



**To:** Paul Ladensack  
CCBG Architects, Inc

**From:** Shelly Sorensen, PE, PTOE

**Job Number:** 19.5074.001

**RE:** Stockdale (NEC 68th St & Indian School Rd)  
Traffic Statement

**Date:** January 14, 2020



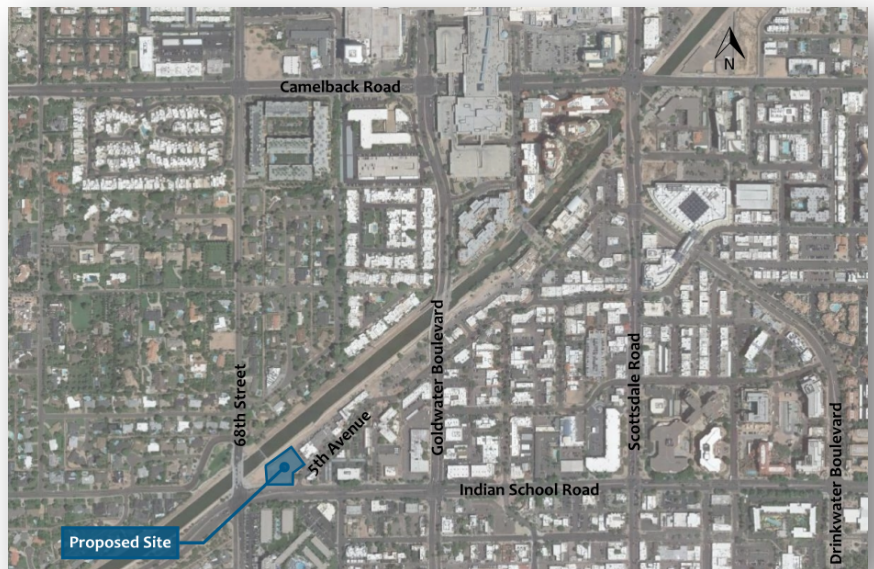
# Memorandum

## INTRODUCTION

Lōkahi, LLC (Lōkahi) has prepared a Traffic Statement for the proposed Stockdale multi-family development, located on the northeast corner of Indian School Road and 68<sup>th</sup> Street in Scottsdale, Arizona. See **Figure 1** for the vicinity map.

The proposed site will be comprised of 54 residential units. Additionally, approximately 1,074 square feet (SF) of retail will be located on the proposed site. See **Attachment A** and **Figure 2** for the site plan.

The objective of this Traffic Statement is to analyze the proposed development's traffic related impacts to the adjacent roadway.



**Figure 1 - Vicinity Map**

600 n. 4th street, suite d  
phoenix, az 85004  
480.536.7150  
www.lokahigroup.com





## EXISTING CONDITIONS

The approximate ¾ acre site is presently undeveloped land. The site is currently zoned Central Business (C-2). This zoning accommodates recurring shopping and service needs for multiple neighborhoods, typical for office or retail shopping developments. See **Attachment B** for Maricopa County Assessor’s parcel information.

**Indian School**, borders the proposed development to the south, runs east to west, and provides three (3) through lanes for each direction of travel, with a raised landscaped median.

There is a posted speed limit of 35 miles per hour (mph). According to the *City of Scottsdale Master Transportation Plan*, dated July 5, 2016, Indian School Road is classified as a minor arterial, within the study area. The City of Scottsdale’s 2018 *Average Daily Segment Traffic (ADT) Volumes* map reports an ADT of 25,500 vehicles per day along Indian School Road, between 68<sup>th</sup> Street and Goldwater Boulevard.

**5<sup>th</sup> Avenue**, borders the proposed development to the east, runs north to south, and provides one (1) through lane in each direction of travel. Angled parking exists along both sides of the roadway. There is an unposted speed limit of 25 mph.

## PROPOSED DEVELOPMENT

The propose development will be comprised of primarily residential with a small retail component. A total of 54 residential units will be provided with approximately 1,074 square feet (SF) of retail space.

The site plan indicates that there will be one (1) access point to the proposed development located along 5<sup>th</sup> Avenue, approximately 170 feet north of Indian School Road. This access will be shared with the development to the northeast and will remain a full access driveway, allowing all movements into and out of the driveway.

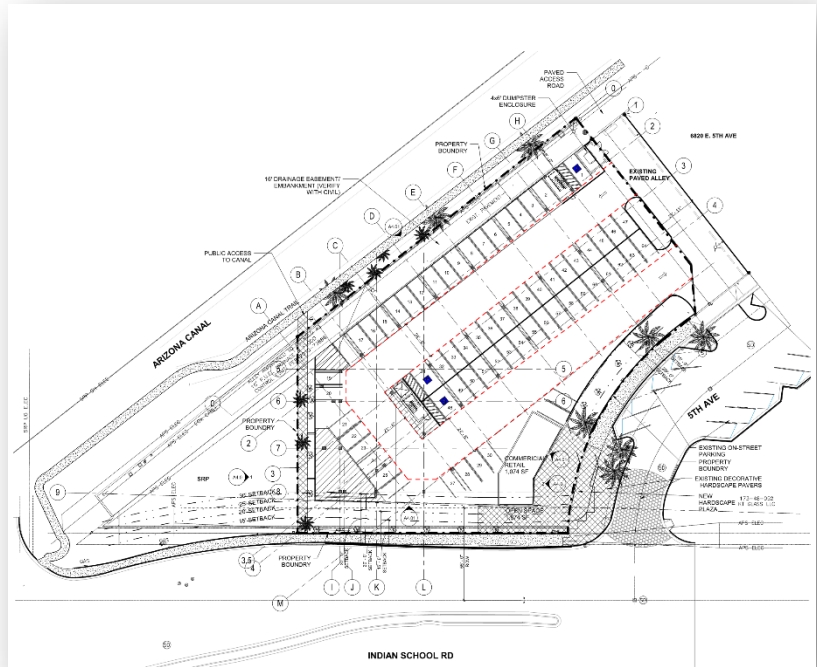


Figure 2 – Site Plan



## TRIP GENERATION

The trip generation for the existing zoning and proposed development were calculated utilizing the Institute of Transportation Engineers (ITE) publication entitled *Trip Generation, 10th Edition*. The ITE trip generation rates and fitted curve equations are based on studies that measure trip generation characteristics for various types of land uses. The rates are expressed in terms of trips per unit of land use type. This publication is the standard for the transportation engineering profession.

### Proposed Development

The trip generation for the proposed development was calculated utilizing ITE Land Use 221 – Multifamily Housing (Mid-Rise) and Land Use 820 – Shopping Center.

#### Internal Capture

With a mix of residential and shopping center land uses within the proposed Stockdale development, it is anticipated that there will be internal trips that begin and end within the development. This internal trip capture was calculated using the methodology presented in the ITE *Trip Generation Handbook, 3rd Edition* for the AM and PM peak hours. The internal trips were deducted from the total trips generated by the proposed development.

Trip generation calculations are shown in **Table 1**. See **Attachment C** for detailed trip generation calculations.

**Table 1 – Trip Generation (Proposed Development)**

| Land Use                       | ITE Code | Qty  | Unit           | Weekday    | AM Peak Hour |          |           | PM Peak Hour |           |           |
|--------------------------------|----------|------|----------------|------------|--------------|----------|-----------|--------------|-----------|-----------|
|                                |          |      |                | Total      | Total        | In       | Out       | Total        | In        | Out       |
| Multifamily Housing (Mid-Rise) | 221      | 54   | Dwelling Units | 293        | 19           | 5        | 14        | 25           | 15        | 10        |
| Shopping Center                | 820      | 1.07 | 1000 SF GLA    | 41         | 1            | 1        | 0         | 4            | 2         | 2         |
| <b>Total</b>                   |          |      |                | <b>334</b> | <b>20</b>    | <b>6</b> | <b>14</b> | <b>29</b>    | <b>17</b> | <b>12</b> |
| Internal Capture               |          |      |                | 9          | 0            | 0        | 0         | 2            | 1         | 1         |
| <b>Total</b>                   |          |      |                | <b>325</b> | <b>20</b>    | <b>6</b> | <b>14</b> | <b>27</b>    | <b>16</b> | <b>11</b> |

The proposed development is anticipated to generate 325 weekday daily trips and 20 and 27 vehicles per hour during the AM and PM peak hours, respectively.

## COLLISION HISTORY

The City of Scottsdale’s 2018 *Traffic Volume and Collision Rate Data* report provides collision rate and traffic volume information on major roadway segments and at major intersections within the City. Segment collisions are collisions that occur on a major street more than 100 feet from the segment’s termini intersections, including those that occur at minor intersections within the



segment. Intersection collisions are collisions that occur at or within 100 feet of the intersection.

The collision rates and city wide rankings for the study intersections and study roadway segments are shown in **Table 2** and **Table 3** respectively.

**Table 2 – Collision Rates - Study Roadway Intersections**

| Intersection                               | Collision Rate | Rank |
|--|----------------|------|
| Indian School Road and 68th Street (1)     | 0.97           | 31   |
| Indian School Road and Goldwater Boulevard | 0.81           | 50   |
| 2018 Average Intersection Collision Rate   | 0.58           |      |

**Table 3 – Collision Rates - Study Roadway Segments**

| Segment  | From        | To                  | Collision Rate | Rank |
|--|-------------|---------------------|----------------|------|
| Indian School Road                                     | 68th Street | Goldwater Boulevard | 1.5            | 124  |
| 2018 City of Scottsdale Average Segment Collision Rate |             |                     | 1.53           |      |

## SUMMARY

The proposed site will be comprised of a total of 54 residential units, with approximately 1,074 square feet (SF) of retail space.

### Trip Generation

At full build out, the proposed Stockdale multifamily development is anticipated to generate 325 weekday daily trips and 20 and 27 trips per hour during the AM and PM peak hours, respectively.

According to the City of Scottsdale’s 2018 *Average Daily Segment Traffic (ADT) Volumes* map reports and ADT of 25,500 vehicles per day along Indian School Road. The additional 325 weekday daily trips represent an approximate 1.3% increase in daily traffic along Indian School Road.

**In conclusion, the additional traffic generated by the proposed Stockdale multifamily development is anticipated to result in minimal traffic impacts to the existing roadway network and the surrounding area.**





## ATTACHMENT A – PROPOSED SITE PLAN

**CONCEPT PLANNING AND PROGRAMMING STUDY FOR STOCKDALE PARTNERS**

**PROJECT INFO**

APN: 173-48-048J; 173-48-048G  
CURRENT ZONING: C-2 DO (DOWNTOWN OVERLAY)  
RE-ZONING: D/DMU-2 WITH PBD OVERLAY

HEIGHT LIMIT: 66 FT  
MAX DENSITY: 50 DU ACRE

SITE AREA (APPROX. GROSS): 51,393  
TOTAL ALLOWABLE UNITS (1.17x50 DU/AC): 58  
TOTAL UNITS PROVIDED: 54

**SETBACKS (FROM BACK OF CURB)**

INDIAN SCHOOL RD: 30'  
(SEEKING 25' SETBACK FROM INDIAN SCHOOL ROAD WITH RE-ZONING)

5TH AVE: 20-25'  
SRP: 0  
CANAL: 0

**PARKING Table 208.2**

RESIDENTIAL:  
1 SPACE PER (51) 1 BDRM UNIT = 51  
2 SPACES PER (3) 2 BDRM UNITS = 6

COMMERCIAL: 1 PER 300 SF  
TOTAL COMMERCIAL SPACE 1,074 SF  
TOTAL PARKING REQUIRED = 61 TOTAL

**PARKING PROVIDED:**

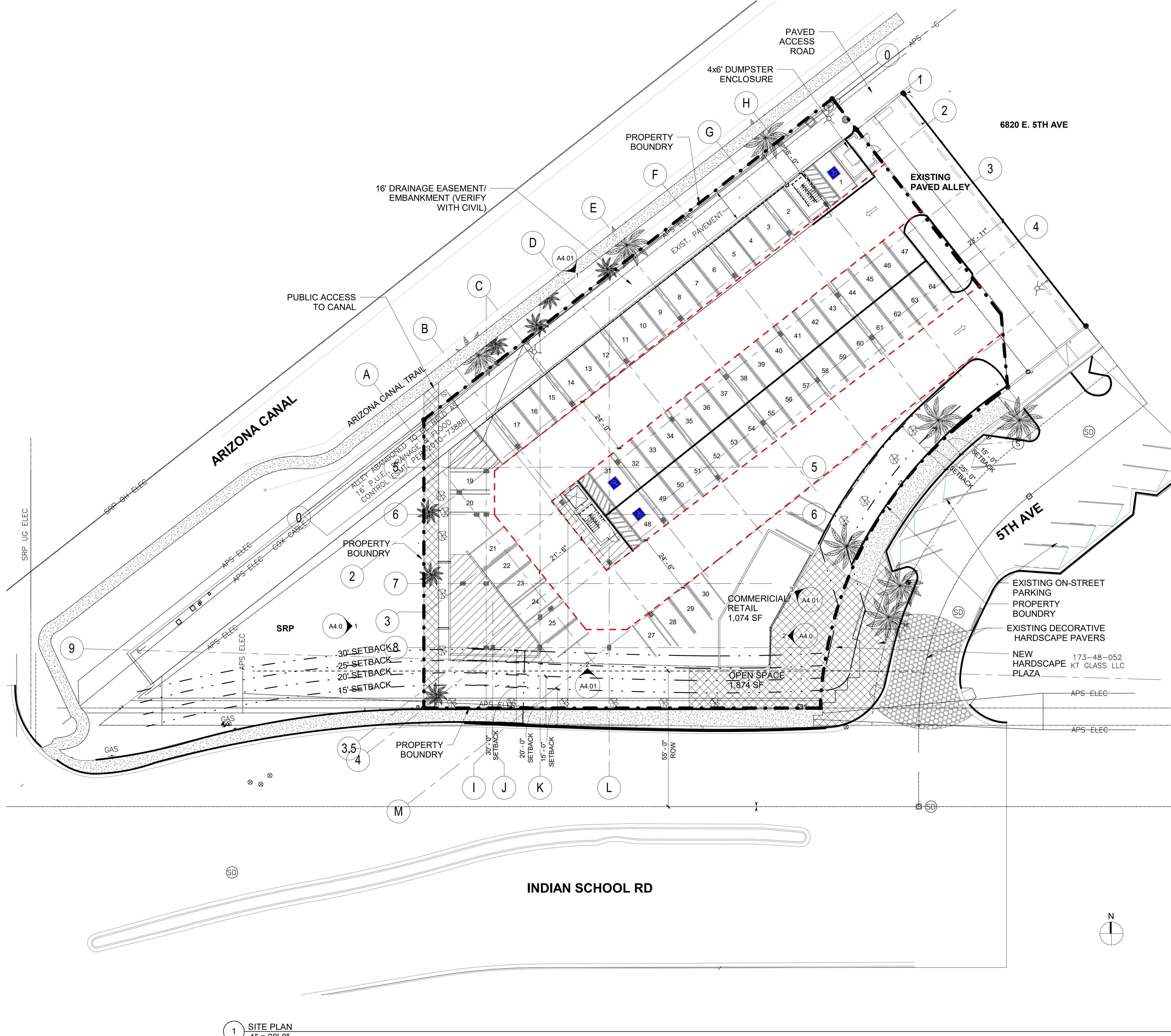
PER 1-BEDROOM UNIT: 51  
PER TWO BEDROOM UNITS: 6  
COMMERCIAL PARKING: 4  
GUEST PARKING: 3

**TOTAL PARKING PROVIDED: 64 TOTAL**

**OPEN SPACE PROVIDED**

HARDSCAPE PLAZA AT 5TH AND INDIAN SCHOOL: 1,874 SF  
WALKWAY TO CANAL: 782 SF  
**2,656 SF TOTAL**

| UNITS BY LEVEL     |           |          |       |                     |
|--------------------|-----------|----------|-------|---------------------|
| FLOOR LEVEL        | UNIT NAME | NET AREA | COUNT | TOTAL AREA BY FLOOR |
| 2                  | A1        | 753      | 3     | 2,259               |
| 2                  | A1.1      | 748      | 1     | 748                 |
| 2                  | A1.2      | 727      | 1     | 727                 |
| 2                  | A2        | 710      | 1     | 710                 |
| 2                  | A3        | 884      | 1     | 884                 |
| 2                  | A4        | 832      | 1     | 832                 |
| 2                  | A5        | 941      | 1     | 941                 |
| 2                  | S1        | 691      | 3     | 2073                |
| 2                  | S1.1      | 654      | 1     | 654                 |
| 2                  | S2        | 640      | 2     | 1280                |
| 2                  | S2.1      | 701      | 1     | 701                 |
| 2                  | S3        | 677      | 1     | 677                 |
| 2                  | B1        | 1202     | 1     | 1202                |
| <b>TOTAL</b>       |           |          |       | <b>13,688 SQ FT</b> |
| 3                  | A1        | 753      | 3     | 2,259               |
| 3                  | A1.1      | 748      | 1     | 748                 |
| 3                  | A1.2      | 727      | 1     | 727                 |
| 3                  | A2        | 710      | 1     | 710                 |
| 3                  | A3        | 884      | 1     | 884                 |
| 3                  | A4        | 832      | 1     | 832                 |
| 3                  | A5        | 941      | 1     | 941                 |
| 3                  | S1        | 691      | 3     | 2073                |
| 3                  | S1.1      | 654      | 1     | 654                 |
| 3                  | S2        | 640      | 2     | 1280                |
| 3                  | S2.1      | 701      | 1     | 701                 |
| 3                  | S3        | 677      | 1     | 677                 |
| 3                  | B1        | 1202     | 1     | 1202                |
| <b>TOTAL</b>       |           |          |       | <b>13,688 SQ FT</b> |
| 4                  | A1        | 753      | 3     | 2,259               |
| 4                  | A1.1      | 748      | 1     | 748                 |
| 4                  | A1.2      | 727      | 1     | 727                 |
| 4                  | A2        | 710      | 1     | 710                 |
| 4                  | A3        | 884      | 1     | 884                 |
| 4                  | A4        | 832      | 1     | 832                 |
| 4                  | A5        | 941      | 1     | 941                 |
| 4                  | S1        | 691      | 3     | 2073                |
| 4                  | S1.1      | 654      | 1     | 654                 |
| 4                  | S2        | 640      | 2     | 1280                |
| 4                  | S2.1      | 701      | 1     | 701                 |
| 4                  | S3        | 677      | 1     | 677                 |
| 4                  | B1        | 1202     | 1     | 1202                |
| <b>TOTAL</b>       |           |          |       | <b>13,688 SQ FT</b> |
| <b>GRAND TOTAL</b> |           |          |       | <b>41,064</b>       |



1 SITE PLAN  
1" = 20'-0"

Project Name  
**STOCKDALE PARTNERS**

6824 E Indian School Rd, Scottsdale, AZ 85251

| DATE       | REV FOR  |
|------------|----------|
| 08/12/2019 | ISSUANCE |

Drawn  
Author  
Checked  
Checker  
Job Number  
Project Number  
Drawing  
SITE PLAN

Sheet  
**A0.1**



Project Name  
**STOCKDALE PARTNERS**  
6824 E Indian School Rd, Scottsdale, AZ 85251

| DATE       | REV | FOR      |
|------------|-----|----------|
| 08/15/2019 | 1   | ISSUANCE |

Drawn \_\_\_\_\_  
 Author \_\_\_\_\_  
 Checked \_\_\_\_\_  
 Checker \_\_\_\_\_  
 Job Number \_\_\_\_\_  
 Project Number \_\_\_\_\_  
 Drawing \_\_\_\_\_  
 LEVEL 1

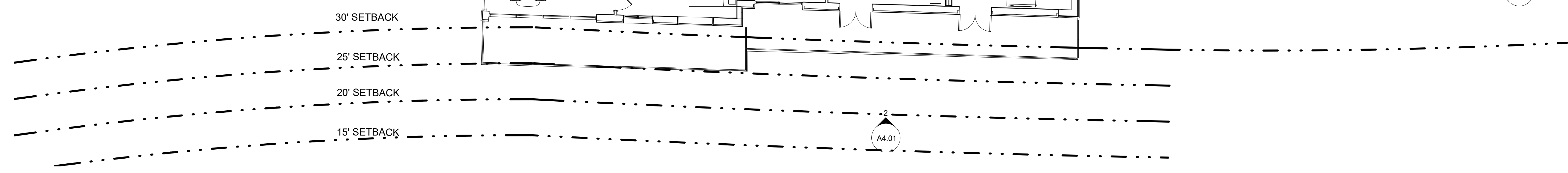


Project Name  
**STOCKDALE PARTNERS**  
6824 E Indian School Rd, Scottsdale, AZ 85251

| DATE       | REV | FOR      |
|------------|-----|----------|
| 08/15/2019 | 1   | ISSUANCE |

Drawn  
Author  
Checked  
Checker  
Job Number  
Project Number  
Drawing  
LEVEL 2

Sheet  
**A2.02**



A4.0 1

A4.01 3

A4.0 2

A4.01

A4.01 2

1 LEVEL 03  
1/8" = 1'-0"

Project Name  
**STOCKDALE PARTNERS**  
6824 E Indian School Rd, Scottsdale, AZ 85251

| DATE           | REV | FOR      |
|----------------|-----|----------|
| 08/15/2019     |     | ISSUANCE |
| Drawn          |     |          |
| Author         |     |          |
| Checked        |     |          |
| Checker        |     |          |
| Job Number     |     |          |
| Project Number |     |          |
| Drawing        |     |          |
| LEVEL 3        |     |          |

Sheet

**A2.03**



1 LEVEL 04  
1/8" = 1'-0"

Project Name  
**STOCKDALE PARTNERS**  
6824 E Indian School Rd, Scottsdale, AZ 85251

| DATE       | REV | FOR      |
|------------|-----|----------|
| 08/15/2019 |     | ISSUANCE |

Drawn  
Author  
Checked  
Checker  
Job Number  
Project Number  
Drawing  
LEVEL 4  
Sheet

**A2.04**  
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# ATTACHMENT B – MARICOPA COUNTY ASSESSOR



## **173-48-048G Land Parcel**

This is a land parcel and the current owner is AZ OCEAN VIEW LLC. Its current year full cash value is \$2,370,600.

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## Property Information

MCR #

Description:

BEG SW COR SE4 SEC 22 TH E ALG S LN 360.02F TH N 33F TO POB TH ALG CURVE TO RT 143.69F TH N 38D 11M W 120F TH S 51D 48M W 354.54F TH E 292.19F TO POB EX S 7F & EX BEG S4 COR TH N 51D 48M E 53.37F TH E 25.88F TO TH POB TH E ALG N R/W INDIAN SCHOOL RD 190F TH N 83F TH NWLY N 38D 11M W 52.23F TO A PT 16F SELY FR SE R/W LN OF ARIZ CANAL TH S 51D 48M W 200.66F TO POB & EX ANY POR LY WI/IN FOL DESC BEG SW COR SE4 SEC 22 TH N 51D 48M E 53.37F TH E 25.88F TH N 51D 48M E 11.32F POB TH N 51D 48M E 4.85F TH E 279.80F TO CUR RAD 158.91F CTR BEAR S 89D 23M E TH WLY ALG SD CUR 3F TH W 283.45F TO POB P/F 10-0072428 TOG WI TH PT RD ABD & ADJ TO PCL DAF BEG SW COR SE4 SD SEC 22 TH N 51D 48M E 100.43F TPOB TH N 51M 48D E 363.83F TH S 38D 11M E 15.99F TH S 51D 48D W 363.83F TH N 38D 11M W 16F TPOB P/F 10-0073886

Lat/Long

Lot Size

26,341 sq ft.

Zoning

C-2

Lot #

High School District

SCOTTSDALE UNIFIED #48

Elementary School District

SCOTTSDALE UNIFIED SCHOOL DISTRICT

Local Jurisdiction

SCOTTSDALE

S/T/R

22 2N 4E

Market

Area/Neighborhood

19/006

Subdivision (0  
Parcels)

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## Owner Information

### [AZ OCEAN VIEW LLC](#)

Mailing Address 4501 N SCOTTSDALE RD SUITE 201, SCOTTSDALE, AZ 85251

Deed Number [160819171](#)

Last Deed Date 11/07/2016

Sale Date n/a

Sale Price n/a

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## Valuation Information

We provide valuation information for the past 5 years. For mobile display, we only show 1 year of valuation information. Should you need more data, please look at our [data sales](#).

**The Valuation Information displayed below may not reflect the taxable value used on the tax bill due to any special valuation relief program. [CLICK HERE TO PAY YOUR TAXES OR VIEW YOUR TAX BILL](#)**

| Tax Year               | 2020                              | 2019                              | 2018                              |
|------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Full Cash Value        | \$2,370,600                       | \$2,370,600                       | \$2,245,200                       |
| Limited Property Value | \$1,534,706                       | \$1,461,625                       | \$1,392,024                       |
| Legal Class            | 2.R                               | 2.R                               | 2.R                               |
| Description            | AG / VACANT LAND / NON-PROFIT R/P | AG / VACANT LAND / NON-PROFIT R/P | AG / VACANT LAND / NON-PROFIT R/P |
| Assessment Ratio       | 15%                               | 15%                               | 15%                               |
| Assessed LPV           | \$230,206                         | \$219,244                         | \$208,804                         |
| Property Use Code      | 0021                              | 0021                              | 0021                              |
| PU Description         | Vacant Commercial Land            | Vacant Commercial Land            | Vacant Commercial Land            |
| Tax Area Code          | 481400                            | 481400                            | 481400                            |
| Valuation Source       | Notice                            | Notice                            | Notice                            |

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## **173-48-048J Land Parcel**

This is a land parcel and the current owner is AZ OCEAN VIEW LLC. Its current year full cash value is \$558,100.

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## Property Information

MCR #

Description:

PT SW4 SE4 SEC 22 BEG S4 COR N 51D 48M 30S E 53.37F TH E 25.88F TO POB TH E 190F TH N 83F TH N 38D 11M 30S W 52.23F TO A PT 16F SELY FR R/W LN OF ARIZ CANAL TH S 51D 48M 30S W 200.66F TO POB EX S 7F & EX RD IN SW COR P/D 7546/524 & EX ANY POR LY WI/IN FOL DESC BEG SW COR SE4 SEC 22 TH N 51D 48M E 53.37F TH E 25.88F TH N 51D 48M E 11.32F POB TH N 51D 48M E 4.85F TH E 279.80F TO CUR RAD 158.91F CTR BEAR S 89D 23M E TH WLY ALG SD CUR 3F TH W 283.45F TO POB P/F 10-0072428 TOG WI TH PT RD ABD & ADJ TO PCL DAF BEG SW COR SE4 SD SEC 22 TH N 51D 48M E 100.43F TPOB TH N 51M 48D E 363.83F TH S 38D 11M E 15.99F TH S 51D 48D W 363.83F TH N 38D 11M W 16F TPOB P/F 10-0073886 & EX POR SE4 SEC 22 DAF COM S4 COR SEC 22 TH N 51D 48M E 53.37F TH E 25.62F TPOB TH N 51D 50M 27.01F TH N 38D 09M W 16F TH N 51D 50M E 152.86F TH S 123.71F TH W 131.56F TPOB P/F 16-0819172

Lat/Long

Lot Size

6,202 sq ft.

Zoning

C-2

Lot #

High School District

SCOTTSDALE UNIFIED #48

Elementary School District

SCOTTSDALE UNIFIED SCHOOL DISTRICT

Local Jurisdiction

SCOTTSDALE

S/T/R

22 2N 4E

Market

Area/Neighborhood

19/006

Subdivision (0  
Parcels)

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## Owner Information

### [AZ OCEAN VIEW LLC](#)

Mailing Address 4501 N SCOTTSDALE RD SUITE 201, SCOTTSDALE, AZ 85251

Deed Number [160819171](#)

Last Deed Date 11/07/2016

Sale Date n/a

Sale Price n/a

---

## Valuation Information

We provide valuation information for the past 5 years. For mobile display, we only show 1 year of valuation information. Should you need more data, please look at our [data sales](#).

**The Valuation Information displayed below may not reflect the taxable value used on the tax bill due to any special valuation relief program. [CLICK HERE TO PAY YOUR TAXES OR VIEW YOUR TAX BILL](#)**

| Tax Year               | 2020                              | 2019                              | 2018                              | 2017                              |
|------------------------|-----------------------------------|-----------------------------------|-----------------------------------|-----------------------------------|
| Full Cash Value        | \$558,100                         | \$558,100                         | \$547,800                         | \$424,468                         |
| Limited Property Value | \$374,449                         | \$356,618                         | \$339,636                         | \$322,510                         |
| Legal Class            | 2.R                               | 2.R                               | 2.R                               | 2.R                               |
| Description            | AG / VACANT LAND / NON-PROFIT R/P | AG / VACANT LAND / NON-PROFIT R/P | AG / VACANT LAND / NON-PROFIT R/P | AG / VACANT LAND / NON-PROFIT R/P |
| Assessment Ratio       | 15%                               | 15%                               | 15%                               | 15%                               |
| Assessed LPV           | \$56,167                          | \$53,493                          | \$50,945                          | \$48,376                          |
| Property Use Code      | 0021                              | 0021                              | 0021                              | 0021                              |
| PU Description         | Vacant Commercial Land            | Vacant Commercial Land            | Vacant Commercial Land            | Vacant Commercial Land            |
| Tax Area Code          | 481400                            | 481400                            | 481400                            | 481400                            |
| Valuation Source       | Notice                            | Notice                            | Notice                            | Resolution                        |

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## ATTACHMENT C – TRIP GENERATION



Trip Generation Calculations (10th Edition)

Completed: GT 11/8/2019  
Checked: SAS 12/26/2019

| 221 Multifamily Housing (Mid-Rise) |          |     |                |                    |      |       |                          |      |       |                          |      |       |         |     |     |              |    |     |              |    |     |          |
|------------------------------------|----------|-----|----------------|--------------------|------|-------|--------------------------|------|-------|--------------------------|------|-------|---------|-----|-----|--------------|----|-----|--------------|----|-----|----------|
| Land Use                           | ITE Code | Qty | Unit           | Weekday            |      |       | AM Peak Hour             |      |       | PM Peak Hour             |      |       | Weekday |     |     | AM Peak Hour |    |     | PM Peak Hour |    |     | Average  |
|                                    |          |     |                | Rate               | % In | % Out | Rate                     | % In | % Out | Rate                     | % In | % Out | Total   | In  | Out | Total        | In | Out | Total        | In | Out |          |
| Multifamily Housing (Mid-Rise)     | 221      | 54  | Dwelling Units | 5.44               | 50%  | 50%   | 0.36                     | 26%  | 74%   | 0.44                     | 61%  | 39%   | 294     | 147 | 147 | 19           | 5  | 14  | 24           | 15 | 9   | Average  |
| Multifamily Housing (Mid-Rise)     | 221      | 54  | Dwelling Units | 1.27               | 50%  | 50%   | 0.06                     | 26%  | 74%   | 0.15                     | 61%  | 39%   | 69      | 35  | 34  | 3            | 1  | 2   | 8            | 5  | 3   | Minimum  |
| Multifamily Housing (Mid-Rise)     | 221      | 54  | Dwelling Units | 12.50              | 50%  | 50%   | 1.61                     | 26%  | 74%   | 1.11                     | 61%  | 39%   | 675     | 338 | 337 | 87           | 23 | 64  | 60           | 37 | 23  | Maximum  |
| Land Use                           | ITE Code | Qty | Unit           | Weekday            |      |       | AM Peak Hour             |      |       | PM Peak Hour             |      |       | Weekday |     |     | AM Peak Hour |    |     | PM Peak Hour |    |     | Equation |
| Multifamily Housing (Mid-Rise)     | 221      | 54  | Dwelling Units | Equation           | % In | % Out | Equation                 | % In | % Out | Equation                 | % In | % Out | Total   | In  | Out | Total        | In | Out | Total        | In | Out |          |
| Multifamily Housing (Mid-Rise)     | 221      | 54  | Dwelling Units | $T=5.45(X)-1.75$   | 50%  | 50%   | $\ln(T)=0.98\ln(X)-0.98$ | 26%  | 74%   | $\ln(T)=0.96\ln(X)-0.63$ | 61%  | 39%   | 293     | 147 | 146 | 19           | 5  | 14  | 25           | 15 | 10  |          |
| Multifamily Housing (Mid-Rise)     |          |     |                | Standard Deviation | 2.03 |       |                          | 0.19 |       |                          | 0.19 |       |         |     |     |              |    |     |              |    |     |          |
|                                    |          |     |                | Number of Studies  | 27   |       |                          | 53   |       |                          | 60   |       |         |     |     |              |    |     |              |    |     |          |
|                                    |          |     |                | Average Size       | 205  |       |                          | 207  |       |                          | 208  |       |         |     |     |              |    |     |              |    |     |          |
|                                    |          |     |                | R <sup>2</sup>     | 0.77 |       |                          | 0.67 |       |                          | 0.72 |       |         |     |     |              |    |     |              |    |     |          |

| 820 Shopping Center |          |       |             |                          |       |       |                    |      |       |                          |      |       |         |     |     |              |    |     |              |    |     |          |
|---------------------|----------|-------|-------------|--------------------------|-------|-------|--------------------|------|-------|--------------------------|------|-------|---------|-----|-----|--------------|----|-----|--------------|----|-----|----------|
| Land Use            | ITE Code | Qty   | Unit        | Weekday                  |       |       | AM Peak Hour       |      |       | PM Peak Hour             |      |       | Weekday |     |     | AM Peak Hour |    |     | PM Peak Hour |    |     | Average  |
|                     |          |       |             | Rate                     | % In  | % Out | Rate               | % In | % Out | Rate                     | % In | % Out | Total   | In  | Out | Total        | In | Out | Total        | In | Out |          |
| Shopping Center     | 820      | 1,074 | 1000 SF GLA | 37.75                    | 50%   | 50%   | 0.94               | 62%  | 38%   | 3.81                     | 48%  | 52%   | 41      | 21  | 20  | 1            | 1  | 0   | 4            | 2  | 2   | Average  |
| Shopping Center     | 820      | 1,074 | 1000 SF GLA | 7.42                     | 50%   | 50%   | 0.18               | 62%  | 38%   | 0.74                     | 48%  | 52%   | 8       | 4   | 4   | 0            | 0  | 0   | 1            | 0  | 1   | Minimum  |
| Shopping Center     | 820      | 1,074 | 1000 SF GLA | 207.98                   | 50%   | 50%   | 23.74              | 62%  | 38%   | 18.69                    | 48%  | 52%   | 223     | 112 | 111 | 25           | 16 | 9   | 20           | 10 | 10  | Maximum  |
| Land Use            | ITE Code | Qty   | Unit        | Weekday                  |       |       | AM Peak Hour       |      |       | PM Peak Hour             |      |       | Weekday |     |     | AM Peak Hour |    |     | PM Peak Hour |    |     | Equation |
| Shopping Center     | 820      | 1,074 | 1000 SF GLA | Equation                 | % In  | % Out | Equation           | % In | % Out | Equation                 | % In | % Out | Total   | In  | Out | Total        | In | Out | Total        | In | Out |          |
| Shopping Center     | 820      | 1,074 | 1000 SF GLA | $\ln(T)=0.68\ln(X)+5.57$ | 50%   | 50%   | $T=0.50(X)+151.78$ | 62%  | 38%   | $\ln(T)=0.74\ln(X)+2.89$ | 48%  | 52%   | 275     | 138 | 137 | 152          | 95 | 57  | 19           | 10 | 9   |          |
| Shopping Center     |          |       |             | Standard Deviation       | 16.41 |       |                    | 0.87 |       |                          | 2.04 |       |         |     |     |              |    |     |              |    |     |          |
|                     |          |       |             | Number of Studies        | 147   |       |                    | 84   |       |                          | 261  |       |         |     |     |              |    |     |              |    |     |          |
|                     |          |       |             | Average Size             | 453   |       |                    | 351  |       |                          | 327  |       |         |     |     |              |    |     |              |    |     |          |
|                     |          |       |             | R <sup>2</sup>           | 0.76  |       |                    | 0.50 |       |                          | 0.82 |       |         |     |     |              |    |     |              |    |     |          |

| NCHRP 8-51 Internal Trip Capture Estimation Tool |                    |               |            |
|--|--------------------|---------------|------------|
| Project Name:                                    | Stockdale          | Organization: | Lokahi     |
| Project Location:                                | City of Scottsdale | Performed By: | SAS        |
| Scenario Description:                            | Buildout           | Date:         | 12/30/2019 |
| Analysis Year:                                   |                    | Checked By:   |            |
| Analysis Period:                                 | AM Peak Hour       | Date:         |            |

| Table 1-A: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate) |   |          |                |                         |          |           |
|--|---|----------|----------------|-------------------------|----------|-----------|
| Land Use   | Development Data (For Information Only) |          |                | Estimated Vehicle-Trips |          |           |
|  | ITE LUCs <sup>1</sup>                   | Quantity | Units          | Total                   | Entering | Exiting   |
| Office   |   |          |                |                         |          |           |
| Retail   | 820                                     | 1.074    | 1000 SF GLA    | 1                       | 1        | 0         |
| Restaurant   |   |          |                |                         |          |           |
| Cinema/Entertainment   |   |          |                |                         |          |           |
| Residential  | 221                                     | 54       | Dwelling Units | 19                      | 5        | 14        |
| Hotel  |   |          |                |                         |          |           |
| All Other Land Uses <sup>2</sup>   |   |          |                |                         |          |           |
| <b>Total</b>   |   |          |                | <b>20</b>               | <b>6</b> | <b>14</b> |

| Table 2-A: Mode Split and Vehicle Occupancy Estimates |                |           |                 |               |           |                 |
|---|----------------|-----------|-----------------|---------------|-----------|-----------------|
| Land Use  | Entering Trips |           |                 | Exiting Trips |           |                 |
|   | Veh. Occ.      | % Transit | % Non-Motorized | Veh. Occ.     | % Transit | % Non-Motorized |
| Office  |                |           |                 |               |           |                 |
| Retail  |                |           |                 |               |           |                 |
| Restaurant  |                |           |                 |               |           |                 |
| Cinema/Entertainment                                  |                |           |                 |               |           |                 |
| Residential   |                |           |                 |               |           |                 |
| Hotel   |                |           |                 |               |           |                 |
| All Other Land Uses <sup>2</sup>                      |                |           |                 |               |           |                 |

| Table 3-A: Average Land Use Interchange Distances (Feet Walking Distance) |                  |        |            |                      |             |       |
|---|------------------|--------|------------|----------------------|-------------|-------|
| Origin (From)   | Destination (To) |        |            |                      |             |       |
|   | Office           | Retail | Restaurant | Cinema/Entertainment | Residential | Hotel |
| Office  |                  |        |            |                      |             |       |
| Retail  |                  |        |            |                      |             |       |
| Restaurant  |                  |        |            |                      |             |       |
| Cinema/Entertainment  |                  |        |            |                      |             |       |
| Residential   |                  |        |            |                      |             |       |
| Hotel   |                  |        |            |                      |             |       |

| Table 4-A: Internal Person-Trip Origin-Destination Matrix* |                  |        |            |                      |             |       |
|--|------------------|--------|------------|----------------------|-------------|-------|
| Origin (From)  | Destination (To) |        |            |                      |             |       |
|  | Office           | Retail | Restaurant | Cinema/Entertainment | Residential | Hotel |
| Office   |                  | 0      | 0          | 0                    | 0           | 0     |
| Retail   | 0                |        | 0          | 0                    | 0           | 0     |
| Restaurant   | 0                | 0      |            | 0                    | 0           | 0     |
| Cinema/Entertainment                                       | 0                | 0      | 0          |                      | 0           | 0     |
| Residential  | 0                | 0      | 0          | 0                    |             | 0     |
| Hotel  | 0                | 0      | 0          | 0                    | 0           |       |

| Table 5-A: Computations Summary           |       |          |         |
|---|-------|----------|---------|
|   | Total | Entering | Exiting |
| All Person-Trips                          | 20    | 6        | 14      |
| Internal Capture Percentage               | 0%    | 0%       | 0%      |
| External Vehicle-Trips <sup>3</sup>       | 20    | 6        | 14      |
| External Transit-Trips <sup>4</sup>       | 0     | 0        | 0       |
| External Non-Motorized Trips <sup>4</sup> | 0     | 0        | 0       |

| Table 6-A: Internal Trip Capture Percentages by Land Use |                |               |
|--|----------------|---------------|
| Land Use   | Entering Trips | Exiting Trips |
| Office   | N/A            | N/A           |
| Retail   | 0%             | N/A           |
| Restaurant   | N/A            | N/A           |
| Cinema/Entertainment                                     | N/A            | N/A           |
| Residential  | 0%             | 0%            |
| Hotel  | N/A            | N/A           |

<sup>1</sup>Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

<sup>2</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

<sup>3</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

<sup>4</sup>Person-Trips

\*Indicates computation that has been rounded to the nearest whole number.

*Estimation Tool Developed by the Texas Transportation Institute*

|                         |                     |
|-------------------------|---------------------|
| <b>Project Name:</b>    | Stockdale           |
| <b>Analysis Period:</b> | AM Street Peak Hour |

| Table 7-A: Conversion of Vehicle-Trip Ends to Person-Trip Ends |                               |               |               |                              |               |               |
|--|-------------------------------|---------------|---------------|------------------------------|---------------|---------------|
| Land Use   | Table 7-A (D): Entering Trips |               |               | Table 7-A (O): Exiting Trips |               |               |
|  | Veh. Occ.                     | Vehicle-Trips | Person-Trips* | Veh. Occ.                    | Vehicle-Trips | Person-Trips* |
| Office   | 1.00                          | 0             | 0             | 1.00                         | 0             | 0             |
| Retail   | 1.00                          | 1             | 1             | 1.00                         | 0             | 0             |
| Restaurant   | 1.00                          | 0             | 0             | 1.00                         | 0             | 0             |
| Cinema/Entertainment   | 1.00                          | 0             | 0             | 1.00                         | 0             | 0             |
| Residential  | 1.00                          | 5             | 5             | 1.00                         | 14            | 14            |
| Hotel  | 1.00                          | 0             | 0             | 1.00                         | 0             | 0             |

| Table 8-A (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin) |                  |        |            |                      |             |       |
|--|------------------|--------|------------|----------------------|-------------|-------|
| Origin (From)  | Destination (To) |        |            |                      |             |       |
|  | Office           | Retail | Restaurant | Cinema/Entertainment | Residential | Hotel |
| Office   |                  | 0      | 0          | 0                    | 0           | 0     |
| Retail   | 0                |        | 0          | 0                    | 0           | 0     |
| Restaurant   | 0                | 0      |            | 0                    | 0           | 0     |
| Cinema/Entertainment   | 0                | 0      | 0          |                      | 0           | 0     |
| Residential  | 0                | 0      | 3          | 0                    |             | 0     |
| Hotel  | 0                | 0      | 0          | 0                    | 0           |       |

| Table 8-A (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination) |                  |        |            |                      |             |       |
|---|------------------|--------|------------|----------------------|-------------|-------|
| Origin (From)   | Destination (To) |        |            |                      |             |       |
|   | Office           | Retail | Restaurant | Cinema/Entertainment | Residential | Hotel |
| Office  |                  | 0      | 0          | 0                    | 0           | 0     |
| Retail  | 0                |        | 0          | 0                    | 0           | 0     |
| Restaurant  | 0                | 0      |            | 0                    | 0           | 0     |
| Cinema/Entertainment  | 0                | 0      | 0          |                      | 0           | 0     |
| Residential   | 0                | 0      | 0          | 0                    |             | 0     |
| Hotel   | 0                | 0      | 0          | 0                    | 0           |       |

| Table 9-A (D): Internal and External Trips Summary (Entering Trips) |                       |          |       |                         |                      |                            |
|---|-----------------------|----------|-------|-------------------------|----------------------|----------------------------|
| Destination Land Use  | Person-Trip Estimates |          |       | External Trips by Mode* |                      |                            |
|   | Internal              | External | Total | Vehicles <sup>1</sup>   | Transit <sup>2</sup> | Non-Motorized <sup>2</sup> |
| Office  | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| Retail  | 0                     | 1        | 1     | 1                       | 0                    | 0                          |
| Restaurant  | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| Cinema/Entertainment  | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| Residential   | 0                     | 5        | 5     | 5                       | 0                    | 0                          |
| Hotel   | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| All Other Land Uses <sup>3</sup>                                    | 0                     | 0        | 0     | 0                       | 0                    | 0                          |

| Table 9-A (O): Internal and External Trips Summary (Exiting Trips) |                       |          |       |                         |                      |                            |
|--|-----------------------|----------|-------|-------------------------|----------------------|----------------------------|
| Origin Land Use  | Person-Trip Estimates |          |       | External Trips by Mode* |                      |                            |
|  | Internal              | External | Total | Vehicles <sup>1</sup>   | Transit <sup>2</sup> | Non-Motorized <sup>2</sup> |
| Office   | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| Retail   | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| Restaurant   | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| Cinema/Entertainment   | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| Residential  | 0                     | 14       | 14    | 14                      | 0                    | 0                          |
| Hotel  | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| All Other Land Uses <sup>3</sup>                                   | 0                     | 0        | 0     | 0                       | 0                    | 0                          |

<sup>1</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A  
<sup>2</sup>Person-Trips  
<sup>3</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator  
\*Indicates computation that has been rounded to the nearest whole number.

| NCHRP 8-51 Internal Trip Capture Estimation Tool |                    |               |            |
|--|--------------------|---------------|------------|
| Project Name:                                    | Stockdale          | Organization: | Lokahi     |
| Project Location:                                | City of Scottsdale | Performed By: | SAS        |
| Scenario Description:                            | Buildout           | Date:         | 12/30/2019 |
| Analysis Year:                                   |                    | Checked By:   |            |
| Analysis Period:                                 | PM Peak Hour       | Date:         |            |

| Table 1-P: Base Vehicle-Trip Generation Estimates (Single-Use Site Estimate) |   |          |                |                         |           |           |
|--|---|----------|----------------|-------------------------|-----------|-----------|
| Land Use   | Development Data (For Information Only) |          |                | Estimated Vehicle-Trips |           |           |
|  | ITE LUCs <sup>1</sup>                   | Quantity | Units          | Total                   | Entering  | Exiting   |
| Office   |   |          |                |                         |           |           |
| Retail   | 820                                     | 1.074    | 1000 SF GLA    | 4                       | 2         | 2         |
| Restaurant   |   |          |                |                         |           |           |
| Cinema/Entertainment   |   |          |                |                         |           |           |
| Residential  | 221                                     | 54       | Dwelling Units | 25                      | 15        | 10        |
| Hotel  |   |          |                |                         |           |           |
| All Other Land Uses <sup>2</sup>   |   |          |                |                         |           |           |
| <b>Total</b>   |   |          |                | <b>29</b>               | <b>17</b> | <b>12</b> |

| Table 2-P: Mode Split and Vehicle Occupancy Estimates |                |           |                 |               |           |                 |
|---|----------------|-----------|-----------------|---------------|-----------|-----------------|
| Land Use  | Entering Trips |           |                 | Exiting Trips |           |                 |
|   | Veh. Occ.      | % Transit | % Non-Motorized | Veh. Occ.     | % Transit | % Non-Motorized |
| Office  |                |           |                 |               |           |                 |
| Retail  |                |           |                 |               |           |                 |
| Restaurant  |                |           |                 |               |           |                 |
| Cinema/Entertainment                                  |                |           |                 |               |           |                 |
| Residential   |                |           |                 |               |           |                 |
| Hotel   |                |           |                 |               |           |                 |
| All Other Land Uses <sup>2</sup>                      |                |           |                 |               |           |                 |

| Table 3-P: Average Land Use Interchange Distances (Feet Walking Distance) |                  |        |            |                      |             |       |
|---|------------------|--------|------------|----------------------|-------------|-------|
| Origin (From)   | Destination (To) |        |            |                      |             |       |
|   | Office           | Retail | Restaurant | Cinema/Entertainment | Residential | Hotel |
| Office  |                  |        |            |                      |             |       |
| Retail  |                  |        |            |                      |             |       |
| Restaurant  |                  |        |            |                      |             |       |
| Cinema/Entertainment  |                  |        |            |                      |             |       |
| Residential   |                  |        |            |                      |             |       |
| Hotel   |                  |        |            |                      |             |       |

| Table 4-P: Internal Person-Trip Origin-Destination Matrix* |                  |        |            |                      |             |       |
|--|------------------|--------|------------|----------------------|-------------|-------|
| Origin (From)  | Destination (To) |        |            |                      |             |       |
|  | Office           | Retail | Restaurant | Cinema/Entertainment | Residential | Hotel |
| Office   |                  | 0      | 0          | 0                    | 0           | 0     |
| Retail   | 0                |        | 0          | 0                    | 1           | 0     |
| Restaurant   | 0                | 0      |            | 0                    | 0           | 0     |
| Cinema/Entertainment                                       | 0                | 0      | 0          |                      | 0           | 0     |
| Residential  | 0                | 0      | 0          | 0                    |             | 0     |
| Hotel  | 0                | 0      | 0          | 0                    | 0           |       |

| Table 5-P: Computations Summary           |       |          |         |
|---|-------|----------|---------|
|   | Total | Entering | Exiting |
| All Person-Trips                          | 29    | 17       | 12      |
| Internal Capture Percentage               | 7%    | 6%       | 8%      |
| External Vehicle-Trips <sup>3</sup>       | 27    | 16       | 11      |
| External Transit-Trips <sup>4</sup>       | 0     | 0        | 0       |
| External Non-Motorized Trips <sup>4</sup> | 0     | 0        | 0       |

| Table 6-P: Internal Trip Capture Percentages by Land Use |                |               |
|--|----------------|---------------|
| Land Use   | Entering Trips | Exiting Trips |
| Office   | N/A            | N/A           |
| Retail   | 0%             | 50%           |
| Restaurant   | N/A            | N/A           |
| Cinema/Entertainment                                     | N/A            | N/A           |
| Residential  | 7%             | 0%            |
| Hotel  | N/A            | N/A           |

<sup>1</sup>Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

<sup>2</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

<sup>3</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

<sup>4</sup>Person-Trips

\*Indicates computation that has been rounded to the nearest whole number.

*Estimation Tool Developed by the Texas Transportation Institute*

|                         |                     |
|-------------------------|---------------------|
| <b>Project Name:</b>    | Stockdale           |
| <b>Analysis Period:</b> | PM Street Peak Hour |

| Table 7-P: Conversion of Vehicle-Trip Ends to Person-Trip Ends |                               |               |               |                              |               |               |
|--|-------------------------------|---------------|---------------|------------------------------|---------------|---------------|
| Land Use   | Table 7-P (D): Entering Trips |               |               | Table 7-P (O): Exiting Trips |               |               |
|  | Veh. Occ.                     | Vehicle-Trips | Person-Trips* | Veh. Occ.                    | Vehicle-Trips | Person-Trips* |
| Office   | 1.00                          | 0             | 0             | 1.00                         | 0             | 0             |
| Retail   | 1.00                          | 2             | 2             | 1.00                         | 2             | 2             |
| Restaurant   | 1.00                          | 0             | 0             | 1.00                         | 0             | 0             |
| Cinema/Entertainment   | 1.00                          | 0             | 0             | 1.00                         | 0             | 0             |
| Residential  | 1.00                          | 15            | 15            | 1.00                         | 10            | 10            |
| Hotel  | 1.00                          | 0             | 0             | 1.00                         | 0             | 0             |

| Table 8-P (O): Internal Person-Trip Origin-Destination Matrix (Computed at Origin) |                  |        |            |                      |             |       |
|--|------------------|--------|------------|----------------------|-------------|-------|
| Origin (From)  | Destination (To) |        |            |                      |             |       |
|  | Office           | Retail | Restaurant | Cinema/Entertainment | Residential | Hotel |
| Office   |                  | 0      | 0          | 0                    | 0           | 0     |
| Retail   | 0                |        | 1          | 0                    | 1           | 0     |
| Restaurant   | 0                | 0      |            | 0                    | 0           | 0     |
| Cinema/Entertainment   | 0                | 0      | 0          |                      | 0           | 0     |
| Residential  | 0                | 4      | 2          | 0                    |             | 0     |
| Hotel  | 0                | 0      | 0          | 0                    | 0           |       |

| Table 8-P (D): Internal Person-Trip Origin-Destination Matrix (Computed at Destination) |                  |        |            |                      |             |       |
|---|------------------|--------|------------|----------------------|-------------|-------|
| Origin (From)   | Destination (To) |        |            |                      |             |       |
|   | Office           | Retail | Restaurant | Cinema/Entertainment | Residential | Hotel |
| Office  |                  | 0      | 0          | 0                    | 1           | 0     |
| Retail  | 0                |        | 0          | 0                    | 7           | 0     |
| Restaurant  | 0                | 1      |            | 0                    | 2           | 0     |
| Cinema/Entertainment  | 0                | 0      | 0          |                      | 1           | 0     |
| Residential   | 0                | 0      | 0          | 0                    |             | 0     |
| Hotel   | 0                | 0      | 0          | 0                    | 0           |       |

| Table 9-P (D): Internal and External Trips Summary (Entering Trips) |                       |          |       |                         |                      |                            |
|---|-----------------------|----------|-------|-------------------------|----------------------|----------------------------|
| Destination Land Use  | Person-Trip Estimates |          |       | External Trips by Mode* |                      |                            |
|   | Internal              | External | Total | Vehicles <sup>1</sup>   | Transit <sup>2</sup> | Non-Motorized <sup>2</sup> |
| Office  | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| Retail  | 0                     | 2        | 2     | 2                       | 0                    | 0                          |
| Restaurant  | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| Cinema/Entertainment  | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| Residential   | 1                     | 14       | 15    | 14                      | 0                    | 0                          |
| Hotel   | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| All Other Land Uses <sup>3</sup>                                    | 0                     | 0        | 0     | 0                       | 0                    | 0                          |

| Table 9-P (O): Internal and External Trips Summary (Exiting Trips) |                       |          |       |                         |                      |                            |
|--|-----------------------|----------|-------|-------------------------|----------------------|----------------------------|
| Origin Land Use  | Person-Trip Estimates |          |       | External Trips by Mode* |                      |                            |
|  | Internal              | External | Total | Vehicles <sup>1</sup>   | Transit <sup>2</sup> | Non-Motorized <sup>2</sup> |
| Office   | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| Retail   | 1                     | 1        | 2     | 1                       | 0                    | 0                          |
| Restaurant   | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| Cinema/Entertainment   | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| Residential  | 0                     | 10       | 10    | 10                      | 0                    | 0                          |
| Hotel  | 0                     | 0        | 0     | 0                       | 0                    | 0                          |
| All Other Land Uses <sup>3</sup>                                   | 0                     | 0        | 0     | 0                       | 0                    | 0                          |

<sup>1</sup>Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

<sup>2</sup>Person-Trips

<sup>3</sup>Total estimate for all other land uses at mixed-use development site-not subject to internal trip capture computations in this estimator

\*Indicates computation that has been rounded to the nearest whole number.