/AC	4.7 DU/AC

PROJECT SUMMARY	UNIT 1	UNIT 2	UNIT 3	UNIT 4	TOTAL	%
UNIT TOTAL	76.6	85.1	83.3	73.8	318.8	100%
OPEN SPACE - PUBLIC (SCHOOL/RETENTION)	0.0	6.7	8.8	0.0	15.5	4.9%
OPEN SPACE - PRIVATE	5.5	3.8	5.1	7.8	22.2	7.0%
WELL SITES (2)	0.0	2.2	0.0	0.0	2.2	0.7%
RESIDENTIAL (INCLUDES COLLECTOR AND LOCAL STREETS)	69.2	70.7	64.4	60.8	265.1	83.2%
ARTERIALS	1.9	1.7	5.0	5.2	13.8	4.3%
TOTAL OPEN SPACE (PUBLIC & PRIVATE)	5.5	10.5	13.9	7.8	37.7	11.8%

LEGEND

- RESIDENTIAL
- COMMUNITY FACILITIES
- ARTERIAL STREET
- COLLECTOR STREET
- LOCAL STREET

CONCEPTUAL LAND USE PLAN

ASHTON RANCH

PREPARED FOR: BEAZER HOMES

NeilAvecchia & Associates, Inc.
4014 N. Hayden Road, Suite 122 • Scottsdale, AZ 85251
Phone (602) 949-7127 • Fax (602) 949-7433

NORTH
1"=200'-0"
SEPTEMBER 30,1997

EXHIBIT D

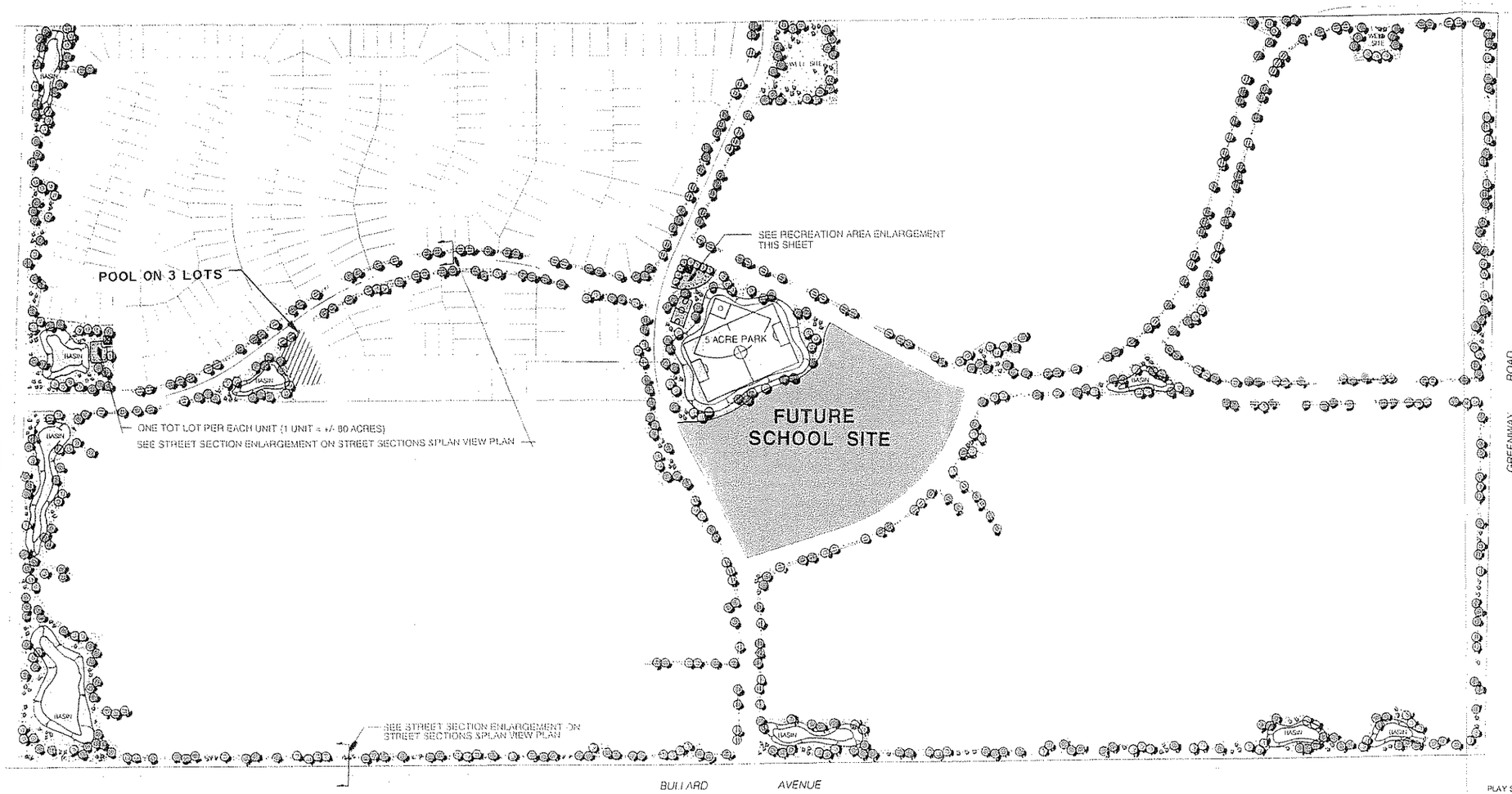
ASHTON RANCH
PLANNED AREA DEVELOPMENT

Amended Development Standards

LOT SIZE	45' X 115'	48' X 115'	63' X 115'	R1-5 Ordinance
Minimum Lot Area	5,175 sf	5,520 sf	7,245 sf	5,500sf
Minimum Lot Width--Standard Lot	45'	48'	63'	63'
Minimum Lot Width--Flag Lot	20'	20'	20'	20'
Maximum Building Height	30'	30'	30'	30'
Front Yard Setback	18'-21'	18'-21'	18'-21'	20'
Front Yard Setback--Stagger	1' Min.	1' Min.	1' Min.	
Front Yard Setback--Side Entry Garages	12'	12'	12'	
Back of Sidewalk to Vertical Garage Door	18' Min.	18' Min.	18' Min.	18'
Side Yard Setback--Minimum	5'	5'	5'	3'
Side Yard Setback--Aggregate	13'	13'	13'	13'
Side Yard Setback--Street Side--Minimum	13'	13'	13'	20'
Rear Yard Setback	20'	20'	20'	20'
Aggregate Front Yard and Rear Yard Setback	38'-41'	38'-41'	38'-41'	40'
Minimum Distance Between Buildings	10'	10'	10'	10'
Maximum Lot Coverage--Primary Structure	50%	50%	50%	50%
Maximum Lot Coverage--Primary Structure with Patios/Shade Structures	55%	55%	55%	55%

NOTES:

1. Minimum lot widths will be measured at the front setback line.
2. Street side yard setbacks shall not apply to lots adjacent to landscape tracts.



CONCEPTUAL PLANT PALETTE

TREES

ACACIA SMALLII
SWEET ACACIA
ACACIA SALICINA
WILLOW ACACIA
CERCIDIUM PRAECOX
PALO BREA
DALBERGIA SISSOO
SISSOO TREE
FRAXINUS VELUNTIA
FANTEX ASH
OLEA 'SWAN HILL'
'SWAN HILL' OLIVE
PINUS CANARIENSIS
CANARY ISLAND PINE
PINUS HALEPENSIS
ALEPPO PINE
PINUS ELDERICA
MONDEL PINE
PROSOPIS CHILENSIS
CHILEAN MESQUITE
PRUNUS CAROLINIANA
CAROLINA CHERRY TREE
RHUS LANCEA
AFRICAN SUMAC
SCHINUS TEREBINTHIFOLIUS
BRAZIALIAN PEPPER

ACCENTS

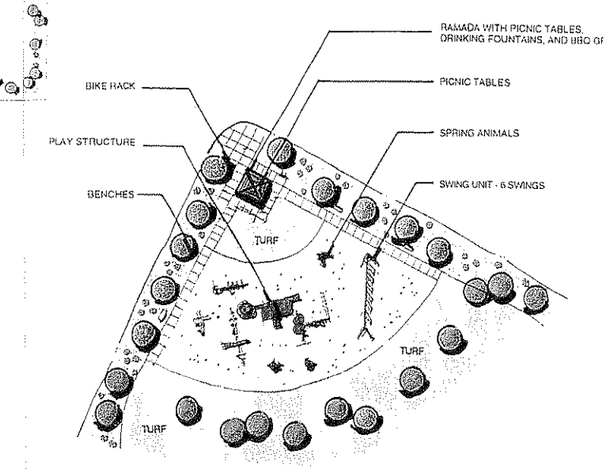
AGAVE SPECIES
AGAVE - VARIOUS
ALOE SPECIES
ALOE - VARIOUS
CHAMAEROPS HUMILIS
MEDITERRANEAN FAN PALM
DASYLIRION WHEELERI
DESERT SPOON
HESPERALOE SPECIES
YUCCA SPECIES

SHRUBS

CAESALPINIA PULCHERRIMA
RED BIRD OF PARADISE
CALLIANDRA SPECIES
FAIRY DUSTER SPECIES
CASSIA ARTEMISOIDES
FEATHERY CASSIA
CASSIA NEMOPHILA
GREEN CASSIA
CASSIA PHYLLODENIA
SILVERY CASSIA
DALEA PULCHRA
BUSH DALEA
ENCELIA FARINOSA
BRITTLE BUSH
ERICAMERIA LARICIFOLIA
TURPENTINE BUSH
EURYOPS PECTINATUS
EURYOPS
JUSTICIA CALIFORNICA
CHUPAROSA
LEUCOPHYLLUM 'CIMARRON SAGE'
CIMARRON SAGE'
LEUCOPHYLLUM FRUTESCENS 'GREEN CLOUD'
GREEN CLOUD TEXAS SAGE
LEUCOPHYLLUM LAEVIGATUM
CHIHUAHUAN SAGE
LEUCOPHYLLUM LANGMANIAE
'RIO BRAVO' SAGE
LEUCOPHYLLUM ZYGOPHYLLUM
BLUE SAGE
NERIUM OLEANDER 'PETITE PINK'
'PETITE PINK' OELEANDER
PHOTINIA FRASERI
FRASER'S PHOTINIA
RUELLIA SPECIES
VARIOUS RUELLIA
SALVIA GREGGII
AUTUMN SAGE
TAGETES LUCIDA
LICORICE MARIGOLD

GROUNDCOVER / VINES

BACCHARIS CENTENNIAL
CENTENNIAL HYBRID BROOM
BAILEYA MULTIRADIATA
DESERT MARIGOLD
BOUGAINVILLEA SPECIES
VARIOUS BOUGAINVILLEA
CONVOLVULUS CNEORUM
BUSH MORNING GLORY
DYSSODIA PENTACHAETA
DYSSODIA
GELSEMIUM SEMPERVIRENS
CAROLINA JASMINE
LANTANA SPECIES
VARIOUS LANTANA
LONICERA JAPONICA 'HALLIANA'
HALL'S HONEYSUCKLE
MALETHORA LUTEA
ROCKY POINT ICE PLANT
MELAMPODIUM LEUCANTHUM
BLACKFOOT DAISY
OENOTHERA BERLANDIERI
MEXICAN EVENING PRIMROSE
PASSIFLORA ALATOCAERULEA
PASSION VINE
PSILOTROPHE COOPERI
PAPER FLOWER
PENSTEMON SPECIES
PENSTEMON - VARIOUS
TRACHELOSPERMUM JASMINOIDES
ASIATIC JASMINE
VERBENA GOODDINGII
GOODING VERBENA



RECREATION AREA SCALE: 1" = 40' - 0"

GENERAL NOTES

1. CONCEPTUAL LANDSCAPE PLAN IS SCHEMATIC IN NATURE. AT THE TIME OF LANDSCAPE CONSTRUCTION DRAWINGS ACTUAL LOCATIONS, QUANTITIES, SIZES, AND SPECIES SHALL BE DETERMINED AND WILL BE PER CITY REQUIREMENTS.
2. ALL TREES USED WITHIN THIS PROJECT SHALL BE NURSERY GROWN OR SALVAGED FROM ON SITE. EXACT LOCATIONS AND QUANTITIES SHALL BE DETERMINED ON LANDSCAPE CONSTRUCTION DRAWINGS. ALL EXISTING TREES SHALL BE PROTECTED DURING CONSTRUCTION.
3. ALL LANDSCAPE AREAS SHALL RECEIVE AN AUTOMATIC IRRIGATION SYSTEM.
4. ALL PLANT MATERIAL SHALL BE INSTALLED AS PER CITY REQUIREMENTS. PLANT MATERIAL INSTALLED WITHIN SIGHT DISTANCE TRIANGLES SHALL BE OF A SPECIES THAT DO NOT GROW TO A HEIGHT OF MORE THAN 30" AND SHALL BE MAINTAINED PER CITY REQUIREMENTS.
5. ALL NON-TURF AREAS SHALL RECEIVE A 2" DEPTH OF DECOMPOSED GRANITE.
6. THE RETENTION SHOWN ON THE PLAN IS CONCEPTUAL IN NATURE. REFER TO THE ENGINEERING PLANS FOR ACTUAL GRADING AND DRAINAGE CONFIGURATIONS.
7. ALL EARTHWORK WILL BE DONE TO DRAIN AWAY FROM SIDEWALKS AND STRUCTURES.
8. FINAL LOT CONFIGURATION MAY VARY AT THE TIME OF FINAL PLAT APPROVAL.
9. ADDITIONAL PLANT MATERIALS MAY BE INTRODUCED AS DIFFERENT VARIETIES BECOME AVAILABLE THROUGH LOCAL NURSERIES AND IF THEY ARE CONSISTENT WITH THE OVERALL THEME OF THIS PROJECT.

SITE LEGEND

PROPOSED LOTS

OPEN SPACE / RETENTION

WELL SITE

LANDSCAPE TRACT

RECREATION AREA

REFER TO RECREATION AREA SITE DETAIL, THIS SHEET, FOR ADDITIONAL INFORMATION

MAJOR DEVELOPMENT PARK AMENITIES PACKAGE

ITEMS WITHIN RECREATIONAL AREA	QUANTITY
RAMADA	1
PRE-TEEN PLAY STRUCTURE	1
SWING UNIT - 6 SWINGS	1
SPRING ANIMALS	3
BBQ GRILLS	2
PICNIC TABLES	4
BENCHES	4
BIKE RACK UNITS	2
TRASH RECEPTACLES	3
DRINKING FOUNTAINS	2
COMBINATION LITTLE LEAGUE BASEBALL FIELD AND/OR SOCCER FIELD	1
FULL COURT BASKETBALL	1

CONCEPTUAL SITE PLAN

ASHTON RANCH

PREPARED FOR: BEAZER HOMES

Neill/Vecchia & Associates, Inc.
8314 N. Hayden Road, Suite 122 • Scottsdale, AZ 85251
Phone (602) 949-7127 • Fax (602) 949-2655

NORTH
SEPTEMBER 30,1997
SCALE: 1" = 200' - 0"

Exhibit E

SINGLE FAMILY
LOCAL FRONTAGE

ASHTON RANCH

SETBACK EXHIBIT

SETBACK NOTES:

FRONT-YARD SETBACK:

ALL STRUCTURES (EXCEPT THOSE WITH SIDE ENTRY GARAGES) SHALL MAINTAIN A MINIMUM FRONT YARD SETBACK OF 18' AND A MAXIMUM FRONT YARD SETBACK OF 21' MEASURED FROM THE FRONT PROPERTY LINE.

FRONT YARD SETBACKS WILL BE STAGGERED A MINIMUM OF 1' ON ADJACENT LOTS.

VERTICAL OPENING GARAGES SHALL MAINTAIN AN 18' SETBACK, MEASURED FROM BACK-OF-SIDEWALK.

FOR SIDE ENTRY GARAGES, THE MINIMUM FRONT YARD SETBACK WILL BE 12', MEASURED FROM THE PROPERTY LINE.

SIDE-YARD SETBACK:

MINIMUM SIDE YARD SETBACK WILL BE 5'.

THE TOTAL OF TWO SIDE-YARDS ON ONE LOT SHALL BE 13' WITH NO PROJECTIONS CLOSER THAN 3' TO THE PROPERTY LINE.

REAR-YARD SETBACK:

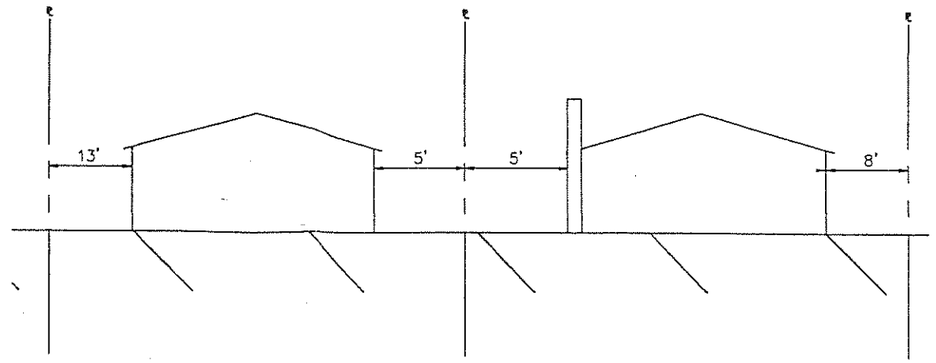
ALL STRUCTURES SHALL MAINTAIN A MINIMUM 20' REAR-YARD SETBACK, MEASURED FROM THE PROPERTY LINE.

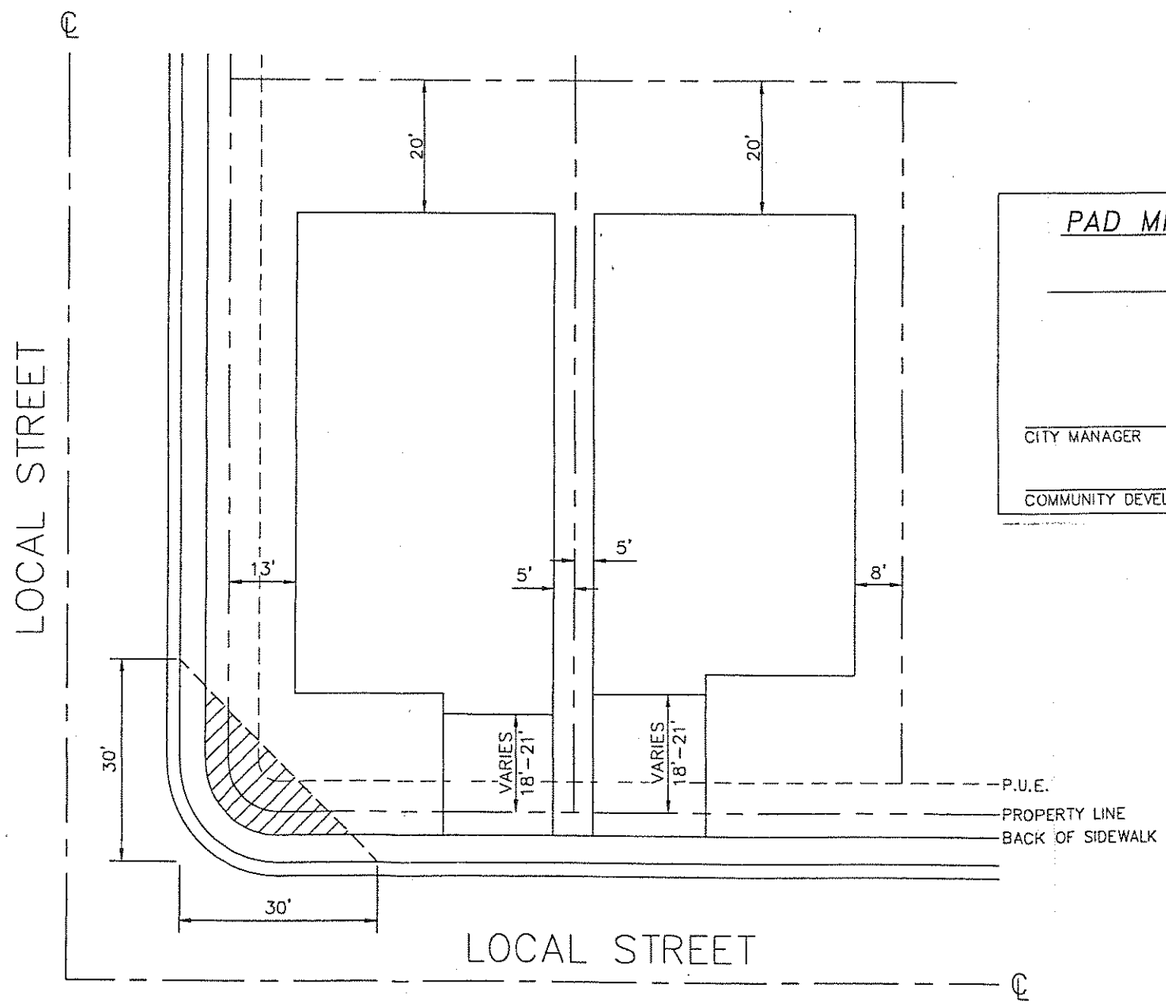
CORNER LOTS:

DRIVEWAYS SHALL BE SETBACK A MINIMUM OF 27' FROM THE INTERSECTION. THIS DISTANCE IS MEASURED FROM BACK-OF-CURB AT THE INTERSECTION.

A SIGHT-TRIANGLE SHALL BE MAINTAINED AS SHOWN, MEASURED FROM INTERSECTION OF RIGHT-OF-WAY. NO STRUCTURES, WALLS, VEGETATION, OR OTHER OBSTACLES MAY EXCEED 30 INCHES IN HEIGHT.

SIDE YARD SETBACK ON THE STREET SIDE OF A CORNER LOT SHALL BE 13', MEASURED FROM THE PROPERTY LINE.





PAD MINOR AMENDMENT

CITY MANAGER DATE

COMMUNITY DEVELOPMENT DIRECTOR DATE

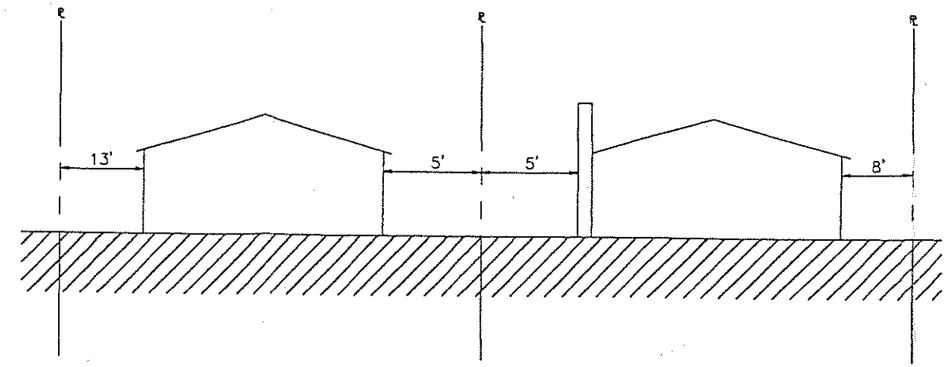
AMERICAN ENGINEERING CO.
consulting engineers/surveyors

AEC# 96296

SINGLE FAMILY
COLLECTOR FRONTAGE

ASHTON RANCH

SETBACK EXHIBIT



SETBACK NOTES:

FRONT–YARD SETBACK:

ALL STRUCTURES (EXCEPT THOSE WITH SIDE ENTRY GARAGES) SHALL MAINTAIN A MINIMUM FRONT YARD SETBACK OF 18' AND A MAXIMUM FRONT YARD SETBACK OF 21' MEASURED FROM THE FRONT PROPERTY LINE.

FRONT YARD SETBACKS WILL BE STAGGERED A MINIMUM OF 1' ON ADJACENT LOTS.

VERTICAL OPENING GARAGES SHALL MAINTAIN AN 18' SETBACK, MEASURED FROM BACK–OF–SIDEWALK.

FOR SIDE ENTRY GARAGES, THE MINIMUM FRONT YARD SETBACK WILL BE 12', MEASURED FROM THE PROPERTY LINE.

SIDE–YARD SETBACK:

MINIMUM SIDE YARD SETBACK WILL BE 5'.

THE TOTAL OF TWO SIDE–YARDS ON ONE LOT SHALL BE 13' WITH NO PROJECTIONS CLOSER THAN 3' TO THE PROPERTY LINE.

REAR–YARD SETBACK:

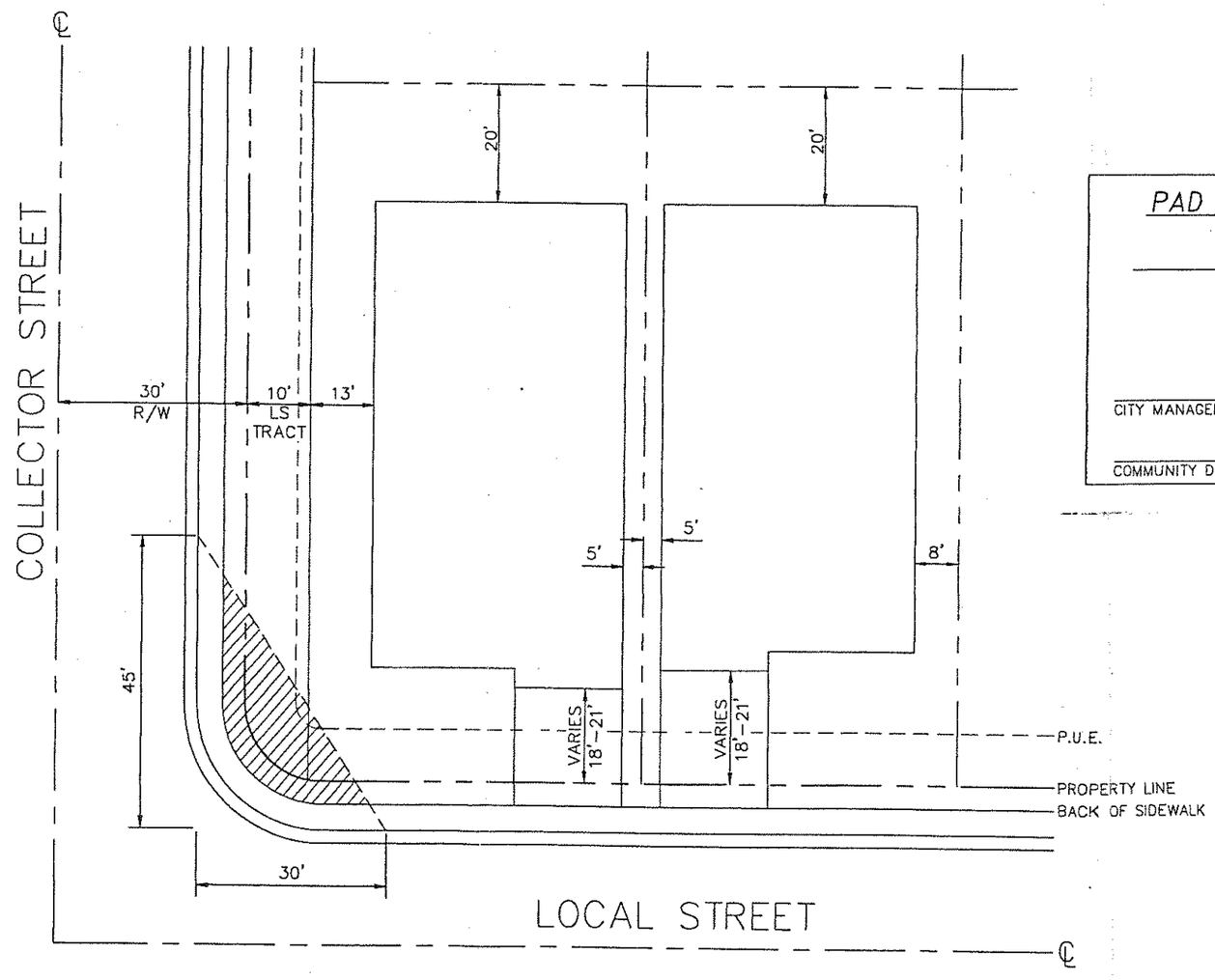
ALL STRUCTURES SHALL MAINTAIN A MINIMUM 20' REAR–YARD SETBACK, MEASURED FROM THE PROPERTY LINE.

CORNER LOTS:

DRIVEWAYS SHALL BE SETBACK A MINIMUM OF 27' FROM THE INTERSECTION. THIS DISTANCE IS MEASURED FROM BACK–OF–CURB AT THE INTERSECTION.

A SIGHT–TRIANGLE SHALL BE MAINTAINED AS SHOWN, MEASURED FROM INTERSECTION OF RIGHT–OF–WAY. NO STRUCTURES, WALLS, VEGETATION, OR OTHER OBSTACLES MAY EXCEED 30 INCHES IN HEIGHT.

SIDE YARD SETBACK ON THE STREET SIDE OF A CORNER LOT SHALL BE 13', MEASURED FROM THE PROPERTY LINE.



PAD MINOR AMENDMENT

CITY MANAGER _____ DATE _____

COMMUNITY DEVELOPMENT DIRECTOR _____ DATE _____

AMERICAN ENGINEERING CO.
consulting engineers/surveyors

AEC# 96296

1' increments from 18' to 21' (*Exhibit B-"Amended Development Standards"; Exhibit E-"Setback Exhibit-Local Frontage"; and Exhibit F-"Setback Exhibit-Collector Frontage"*).

The Conceptual Land Use Plan complements many of the Surprise Development Guide policies. These policies include:

- Policy A-1a, A-1b and A-1c, addressing the extension and installation of public utilities and facilities;

- Policy B-1a, B-1b and B-1d, addressing the neighborhood design standards to encourage quality development;

- Policy C-1/2/3a, addressing the response to market demands, and the development of all types of housing through expeditious and proper application of land use planning, zoning regulations, site design review and building inspections;

- Policy C-1/2/3b, addressing the utilization of resources to help provide adequate, safe housing for persons of low- and moderate- income;

- Policy D-1/2/3b, addressing the encouragement of quality housing development, by designating large residential areas buffered from adjacent uses;

- Policy D-1/2/3c, suggesting that the City market itself to the Phoenix Metropolitan Area and regional housing developers as an opportune area in which to develop with its interest in quality planning and development; willingness to work with the developer to insure an expeditious review, approval and development process and aggressive posture relative to expanding

ASHTON RANCH
PLANNED AREA DEVELOPMENT

Community Site Development Design Guidelines

Land Use Plan

- A minimum of three (3) lot sizes will be provided in each Unit.
- The 45' x 115' lots shall be limited to 35% of the total lots within each Unit.
- Curvilinear streets shall be utilized to create a varied streetscape.
- Varied front setbacks ranging from 18' to 21' shall be utilized. The front setback shall vary a minimum of 1' on adjacent lots.
- There shall be a minimum of 18' front the back of sidewalk to the face of the garage door.

Open Space/Common Areas

- A minimum open space percentage of seven (7) percent shall be provided in each Unit, as required in the PAD ordinance. A prorated portion of the park/school site shall be included in the open space calculation.
- Active and passive amenities shall be installed in the park as follows (quantities in parentheses):

  a) Combination Little League Baseball Field/Soccer Field (1);
  b) Full Basketball Court (1);
  c) Pre-Teen Play Structure (1);
  d) Ramada (1);
  e) Swing Unit--Six swings, 10' Height (1);
  f) Spring Animals (3);
  g) BBQ Grills (2);
  h) Picnic Tables (4);
  i) Benches (4)
  j) Bike Rack Units (2);
  k) Trash Receptacles (3);
  l) Drinking Fountains (2);

Section 10
3rd page of plant list

	Botanical Name	Common Name
Groundcovers:		
	Acacia redolens	Trailing Acacia
	Ambrosia deltoidea	Bursage
	Baccharis "centennial"	Desert Broom
	Baileya multiradiata	Desert Marigold
	Bougainvillea species	Bougainvillea
	Carrisa species	Natal Plum
	Convolvulus species	Morning Glory
	Cynodon(hybrids)	Bermuda Hybrids
	Dalea capitata "Stem Gold"	Sierra Gold Dalea
	Dalea greggli	Trailing Indigo
	Ficus pumila	Creeping Fig
	Gazania species	Gazania
	Hemerocallis species	Daylily
	Lantana camera	"New Gold" Lantana
	Lantana montevidensis	Trailing Lantana
	Melampodium leucanthum.	Blackfoot Daisy
	Myoporum parvifolium	Prostrate Myoporum
	Penstemon species	Penstemon
	Psilostrophe species	Paper Flower
	Verbe species	Verbena
Accents	Asclepias subulata	Milkweed
	Carnegia gigantea	Saguaro
	Echinocactus species	Barrel Cactus
	Echinocereus species	Hedgehog Cactus
	Euphorbia rigida	Euphorbia
	Ferocactus species	Barrel Cactus
	Fouquieria splendens	Ocotillo
	Hesperaloe species	Red, Yellow Yucca
	Muhlenbergia species	Deer Grass
	Opuntia species	Prickly Pear
	Pachycerecis species	Organ Pipe Cactus
Vines	Campsis radicans	Trumpet Vine
	Ficus pumila	Creeping Fig
	Podranea ricasoliana	Pink Trumpet Vine
	Rosa banksaie	Lady Banks Rose

Section 10

ASHTON RANCH
PLANNED AREA DEVELOPMENT

Contact List

Developer:	Beazer Homes 2005 W. 14th Street, Suite 100 Tempe, AZ 85281 Telephone: 967-8655 Fax: 967-2780 Primary Contact: Michael Lanata
Land Planner:	Urban Concepts P. O. Box 13315 Scottsdale, AZ 85267-3315 Telephone: 451-9244 Fax: 661-1522 Primary Contact: Cathy Hart
Engineer:	American Engineering Company 21442 N. 20th Avenue Phoenix, AZ 85027 Telephone: 582-0260 Fax: 582-0953 Primary Contact: Joe Cable
Landscape Architect:	Neill/Vecchia & Associates, Inc. 3295 N. Civic Center Blvd., Suite 11 Scottsdale, AZ 85251 Telephone: 949-7127 Fax: 949-265 Primary Contact: Todd Neill
Legal Representation:	Burch & Cracchiolo, P.A. 702 East Osborn Road Phoenix, AZ 85014 Telephone: 274-7611 Fax: 234-0341 Primary Contact: Marvin Davis