Scottsdale City Center 229-PA-2020

Design Narrative

07/03/2023

Introduction:
The largest owner of real estate in the area, Stockdale Capital, is looking to evolve and mature the greater Entertainment District-area into a mixed-use District. Art will be the unifying theme of Scottsdale's next great neighborhood with extensive shade and buildings designed with varying heights and uses. The City Center project is part of the Scottsdale Collection rezoning, case# 9-ZN-2020 and will adhere to the Narrative set forth in the Scottsdale Collection Development Plan.

Scottsdale City Center is located at the southeast corner of the intersection of Camelback Road and Scottsdale Road in the heart of the Entertainment District of Old Town Scottsdale. The site is a combination of seven existing parcels. The total Net Site area is 137,836 sf (3.16 Acres). The project is a mixed-use project of ground-level retail, restaurants, a residential tower with top-tier amenities, and a flexible public plaza. City Center will fill the gap in the pedestrian experience between districts and supplement the city's shortage of housing to support a thriving economy. A rich material palette of stone and copper, derived from the history and geology of its place, will help to highlight the tower and retail podium in a district defined by luxury. Lush but water-efficient desert vegetation will fill the public plaza and private amenity deck and special attention will be given to circulation along the canal, which cuts diagonally across the corner of the site, breaking the city grid and drawing people into the plaza. Thoughtful lighting, podium buildings designed to attract high-end restaurants, and tenant engagement will activate the plaza day and night to bring a new paradigm of mixed-use to Scottsdale.

Approximately 31,700 s.f. of pedestrian-scale retail and restaurant spaces line the frontages along Scottsdale Road and Camelback Road to provide street-level pedestrian activity. Additional retail spaces within the open plaza invite pedestrians and visitors into the site to further activate the interior of the development. These retail shell spaces are different sizes to attract different potential tenants, and many spaces can be further subdivided to allow for future tenant flexibility. Within and between these tenant spaces, a variety of landscape and hardscape surfaces are used to finish out the public plaza spaces. A variety of stairs, ramps, and plant terraces navigate the topographic changes across the site to link the development to the public realm at the street. A large opening across the canal provides a visual and physical connection to the main corner of Scottsdale and Camelback Roads as well as to Scottsdale Fashion Square.

Landscaping in the outdoor public plaza and residential amenity areas will strive to balance shade and lushness with water efficiency. Planting material selection will bring a variety of natural colors and textures to the project while maintaining a desert-appropriate character. Irrigation needs for the landscaping will conform to the requirements of the Scottsdale Green Construction Code requirements. Landscaping materials and layouts may also provide opportunities to help reduce Heat Island effects as mandated by the Green Construction Codes.

Above the public plaza level is a large open amenities level for the residential tower. This amenities level includes a mix of indoor and outdoor spaces while also providing a large outdoor pool deck and terrace which partially shades the ground level plaza below. Above this amenity level are 12 levels of residential units comprising approximately 272 one, two, and three-bedroom units. The first residential level steps back from the amenity level to help reduce the overall building massing. Another stepback occurs at residential level 6, further reducing the overall building massing.

Parking for the project occurs on a below grade 3-level parking structure. Entry into the parking deck occurs from the south from Shoeman Lane and the east from Brown Avenue. Due to natural site topography, these two parking deck entrances are at grade from these streets but are one level below the public plaza level and the main pedestrian access point at the corner of Scottsdale and Camelback. Two additional parking deck levels are provided below this point. A total of approximately 554 spaces are provided to serve both the residential and the retail/restaurant uses of the development. Additionally, a vehicular drop-off court for valet and ride-share services is provided at the plaza level with access from Brown Avenue. Primary access for building services, such as trash collection and deliveries, as well as fire department access, occurs from the Shoeman and Brown frontages. A service/fire lane connects these points through the site at the top level of the parking deck.

Mechanical and utility equipment will be minimized at the ground level plaza. Where possible, such equipment will be in the parking deck below or in inconspicuous areas of the amenity level. All equipment will be visually screened with architectural or landscape screening elements. Mechanical equipment for the residential tower will be located on the roofs of the residential building and will also be architecturally screened from view.

Scottsdale City Center is the second project looking to evolve and mature the greater Entertainment District set forth in "The Scottsdale Collection" 9-ZN-2020, the first project being The Maya Hotel. It is an integral component to achieving the goals of creating a unified mixed-use neighborhood of art, shade, and quality pedestrian environment.

Development Review Board Criteria:

1. The design and theme of the application is consistent with the design and character components of the Scottsdale Collection Development Plan case# 9-ZN-2020, Sensitive Design Program, OTSUDAG, development standards and Design Standards and Policies Manual.

2. The architectural character, landscaping and site design of the proposed development shall:

a. Promote a desirable relationship of structures to one another, to open spaces and topography, both on the site and in the surrounding neighborhood;

Response: *Scottsdale City Center is located at the entrance to the Entertainment District and enjoys an urban setting surrounded by a variety of uses. The project responds to the surrounding urban context by providing shade for pedestrians and an enhanced streetscape of paving and public art. The site is significantly sloped from north to south so the design incorporates a series of walls, ramps and steps that help to draw people up and through the site from the south, while continuing a safe pedestrian corridor along Scottsdale and Camelback Roads. Locating the parking structure underground allows*

for the street level to become much more activated while the open northwest corner of the site creates a much more inviting transition from The Scottsdale Waterfront and Scottsdale Fashion Square. Whereas the east side of the site is considered more back of house and utilitarian the Shoeman face engages the public and draws them into the heart of the entertainment district with activated storefront, seating, and valet drop-off.

b. Avoid excessive variety and monotonous repetition;

Response: *The project features four-sided architecture using similar detailing, but differences in patterning on all four sides. The roofs and mezzanines of the plaza level retail create variety and interest in the street.*

c. Recognize the unique climatic and other environmental factors of this region to respond to the Sonoran Desert environment, as specified in the Sensitive Design Principles.

Response: *Scottsdale City Center responds to the unique climatic conditions of the Sonoran Desert environment in multiple ways. The residential unit balconies are shaded along with the valet drop off. The retail spaces all have large projecting shade canopies, and the landscape trees provide a multitude of shade. The proposed landscape planting and trees native to the Sonoran Desert help to highlight the natural environment in an urban setting and soften the amount of hardscape.*

3. Ingress, egress, internal traffic circulation, off-street parking facilities, loading and service areas and pedestrian ways shall be so designed as to promote safety and convenience.

Response: *The site occupies the entire end of the block and features four frontages. The main vehicular entrance is located on Brown Avenue and provides access to a porte' cochere for vehicular drop-off and large shade canopy for pedestrians, both provide continuity of the existing traffic patterns. In addition, there is a service access drive along Brown Avenue that is at a lower elevation than the public entrance. This drive supports all the non-public services as well as provides entry into the garage, keeping much of this traffic out of the pedestrian realm. The project creates a much nicer and safer pedestrian path along Camelback than what currently exists with shade trees and landscape buffer. The Shoeman Road frontage allows for safe valet and vehicular drop-off away from Scottsdale Road and an additional entry into the parking garage and service drive. The Scottsdale Road frontage has been enhanced with trees, landscaping, and pavement. The ability for people to access the project and beyond from the intersection has been significantly enhanced by creating a main pedestrian entry and grade into the site, which in turn engages with the pedestrian walkways along Camelback and Scottsdale Roads. Parking for the project is addressed with the Scottsdale Collection Development Plan case#: 9-ZN-2020 and the Scottsdale Collection Parking Master Plan.*

4. If provided, mechanical equipment, appurtenances and utilities, and their associated screening shall be integral to the building design.

Response: *The rooftop mechanical equipment is fully screened and integrated into the overall massing of the building. The roof top massing is meant to be viewed from afar and strikes an interesting profile in add to the Old Town skyline per the OTUDAG. Mechanical equipment and utilities at the ground level are in a fully screened service yard accessed from the more service oriented Shoeman Lane.*

5. Within the Downtown Area, building and site design shall:

a. Demonstrate conformance with the Downtown Plan Urban Design & Architectural Guidelines;

Response: *Scottsdale City Center is broken down into a variety of building masses to better relate to the human scale at the pedestrian level. The tower follows a base-middle-top configuration to break down the vertical mass of the building. Stepbacks along the building height further reduce the mass of the tower and introduce visual breaks into the façades. These base setbacks and stepbacks conform to the development standards for a Type 3 Development. At the pedestrian plaza level, glazing into the retail spaces provides an inviting experience while a mix of trees and building overhangs provide shade to pedestrians. The retail spaces can be subdivided in a variety of ways to accommodate tenants of various sizes providing a wide range of commercial options for residents and visitors.*

b. Incorporate urban and architectural design that address human scale and incorporate pedestrian-oriented environment at the street level;

Response: *Scottsdale City Center is broken down into a variety of building masses to better relate to the human scale at the pedestrian level. There is a large setback along Camelback and Scottdale Roads that has been respected. The main plaza creates a large walkable pedestrian environment with landscaping, storefronts and exterior dining opportunities that helps to draw the energy and excitement into the project from neighboring developments and the Old Town at large. The scale of these one- and two-story structures work well at creating an urban environment that is not overwhelming, separate from the apartment tower above and is human scale.*

c. Reflect contemporary and historic interpretations of Sonoran Desert architectural traditions, by subdividing the overall massing into smaller elements, expressing small scale details, and recessing fenestrations;

Response: *The main plaza is broken down into a variety of building masses to better relate to the human scale at the pedestrian level. There is a large setback along Camelback and Scottdale Roads that has been respected. The large setback at the base of the building also provides a clear separation between the public functions and the upper levels private apartment floors. The overall mass is also broken horizontally at the 2nd level and 6th level of the tower creating distinct and differing building masses. The apartment units are stepped back on the 6th floor to accentuate this massing. The shade canopies are designed with closely spaced steel members meant to provide a filtered quality of light like the desert trees native to the Sonoran Desert. While the unit patios are both recessed and projected to provide a variety of fenestration such as you would find in a desert cactus and other plants.*

d. Reflect the design features and materials of the urban neighborhoods in which the development is located;

Response: *Stockdale Capital is looking to evolve and mature the greater Entertainment District-area into a mixed-use District. Art will be the unifying theme of Scottsdale's next great neighborhood with extensive shade and buildings designed with varying heights and uses. Taking cues from modern architectural design, indigenous building materials and native landscaping materials the development will provide a pedestrian-oriented urban environment with a modern, contemporary aesthetic. Complementary textures, colors and materials will create strong aesthetic connections between existing and newly constructed developments while still maintaining a unique and identifiable character for the Development Plan area.*

e. Address building mass, height, materials, and intensity transitions between adjacent/abutting Type 1 and Type 2 Areas, and adjacent/abutting Type 2 Areas and existing development outside the Downtown Area.

Response: *Per the Scottsdale Collection Development Plan the proposed building massing will be stepped horizontally and vertically to help reduce the overall volume and create appropriate transitions and architectural interest. The building design incorporates layers, textures and variety in materials providing four-sided architectural character that responds to the Southwestern climate while also respecting solar orientation. Scottsdale City Center site is located at the entrance to the Entertainment district and is surrounded by buildings and streets that provide a buffer and transition to the surrounding neighborhoods.*

6. The location of artwork provided in accordance with the Cultural Improvement Program or Public Art Program shall address the following criteria:

Response*: The Scottsdale Collective's Development Plan has a strong focus on art and culture as highlighted in more detail in the Cultural Improvements section of the Development Plan. Notably, the nearby Scottsdale Arts District includes 70+/- galleries featuring the works of 1,000+/- artists along with Scottsdale Museum of the West, Scottsdale Museum of Contemporary Art, the Scottsdale Artists' School and Stagebrush Theatre, all of which establish Scottsdale, and Old Town specifically, as art-focused community. The Scottsdale Collective will celebrate and incorporate art as a guiding element as part of the Development Plan through the integration of new tourist accommodations, residential units and open space opportunities that promote walkability. Within and around the new development, elements of art will be encountered on various levels though sculpture, furniture, shade, lighting and building facades to create new exciting visual and sensory experiences for residences, guest and visitors further supporting Scottsdale as an arts community. Scottsdale City Center will have two large sculptures that the public can engage with. One at the northwest corner of the site as you enter from the main intersection of Camelback and Scottsdale Roads and one at the southwest corner of the site as you enter from south Scottsdale and Shoeman Lane.*

a. Accessibility to the public;

Response: *Scottsdale City Center will feature large scale sculptures art that will be visible from the pedestrian level and from the main thoroughfares of Camelback and Scottsdale Roads.*

b. Location near pedestrian circulation routes consistent with existing or future development or natural features;

Response: *Scottsdale City Center will feature large scale sculptures art that will be visible from the pedestrian level and from the main thoroughfares of Camelback and Scottsdale Roads. The large sculpture at the northwest corner of the site will sit in a large green area. Pedestrians can sit and enjoy the sculpture from the ground level and at a very close distance.*

c. Location near the primary pedestrian or vehicular entrance of a development;

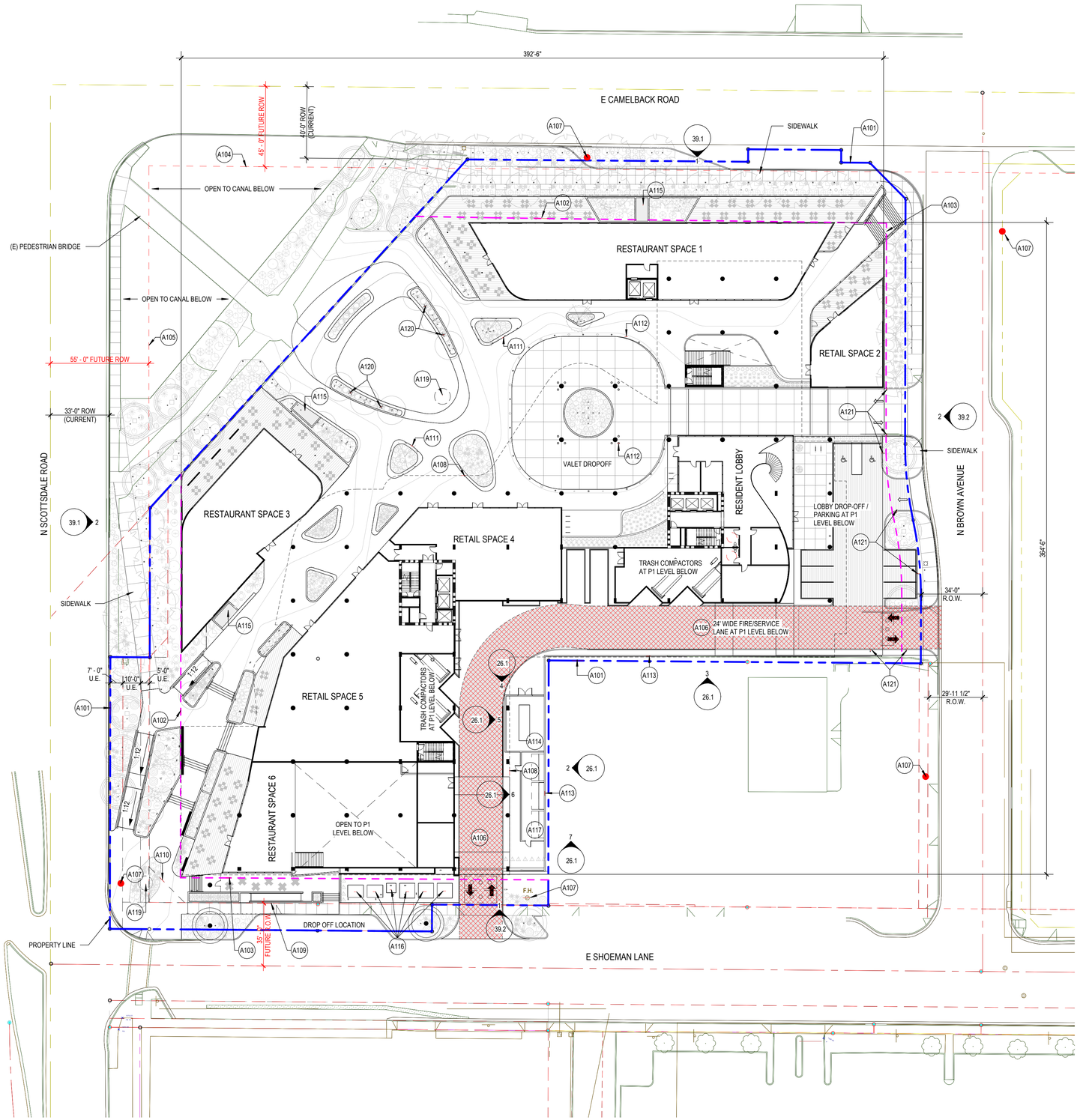
Response: *Scottsdale City Center will have two large sculptures that the public can engage with. One at the northwest corner of the site as you enter from the main intersection of Camelback and Scottsdale Roads and one at the southwest corner of the site as you enter from south Scottsdale and Shoeman Lane. These are the main pedestrian entrances to the site. The sculptures can also be viewed from the vehicular drop-off at the porte-cochere.*

d. Location in conformance with the Design Standards and Policies Manual for locations affecting existing utilities, public utility easements, and vehicular sight distance requirements;

***Response**: All art will be subject to the Scottsdale Public Art Board review and meet the DS&PM policies.*

e. Location in conformance to standards for public safety

***Response**: All art will be subject to the Scottsdale Public Art Board review and meet the DS&PM policies.*



NORTH

1 ARCHITECTURAL SITE PLAN
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"

SITE PLAN DATA

ADDRESS	7201 E CAMELBACK ROAD SCOTTSDALE, AZ 85251
APN	173-41-004 173-41-005 173-41-006A 173-41-015A 173-41-016A 173-41-017A 173-41-021A
EXISTING ZONING	D/DMU-3, PBD, DO
PROPOSED ZONING	D/DMU-3, PBD, DO
SUB-DISTRICT	DOWNTOWN MULTIPLE USE TYPE 3
TOTAL SITE AREA	3.16 ACRES (NET) 137,836 SF (NET)

RETAIL BUILDING AREA	**31,698**	**SF**
RETAIL USE SUBTOTAL	*12,434*	
RESTAURANT USE SUBTOTAL	*19,264*	
RESIDENTIAL BUILDING AREA	**435,653**	**SF**
RESIDENTIAL UNIT QUANTITY	*272*	*UNITS*
TOTAL BUILDING AREA (EXCLUDING GARAGE)	**467,351**	**SF**
GARAGE AREA	273,396	SF
TOTAL BUILDING AREA (INCLUDING GARAGE)	**740,747**	**SF**

MAXIMUM ALLOWABLE HEIGHT *PER ZONING CASE 9-NZ-2020, STIPULATION #8*	156'-0"	*(INCLUSIVE OF ROOFTOP APPURTENANCES)*
PROVIDED HEIGHT	156'-0"	
MAX ALLOWABLE GFAR, NON-RESIDENTIAL *PER ZONING CASE 9-NZ-2020, STIPULATION #5*	1.3	
ACTUAL GFAR, NON-RESIDENTIAL	0.30	
BUILDING SETBACKS FROM CURB	40'-0"	*(SCOTTSDALE AND CAMELBACK)*
PER ZONING ORDINANCE, TABLE 5.3006.C	20'-0"	*(SHOEMAN AND BROWN)*
REQUIRED OPEN SPACE *PER ZONING CASE 9-NZ-2020, STIPULATION #10*	15,000	SF
PROVIDED OPEN SPACE	39,129	SF *(BEHIND SETBACK LINE)*
REQUIRED PARKING SPACES *PER CITY CENTER PARKING MASTER PLAN*	488	
PROVIDED PARKING SPACES	554	
REQUIRED BICYCLE PARKING (RESIDENT)	42	*(1 BICYCLE SPACE PER 10 VEHICLE SPACES)*
REQUIRED BICYCLE PARKING (RETAIL/GUEST) *PER ZONING ORDINACE, § 9.103.C*	16	
PROVIDED BICYCLE PARKING SPACES	64	*(8 LOOP RACKS FOR 2 BICYCLES EA - RETAIL)* *(12 4-BIKE STORAGE RACKS - RESIDENT)*
REQUIRED ACCESSIBLE PARKING SPACES *PER ZONING ORDINACE § 9.105.C.3 AND ADA TABLE...*	10	*(2% OF TOTAL PARKING SPACES)*
PROVIDED ACCESSIBLE PARKING SPACES	12	
REQUIRED VAN PARKING SPACES *PER ZONING ORDINACE § 9.105.C.3 AND ADA TABLE...*	2	*(1 PER EVERY 6 ACCESSIBLE SPACES)*
PROVIDED VAN PARKING SPACES	3	
REQUIRED OFF-STREET LOADING SPACES *PER SCOTTSDALE PLANNING & DEVELOPMENT*	1	
PROVIDED OFF-STREET LOADING SPACES	3	

	UNIT TYPE					
	1 BR	1 BR + DEN	2 BR	2 BR + DEN	3 BR	PER FLOOR
LEVEL 2	2		4			6
LEVEL 3	13	3	9	2	2	29
LEVEL 4	13	3	9	2	2	29
LEVEL 5	13	3	9	2	2	29
LEVEL 6	9	1	9	1		20
LEVEL 7	8	1	10	1		20
LEVEL 8	8	1	10	1		20
LEVEL 9	8	1	10	1		20
LEVEL 10	8	1	10	1		20
LEVEL 11	8	1	10	1		20
LEVEL 12	8	1	10	1		20
LEVEL 13	9	1	9	1		20
LEVEL 14	9	1	8	1		19
SUBTOTAL	**116**	**18**	**117**	**15**	**6**	
	43%	*7%*	*43%*	*6%*	*2%*	*100%*
					TOTAL UNITS	**272**

SHEET KEYNOTES

A101 PROPERTY LINE
A102 40' SETBACK LINE (TABLE 5.3006.C)
A103 20' SETBACK LINE (TABLE 5.3006.C)
A104 45' FUTURE R.O.W. (PER 9-ZN-2020, #24.A)
A105 55' FUTURE R.O.W. (PER 9-ZN-2020, #24.B)
A106 24' WIDE FIRE LANE
A107 FIRE HYDRANT, EXISTING TO REMAIN
A108 LINE OF BUILDING ABOVE
A109 35' FUTURE R.O.W. (PER ALTA SURVEY)
A110 20' SITE VIEW TRIANGLE (PER ALTA SURVEY)
A111 PLANTER, SEE LANDSCAPE/HARDSCAPE PLANS
A112 BOLLARD, TYP
A113 10'-0" TALL MASONRY SCREEN WALL
A114 GENERATOR AND MASONRY ENCLOSURE
A115 GARAGE EXHAUST GRATE
A116 APS EQUIPMENT AND SCREEN ENCLOSURE
A117 SES CABINETS AND MASONRY ENCLOSURE
A119 ART SCULPTURE TBD, SEE ART PLAN SHEET 52.0
A120 PEDESTRIAN POLE LIGHT TYPE P1
A121 PARKING AREA POLE LIGHT TYPE P2

SCOTTSDALE CITY CENTER
7201 EAST CAMELBACK ROAD
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ISSUED FOR	REV	DATE
DEVELOPMENT REVIEW SUBMITTAL		*03/JUL/2023*

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

CONCEPTUAL PLANS FOR DRB REVIEW ONLY

SHEET TITLE

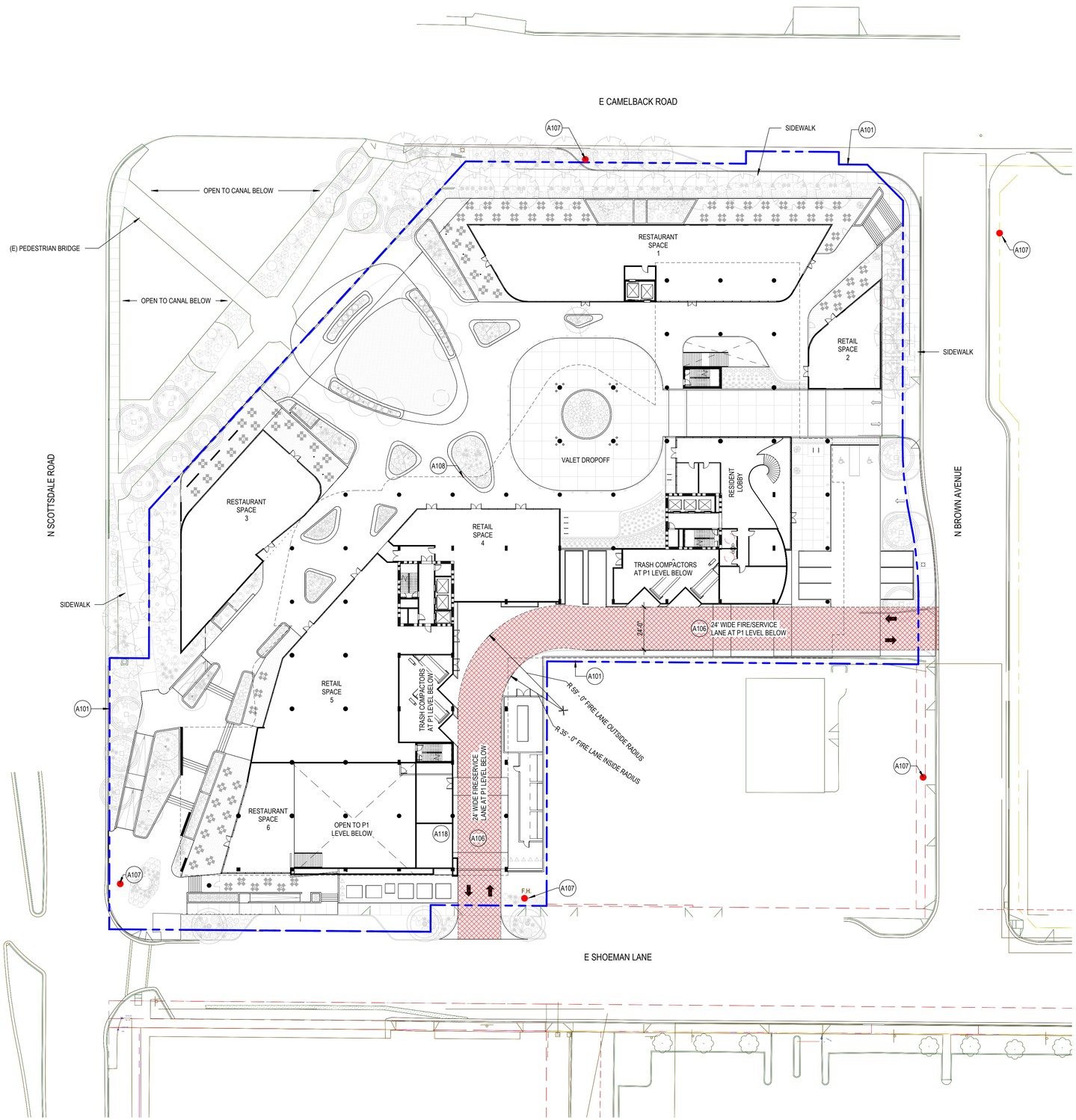
ARCHITECTURAL SITE PLAN

PROJECT NUMBER 14165.000

DRB **24.1**

SHEET NUMBER

Plot Date: 7/3/2023 9:02:08 AM START Sheet



NORTH

1 FIRE DEPARTMENT ACCESS PLAN
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"

GRAPHIC LEGEND

SHEET KEYNOTES

A101 PROPERTY LINE
A106 24' WIDE FIRE LANE
A107 FIRE HYDRANT, EXISTING TO REMAIN
A108 LINE OF BUILDING ABOVE
A118 FIRE PUMP ROOM @ P1 LEVEL

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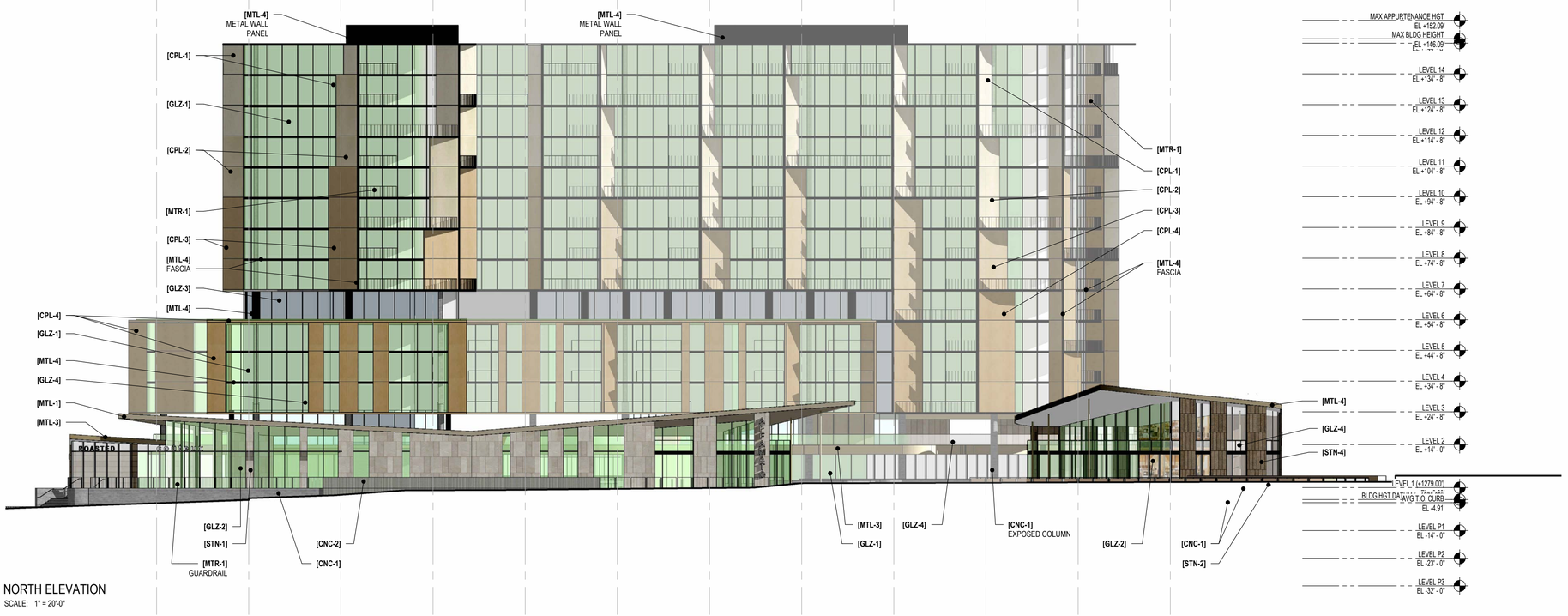
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FIRE DEPARTMENT ACCESS PLAN

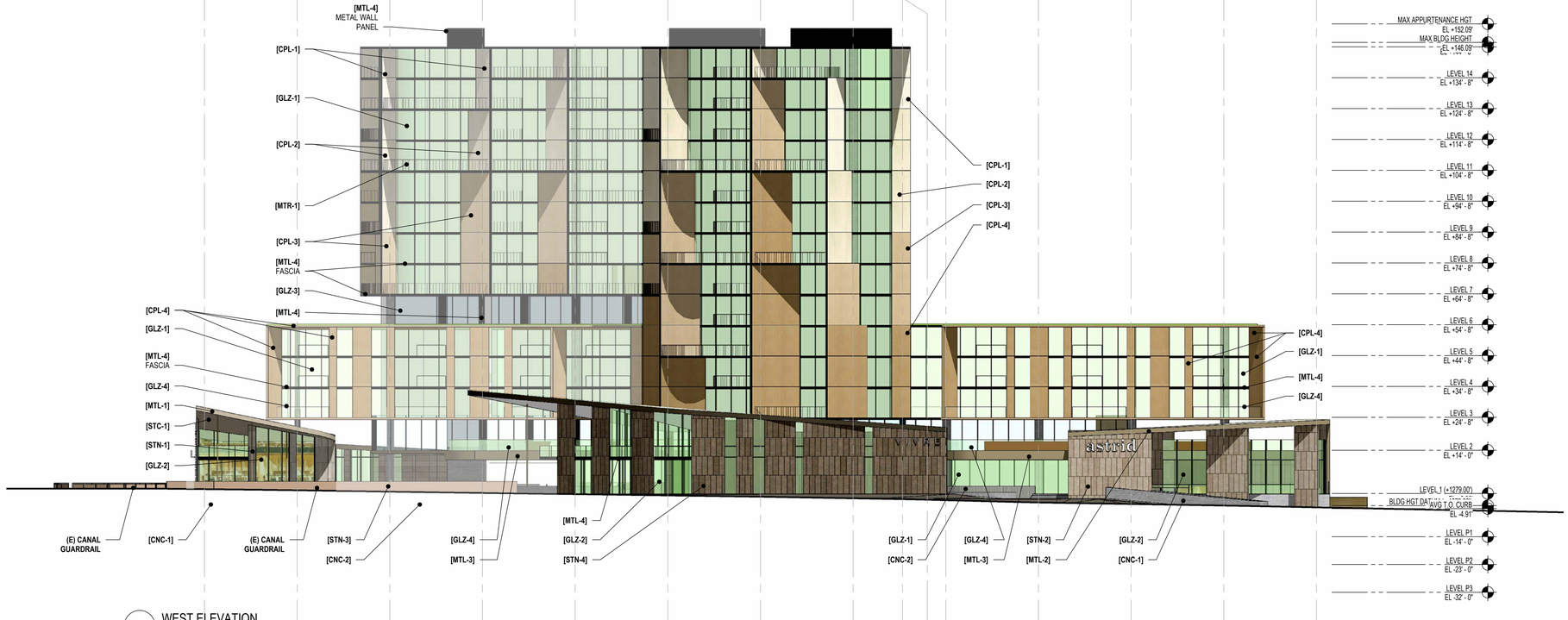
PROJECT NUMBER 14165.000

SHEET NUMBER DRB 24.2

Plot Date: 7/3/2023 9:02:13 AM START Sheet



1 NORTH ELEVATION
SCALE: 1" = 20'-0"



2 WEST ELEVATION
SCALE: 1" = 20'-0"

Plot Date: 7/3/2023 9:20:25 AM START Sheet

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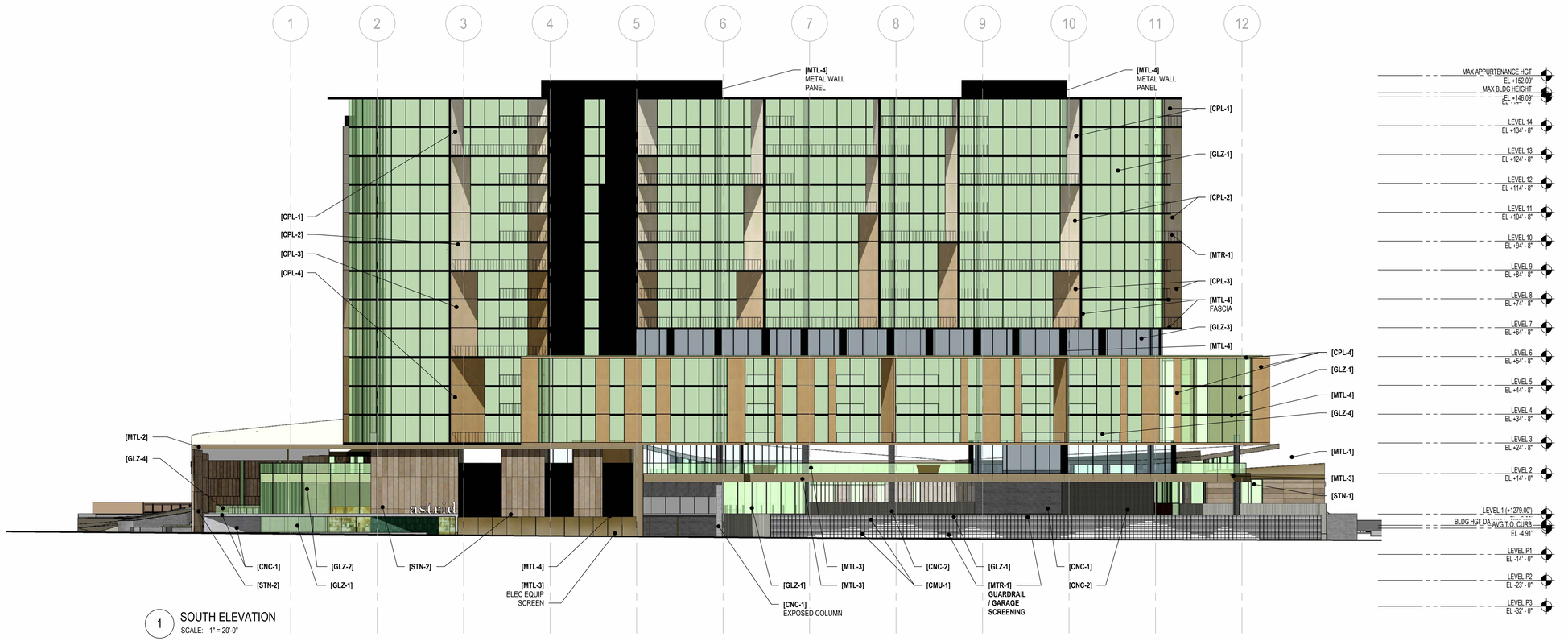
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EXTERIOR BUILDING ELEVATIONS

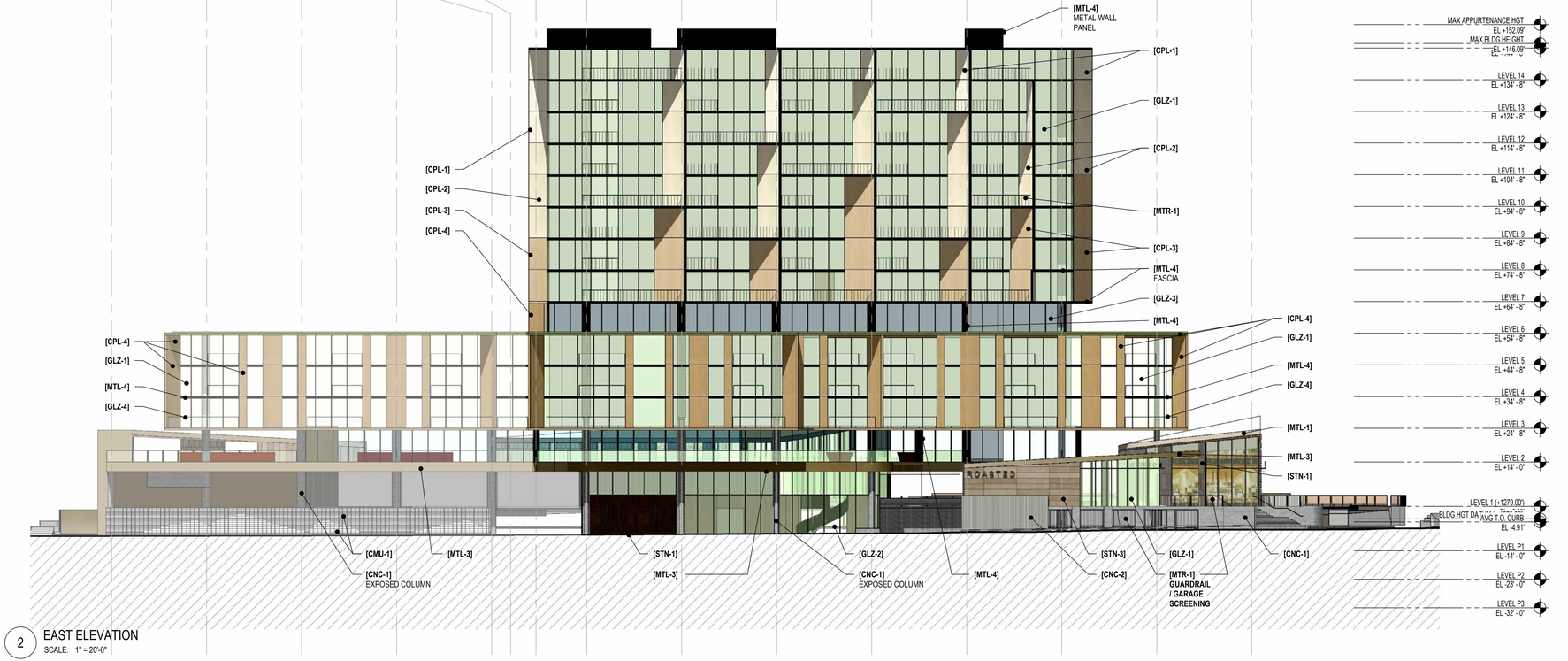
PROJECT NUMBER 14165.000

DRB **39.1**

SHEET NUMBER



1 SOUTH ELEVATION
SCALE: 1" = 20'-0"



2 EAST ELEVATION
SCALE: 1" = 20'-0"

Plot Date: 7/3/2023 9:20:31 AM START Sheet

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SHEET TITLE

EXTERIOR BUILDING ELEVATIONS

PROJECT NUMBER 14165.000

SHEET NUMBER **DRB 39.2**



NORTHWEST AERIAL **[1]**



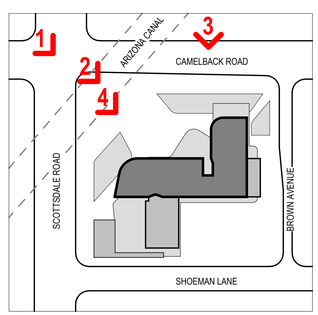
NORTHWEST VIEW FROM CANAL BRIDGE **[2]**



NORTH VIEW ALONG CANAL **[3]**



NORTHWEST PLAZA VIEW FROM CANAL BRIDGE **[4]**



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PERSPECTIVES

PROJECT NUMBER 14165.000

SHEET NUMBER DRB **41.1**

Plot Date: 7/3/2023 9:03:02 AM Author



PLAZA VIEW LOOKING SOUTHWEST **[1]**



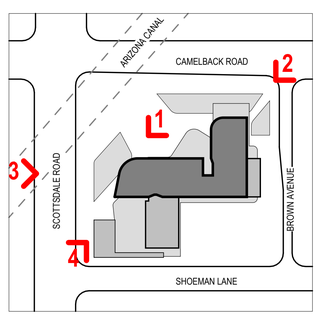
NORTHEAST PLAZA VIEW **[2]**



WEST VIEW ALONG SCOTTSDALE ROAD **[3]**



SOUTHWEST VIEW **[4]**



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602.265.2200
smithgroup.com

SUSTAINABILITY ENGINEERING GROUP
CIVIL ENGINEER
8280 E GELDING DRIVE, SUITE 101
SCOTTSDALE, AZ 85260
480.588.7226

SMITHGROUP
LANDSCAPE ARCHITECT
455 N THIRD STREET, SUITE 250
PHOENIX, AZ 85004
602.265.2200

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DEVELOPMENT REVIEW SUBMITTAL		*03JUL2023*

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

CONCEPTUAL PLANS FOR DRB REVIEW ONLY

SHEET TITLE

PERSPECTIVES

14165.000
PROJECT NUMBER

DRB **41.2**
SHEET NUMBER

Plot Date: 7/3/2023 9:03:03 AM Author



SOUTHWEST PLAZA **[1]**



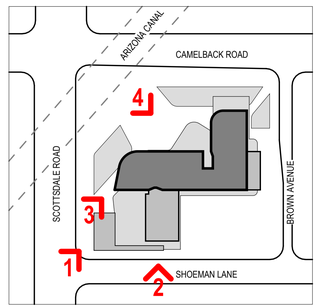
SOUTH VIEW FROM SHOEMAN LANE **[2]**



SOUTHWEST PLAZA BREEZEWAY **[3]**



PLAZA VIEW LOOKING SOUTHEAST **[4]**



SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

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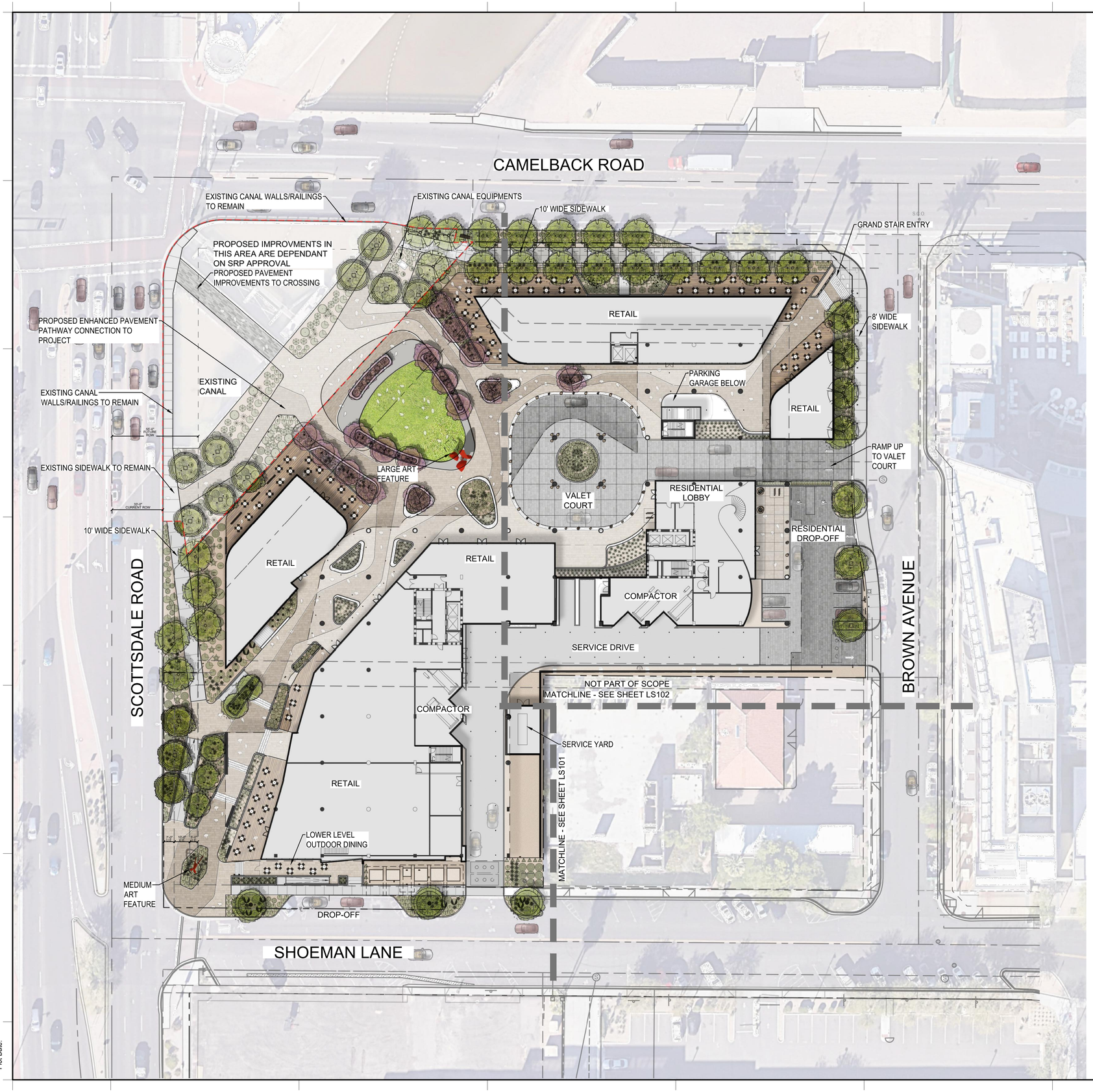
SHEET TITLE

PERSPECTIVES

PROJECT NUMBER 14165.000

SHEET NUMBER DRB 41.3

Plot Date: 7/3/2023 9:03:04 AM Author



PLANT LEGEND

SYM.	BOTANICAL NAME (COMMON NAME)	MIN. CAL HT & W	SIZE	QTY.
	TREES			
	BAUHINIA LUNARIOIDES ANACACHO ORCHID TREE	1.00" CAL. 5'H X 4'W	24" BOX SINGLE	3
	CHILOPSIS LINEARIS DESERT WILLOW	MULTI 8'H X 6'W	36" BOX MULTI	18
	PARKINSONIA FLORIDA BLUE PALO VERDE	2.25" CAL. 10'H X 6'W	36" BOX HIGH-BREAK	19
	PARKINSONIA X 'DESERT MUSEUM' DESERT MUSEUM PALO VERDE	2.25" CAL. 10'H X 7'W	36" BOX HIGH-BREAK	7
	PROSOPIS X 'COOPERI' COOPERI MESQUITE	2.50" CAL. 10'H X 8'W	36" BOX HIGH-BREAK	15
	QUERCUS VIRGINIANA HERITAGE LIVE OAK	2.50" CAL. 12'H X 7'W	36" BOX SINGLE	3
	SHRUBS			
	CAESALPINIA MEXICANA MEXICAN BIRD OF PARADISE		#5	6
	CALLIANDRA CALIFORNICA RED FAIRY DUSTER		#5	12
	JUSTICIA SPICIGERA MEXICAN HONEYSUCKLE		#5	73
	LEUCOPHYLLUM LAEVIGATUM CHIHUAHUAN SAGE		#5	7
	RUSSELIA EQUISETIFORMIS CORAL FOUNTAIN		#5	13
	SIMMONDSIA CHINENSIS 'VISTA' COMPACT JOJOBA		#5	8
	TECOMA STANS 'GOLD STAR' GOLD STAR TECOMA		#5	32
	ACCENTS			
	AGAVE COLORATA MESCAL CENIZA		#5	13
	AGAVE DESMETTIANA SMOOTH AGAVE		#5	87
	AGAVE WEBERI WEBER'S AGAVE		#5	29
	AGAVE X 'BLUE GLOW' BLUE GLOW AGAVE		#5	17
	ALOE BARBADENSIS MEDICINAL ALOE		#5	43
	ALOE X 'BLUE ELF' BLUE ELF ALOE		#5	78
	CYCAS REVOLUTA SAGO PALM		#15	18
	DASYLIRION WHEELERI DESERT SPOON		#5	36
	DRACAENA TRIFASCIATA SNAKE PLANT		#7	173
	EUPHORBIA ANTISYPHILITICA CANDELILLA		#5	4
	HESPERALOE FUNIFERA GIANT HESPERALOE		#5	56
	HESPERALOE PARVIFLORA SPP. RED YUCCA SPP.		#5	73
	MUHLENBERGIA CAPILARIS 'REGAL MIST' GULF MUHLY		#5	16
	EUPHORBIA TIRUCALLI 'STICKS ON FIRE' FIRE STICKS		#5	25
	PORTULACARIA AFRA MINIMA DWARF ELEPHANT FOOD		#5	220
	YUCCA RIGIDA BLUE YUCCA		#15	30
	CACTI			
	LOPHOCEREUS SCHOTTII F. MONSTROSUS TOTEM POLE		#15	4
	STENOCEREUS THURBERI ORGAN PIPE		#15	29
	GROUNDCOVER			
	BERLANDIERA LYRATA CHOCOLATE FLOWER		#5	152
	EREMOPHILA GLABRA 'MINGENEW GOLD' OUTBACK SUNRISE EMU		#5	52
	LANTANA MONTEVIDENSIS PURPLE TRAILING LANTANA		#5	242
	LANTANA X 'NEW GOLD' NEW GOLD LANTANA		#5	166
	VINE			
	PODRANEA RICASOLIANA PINK TRUMPET VINE		#15	11

TOPDRESS/DUST CONTROL LEGEND

	DECOMPOSED GRANITE 2" MIN. DEPTH. SIZE: **3/4" SCREENED** COLOR: **TBD** **ALL PLANTING AREAS U.O.N.**	+/-21,000 SF
	STONE COBBLE 3" MIN. DEPTH. (Location not shown) SIZE: **SIZE PER CIVIL DRAWINGS** COLOR: **TBD**	+/-2,500 SF
	STONE COBBLE 3" MIN. DEPTH. (Raised Planters) SIZE: **1"-3"** COLOR: **TBD**	+/-6,000 SF
	BERMUDA SOD	+/-3,000 SF

NORTH

SCALE: 30' 60' 1"=30'-0"

811 Know what's below. Call before you dig.

CALL PRIVATE UTILITY LOCATOR TO LOCATE PRIVATE UTILITIES

Plot Date:

SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

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LANDSCAPE ARCHITECT
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SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

SHEET TITLE

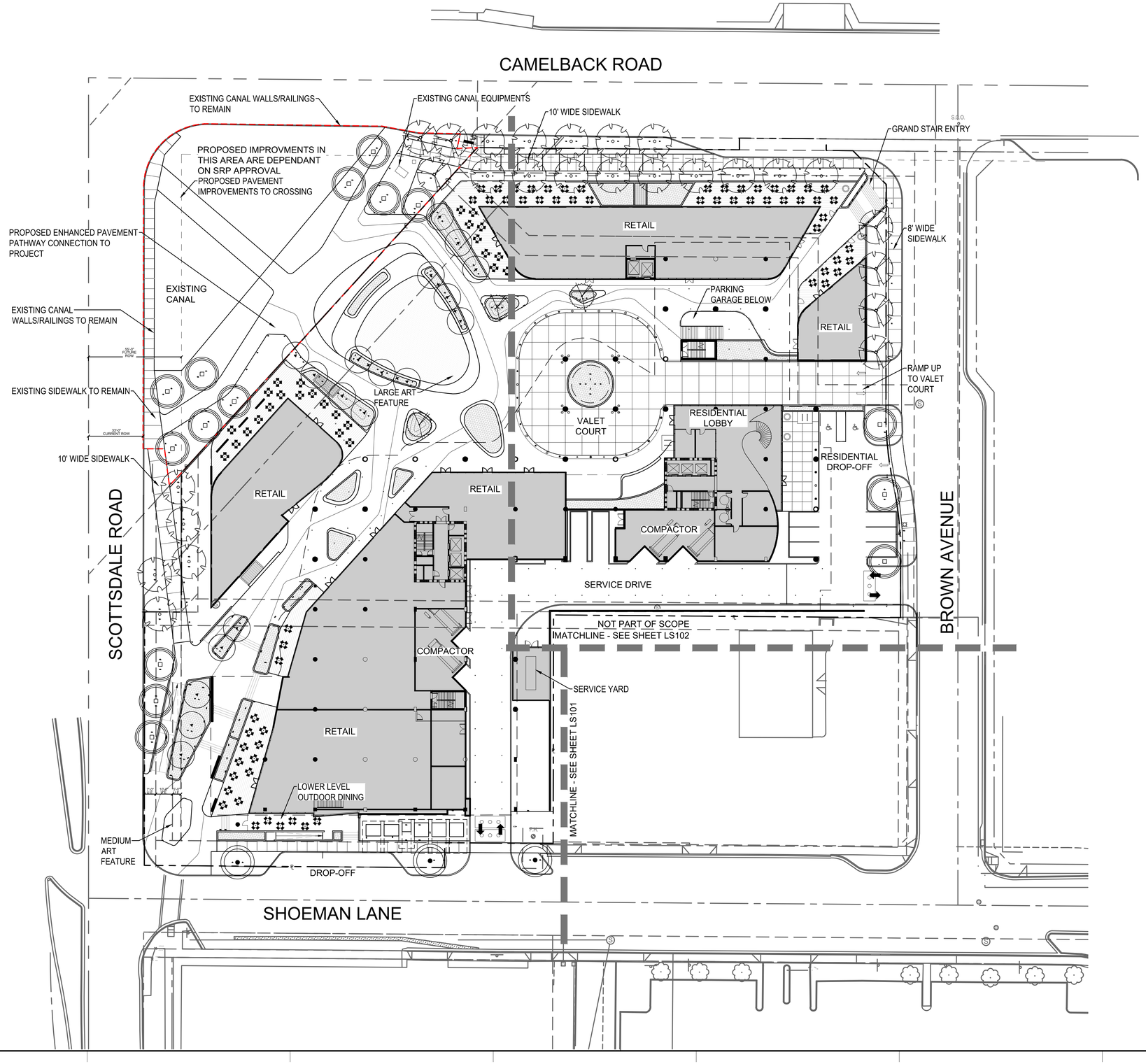
ILLUSTRATIVE OVERALL TREE LAYOUT

PROJECT NUMBER

DRB

SHEET NUMBER

32.1



PLANT LEGEND

SYM.	BOTANICAL NAME (COMMON NAME)	MIN. CAL HT & W	SIZE	QTY.
	TREES			
	BAUHINIA LUNARIOIDES ANACACHO ORCHID TREE	1.00" CAL. 5'H X 4'W	24" BOX SINGLE	3
	CHILOPSIS LINEARIS DESERT WILLOW	MULTI 8'H X 6'W	36" BOX MULTI	18
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	SHRUBS			
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	SIMMONDSIA CHINENSIS 'VISTA' COMPACT JOJOBA		#5	8
	TECOMA STANS 'GOLD STAR' GOLD STAR TECOMA		#5	32
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	PORTULACARIA AFRA MINIMA DWARF ELEPHANT FOOD		#5	220
	YUCCA RIGIDA BLUE YUCCA		#15	30
	CACTI			
	LOPHOCEREUS SCHOTTII F. MONSTROSUS TOTEM POLE		#15	4
	STENOCEREUS THURBERI ORGAN PIPE		#15	29
	GROUNDCOVER			
	BERLANDIERA LYRATA CHOCOLATE FLOWER		#5	152
	EREMOPHILA GLABRA 'MINGENEW GOLD' OUTBACK SUNRISE EMU		#5	52
	LANTANA MONTEVIDENSIS PURPLE TRAILING LANTANA		#5	242
	LANTANA X 'NEW GOLD' NEW GOLD LANTANA		#5	166
	VINE			
	PODRANEA RICASOLIANA PINK TRUMPET VINE		#15	11

TOPDRESS/DUST CONTROL LEGEND

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NORTH

SCALE: 30' 60' 1"=30'-0"

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7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

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LANDSCAPE ARCHITECT
DUSTIN SIMMONS
dsimmons@smithgroup.com

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ISSUED FOR	REV	DATE
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SEALS AND SIGNATURES

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SHEET TITLE

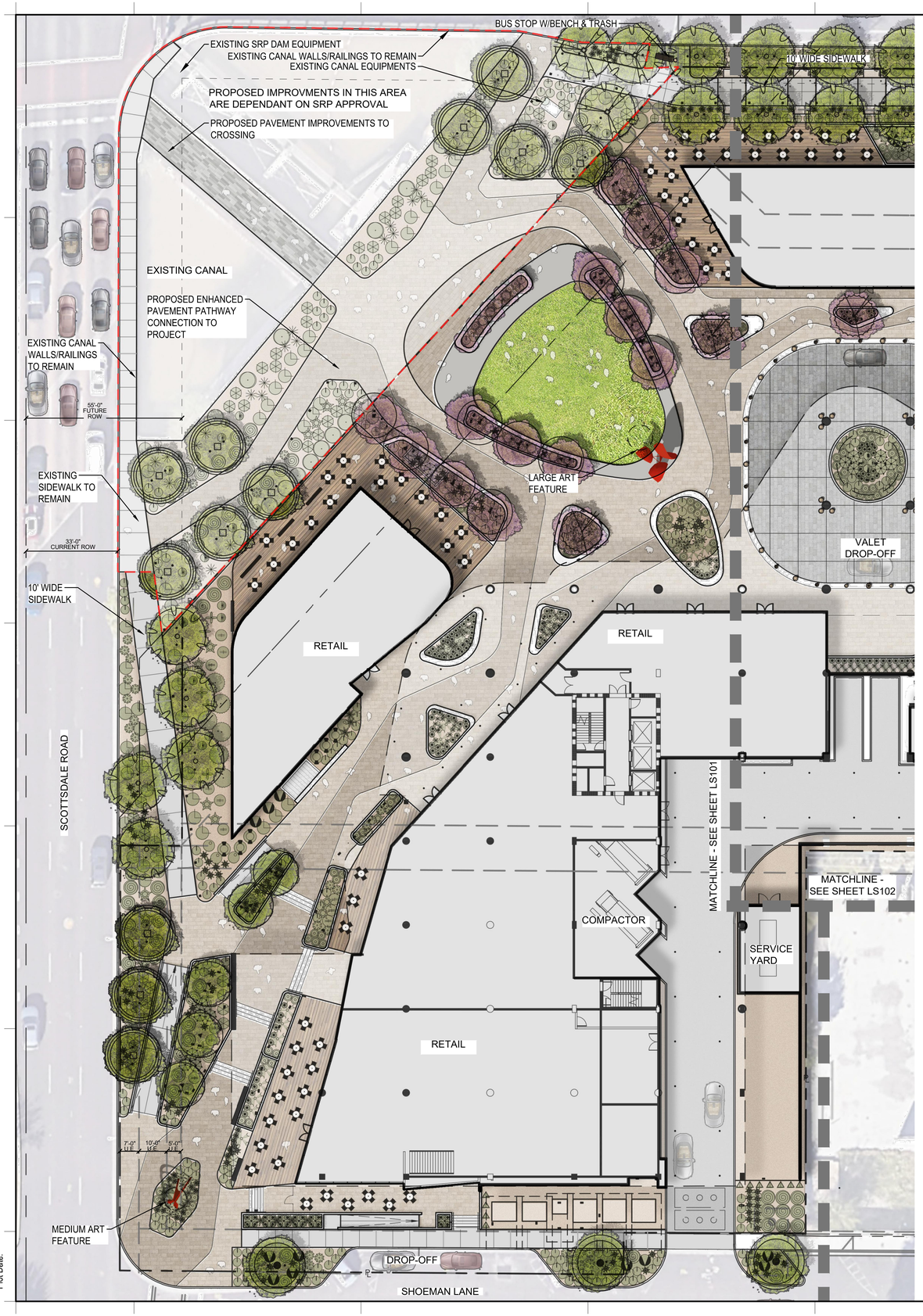
OVERALL TREE LAYOUT

PROJECT NUMBER

DRB

SHEET NUMBER

32.2



PLANT LEGEND

SYM.	BOTANICAL NAME (COMMON NAME)	MIN. CAL HT & W	SIZE	QTY.
	TREES			
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	CACTI			
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	LANTANA X 'NEW GOLD' NEW GOLD LANTANA		#5	166
	VINE			
	PODRANEA RICASOLIANA PINK TRUMPET VINE		#15	11

TOPDRESS/DUST CONTROL LEGEND

	DECOMPOSED GRANITE 2" MIN. DEPTH. SIZE: **3/4" SCREENED** COLOR: **TBD** **ALL PLANTING AREAS U.O.N.**	+/-21,000 SF
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	BERMUDA SOD	+/-3,000 SF

NORTH

SCALE: 1"=20'-0" (20' 40')

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Plot Date:

SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

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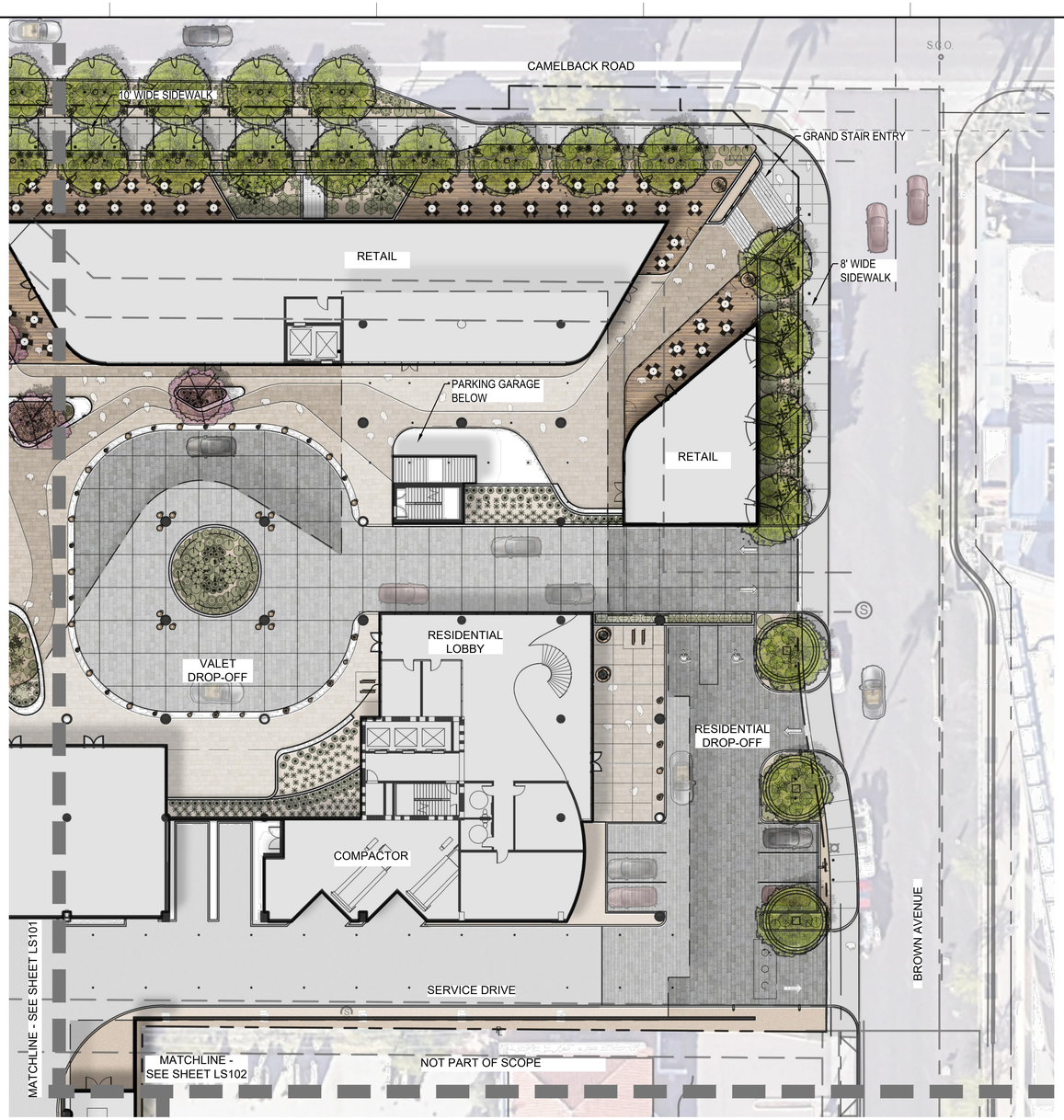
SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

SHEET TITLE

ILLUSTRATIVE LANDSCAPE PLAN

PROJECT NUMBER
DRB 32.3
SHEET NUMBER



PLANT LEGEND

SYM.	BOTANICAL NAME (COMMON NAME)	MIN. CAL HT & W	SIZE	QTY.
	TREES			
	BAUHINIA LUNARIOIDES ANACACHO ORCHID TREE	1.00" CAL. 5'H X 4'W	24" BOX SINGLE	3
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TOPDRESS/DUST CONTROL LEGEND

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NORTH

SCALE: 20' 40' 1"=20'-0"

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SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

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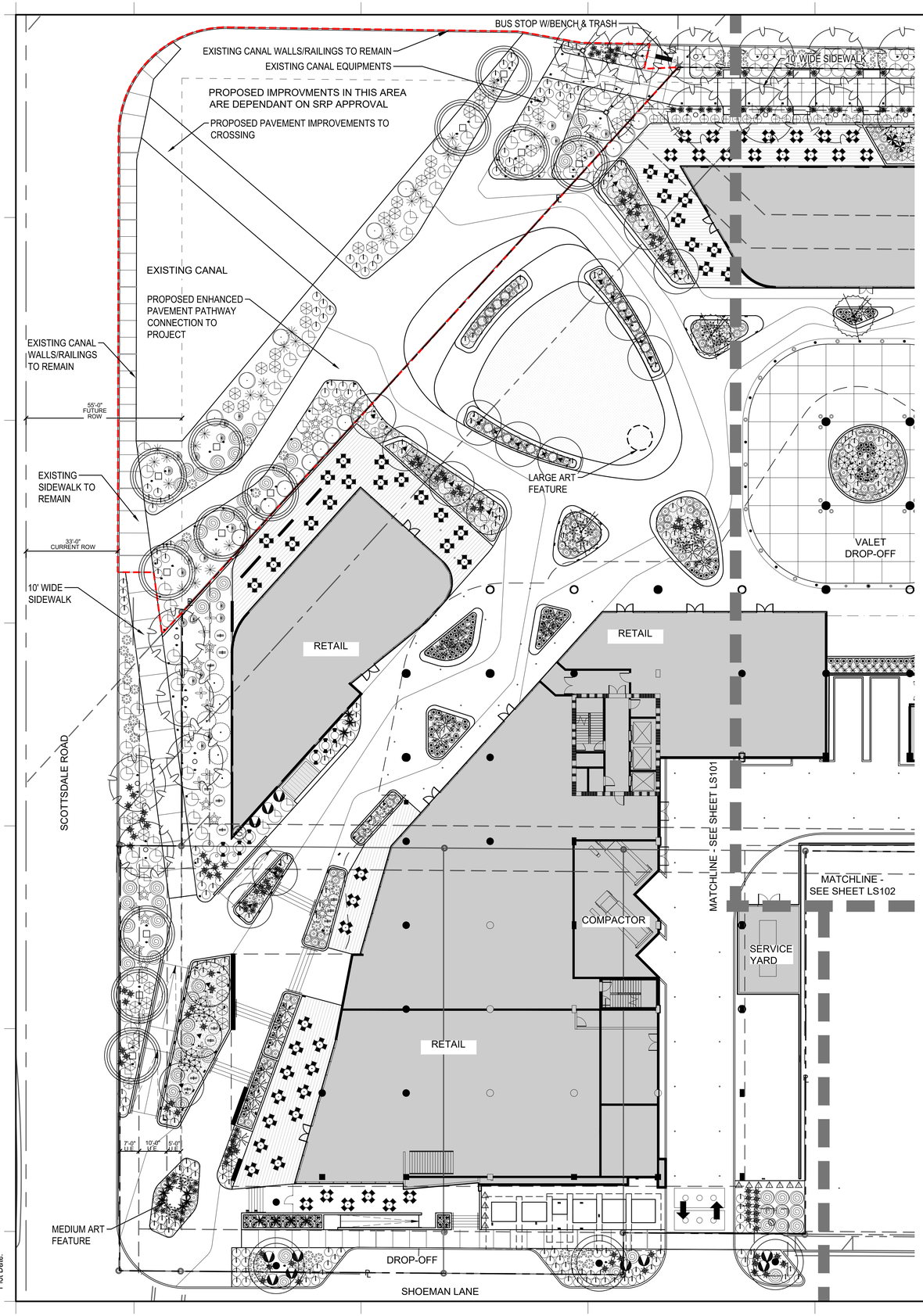
SHEET TITLE

ILLUSTRATIVE LANDSCAPE PLAN

PROJECT NUMBER

DRB 32.4

SHEET NUMBER



Plot Date:

PLANT LEGEND

SYM.	BOTANICAL NAME (COMMON NAME)	MIN. CAL HT & W	SIZE	QTY.
	TREES			
	BAUHINIA LUNARIOIDES ANACACHO ORCHID TREE	1.00" CAL. 5'H X 4'W	24" BOX SINGLE	3
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	PROSOPIS X 'COOPERI' COOPERI MESQUITE	2.50" CAL. 10'H X 8'W	36" BOX HIGH-BREAK	15
	QUERCUS VIRGINIANA HERITAGE LIVE OAK	2.50" CAL. 12'H X 7'W	36" BOX SINGLE	3
	SHRUBS			
	CAESALPINIA MEXICANA MEXICAN BIRD OF PARADISE		#5	6
	CALLIANDRA CALIFORNICA RED FAIRY DUSTER		#5	12
	JUSTICIA SPICIGERA MEXICAN HONEYSUCKLE		#5	73
	LEUCOPHYLLUM LAEVIGATUM CHIHUAHUAN SAGE		#5	7
	RUSSELIA EQUISETIFORMIS CORAL FOUNTAIN		#5	13
	SIMMONDSIA CHINENSIS 'VISTA' COMPACT JOJOBA		#5	8
	TECOMA STANS 'GOLD STAR' GOLD STAR TECOMA		#5	32
	ACCENTS			
	AGAVE COLORATA MESCAL CENIZA		#5	13
	AGAVE DESMETTIANA SMOOTH AGAVE		#5	87
	AGAVE WEBERI WEBER'S AGAVE		#5	29
	AGAVE X 'BLUE GLOW' BLUE GLOW AGAVE		#5	17
	ALOE BARBADENSIS MEDICINAL ALOE		#5	43
	ALOE X 'BLUE ELF' BLUE ELF ALOE		#5	78
	CYCAS REVOLUTA SAGO PALM		#15	18
	DASYLIRION WHEELERI DESERT SPOON		#5	36
	DRACAENA TRIFASCIATA SNAKE PLANT		#7	173
	EUPHORBIA ANTISYPHILITICA CANDELILLA		#5	4
	HESPERALOE FUNIFERA GIANT HESPERALOE		#5	56
	HESPERALOE PARVIFLORA SPP. RED YUCCA SPP.		#5	73
	MUHLENBERGIA CAPILARIS 'REGAL MIST' GULF MUHLY		#5	16
	EUPHORBIA TIRUCALLI 'STICKS ON FIRE' FIRE STICKS		#5	25
	PORTULACARIA AFRA MINIMA DWARF ELEPHANT FOOD		#5	220
	YUCCA RIGIDA BLUE YUCCA		#15	30
	CACTI			
	LOPHOCEREUS SCHOTTII F. MONSTROSUS TOTEM POLE		#15	4
	STENOCEREUS THURBERI ORGAN PIPE		#15	29
	GROUNDCOVER			
	BERLANDIERA LYRATA CHOCOLATE FLOWER		#5	152
	EREMOPHILA GLABRA 'MINGENEW GOLD' OUTBACK SUNRISE EMU		#5	52
	LANTANA MONTEVIDENSIS PURPLE TRAILING LANTANA		#5	242
	LANTANA X 'NEW GOLD' NEW GOLD LANTANA		#5	166
	VINE			
	PODRANEA RICASOLIANA PINK TRUMPET VINE		#15	11

TOPDRESS/DUST CONTROL LEGEND

	DECOMPOSED GRANITE, 2" MIN. DEPTH. SIZE: 3/4" **SCREENED** COLOR: **TBD** **ALL PLANTING AREAS U.O.N.**	+/-21,000 SF
	STONE COBBLE, 3" MIN. DEPTH. (Location not shown) SIZE: **SIZE PER CIVIL DRAWINGS** COLOR: **TBD**	+/-2,500 SF
	STONE COBBLE, 3" MIN. DEPTH. (Raised Planters) SIZE: **1"-3"** COLOR: **TBD**	+/-6,000 SF
	BERMUDA SOD	+/-3,000 SF

NORTH

SCALE: 20' 40' 1"=20'-0"

Know what's **below.** **Call** before you dig.

CALL PRIVATE UTILITY LOCATOR TO LOCATE PRIVATE UTILITIES

SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

SMITHGROUP

455 NORTH THIRD STREET
SUITE 250
PHOENIX, AZ 85004
602.265.2200
smithgroup.com

LANDSCAPE ARCHITECT
DUSTIN SIMMONS
dsimmons@smithgroup.com

SUSTAINABILITY ENGINEERING GROUP
CIVIL ENGINEER
8280 E GELDING DRIVE, SUITE 101
SCOTTSDALE, AZ 85260
480.588.7226

SMITHGROUP
LANDSCAPE ARCHITECT
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PHOENIX, AZ 85004
602.265.2200

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DEVELOPMENT REVIEW SUBMITTAL		03JUL2023

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

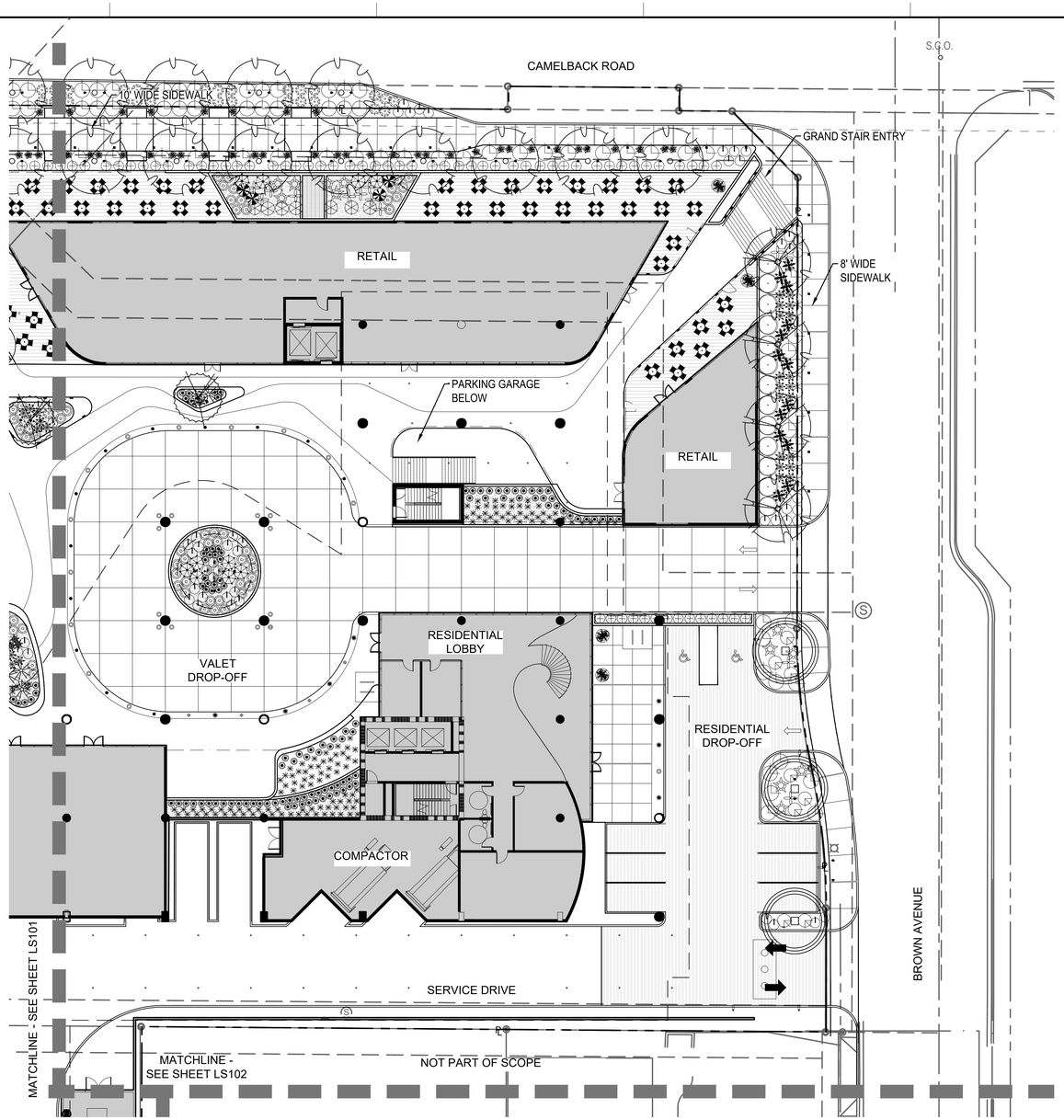
SHEET TITLE

LANDSCAPE PLAN

PROJECT NUMBER

DRB 32.5

SHEET NUMBER



PLANT LEGEND

SYM.	BOTANICAL NAME (COMMON NAME)	MIN. CAL HT & W	SIZE	QTY.
	TREES			
	BAUHINIA LUNARIOIDES ANACACHO ORCHID TREE	1.00" CAL. 5'H X 4'W	24" BOX SINGLE	3
	CHILOPSIS LINEARIS DESERT WILLOW	MULTI 8'H X 6'W	36" BOX MULTI	18
	PARKINSONIA FLORIDA BLUE PALO VERDE	2.25" CAL. 10'H X 6'W	36" BOX HIGH-BREAK	19
	PARKINSONIA X 'DESERT MUSEUM' DESERT MUSEUM PALO VERDE	2.25" CAL. 10'H X 7'W	36" BOX HIGH-BREAK	7
	PROSOPIS X 'COOPERI' COOPERI MESQUITE	2.50" CAL. 10'H X 8'W	36" BOX HIGH-BREAK	15
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	CALLIANDRA CALIFORNICA RED FAIRY DUSTER		#5	12
	JUSTICIA SPICIGERA MEXICAN HONEYSUCKLE		#5	73
	LEUCOPHYLLUM LAEVIGATUM CHIHUAHUAN SAGE		#5	7
	RUSSELIA EQUISETIFORMIS CORAL FOUNTAIN		#5	13
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	TECOMA STANS 'GOLD STAR' GOLD STAR TECOMA		#5	32
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	HESPERALOE FUNIFERA GIANT HESPERALOE		#5	56
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	MUHLENBERGIA CAPILARIS 'REGAL MIST' GULF MUHLY		#5	16
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	PORTULACARIA AFRA MINIMA DWARF ELEPHANT FOOD		#5	220
	YUCCA RIGIDA BLUE YUCCA		#15	30
	CACTI			
	LOPHOCEREUS SCHOTTII F. MONSTROSUS TOTEM POLE		#15	4
	STENOCEREUS THURBERI ORGAN PIPE		#15	29
	GROUNDCOVER			
	BERLANDIERA LYRATA CHOCOLATE FLOWER		#5	152
	EREMOPHILA GLABRA 'MINGENEW GOLD' OUTBACK SUNRISE EMU		#5	52
	LANTANA MONTEVIDENSIS PURPLE TRAILING LANTANA		#5	242
	LANTANA X 'NEW GOLD' NEW GOLD LANTANA		#5	166
	VINE			
	PODRANEA RICASOLIANA PINK TRUMPET VINE		#15	11

TOPDRESS/DUST CONTROL LEGEND

	DECOMPOSED GRANITE, 2" MIN. DEPTH. SIZE: 3/4" **SCREENED** COLOR: **TBD** **ALL PLANTING AREAS U.O.N.**	+/-21,000 SF
	STONE COBBLE, 3" MIN. DEPTH. (Location not shown) SIZE: **SIZE PER CIVIL DRAWINGS** COLOR: **TBD**	+/-2,500 SF
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	BERMUDA SOD	+/-3,000 SF

NORTH

SCALE: 20' 40' 1"=20'-0"

811 Know what's **below.** **Call** before you dig.

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Plot Date:

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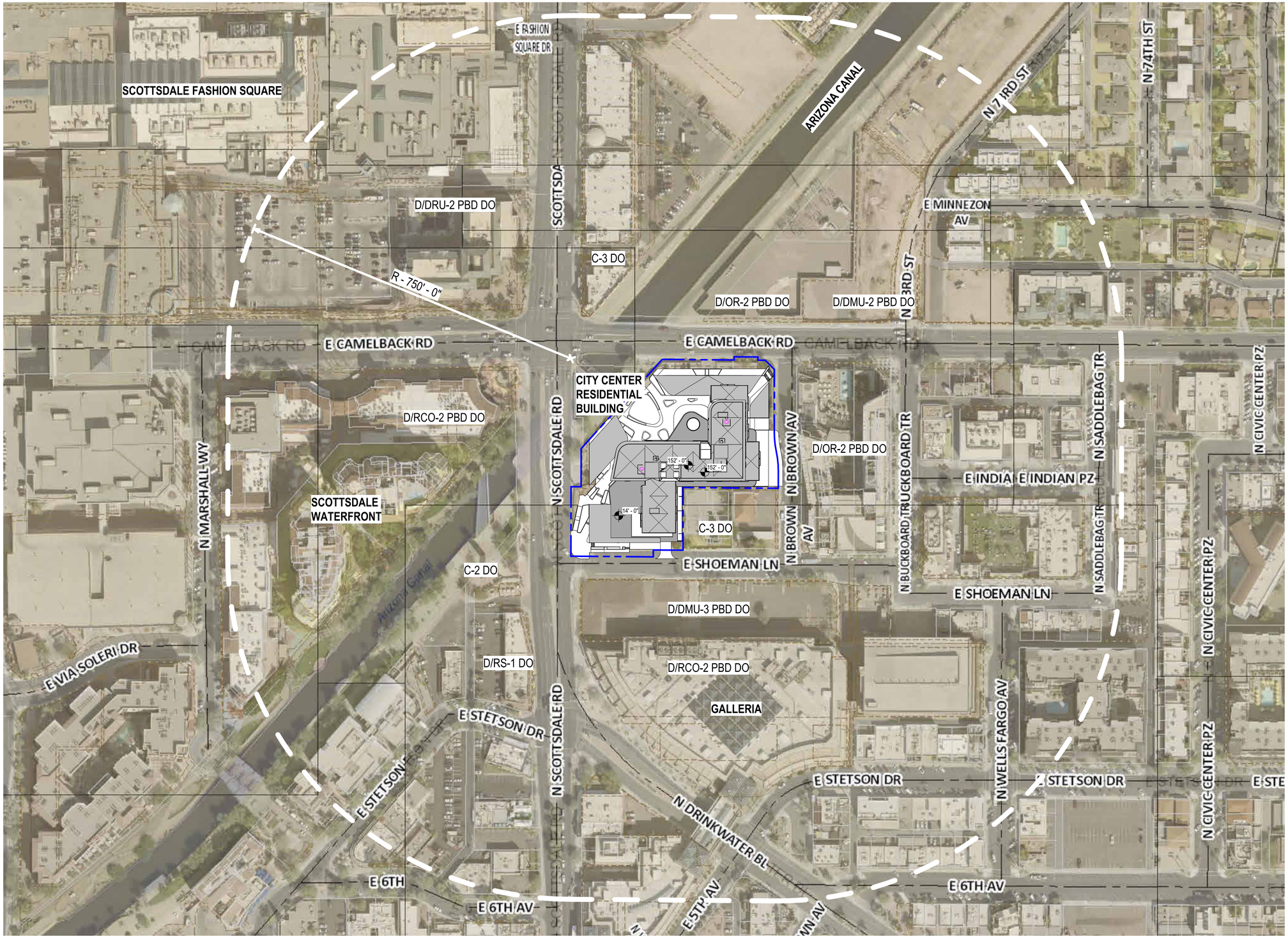
SHEET TITLE

LANDSCAPE PLAN

PROJECT NUMBER

DRB 32.6

SHEET NUMBER



NORTH

1 CONTEXT AERIAL PLAN
SCALE: 1" = 100'-0"

0 100' 200' 300'
GRAPHIC SCALE: 1" = 100' - 0"

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SEALS AND SIGNATURES

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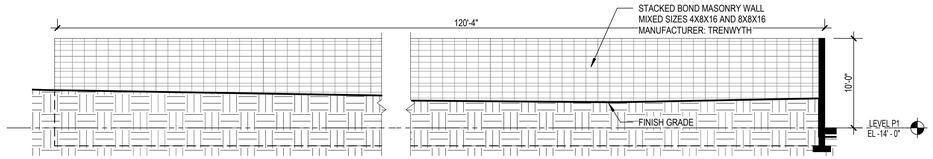
SHEET TITLE

CONTEXT AERIAL PLAN

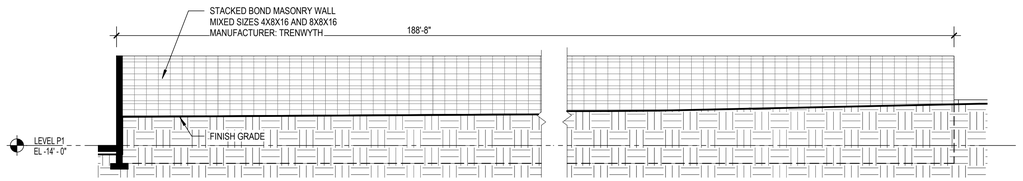
14165.000
PROJECT NUMBER

DRB 23.1
SHEET NUMBER

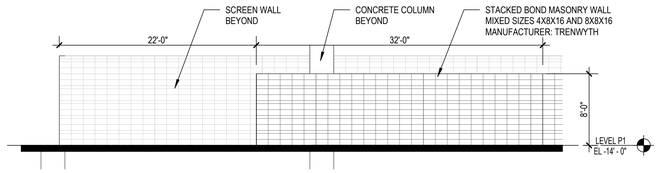
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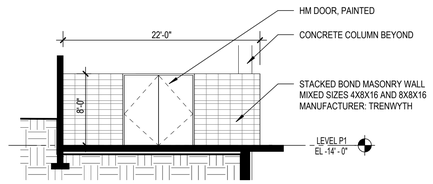
2 NORTH-SOUTH MASONRY SCREEN WALL
SCALE: 1/8" = 1'-0"



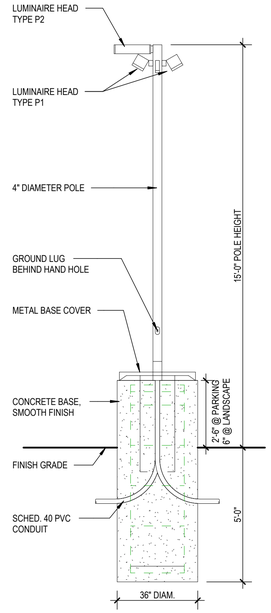
3 EAST-WEST MASONRY SCREEN WALL
SCALE: 1/8" = 1'-0"



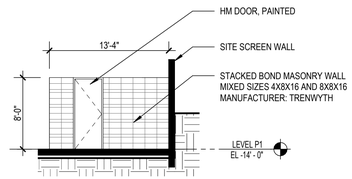
5 GENERATOR SIDE WALL - DRB
SCALE: 1/8" = 1'-0"



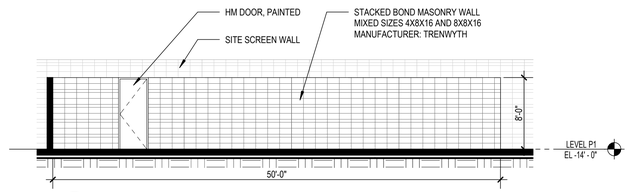
4 GENERATOR FRONT WALL - DRB
SCALE: 1/8" = 1'-0"



1 SITE POLE BASE DETAIL
SCALE: 3/8" = 1'-0"



7 SES SIDE WALL - DRB
SCALE: 1/8" = 1'-0"



6 SES FRONT WALL - DRB
SCALE: 1/8" = 1'-0"

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CIVIL ENGINEER
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SEALS AND SIGNATURES

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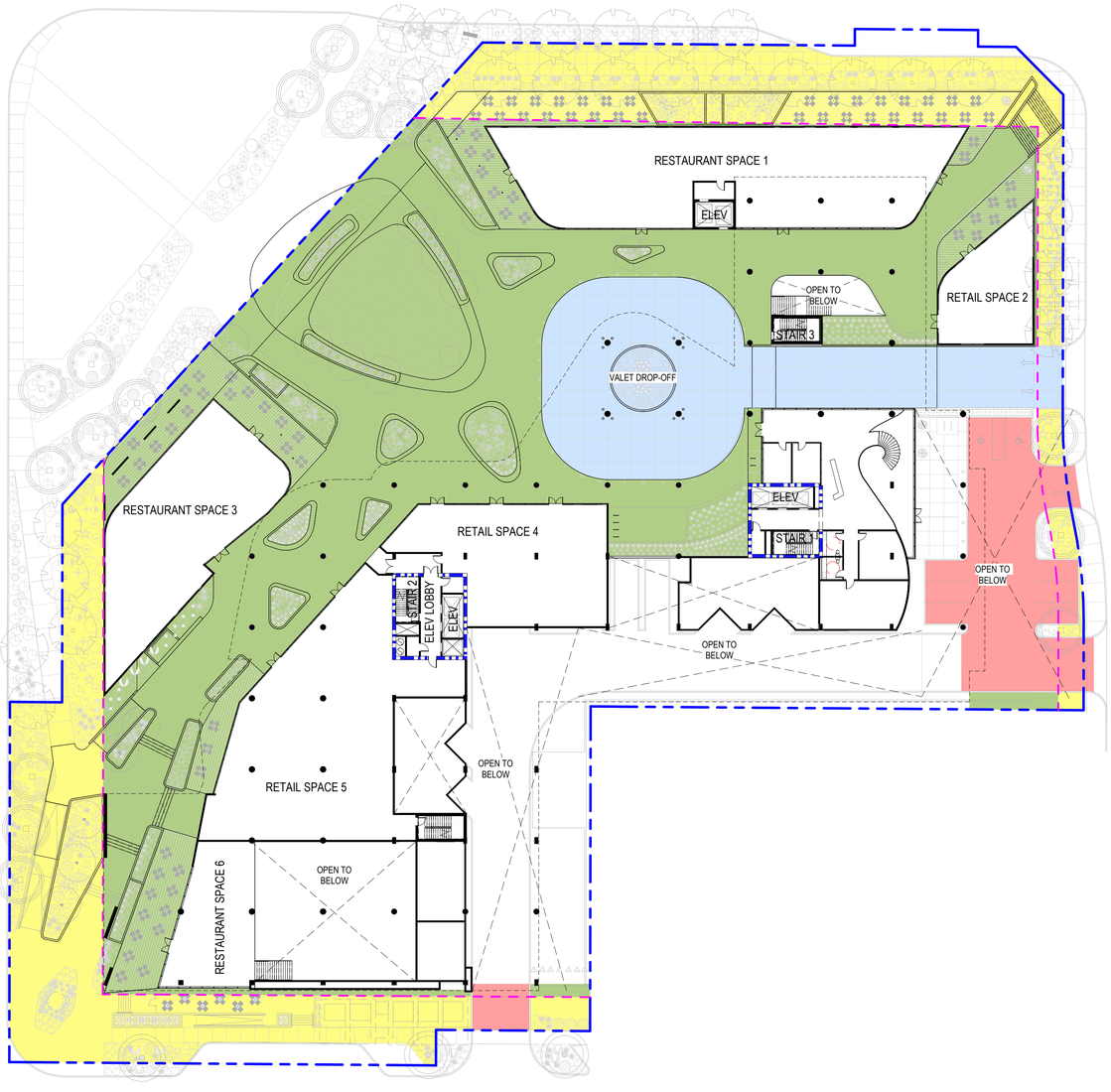
SHEET TITLE

ARCHITECTURAL SITE DETAILS

PROJECT NUMBER 14165.000

SHEET NUMBER DRB 26.1

Plot Date: 7/3/2023 9:02:21 AM START Sheet



NORTH

1 OPEN SPACE PLAN - LEVEL 1
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"

GRAPHIC LEGEND

- OPEN SPACE (BEHIND SETBACK LINE)
- OPEN SPACE (BETWEEN SETBACK AND PROPERTY LINE)
- VEHICULAR AND SERVICE DRIVE (EXCLUDED FROM OPEN SPACE TOTALS)
- VALET COURT AND DRIVE (EXCLUDED FROM OPEN SPACE TOTALS)
- PROPERTY LINE
- SETBACK LINE

OPEN SPACE CALCULATIONS

ADDRESS	7201 E CAMELBACK ROAD SCOTTSDALE, AZ 85251

APN	173-41-004 173-41-005 173-41-006A 173-41-015A 173-41-016A 173-41-017A 173-41-021A

EXISTING ZONING	D/DMU-3, PBD, DO
PROPOSED ZONING	D/DMU-3, PBD, DO
SUB-DISTRICT	DOWNTOWN MULTIPLE USE TYPE 3

TOTAL SITE AREA	3.16 ACRES (NET) 137,836 SF (NET)

Meaningful outdoor space for passive or active use. It includes, but is not limited to, settings for development, recreation areas, landscaping, hardscape, water features, seating areas, plazas, gazebos, sidewalks and trails.

Open space does not include parking areas or parking lot landscaping.

(OPEN SPACE DEFINED PER SCOTTSDALE ZONING CODE)

OPEN SPACE REQ:	15,000 SF	*(PER ZONING CASE 9-NZ-2020, STIPULATION #10)*
OPEN SPACE PROVIDED:	39,129 SF	*(BEHIND SETBACK LINE)*
	20,987 SF	*(BETWEEN SETBACK AND PROPERTY LINE)*
	60,116 TOTAL SF	
OPEN SPACE PERCENTAGE:	43.61% OF NET SITE AREA	

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CIVIL ENGINEER
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SCOTTSDALE, AZ 85260
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SHEET TITLE

OPEN SPACE PLAN

PROJECT NUMBER 14165.000

DRB **27.1**

SHEET NUMBER

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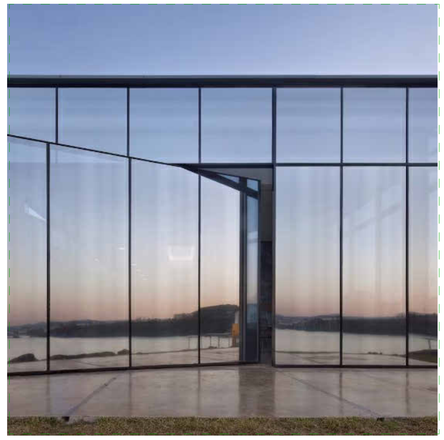
[GLZ-1]
STOREFRONT WINDOW SYSTEM



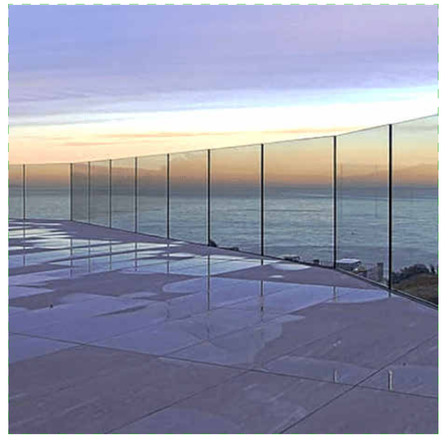
[GLZ-2]
CURTAINWALL GLAZING/SPANDREL



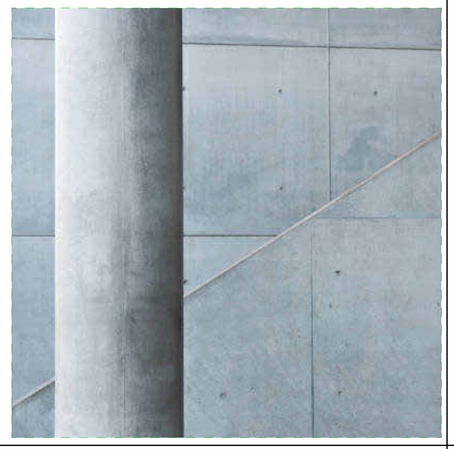
[GLZ-3]
STOREFRONT REFLECTIVE



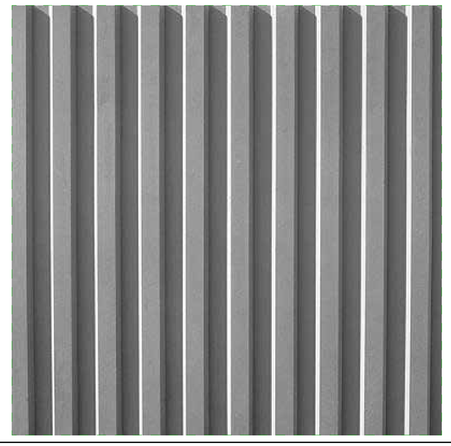
[GLZ-4]
FRAMELESS GLASS GUARDRAIL



[CNC-1]
CAST-IN-PLACE CONCRETE STRUCTURE



[CNC-2]
CAST-IN-PLACE CONCRETE W/ FORM LINER



[MTL-4]
DARK ANODIZED BRONZE

[MTL-3]
MEDIUM ANODIZED BRONZE

[MTL-2]
LIGHT ANODIZED BRONZE

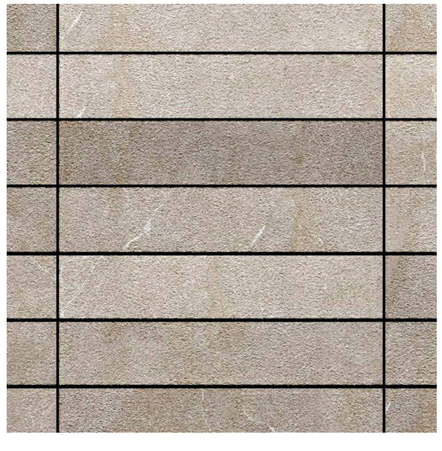
[MTL-1]
METAL PANEL / TRIM
CHAMPAGNE ANODIZED BRONZE



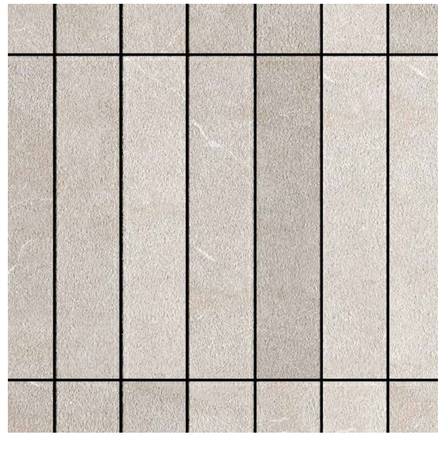
[STN-4]
SANDSTONE/ LIMESTONE RAINSCREEN



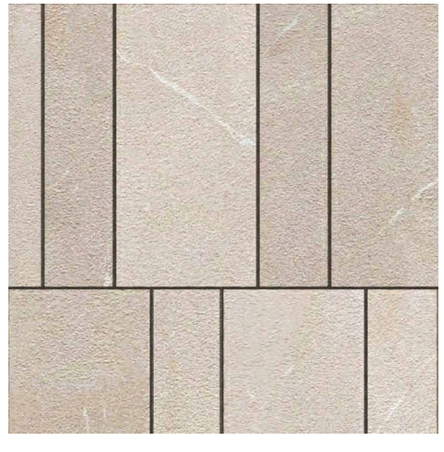
[STN-3]
SANDSTONE/ LIMESTONE RAINSCREEN



[STN-2]
SANDSTONE/ LIMESTONE RAINSCREEN



[STN-1]
SANDSTONE/ LIMESTONE RAINSCREEN



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SHEET TITLE

EXTERIOR BUILDING COLOR AND MATERIAL SAMPLE BOARD

PROJECT NUMBER 14165.000

DRB **73.1**

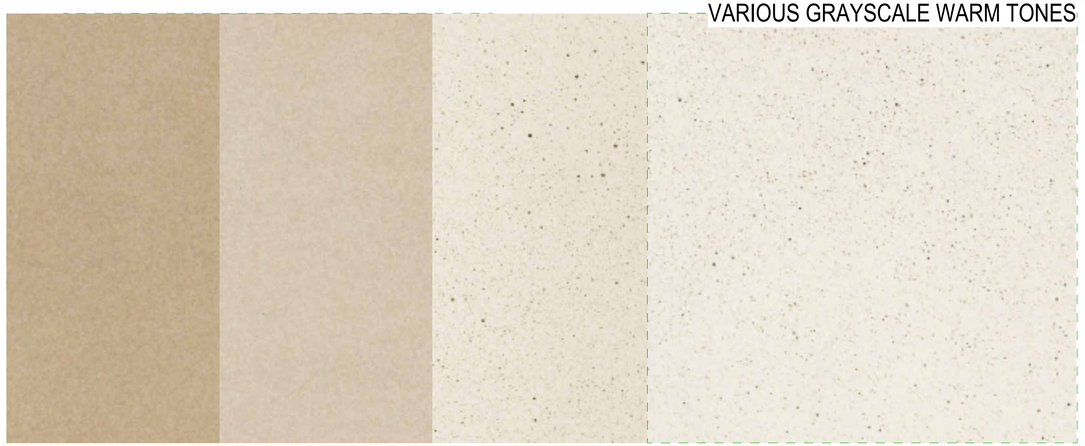
SHEET NUMBER

[MTR-1] ALTERNATE: [GLZ-4]
STEEL GUARDRAIL - PAINT MATCH [MTL-4] OR PAINT WHITE





[CPL-4] **[CPL-3]** **[CPL-2]** **[CPL-1]**
PANELIZED RAINSCREEN
VARIOUS GRAYSCALE WARM TONES



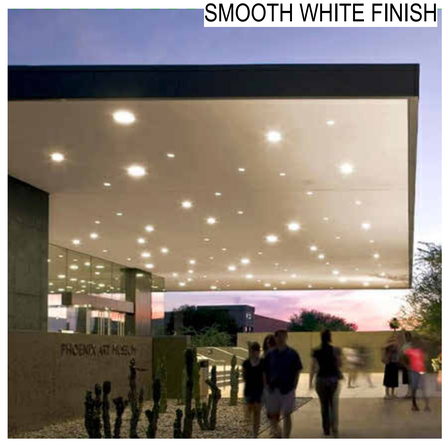
[CMU-1]
GROUND FACE CMU



[WD-1]
WOOD CEILING/SOFFIT



[STC-1] ALTERNATE [WD-1]
SYNTHETIC STUCCO
SMOOTH WHITE FINISH



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LANDSCAPE ARCHITECT
455 N THIRD STREET, SUITE 250
PHOENIX, AZ 85004
602.265.2200

ISSUED FOR	REV	DATE
DEVELOPMENT REVIEW SUBMITTAL		*03JUL2023*

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

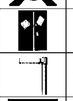
CONCEPTUAL PLANS FOR DRB REVIEW ONLY

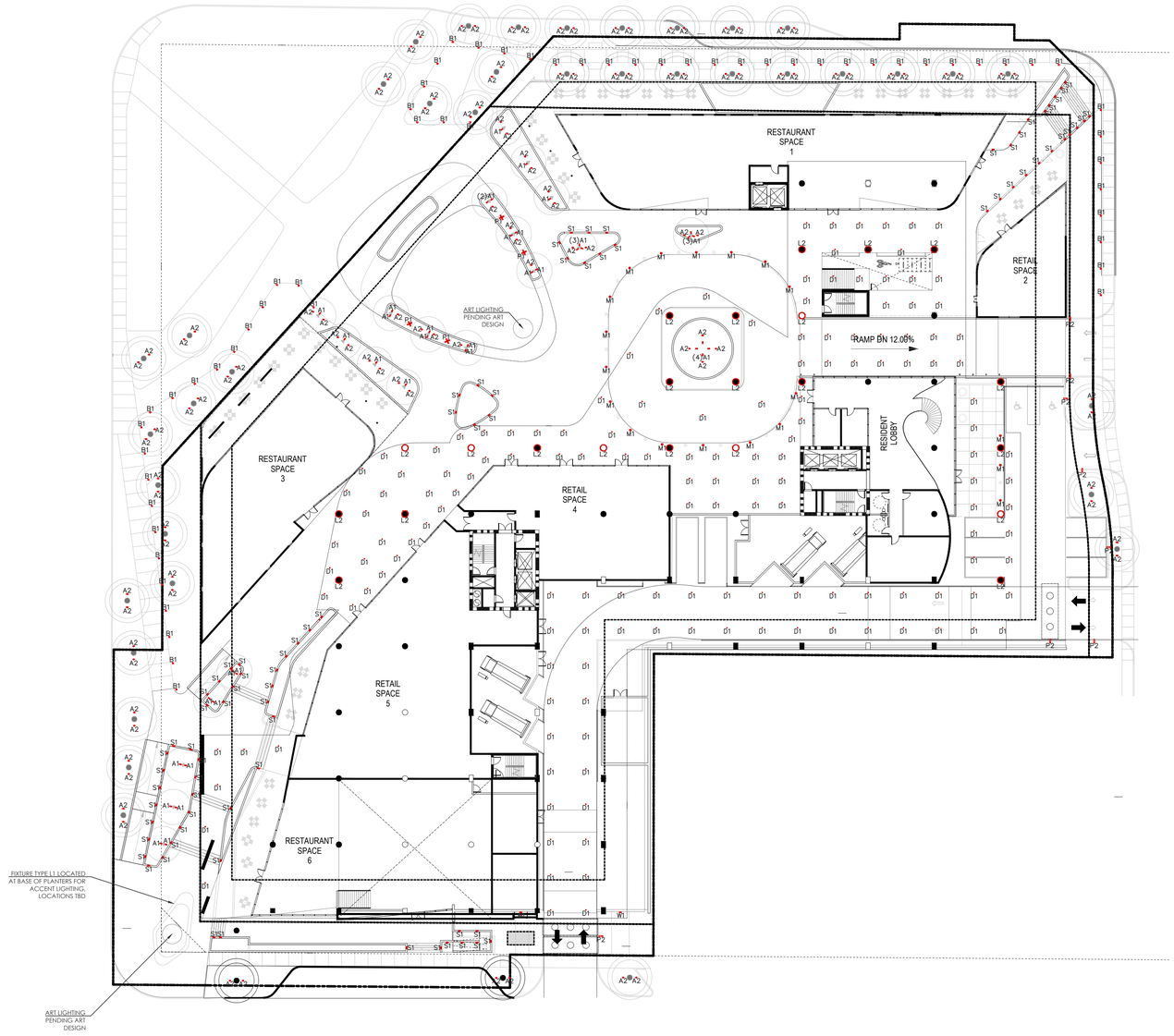
SHEET TITLE

EXTERIOR BUILDING COLOR AND MATERIAL SAMPLE BOARD

14165.000
PROJECT NUMBER

DRB **73.2**
SHEET NUMBER

TYPE	IMAGE	DESCRIPTION	CATALOG NO.	DIMMING TYPE	LAMP, CCT, LUMEN, OPTICS, CRI	FIXT VOLT	FIXT WATT	MOUNT	REMARKS
A1		TREE STRAP MOUNTED ADJUSTABLE LANDSCAPE ACCENT	CED-SCP-SCC-A1	MLV	INTEGRAL LED, 2700K, 397LM, 23°, 80CRI	12V	7	TREE STRAP	VERIFY FINISH. REQUIRES REMOTE LOW VOLTAGE TRANSFORMER.
A2		ADJUSTABLE INGRADE WELL LANDSCAPE ACCENT	CED-SCP-SCC-A2	MLV	INTEGRAL LED, 2700K, 397LM, 23°, 80CRI	12V	7	INGRADE	VERIFY FINISH. REQUIRES REMOTE LOW VOLTAGE TRANSFORMER.
A2 ALT 1		ADJUSTABLE ABOVE GRADE LANDSCAPE ACCENT	CED-SCP-SCC-A2ALT1	MLV	INTEGRAL LED, 2700K, 663LM, 35°, 80CRI	120V	12	PARTIALLY INGRADE	VERIFY FINISH.
B1		BOLLARD	CED-SCP-SCC-B1	0-10V (10%)	INTEGRAL LED, 3000K, 594LM, 360° SYMMETRICAL, 80CRI	120-277V	11.2	FIXING PLATE MOUNTED TO CONCRETE PAD	VERIFY FINISH. PROVIDE CONCRETE PAD FOR MOUNTING.
B1 ALT 1		BOLLARD	CED-SCP-SCC-B1ALT1	0-10V (15%)	INTEGRAL LED, 3000K, 938LM, ACCENT, 90CRI	120-277V	24	FIXING PLATE MOUNTED TO CONCRETE PAD	VERIFY FINISH. PROVIDE CONCRETE PAD FOR MOUNTING.
B1 ALT 2		BOLLARD	CED-SCP-SCC-B1ALT2	0-10V (15%)	INTEGRAL LED, 3000K, 1526LM, ACCENT, 90CRI	120-277V	41.3	FIXING PLATE MOUNTED TO CONCRETE PAD	ALUMINUM GRAY FINISH. PROVIDE CONCRETE PAD FOR MOUNTING.
B1 ALT 3		BOLLARD	CED-SCP-SCC-B1ALT3	0-10V (15%)	INTEGRAL LED, 3000K, 950LM, ACCENT, 90CRI	120-277V	24	FIXING PLATE MOUNTED TO CONCRETE PAD	VERIFY FINISH. PROVIDE CONCRETE PAD FOR MOUNTING.
D1		ROUND RECESSED DEEP REGRESS LED DOWNLIGHT	CED-SCP-SCC-D1	0-10V (1%)	INTEGRAL LED, 2700K, 2120LM, 25°, 80CRI	120-277V	22	RECESSED	VERIFY FINISH. VERIFY EMERGENCY OPTIONS.
L1		ENCAPSULATED FULL DIFFUSION IP68 TOP BEND LINEAR LED	CED-SCP-SCC-L1	ELV/MLV OR 0-10V	INTEGRAL LED, 2700K, 141LM/FT	24V	1.8W/FT	SURFACE	REQUIRES REMOTE LOW VOLTAGE TRANSFORMER.
L2		FLEXIBLE COVE	CED-SCP-SCC-L2	0-10V (1%)	INTEGRAL LED, 2700K, 2400LM, WALL WASH, 90CRI	120-277V	26	SURFACE	REQUIRES REMOTE TRANSFORMER.
M1		4 WINDOW MARKER LIGHT	CED-SCP-SCC-M1	0-10V	INTEGRAL LED, 3000K, 170LM, 80CRI	120-277V	8	SURFACE	REQUIRES REMOTE TRANSFORMER.
P1		15'-0" ADJUSTABLE 4 HEAD POLE	CED-SCP-SCC-P1	ELV	INTEGRAL LED, 3000K, 950LM, NARROW FLOOD, 90CRI	120-277V	64	15' POLE	VERIFY FINISH PROVIDE CONCRETE PAD FOR MOUNTING.
P2		15'-0" PARKING AREA POLE	CED-SCP-SCC-P2	0-10V (15%)	INTEGRAL LED, 3000K, 3885LM, TYPE 2, 70CRI	120-277V	46.5	15' POLE	GRAY FINISH. PROVIDE CONCRETE PAD FOR MOUNTING.
P2 ALT 1		PARKING AREA POLE	CED-SCP-SCC-P2ALT1	0-10V (10%)	INTEGRAL LED, 3000K, 4320LM, TYPE 2, 70CRI	120-277V	33	15' POLE	GRAY FINISH. PROVIDE CONCRETE PAD FOR MOUNTING.
S1		STEP LIGHT	CED-SCP-SCC-S1	ELV	INTEGRAL LED, 3000K, 491LM, DOWNWARD ASYMMETRIC, 80CRI	120-277V	10	RECESSED	CONCRETE FINISH. REQUIRES REMOTE LOW VOLTAGE TRANSFORMER.
W1		WALL PACK	CED-SCP-SCC-W1	0-10V (10%)	INTEGRAL LED, 3000K, 887LM, DOWN, 90CRI	120-277V	24	SURFACE	MOUNTING HEIGHT 10'-0" AFG. VERIFY FINISH. VERIFY JUNCTION BOX STYLE.
W1 ALT 1		WALL PACK	CED-SCP-SCC-W1ALT1	0-10V	INTEGRAL LED, 3000K, 1890.6LM, Type IV, 80CRI	120-277V	24	SURFACE	VERIFY FINISH.
W1 ALT 2		WALL PACK	CED-SCP-SCC-W1ALT2	0-10V	INTEGRAL LED, 3000K, 985LM, Type II, 80CRI	120-277V	13	SURFACE	VERIFY FINISH.



1 EXTERIOR LIGHTING SITE PLAN
1" = 30'-0"

SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

SMITHGROUP

455 NORTH THIRD STREET
SUITE 250
PHOENIX, AZ 85004
602.265.2200
smithgroup.com

SUSTAINABILITY ENGINEERING GROUP
CIVIL ENGINEER
8280 E GELDING DRIVE, SUITE 101
SCOTTSDALE, AZ 85260
480.588.7226

SMITHGROUP
LANDSCAPE ARCHITECT
455 N THIRD STREET, SUITE 250
PHOENIX, AZ 85004
602.265.2200

CED national accounts Design solutions
LIGHTING DESIGN
22785 SAVI RANCH PARKWAY
YORBA LINDA, CA 92887
562.926.7202

ISSUED FOR	REV	DATE
DEVELOPMENT REVIEW SUBMITTAL		03JUL2023

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

CONCEPTUAL PLANS FOR DRB REVIEW ONLY

SHEET TITLE

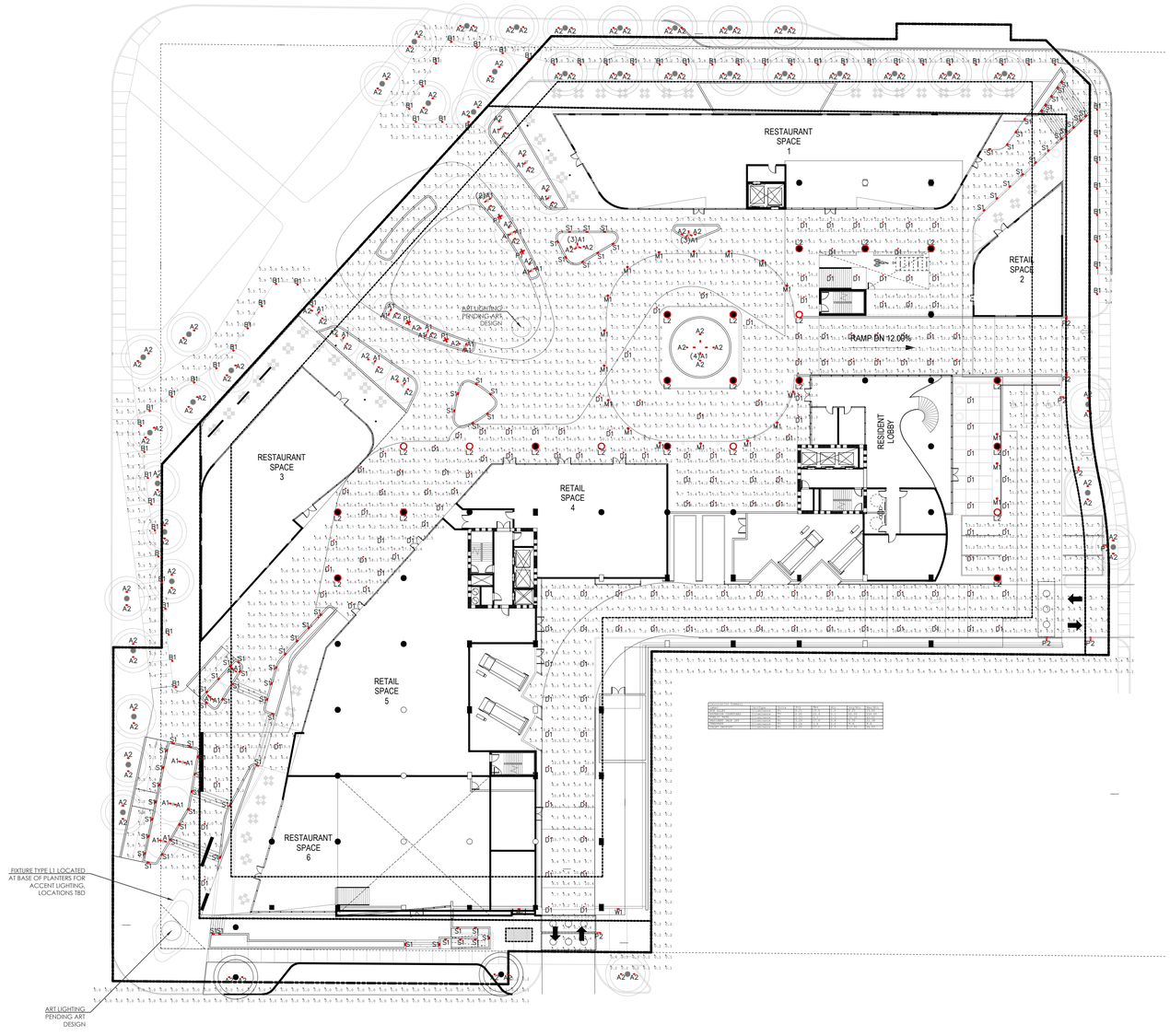
EXTERIOR LIGHTING SITE PLAN

PROJECT NUMBER 14165.000

DRB

SHEET NUMBER 49.1

TYPE	IMAGE	DESCRIPTION	CATALOG NO.	DIMMING TYPE	LAMP, CCT, LUMEN, OPTICS, CRI	FIXT VOLT	FIXT WATT	MOUNT	REMARKS
A1		TREE STRAP MOUNTED ADJUSTABLE LANDSCAPE ACCENT	CED-SCP-SCC-A1	MLV	INTEGRAL LED, 2700K, 397LM, 23°, 80CRI	12V	7	TREE STRAP	VERIFY FINISH. REQUIRES REMOTE LOW VOLTAGE TRANSFORMER.
A2		ADJUSTABLE INGRADE WELL LANDSCAPE ACCENT	CED-SCP-SCC-A2	MLV	INTEGRAL LED, 2700K, 397LM, 23°, 80CRI	12V	7	INGRADE	VERIFY FINISH. REQUIRES REMOTE LOW VOLTAGE TRANSFORMER.
A2 ALT 1		ADJUSTABLE ABOVE GRADE LANDSCAPE ACCENT	CED-SCP-SCC-A2ALT1	MLV	INTEGRAL LED, 2700K, 663LM, 35°, 80CRI	120V	12	PARTIALLY INGRADE	VERIFY FINISH.
B1		BOLLARD	CED-SCP-SCC-B1	0-10V (10%)	INTEGRAL LED, 3000K, 594LM, 360° SYMMETRICAL, 80CRI	120-277V	11.2	FIXING PLATE MOUNTED TO CONCRETE PAD	VERIFY FINISH. PROVIDE CONCRETE PAD FOR MOUNTING.
B1 ALT 1		BOLLARD	CED-SCP-SCC-B1ALT1	0-10V (15%)	INTEGRAL LED, 3000K, 936LM, ACCENT, 90CRI	120-277V	24	FIXING PLATE MOUNTED TO CONCRETE PAD	VERIFY FINISH. PROVIDE CONCRETE PAD FOR MOUNTING.
B1 ALT 2		BOLLARD	CED-SCP-SCC-B1ALT2	0-10V (15%)	INTEGRAL LED, 3000K, 1526LM, ACCENT, 90CRI	120-277V	41.3	FIXING PLATE MOUNTED TO CONCRETE PAD	ALUMINUM GRAY FINISH. PROVIDE CONCRETE PAD FOR MOUNTING.
B1 ALT 3		BOLLARD	CED-SCP-SCC-B1ALT3	0-10V (15%)	INTEGRAL LED, 3000K, 950LM, ACCENT, 90CRI	120-277V	24	FIXING PLATE MOUNTED TO CONCRETE PAD	VERIFY FINISH. PROVIDE CONCRETE PAD FOR MOUNTING.
D1		ROUND RECESSED DEEP REGRESS LED DOWNLIGHT	CED-SCP-SCC-D1	0-10V (1%)	INTEGRAL LED, 2700K, 2120LM, 25°, 80CRI	120-277V	22	RECESSED	VERIFY FINISH. VERIFY EMERGENCY OPTIONS.
L1		ENCAPSULATED FULL DIFFUSION IP69 TOP BEND LINEAR LED	CED-SCP-SCC-L1	ELV/MLV OR 0-10V	INTEGRAL LED, 2700K, 141LM/FT	24V	1.8W/FT	SURFACE	REQUIRES REMOTE LOW VOLTAGE TRANSFORMER.
L2		FLEXIBLE COVE	CED-SCP-SCC-L2	0-10V (1%)	INTEGRAL LED, 2700K, 2400LM, WALL WASH, 90CRI	120-277V	26	SURFACE	REQUIRES REMOTE TRANSFORMER.
M1		4 WINDOW MARKER LIGHT	CED-SCP-SCC-M1	0-10V	INTEGRAL LED, 3000K, 170LM, 80CRI	120-277V	8	SURFACE	REQUIRES REMOTE TRANSFORMER.
P1		15'-0" ADJUSTABLE 4 HEAD POLE	CED-SCP-SCC-P1	ELV	INTEGRAL LED, 3000K, 950LM, NARROW FLOOD, 90CRI	120-277V	64	15' POLE	VERIFY FINISH. PROVIDE CONCRETE PAD FOR MOUNTING.
P2		15'-0" PARKING AREA POLE	CED-SCP-SCC-P2	0-10V (15%)	INTEGRAL LED, 3000K, 3865LM, TYPE 2, 70CRI	120-277V	46.5	15' POLE	GRAY FINISH. PROVIDE CONCRETE PAD FOR MOUNTING.
P2 ALT 1		PARKING AREA POLE	CED-SCP-SCC-P2ALT1	0-10V (10%)	INTEGRAL LED, 3000K, 4300LM, TYPE 2, 70CRI	120-277V	33	15' POLE	GRAY FINISH. PROVIDE CONCRETE PAD FOR MOUNTING.
S1		STEP LIGHT	CED-SCP-SCC-S1	ELV	INTEGRAL LED, 3000K, 491LM, DOWNWARD ASYMMETRIC, 80CRI	120-277V	10	RECESSED	CONCRETE FINISH. REQUIRES REMOTE LOW VOLTAGE TRANSFORMER.
W1		WALL PACK	CED-SCP-SCC-W1	0-10V (10%)	INTEGRAL LED, 3000K, 887LM, DOWN, 90CRI	120-277V	24	SURFACE	MOUNTING HEIGHT 10'-0" AFG. VERIFY FINISH. VERIFY JUNCTION BOX STYLE.
W1 ALT 1		WALL PACK	CED-SCP-SCC-W1ALT1	0-10V	INTEGRAL LED, 3000K, 1890.6LM, Type IV, 80CRI	120-277V	24	SURFACE	VERIFY FINISH.
W1 ALT 2		WALL PACK	CED-SCP-SCC-W1ALT2	0-10V	INTEGRAL LED, 3000K, 985LM, Type II, 80CRI	120-277V	13	SURFACE	VERIFY FINISH.



1 EXTERIOR LIGHTING PHOTOMETRIC ANALYSIS

1" = 30'-0"

SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

SMITHGROUP

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SUSTAINABILITY ENGINEERING GROUP
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CED national accounts Design solutions
LIGHTING DESIGN
22785 SAVI RANCH PARKWAY
YORBA LINDA, CA 92887
562.926.7202

ISSUED FOR	REV	DATE
DEVELOPMENT REVIEW SUBMITTAL		*03JUL2023*

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

CONCEPTUAL PLANS FOR DRB REVIEW ONLY

SHEET TITLE

EXTERIOR LIGHTING PHOTOMETRIC ANALYSIS

PROJECT NUMBER 14165.000

DRB

SHEET NUMBER 50.1

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: A1 | Catalog #: CED-SCP-SCC-A1



*Designed for use with LED transformer. Requires magnetic low voltage dimmer.

**Please see Adjust-a-Lume photometry to determine desired intensity.

***The 3602L cost is already included in the price of UPM, UPM Wall, and Power Canopy.

CATALOG NUMBER LOGIC
Example: B - DS - LED - e64 - SP - A7 - BZP - 12 - 11- A - 3605L
MATERIAL
(Blank) - Aluminum B - Brass S - Stainless Steel
SERIES
DS - Delta Star
SOURCE
LED - with Integral Dimming Driver (20W min. load when dimmed)*
LED TYPE
e64 - 7W LED/2700K e79 - 7W LED/2700K 90CRI
e65 - 7W LED/3000K e80 - 7W LED/3000K 90CRI
e66 - 7W LED/4000K e81 - 7W LED/3500K 80CRI
e74 - 7W LED/Amber
OPTICS
NSP - Narrow Spot (13°) MFL - Medium Flood (23°)
SP - Spot (16°) WFL - Wide Flood (37°)
ADJUST-E-LUME* OUTPUT INTENSITY**
A9 (Standard), A8, A7, A6, A5, A4, A3, A2, A1
FINISH (See page 2 for full-color swatches)
Standard Finishes (BZP, BZW, BLF, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
Also available in RAL Finishes
Brass Finishes (MAC, POL, MIT)
Stainless Steel Finishes (MAC, POL)
LENS TYPE
12 - Soft Focus 13 - Rectilinear
SHIELDING
11 - Honeycomb Baffle
CAP STYLE
A - 45°
B - 90°
C - Flush Lens
D - 45° Less Weephole (Interior use only)
E - 90° Less Weephole (Interior use only)
F - 90° with Flush Lens
OPTION
3605L - Knuckle Mounting System***
MOD OPTIONS
5 - 5 Ft Leads
25 - 25 Ft Leads

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: A2 | Catalog #: CED-SCP-SCC-A2



*Designed for use with LED transformer.

**Please see Adjust-a-Lume photometry to determine desired intensity.

CATALOG NUMBER LOGIC
Example AW - LED - e65 - WFL - A9 - MAC - 12 - 11 - CPC
MATERIAL
Brass
SERIES
AW - Adjustable Well Star
SOURCE
LED - with Integral Dimming Driver (25% min. load when dimmed)*
LED TYPE
e64 - 7W LED/2700K e79 - 7W LED/2700K 90CRI
e65 - 7W LED/3000K e80 - 7W LED/3000K 90CRI
e66 - 7W LED/4000K e81 - 7W LED/3500K 80CRI
e74 - 7W LED/Amber
OPTICS
NSP - Narrow Spot (13°) MFL - Medium Flood (23°)
SP - Spot (16°) WFL - Wide Flood (37°)
ADJUST-E-LUME OUTPUT INTENSITY**
A9 (Standard), A8, A7, A6, A5, A4, A3, A2, A1
FINISH (See page 2 for full-color swatches)
Standard Finishes (BZP, BZW, BLF, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
Also available in RAL Finishes
Brass Finishes (MAC, POL, MIT)
LENS TYPE
12 - Soft Focus 13 - Rectilinear
SHIELDING
11 - Honeycomb Baffle
OPTION
CPC - Concrete Pour Collar
MOD OPTION
25 - 25 Ft Leads

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: A2 ALT 1 | Catalog #: CED-SCP-SCC-A2ALT1



*Only available with e58-e63.

**Only available with e43-e45.

***Mitered cap to 3. Accessory Holder required.

****120V only

CATALOG NUMBER LOGIC
Example B - AG2 - 12 - LED - TR - e81 - SP - SAP - 10/ft - INC - MT - AH
MATERIAL
(Blank) - Aluminum B - Brass S - Stainless Steel
SERIES
AG2 - Above Ground In-grade
HEIGHT ABOVE
12 - 12"
18 - 18"
SOURCE
LED - Chip on Board Technology
HOUSING
TR - Integral Housing
LED TYPE
e58 - 10W LED/2700K e81 - 20W LED/2700K e43 - 34W LED/2700K
e59 - 12W LED/3000K e82 - 20W LED/3000K e44 - 34W LED/3000K
e60 - 12W LED/4000K e83 - 20W LED/4000K e45 - 34W LED/4000K
OPTICS
SP - Spot (10°)* FL - Flood (35°)*
NFL - Narrow Flood (25°)** WFL - Wide Flood (60°)
FINISH (See page 2 for full-color swatches)
Standard Finishes (BZP, BZW, BLF, BLW, WHP, WHW, SAP, VER)
Premium Finish (ABP, AMG, AQW, BCM, BGE, BPP, CAP, CMG, CRM, HUG, NBP, OCP, RMG, SDS, SMG, TXF, WCP, WIR)
Also available in RAL Finishes
Brass Finishes (MAC, POL, MIT)
Stainless Steel Finishes (MAC, POL)
ACCESSORY* **
10 - Spread Lens
11 - Honeycomb Baffle
12 - Soft Focus Lens
13 - Rectilinear Lens
CONTROL TYPE
ELV - Dimming Driver (For use with Electronic Low Voltage Dimmer)****
INC - Dimming Driver (For use with Incandescent Dimmer)****
010 - 0-10V Dimming Driver (Dimming 1 - 100%)
INPUT VOLTAGE
MT - 120-277 VAC Input
OPTIONS
AH - Accessory Holder

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: B1 | Catalog #: CED-SCP-SCC-B1



Collection of exterior bollards for commercial and institutional applications. Available in a round, square design with 3 mounting heights for diverse applications, scale and design.
Robust aluminum alloy construction with stainless steel fasteners, factory sealed diffuser and lenses, with five layers corrosion resistant finish. Low luminance with light source regressed inside the luminaire and shielded from all viewing angles. The wide uniform distribution allows greater luminaire spacing while maintaining good visual comfort and eliminate light pollution.

Luminaire characteristic: **Power input:** 10.1W or 11.2W (system wattage)
Lumens: 2241m to 697lm (for 3000K, 80CRI)
Luminaire efficacy: Up to 65lm/W

Source: White LED (LM-80), 3000K; 80CRI, 4000K; 80CRI

Lumen maintenance: 80% of initial lumens at 79 000 hours (L80)

Optic: 360° asymmetrical optic or 180° asymmetrical optic. Super comfort protective screen and full cut-off version for zero uplight emission.

Material: Body: Extruded aluminum
Base: Die cast aluminum with stainless steel rods
Diffuser: Opal white anti UV polycarbonate
Hardware: Stainless steel screws

Mounting: Install with fixing plate accessory or fasten to ground. Supplied with 3ft (1m) of the power cable minimum.

Electrical: Integral high efficiency dimmable LED driver, rated at 50 000 hours. 120V-277V. 10kV surge protection (differential and common mode).

Dimming: Down to 10%, 0-10V (120-277V).

Finish: Black, Rust brown or Gray (RAL9007) painted finish with a high level of weather and UV resistance. The semi-gloss finish coating is electrostatically applied, durable acrylic enamel baked at high temperatures for superior color retentive finish.

Weight: Small: 7.7lbs (3.5kg)
Medium: 14.1lbs (6.4kg)
Large: 17.6lbs (8.0kg)

Warranty: 5 year limited warranty.

Ratings: IP66, IK10

Certification: cULus listed for wet location.

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: B1 ALT 1 | Catalog #: CED-SCP-SCC-B1ALT1



Ground mounted bollard suitable for walkways and paths, being a valid alternative to a wall mounted illumination.

Luminaire characteristics: **Power input:** 12.5W to 48W
Lumens: 333lm to 938lm (for 3000K, 90CRI)
Luminaire efficacy: Up to 26lm/W

Source: LED module (LM-80 tested)
2700K; 90CRI,
3000K; 90CRI,
4000K; 80CRI,
5000K; 80CRI

Lumen maintenance: 80% of initial lumens at 70 000 hours (L70),(L80)

Optics: Accent light

Mounting: Install with flange accessory or fasten to ground.

Electrical: High efficiency electronic LED driver, rated at 50 000 hours, 120-277V

Dimming: 0-10V (120-277V), down to 15%.

Finish: White, aluminum gray, burnished bronze or anthracite gray painted finish, following a double powder paint in 3 step process:surface treatment containing ceramic nano particles (Bondertite). Epoxy primer paint. Polyester powder paint with high resistance against UV rays and harsh weather conditions.

Weight: Mini look bollard:
SL9206: 6.21lb (2.82kg)
SL9211: 12.7lb (5.78kg)
ST2206: 3.3lb (1.5kg)
ST2211: 7.94lb (3.6kg)
Mini look bollard double:
ST2215: 5.35lb (1.5kg)
ST2220: 7.94lb (3.6kg)
Look bollard:
ST2260: 10.4lb (4.7kg)
ST2261: 15.4lb (7kg)
ST2262: 20.3lb (9.2kg)
Look bollard double:
ST2265: 12lb (5.5kg)
ST2266: 17lb (7.7kg)
ST2267: 22lb (9.9kg)

Warranty: 5 year limited warranty.

Ratings: IP65, IK08

Certification: cULus listed for wet location

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: B2 ALT 2 | Catalog #: CED-SCP-SCC-B1ALT2



Ground mounted bollard suitable for walkways and paths, being a valid alternative to a wall recessed illumination.

Luminaire characteristics: **Power input:** 41.3W
Lumens: 1528lm (for 3000K 90CRI)
Luminaire efficacy: Up to 38lm/w

Source: LED Module(LM-80 tested)
2700K; 90CRI,
3000K; 90CRI,
4000K; 90CRI,
80% of initial lumens at 70 000 hours (L80),(LM-79)

Lumen maintenance:

Optics: Accent light

Material: Body: Die-cast and extruded aluminum
Diffuser: Clear reeded polycarbonate
Hardware: Stainless steel screws and silicone gaskets

Mounting: Install with flange accessory or fasten to ground

Electrical: High efficiency electronic LED driver. Rated 50 000 hours, 120V-277V

Dimming: 0-10V (120-277V), down to 15%.

Finish: Aluminum gray

Weight: S5334 7.6 kg
S5339 10.8 kg

Warranty: 5 year limited warranty

Ratings: IP65, IK10

Certification: cULus listed for wet location.

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: B1 ALT 3 | Catalog #: CED-SCP-SCC-B1ALT3



Ground mounted bollard suitable for walkways and paths, being a valid alternative to a wall mounted illumination.

Luminaire characteristics: **Power input:** 13.5W or 24W
Lumens: 485lm to 950lm (for 3000K, 90CRI)
Luminaire efficacy: Up to 39lm/W

Source: LED module (LM-80 tested)
2700K; 90CRI,
3000K; 90CRI,
4000K; 80CRI,
80% of initial lumens at 70 000 hours (L80),(LM79)

Lumen maintenance:

Optics: Accent light.

Material: Body: Die-cast aluminum
Diffuser: Clear tempered glass. Methacrylate concentrating lens combined with a narrow beam shutter is used to achieve a blade of light effect.
Hardware: Stainless steel screws and silicone gaskets

Electrical: Universal high efficiency electronic LED driver rated at 50 000 hours, 120-277V.

Dimming: Optional 0-10V (120-277V), down to 10%.

Finish: White, black, aluminum gray and burnished bronze. White and burnished bronze available with teak wood accent.

Weight S7236: 2.43lb (1.1kg)
S7241: 8.39lb (2.9kg)
SL9236: 2.43lb (1.1kg)
SL9241: 6.39lb (2.9kg)
S7245: 8.16lb (3.7kg)
S7246: 13.23lb (6kg)

Warranty: 5 year limited warranty.

Ratings: IP54, IK06

Certification: cULus listed for wet location

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: D1 | Catalog #: CED-SCP-SCC-D1



20°- 50° BEAM (Note: Specifications are subject to change without notice)			
5mm COB PERFORMANCE DATA			
LED LIGHT ENGINE	NOMINAL DELIVERED LUMENS	SYSTEM WATTAGE	
10LM	920LM @30K/80CRI	9W	
15LM	1340LM @30K/80CRI	13W	
20LM	1740LM @30K/80CRI	17W	
25LM	2120LM @30K/80CRI	22W	
30LM	2550LM @30K/80CRI	27W	
35LM	3050LM @30K/80CRI	34W	
40LM	3420LM @30K/80CRI	40W	
10LM	780LM @30K/90CRI	9W	
15LM	1140LM @30K/90CRI	13W	
20LM	1430LM @30K/90CRI	17W	
25LM	1800LM @30K/90CRI	22W	
30LM	2370LM @30K/90CRI	27W	
35LM	2600LM @30K/90CRI	34W	
40LM	2910LM @30K/90CRI	40W	
Notes	Delivered lumens based on 360 optic with no lens, (see page 2)		

35° BEAM (Note: Specifications are subject to change without notice)		
5mm COB PERFORMANCE DATA		
LED LIGHT ENGINE	NOMINAL DELIVERED LUMENS	SYSTEM WATTAGE
10LM	1030LM @30K/80CRI	11W
15LM	1450LM @30K/80CRI	16W
20LM	1850LM @30K/80CRI	21W
10LM	850LM @30K/90CRI	11W
15LM	1240LM @30K/90CRI	16W
20LM	1570LM @30K/90CRI	21W
Notes	Delivered lumens based on 110 optic with no lens, (see page 2)	

9.9° BEAM (Note: Specifications are subject to change without notice)		
4.5mm COB PERFORMANCE DATA		
LED LIGHT ENGINE	NOMINAL DELIVERED LUMENS	SYSTEM WATTAGE
10LM	1210LM @30K/80CRI	12.5W
10LM	1030LM @30K/90CRI	12.5W
Notes	Delivered lumens based on 60 optic with no lens, (see page 2)	

NSF AT DF PR HB

Trim | Trimless | Trimless Millwork

FEATURES
- Quiet ceiling achieved through 2.3° deep regress
- Superior 38.5° cut off angle
- IP65
- 0° - 90° optical beam control
- Multiple mounting, glare control options, trims, and finishes available

DIMMING AND CONTROLS
- eldoLED flicker free 0-10V dimming to 0% and 1%
- eldoLED flicker free DALI dimming to 0% and 1%
- DMX dim to zero
- Lutron Hi-lume 2-Wire (Triac and Eco System) dimming to 0.5% and 1%
- Leading & trailing edge (TRIAC/ELV) dimming to 1%
- Casambi bluetooth dimming to 0.1%
- 1% light control interface dimming to 0%

LED
- 90 CRI/ 80CRI + 2-step MacAdam Ellipse, Lumen Maintenance: L_{70} > 60,000 hrs
- 90 CRI/ 80CRI + 2-step MacAdam Ellipse, Lumen Maintenance: L_{70} > 50,000 hrs

LISTING
- cULus Listed to UL8750 & UL2108; c93, Listed to CSA C22.2 #250.0
- IP65 with lens - Suitable for wet locations with lens - Suitable for damp locations without lens
- Non-conductive, dead-front construction (Shower Approved)
- Made in the USA - meets the requirements of the Buy American provision within the ARRA
- NSF/ANSI 2 with lens (Non-Food and Splash Zones)
- 5 Year Limited warranty

CONSTRUCTION
- Lexan® (PC) highly resistant to impact and heat (240°F)
- Optional material for wireless BLE signal connectivity
- Shatter proof acrylic bezel lens
- Electrocoated 16-gauge cold-rolled steel construction
- Accommodates ceiling thickness from 1/8" to 1-5/8

ELECTRICAL
- 120V only Triac/ELV, 120V-277V
- Power factory ≥ 0.9
- 2kV driver input surge protection
- Remote emergency test switch
- 7W, 90W (TCS CEC) and 12W CM 90min battery
- Max. ambient installation temperature 95°F (35°C)

FIXTURE HEIGHT

TRIMMED | TRIMLESS | MILLWORK

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

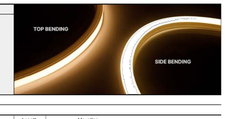
Type: L1 | Catalog #: CED-SCP-SCC-L1

Linear LED Lighting

Full diffusion, precision light quality, and physical durability for reliably beautiful lighting. Suitable for every application, including indoor and outdoor, submerged in water, and in extreme weather conditions. Buy American Act compliant and Made in the USA.

FEATURES

- Objectively superior CRI, Gamut, and Fidelity
- Seamless end-to-end mounting for limitless linear runs
- Top-bending and side-bending options with multiple output levels
- Stabilized for UV for outdoor use
- IP69 for submersible applications
- UL676 listed for pools, spas, saunas and steam rooms
- NSF component approved



ORDERING CODES

Fixtures built to order

Diode LED	Voltage	Bend Style/Model	CCT	Length	Mounting
0X					
	24V	TE-ATX-130 (Top Bend)	24 (2400K)	06 (0600MM)	Length (in.) (2 - 192 in.)	WMC (Wall Mounting Clip)	WMM (Wall Management Mounting)
		SE-ATX-250 (Side Bend)	27 (2700K)	40 (4000MM)	SCC (90° Clip)	WTCH (Mounting Channel)
		TE-ATX-400 (Top Bend)	30 (3000K)		SPCC (Same Channel)	MTCL (Mounting Clip)

	24V-TE-ATX-130	24V-SE-ATX-250	24V-TE-ATX-400
Voltage	24V	24V	24V
Wattage	1.8W/ft.	5.6W/ft.	4.6W/ft.
2400K	141lft.	281lft.	382lft.
2700K	141lft.	296lft.	400lft.
Lumens 3000K	123lft.	314lft.	393lft.
3500K	134lft.	320lft.	416lft.
4000K	127lft.	271lft.	432lft.
Max Length, 100% business hour operation	55 feet	33 feet	30 feet
Max Length, Single Point	26.25 feet, Straight Wire Only	16 feet	22 feet, Straight Wire Only
Dimmable	Dim to Dark - see driver options	Dim to Dark - see driver options	Dim to Dark - see driver options
Field Cuttable	No	No	No
Bend Radius	6 in.	8 in.	8 in.
Environment	Outdoor / Wet Location IP69, Sauna	Outdoor / Wet Location IP69, Sauna	Outdoor / Wet Location IP69, Sauna
Ambient Temperature	-4 ~ 122°F (-20 ~ 50°C)	-4 ~ 122°F (-20 ~ 50°C)	-4 ~ 122°F (-20 ~ 50°C)
Ambient Temperature (Sauna)	150°F Max, <35% Humidity	150°F Max, <35% Humidity	150°F Max, <35% Humidity
Ambient Temperature (Deep Cold)	-40°F Min, Luminaire is required to be energized when temperature falls below -4°F	-40°F Min, Luminaire is required to be energized when temperature falls below -4°F	-40°F Min, Luminaire is required to be energized when temperature falls below -4°F
Certifications	UL 2108, UL 676 (with Mounting Channel), cULus	UL 2108, UL 676 (with Mounting Channel), cULus	UL 2108, UL 676 (with Mounting Channel), cULus
Warranty	5 Years, 2 Years Sauna, 2 Years Deep Cold	5 Years, 2 Years Sauna, 2 Years Deep Cold	5 Years, 2 Years Sauna, 2 Years Deep Cold

COLOR VECTOR GRAPHIC

Source | Test Source

BEND OPTIONS

Top Bend | Side Bend

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: L2 | Catalog #: CED-SCP-SCC-L2



S Curve - 15 link

DESCRIPTION

COBRA Linear is a surface mounted modular system in extruded aluminum. It is segmented with two 530 lm LED segments for flexible radius of 24" max. COBRA is offered in 15 different lengths, from 1 segment and 15 segments. They are hard connected for durability and constant-color performance. The COBRA Linear is available in 3 different optics: NSP, SP and WFL for indirect cove illumination, to create a wall grazing effect for columns and curved architectonic surfaces. Mounting accessories included. Optional glare shield, honeycomb louver and color filters are offered. COBRA carries the first 5 Year FIXTURE WARRANTY.

HOUSING
- Anodized extruded aluminum
- Consult factory for custom finishes and lengths

MOUNTING
- Surface mount with U-clips, included.

ELECTRICAL/CONTROLS
- 1 Link to 15 Link at max. 1000mA
- Remote class 2 power supply required
- Maximum 15 Link run per 500W driver
- Series shunt bypass ensures remaining operate if single link failure

LISTING
- cULus Listed to UL2108

LED INFO
- Nichia NVSL219CT SMD LED: 90 CRI: 6DCM = 3-step MacAdam Ellipse, Lumen Maintenance: L_{70} > 50,000 hrs

ORDERING CODE LM-79

SERIES	COBRA	cove light
TYPE	CP1-L CP1-L	cobra flex, standard cobra flex, recessed
LED	SW	static white
SIZE	1 2 3 4 5 6 7 8 9 10 11 12 13 14 15	1 link, 2-1/8", 530 lm delivered 2 link, 4-1/4", 1060 lm delivered 3 link, 6-1/8", 1590 lm delivered 4 link, 8-1/2", 2120 lm delivered 5 link, 10-1/8", 2650 lm delivered 6 link, 13-13/16", 3180 lm delivered 7 link, 15-7/16", 3710 lm delivered 8 link, 16-9/16", 4240 lm delivered 9 link, 21", 4770 lm delivered 10 link, 23-1/8", 5300 lm delivered 11 link, 25-1/16", 5830 lm delivered 12 link, 26-1/8", 6360 lm delivered 13 link, 28-3/16", 6890 lm delivered 14 link, 30-1/16", 7420 lm delivered 15 link, 31-1/4", 7950 lm delivered For additional lumen package, see factory.
CCT	27K 30K 35K 40K 50K	2700K 3000K 3500K 4000K 5000K
CRI	90	90 CRI
LENS OPTION	NSO SPO WFO 1SSUNE	10° lens, CBCP 4,400 per link. (24 LED) 17° lens, CBCP 1,500 per link. (24 LED) 28° lens, CBCP 470 per link. (24 LED) Wall wash lens, 120° x 30° elliptical lens, CBCP 1000 x 100 per link. (24 LED) 1SSUNE
FINISH	BBK WHT GRY BRS	black white gold polished brass
MOUNTING OPTIONS	S	surface mount
ACCESSORIES		See page 3 for details.
DIMMING		See last page for details.

RELATED PRODUCTS

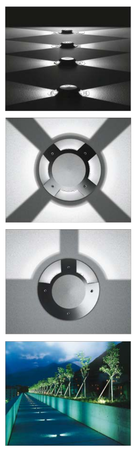


Cobra Linealuce - Rigid Cove

Note:
Used as straight runs for Cobra Flex. See Cobra Linealuce spec sheet

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: M1 | Catalog #: CED-SCP-SCC-M1



Surface mounted luminaire for exterior applications. Four floor grazing distributions to illuminate pathways, sidewalks, greenery or simply to create a pleasing lighting graphic effect. Walk over applications in most material like wood, pavers, or concrete. Unique surface mount design that simplify the installation. Simply fasten the luminaire to the floor with screws, no back box or clearance below grade is required. Drive over applications requires the mounting flange/anchor bolts accessory (to be ordered separately).

Luminaire characteristics: **Power input:** 4W, 6W or 8W (system wattage)
Lumens: 65lm, 130lm or 170lm (for 3000K, 80CRI)
Luminaire efficacy: Up to 21lm/W

Source: White LED (LM-80 tested)
3000K; 80CRI
4000K; 80CRI

Lumen maintenance: 70% of initial lumens at 50 000 hours (L70)
(LM-79 tested)

Optics: Surface grazing effect

Material: Body: Die-cast aluminum
Hardware: Stainless steel screws
Diffuser: Polycarbonate

Mounting: Install with flange for driveway areas. For walk over applications, fixture can be installed directly on surface using screw anchor for concrete or wood. Supplied with 20' (6m) power cable, connections to be made in a separate wiring box (By others).

Electrical: See remote power supply options on page 3.

Dimming: See dimming options on page 3.

Finish: Aluminum gray painted finish, following a double powder paint in 3 step process: surface treatment containing ceramic nano particles (Bondertite). Epoxy primer paint. Polyester powder paint with high resistance against UV rays and harsh weather conditions.

Weight: 11.35lbs (5.15kg). (with flange accessory)

Load capacity: Drive over 8800Lbs (4000kg) at 10km/h. (with flange accessory)

Warranty: 5 year limited warranty.

Ratings: IP67, IK10

Certification: cULus listed for Wet location

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: P1 | Catalog #: CED-SCP-SCC-P1



Collection of pole mounted projector with minimal design for urban lighting. Suitable for a wide range of exterior architectural applications. Exceptional European build quality with high corrosion resistant finish.

Luminaire characteristics: **Power input:** 18W
Lumens: 1000 lm (delivered for 3000k)
Luminaire efficacy: 60 lm/W

Source: White LED (LM-80 Tested)
3000K; 90CRI
4000K; 90CRI

Lumen maintenance: 70% of initial lumens at 50 000 hours (L70)
(LM-79 tested)

Optics: Available in Narrow Spot, Narrow Flood or Elliptical with rotation around 3 axis. See details on page 2.

Material: Body: Die-cast Aluminum
Diffuser: Clear toughened glass
Hardware: Stainless steel screws and silicone gaskets

Mounting: Install on 4" (102mm) diameter pole. Supplied with 20ft of power cable.

Electrical: Integral high efficiency electronic power supply, rated at 50 000 hours, 120-277V.

Finish: White or Aluminum gray. Painted finish follows a double powder paint in 3 step process: surface treatment containing ceramic nano particles (Bondertite). Epoxy primer paint. Polyester powder paint with high resistance against UV rays and harsh weather conditions.

Weight: 4.4 lbs (2 kg)

EPA: 0.25ft² (0.023m²)

Warranty: 5 year limited warranty.

Ratings: IP65, IK06

Certification: cULus listed for wet location.

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: P2 | Catalog #: CED-SCP-SCC-P2



Pole mounted luminaire for urban lighting. Elegant minimal design blends in modern architectural environment. Type 2 light distribution with 0% Uplight. Ideal for area lighting.

Luminaire characteristics: **Power input:** 46.5W or 81.5W
Lumens: 3800 or 7400lm (for 4000K, 70CRI)
Luminaire efficacy: up to 90lm/W

Source: White LED (LM-80 Tested),
3000K; 70CRI,
4000K; 70CRI

Lumen maintenance: 70% of initial lumens at 50 000 hours (L70)
(LM79 tested)

Optics: Street Optic : Type 2 Distribution.
BUG rating : Small B1-U0-G1, Large B2-U0-G2.

Material: Body: Die-cast and extruded aluminum.
Diffuser: 5mm thick clear tempered glass.
Hardware: Stainless steel screws and silicone gaskets.

Mounting: Installs on 4" Ø pole with tenon of 3" Ø x 4¾" H. Supplied with 20' (6m) long power cable. Wall mounted version installs onto a standard 4" octagonal junction box.

Electrical: Integral high efficiency dimmable LED driver, rated 50 000 hours, 120-277V.

Dimming: Down to 15%, 0-10V (120-277V).

Finish: Aluminum gray painted finish, following a double powder paint in 3 step process: surface treatment containing ceramic nano particles (Bondertite). Epoxy primer paint. Polyester powder paint with high resistance against UV rays and harsh weather conditions.

Weight: 14.11 to 17.19lbs (6.4 to 7.8kg).

EPA: Small: 0.78ft² (0.065m²)
Large: 0.97ft² (0.09m²)

Warranty: 5 year limited warranty.

Ratings: IP65, IK09

Certification: cULus listed for wet location.

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: P2 ALT 1 | Catalog #: CED-SCP-SCC-P2ALT1



The STREET lighting system is a perfect solution for urban lighting applications such as parking areas, roadways, parks and other pedestrian areas. The system takes advantage of the latest advancement in LED technology. With a simple design, the STREET is well suited for today's modern environment for new or existing installations.

Luminaire characteristics: **Power input:** 23 to 68W
Lumens: 2950 to 10 390lm (delivered)
Luminaire efficacy: up to 153lm/W

Source: White LED (LM-80 Tested)
3000K; 70CRI
4000K; 70CRI

Lumen maintenance: 80% of initial lumens at 100 000 hours (L80)
(LM79 tested)

Optics: Available in 4 different IESNA distributions: Type IMD, IMD, ISD or IVS.

Material: Optical assembly and frame: Die-cast aluminum
Lens: polymer optic lenses (Opti Smart Lens).
Protective screen: 5mm thick Sodium-calcium tempered sealing glass.

Mounting: Pole or wall mounted using mounting accessories. Pole accessories designed for Ø4" (102mm) pole, or for Ø115" to 3" (48 to 76mm) tenon.
See page 4 for details.

Vibration: 3G Vibration rating (ANSI C136.31)

Electrical: High efficiency electronic power supply, rated at 50 000 hours, 120-277V. Supplied with 10' (3m) power cable.

Dimming: Supplied standard with 0-10V dimmable power supply (down to 10% dimming range).

Operating temperature: -40°F to 122°F (-40°C to 50°C)

Finish: Gray (RAL9007) painted finish with a high level of weather and UV resistance. The semi-gloss finish coating is electrostatically applied, durable acrylic enamel baked at high temperatures for superior color retentive finish.

Weight: 13.3 lbs (6.05 kg)

Warranty: 5 year limited warranty.

Ratings: IP67, IK09

Certification: cULus listed for Wet location

Light Fixture Cutsheets | Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ | Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202

Type: S1 | Catalog #: CED-SCP-SCC-S1

SPECIFICATIONS

3 to 24 Watts
Up to 835 lumens
80 CRI
3000 / 4000 K

HORIZONTAL



SQUARE



LINEAR





SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

SMITHGROUP

455 NORTH THIRD STREET
SUITE 250
PHOENIX, AZ 85004
602.265.2200
smithgroup.com

SUSTAINABILITY ENGINEERING GROUP
CIVIL ENGINEER
8280 E GELDING DRIVE, SUITE 101
SCOTTSDALE, AZ 85260
480.588.7226

SMITHGROUP
LANDSCAPE ARCHITECT
455 N THIRD STREET, SUITE 250
PHOENIX, AZ 85004
602.265.2200

CED national accounts Design solutions
LIGHTING DESIGN
22785 SAVI RANCH PARKWAY
YORBA LINDA, CA 92887
562.926.7202

ISSUED FOR	REV	DATE
DEVELOPMENT REVIEW SUBMITTAL		03JUL2023

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

CONCEPTUAL PLANS FOR DRB REVIEW ONLY

SHEET TITLE

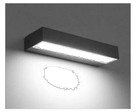
EXTERIOR LIGHTING MANUFACTURER CUT SHEETS

PROJECT NUMBER 14165.000

DRB

SHEET NUMBER 51.1

CED NATIONAL ACCOUNTS Design Solutions Light Fixture Cutsheets	Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ
	Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202
Type: **W1**	Catalog #: CED-SCP-SCC-W1







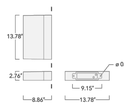


Wall mounted accent light luminaire with direct light distribution that provides ambient light on vertical surfaces. Suitable for exterior applications

Luminaire characteristics:	Power input: 13.5W or 24W (System wattage) 11.7W or 18.6W (Source wattage) Lumens: 389lm to 897lm (for 3000K, 90CRI) Luminaire efficacy: Up to 48lm/W
Source:	LED module (LM-80 tested) 2700K: 90CRI, 3000K: 90CRI, 4000K: 80CRI.
Lumen maintenance:	80% of initial lumens at 70 000 hours (L70)(L880).
Optics:	Accent light. Diffuser: Toughened glass.
Material:	Body: Die-cast aluminum and oiled teak wood. Diffuser: Tempered glass. Mounting plate: Aluminum.
Mounting:	See mounting options on page 4.
Electrical:	High-efficiency electronic LED driver, rated at 50 000 hours, 120-277V.See page 3 for remote LED driver options.
Dimming:	Optional 0-10V (120-277V), down to 10% for integral and remote version. optional LTE (leading and trailing edge), down to 15% for remote version only.
Finish:	White, aluminum gray, burnished bronze or anthracite gray painted finish, following a double powder paint in 3 step process: surface treatment containing ceramic nano particles (Bonderite). Epoxy primer paint. Polyester powder paint with high resistance against UV rays and harsh weather conditions. White and burnished bronze available with teak wood accent.
Weight:	Mini look: 1.87lb (0.85kg) Look: 3.3lb (1.5kg)
Warranty:	5 year limited warranty.
Ratings:	IP65, IK08,IK03 (Look)
Certification:	cULus listed for wet location

CED NATIONAL ACCOUNTS Design Solutions Light Fixture Cutsheets	Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ
	Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202
Type: **W1 ALT 1**	Catalog #: CED-SCP-SCC-W1ALT1

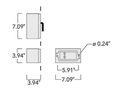




Description
IP66. Class I. IK08. Marine-grade, die-cast aluminum alloy. SCE superior corrosion protection including PCS hardware. Silicone CCG® Controlled Compression Gasket. CAD-optimized optics for superior illumination and glare control. Integral driver. Advanced thermal management protects LEDs while optimizing lumens output. 0-10V Dimming comes standard with luminaire. Luminaire is factory-sealed and does not need to be opened during installation. Luminaire can be mounted for up or down lighting. Specify product with 7 Digit product code – Finish Color. Accessories, such as mounting, optical, and electrical, must be specified separately. Example: XXX-XXXX-9004 (Black) + XXX-XXXX (Accessory 1)

CED NATIONAL ACCOUNTS Design Solutions Light Fixture Cutsheets	Job Name: SCOTTSDALE CITY CENTER - SCOTTSDALE, AZ
	Contact: KRISTIN.DRUM@cednationalaccounts.com, (562) 926-7202
Type: **W1 ALT 2**	Catalog #: CED-SCP-SCC-W1ALT2





Description
Surface-mounted wall luminaire. ADA (American Disabilities Act) Compliant. IP66. Class I. IK08. Marine-grade, die-cast aluminum alloy. SCE superior corrosion protection including PCS hardware. Silicone CCG® Controlled Compression Gasket. Safety glass lens. CAD-optimized optics for superior illumination and glare control. Integral driver. OLCB® One LED Concept. Advanced thermal management protects LEDs while optimizing lumens output. 0-10V Dimming comes standard with luminaire. Luminaire is factory-sealed and does not need to be opened during installation. Luminaire can be mounted for up or down lighting. Suitable for installation on ceiling or wall over 4" recessed junction box. Specify product with 7 Digit product code – Finish Color. Accessories, such as mounting, optical, and electrical, must be specified separately. Example: XXX-XXXX-9004 (Black) + XXX-XXXX (Accessory 1)

SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

SMITHGROUP

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SUITE 250
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SUSTAINABILITY ENGINEERING GROUP
CIVIL ENGINEER
8280 E GELDING DRIVE, SUITE 101
SCOTTSDALE, AZ 85260
480.588.7226

SMITHGROUP
LANDSCAPE ARCHITECT
455 N THIRD STREET, SUITE 250
PHOENIX, AZ 85004
602.265.2200

CED national accounts Design solutions
LIGHTING DESIGN
22785 SAVI RANCH PARKWAY
YORBA LINDA, CA 92887
562.926.7202

ISSUED FOR	REV	DATE
DEVELOPMENT REVIEW SUBMITTAL		*03JUL2023*

SEALS AND SIGNATURES

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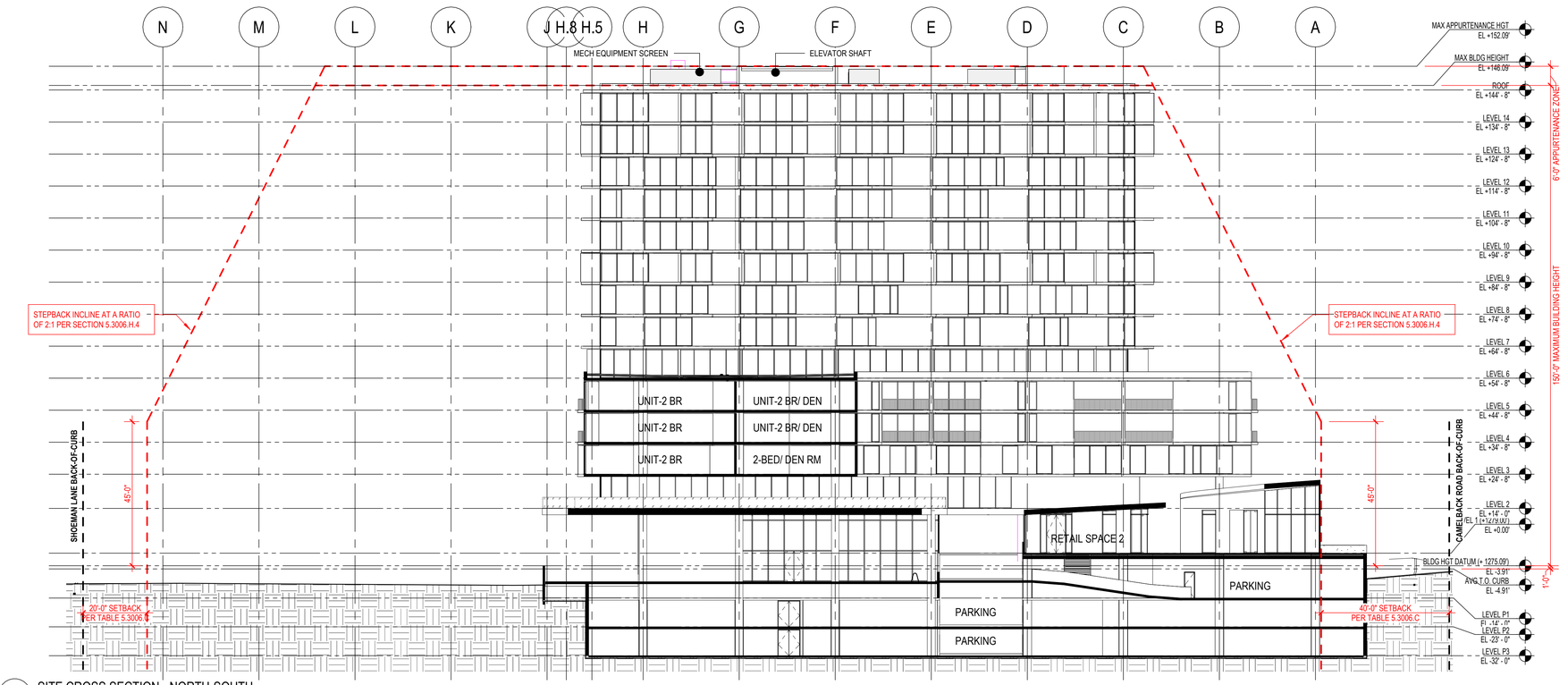
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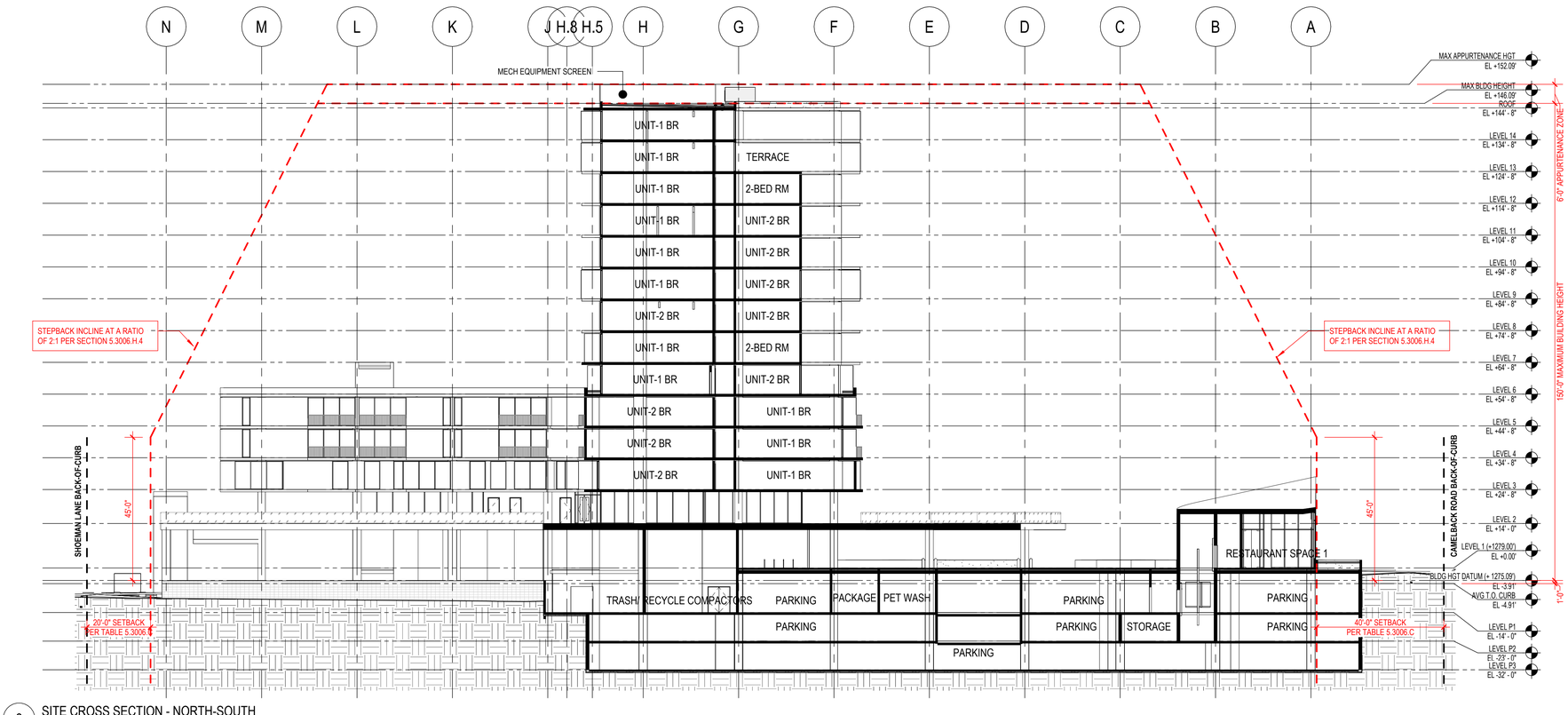
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PROJECT NUMBER 14165.000

SHEET NUMBER DRB **51.2**



1 SITE CROSS SECTION - NORTH-SOUTH
SCALE: 1" = 20'-0"



2 SITE CROSS SECTION - NORTH-SOUTH
SCALE: 1" = 20'-0"

GRAPHIC LEGEND

SHEET KEYNOTES

SCOTTSDALE CITY CENTER
7201 EAST CAMELBACK ROAD
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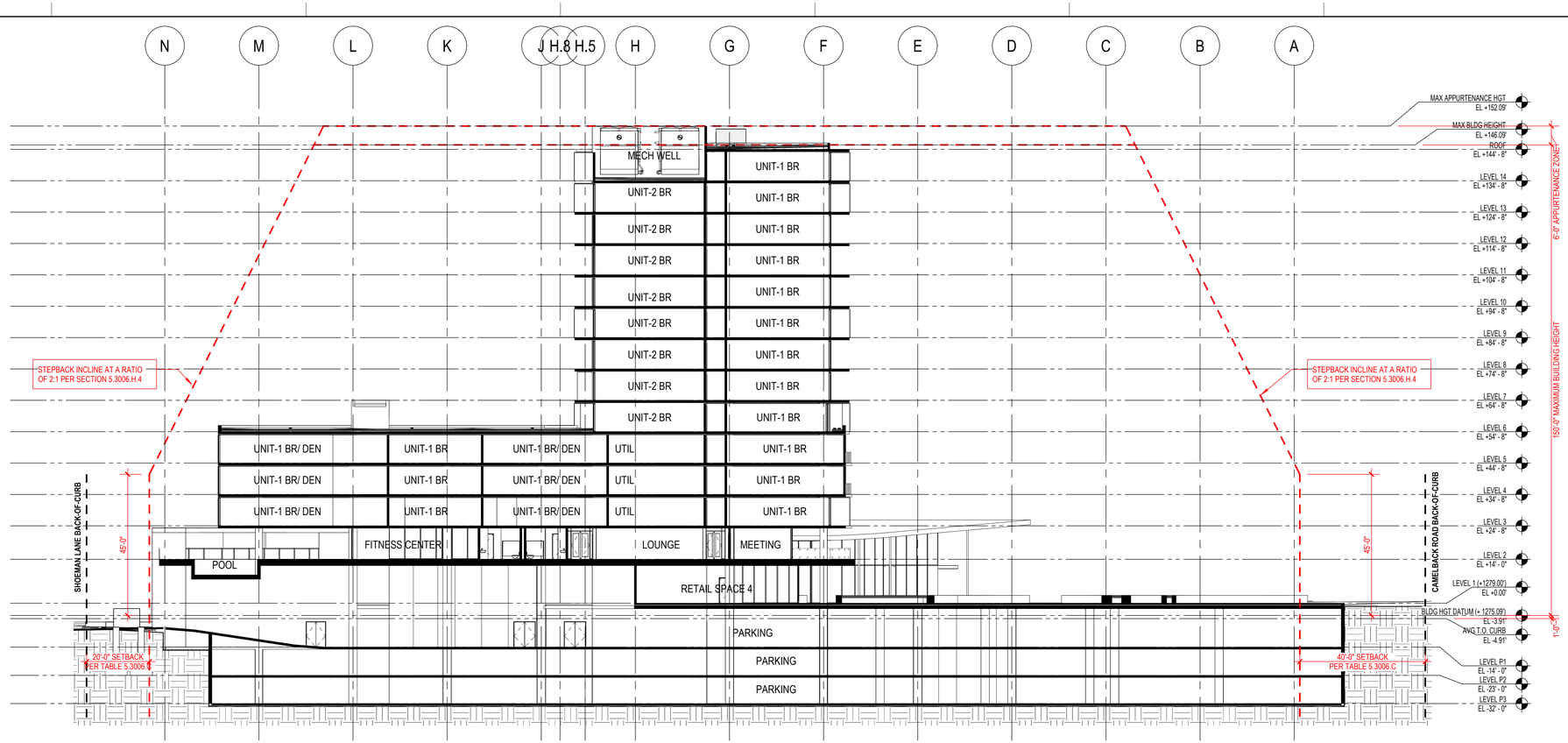
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PROJECT NUMBER 14165.000

DRB **28.1**

SHEET NUMBER

START Sheet
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Plot Date:



1 SITE CROSS SECTION - NORTH-SOUTH
SCALE: 1" = 20'-0"

GRAPHIC LEGEND

SHEET KEYNOTES

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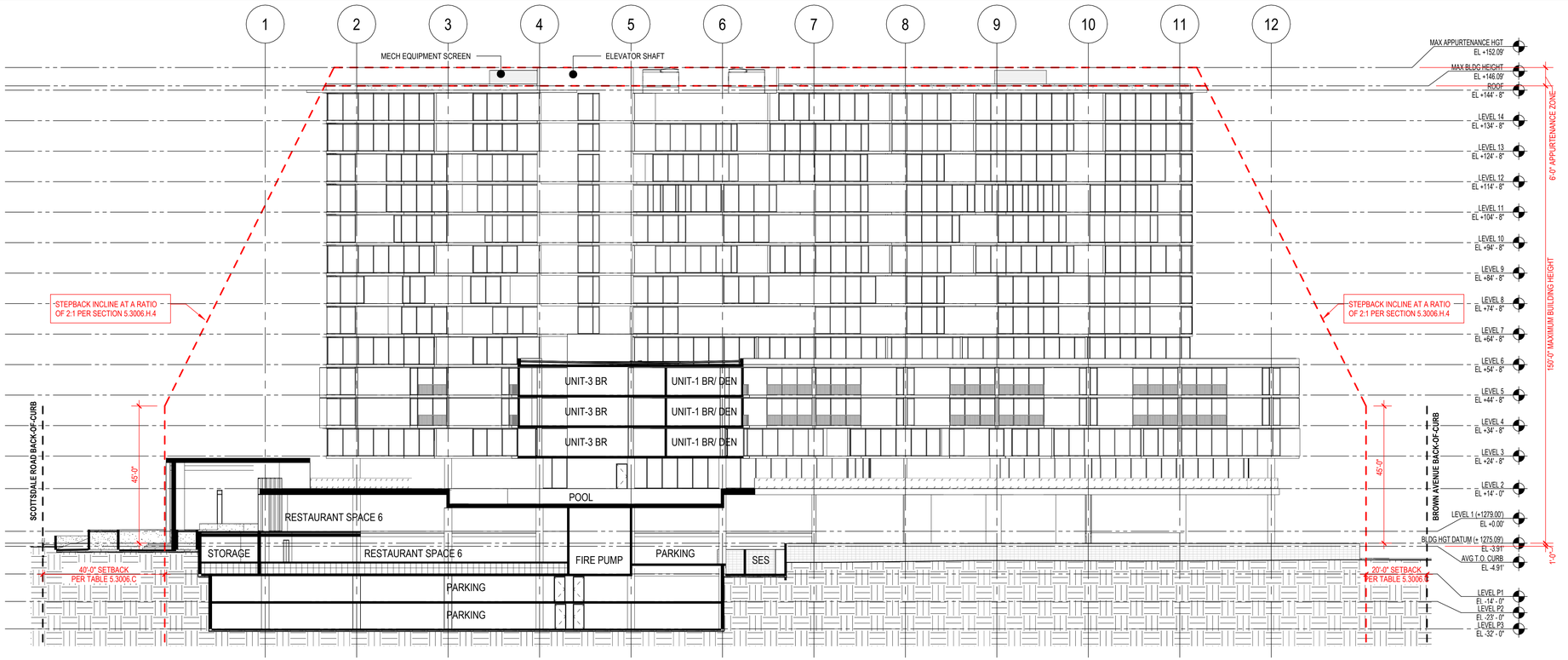
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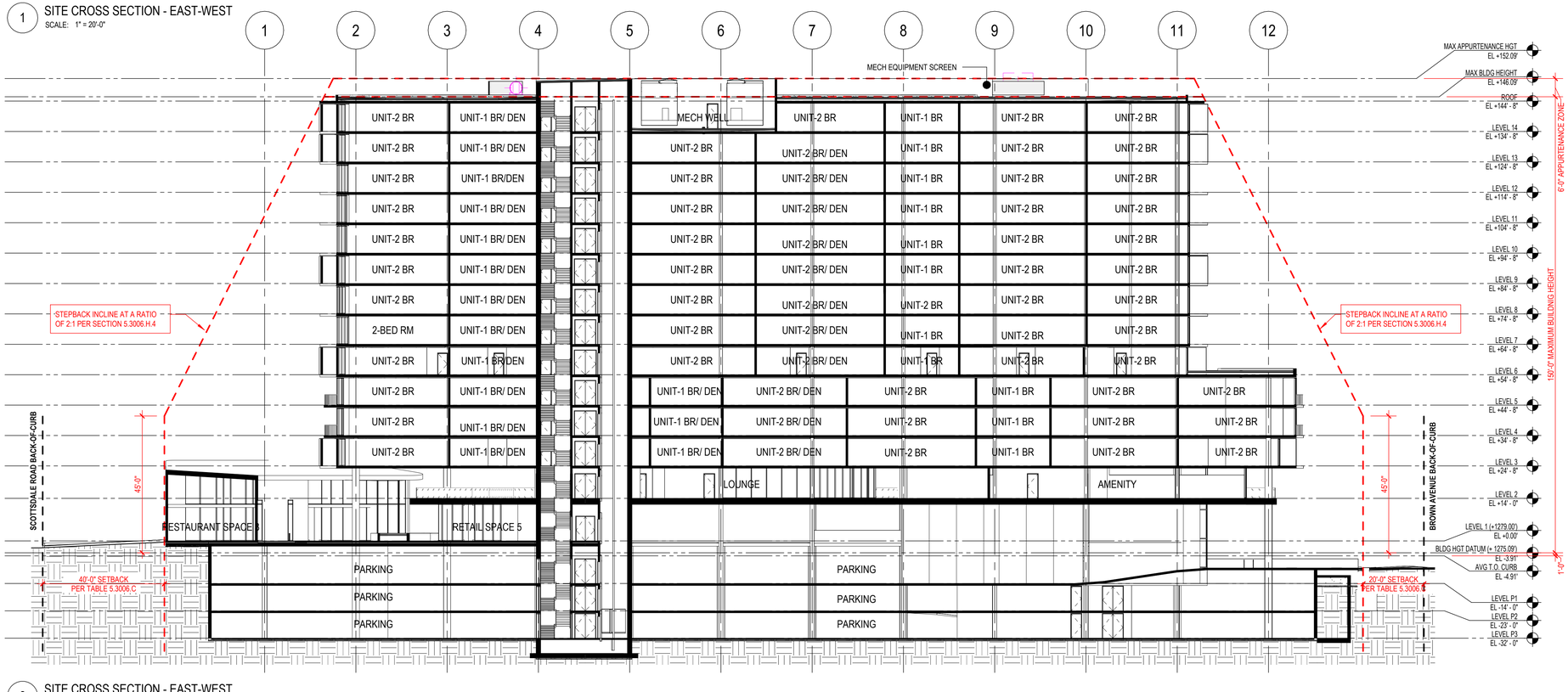
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1 SITE CROSS SECTION - EAST-WEST
SCALE: 1" = 20'-0"



2 SITE CROSS SECTION - EAST-WEST
SCALE: 1" = 20'-0"

GRAPHIC LEGEND

SHEET KEYNOTES

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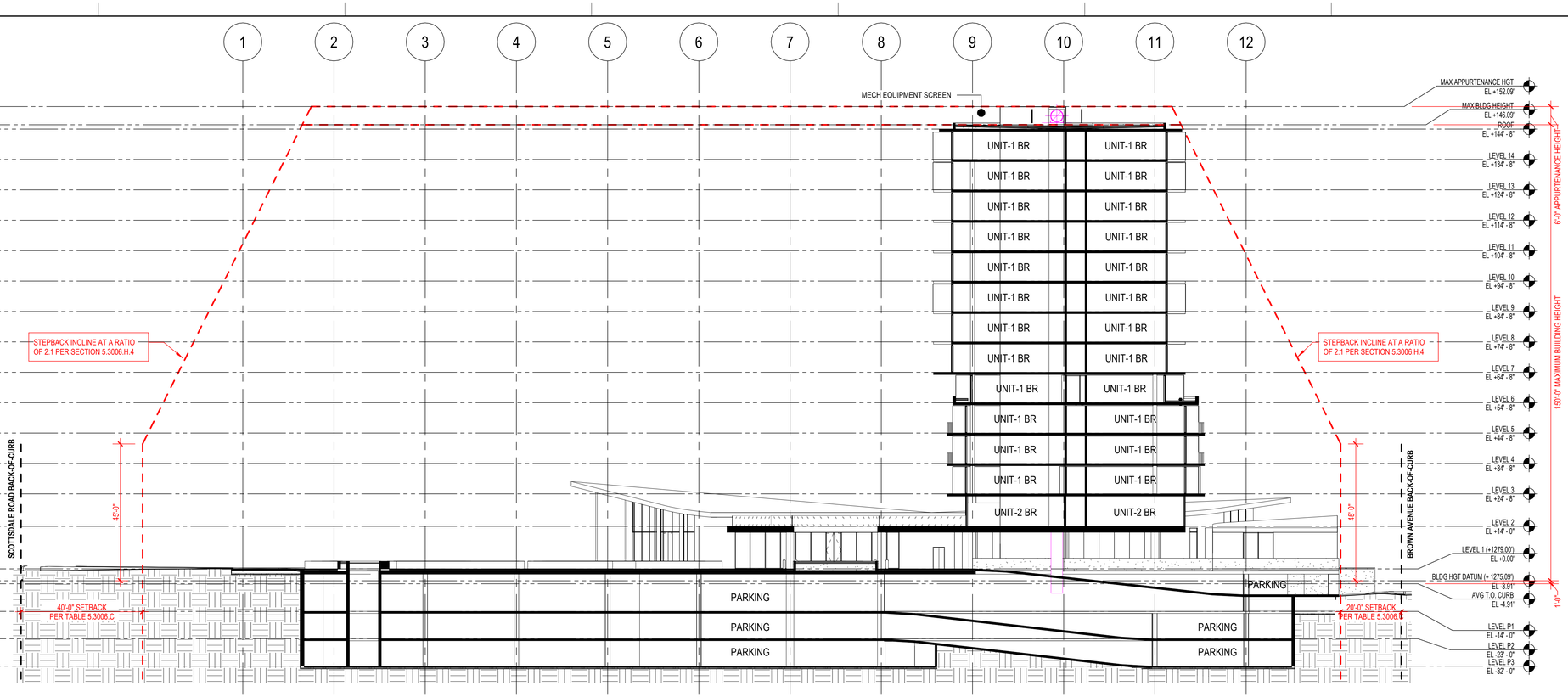
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PROJECT NUMBER 14165.000

DRB **28.3**

SHEET NUMBER

START Sheet
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Plot Date:



1 SITE CROSS SECTION - EAST-WEST
SCALE: 1" = 20'-0"

GRAPHIC LEGEND

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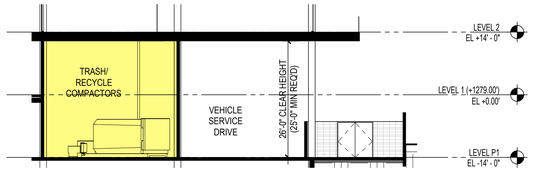
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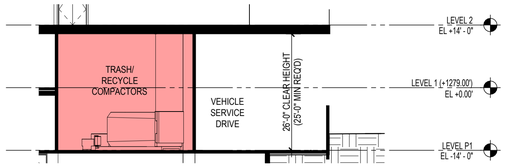
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SHEET NUMBER DRB 28.4

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3 REFUSE SECTION - RESIDENTIAL COLLECTION
SCALE: 1/16" = 1'-0"



4 REFUSE SECTION - RETAIL/RESTAURANT COLLECTION
SCALE: 1/16" = 1'-0"

REFUSE CALCULATIONS

USE	REQUIRED NUMBER OF ENCLOSURES WITH RECYCLING	CALCULATIONS (PER DSPM TABLE 2-1.311.B)	PROVIDED
NON-RESIDENTIAL DEVELOPMENT	2 ENCLOSURES FOR EACH 30,000 SF OF BUILDING SPACE OR PORTION THEREOF PER COS STANDARD DETAILS #2147-1 OR 2147-2	**31,698 SF / 30,000 SF = 2 ENCLOSURES* EACH FOR REFUSE AND RECYCLING** ***ASSUMES 4 CUBIC YARD CONTAINER**	• (2) EACH 4CU YD CONTAINERS REQUIRED FOR REFUSE AND RECYCLING COLLECTION. • 8 TOTAL CU YDS EACH FOR REFUSE AND RECYCLING REQUIRED. • COMPACTION PROVIDED AT A RATE OF 4:1. • 2 CU YDS EACH COMPACTED VOLUME REFUSE AND RECYCLING REQUIRED. • ***(2) 10- YARD* ROLL-OFF CONTAINERS PROVIDED; 1 EACH FOR REFUSE AND RECYCLING*** (*10-YARD CONTAINER PROVIDES 40 CU YDS NON-COMPACTED CAPACITY)
APARTMENT AND CONDOMINIUM	2 ENCLOSURES FOR EVERY 30 UNITS OR PORTION THEREOF PER COS STANDARD DETAILS #2146-1 OR 2147-1	**272 UNITS / 30 = 10 ENCLOSURES* EACH FOR REFUSE AND RECYCLING** ***ASSUMES 4 CUBIC YARD CONTAINER**	• (10) EACH 4CU YD CONTAINERS REQUIRED FOR REFUSE AND RECYCLING COLLECTION. • 40 TOTAL CU YDS EACH FOR REFUSE AND RECYCLING REQUIRED. • COMPACTION PROVIDED AT A RATE OF 4:1. • 10 CU YDS EACH COMPACTED VOLUME REFUSE AND RECYCLING REQUIRED. • ***(2) 20- YARD* ROLL-OFF CONTAINERS PROVIDED; 1 EACH FOR REFUSE AND RECYCLING*** (*20-YARD CONTAINER PROVIDES 80 CU YDS NON-COMPACTED CAPACITY)

	RESIDENTIAL	*RETAIL + RESTAURANT*
CONTAINERS	*TRASH* (1) 20-YARD ROLL-OFF CONTAINER *RECYCLING* (1) 20-YARD ROLL-OFF CONTAINER	*TRASH* (1) 10-YARD ROLL-OFF CONTAINER *RECYCLING* (1) 10-YARD ROLL-OFF CONTAINER
DIMENSIONS	HEIGHT: **4'-0"** WIDTH: **8'-0"** LENGTH: **18'-0"** VERTICAL CLEARANCE: **25'-0"**	HEIGHT: **3'-3"** WIDTH: **8'-0"** LENGTH: **12'-0"** VERTICAL CLEARANCE: **25'-0"**

REFUSE COLLECTION PROCEDURE

RESIDENTIAL:
EACH RESIDENT FLOOR HAS ACCESS TO THE TRASH CHUTE WHICH TAKES REFUSE AND RECYCLING TO DEDICATED COLLECTION AREA ON LEVEL P1. PROPERTY MAINTENANCE PERSONNEL WILL MANAGE TRANSFERRING REFUSE FROM COLLECTION BINS AT BASE OF TRASH CHUTES INTO COMPACTION UNITS FOR COMPACTION AND COLLECTION.

RETAIL + RESTAURANT:
RETAIL/RESTAURANT STAFF WILL COLLECT REFUSE AND DISCARD IT INTO COMPACTION UNITS IN DEDICATED COLLECTION AREA ON LEVEL P1. ACCESS TO COLLECTION AREA PROVIDED BY PLAZA LEVEL SERVICE ELEVATOR AND STAIRS TO LEVEL P1.

COLLECTION BY CITY WASTE MANAGEMENT OR PRIVATE COLLECTION COMPANY TBD; PRESUMED 2-3 OCCURANCES PER WEEK.

GRAPHIC LEGEND

- **REFUSE VEHICLE CIRCULATION PATH ENTER FROM SHOEMAN LANE; EXIT TO BROWN AVENUE**
- **RETAIL PLAZA REFUSE PATH TO COLLECTION LOCATION**
- **RESIDENTIAL TRASH CHUTE**
- **RESIDENTIAL REFUSE COLLECTION (1) TRASH CONTAINER (1) RECYCLING CONTAINER**
- **RETAIL AND RESTAURANT REFUSE COLLECTION (1) TRASH CONTAINER (1) RECYCLING CONTAINER**

E CAMELBACK ROAD



E SHOEMAN LANE

NORTH

2 REFUSE PLAN - LEVEL 1
SCALE: 1" = 40'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"

E CAMELBACK ROAD



E SHOEMAN LANE

NORTH

1 REFUSE PLAN - LEVEL P1
SCALE: 1" = 40'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"

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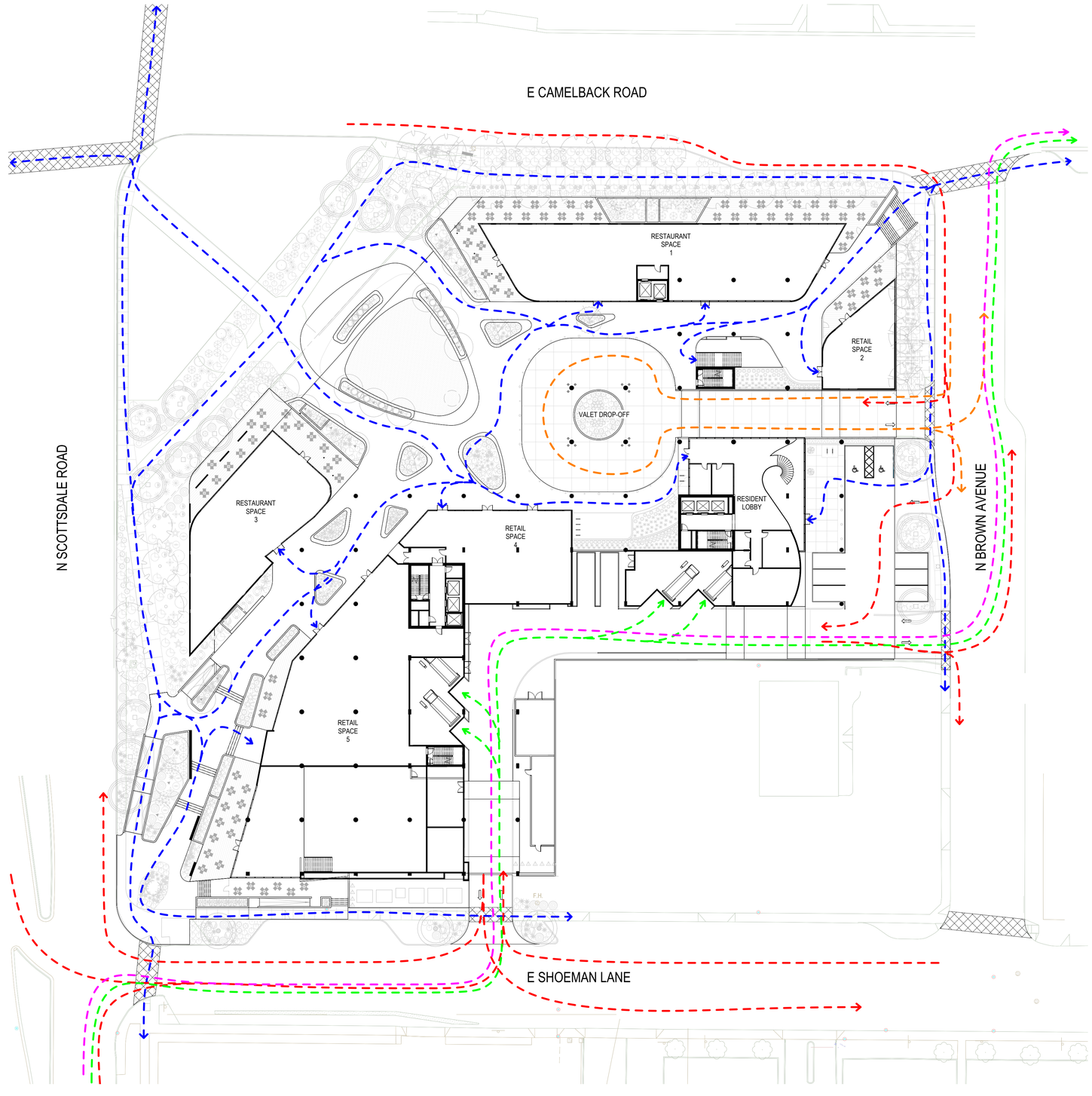
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REFUSE PLAN

14165.000
PROJECT NUMBER

DRB **25.1**
SHEET NUMBER

Plot Date: 7/3/2023 9:02:19 AM START Sheet



NORTH

1 PEDESTRIAN AND VEHICULAR CIRCULATION PLAN
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"

GRAPHIC LEGEND

- PEDESTRIAN CIRCULATION
- VEHICULAR CIRCULATION
- VALET SERVICE CIRCULATION
- REFUSE VEHICLE CIRCULATION
- FIRE DEPARTMENT CIRCULATION
- PEDESTRIAN CROSSWALK

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SHEET TITLE

PEDESTRIAN & VEHICULAR CIRCULATION PLAN

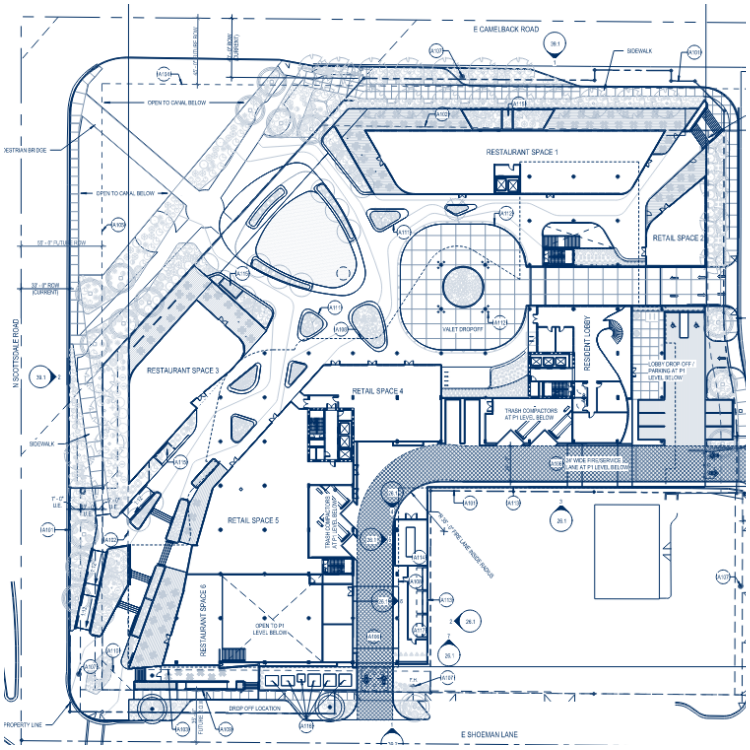
PROJECT NUMBER 14165.000

SHEET NUMBER DRB 37.1

Plot Date: 7/3/2023 9:02:53 AM START Sheet

City Center

Transportation Impact & Mitigation Analysis





Prepared for:

Smith Group
455 N. Third Street, Suite 250
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Prepared by:

Lōkahi, LLC
10555 N. 114th Street,
Suite 105
Scottsdale, AZ 85259

Project Number: 23.5537
June 29, 2023

TABLE OF CONTENTS:

1. Introduction and Executive Summary 1
1.1. Purpose of Report and Study Objectives 1
1.2. Executive Summary 1
2. Proposed Development 4
3. Area Conditions 8
3.1. Study Roadway Segments 8
3.2. Study Intersections 9
3.3. Surrounding Area Land Use 9
3.4. Site Accessibility 10
3.5. Collision Rates 10
4. Existing Conditions 12
4.1. Existing Land Use 12
4.2. Existing Traffic Counts 12
4.3. Existing Capacity Analysis 15
5. Projected Traffic 18
5.1. Trip Generation 18
5.1.1. Existing Land Use ..... **Error! Bookmark not defined.**
5.1.2. Scottsdale Colleciton – Option 3 18
5.1.3. Proposed Development 19
5.2. Trip Generation Comparison 20
5.2.1. Proposed Development versus Existing Land Use ..... **Error! Bookmark not defined.**
5.2.2. Proposed Development versus The Scottsdale Colleciton – Option 3 20
5.3. Trip Distribution and Assignment 20
6. Future Conditions (Year 2026) 23
6.1. Year 2026 No Build Traffic Volumes 23
6.2. Year 2026 Build Traffic Volumes 23
6.3. Year 2026 No Build Capacity Analysis 23
6.4. Year 2026 Build Capacity Analysis 24
7. Recommendations & Conclusions 29

FIGURES:

Figure 1 – Vicinity Map 5
Figure 2 – Site Plan 6
Figure 3 – Study Area 7
Figure 4 – Existing Traffic Volumes 14
Figure 5 – Existing Capacity Analysis 17
Figure 6 – Trip Distribution 21
Figure 7 – Site Traffic Volumes 22
Figure 8 – Year 2026 No Build Traffic Volumes 25
Figure 9 – Year 2026 Build Traffic Volumes 26
Figure 10 – Year 2026 No Build Capacity Analysis 27
Figure 11 – Year 2026 Build Capacity Analysis 28

TABLES:

Table 1 – Collision Rates - Study Roadway Segment 11
Table 2 – Collision Rates - Study Intersections 11
Table 3 – Level of Service Criteria 15
Table 4 – Existing Level of Service and Delay – Unsignalized and Signalized Intersections 16
Table 5 – Trip Generation (Existing Land Use) ..... **Error! Bookmark not defined.**
Table 6 – Trip Generation – (The Scottsdale Collection – Option 3) 18
Table 7 – Trip Generation – Proposed Development 19
Table 8 – Trip Generation Comparison – Existing Development ..... **Error! Bookmark not defined.**
Table 9 – Trip Generation Comparison – The Scottsdale Collection – Option 3 20
Table 10 – Year 2026 Level of Service and Delay – Unsignalized and Signalized Intersections 24

APPENDICES:

Appendix A – Proposed Site Plan ..... A
Appendix B – Parcel Information ..... B
Appendix C – Traffic Count Data C
Appendix D – Signal Timing ..... D
Appendix E – Existing Capacity Analysis ..... E
Appendix F – Trip Generation ..... F
Appendix G – MAG Socioeconomic Projections ..... G
Appendix H – Year 2026 No Build Capacity Analysis ..... H
Appendix I – Year 2026 Build Capacity Analysis I

1. INTRODUCTION AND EXECUTIVE SUMMARY

1.1. PURPOSE OF REPORT AND STUDY OBJECTIVES

Lōkahi, LLC (Lōkahi) was retained by Smith Group to complete a Transportation Impact & Mitigation Analysis for the proposed City Center development located on the southeast corner of Scottsdale Road and Camelback Road, in Scottsdale, Arizona. The objective of this Transportation Impact & Mitigation Analysis is to analyze the traffic related impacts of the proposed development to the adjacent roadway network. See **Figure 1** for the vicinity map.

1.2. EXECUTIVE SUMMARY

The proposed City Center development will be located on the southeast corner of Scottsdale Road and Camelback Road, in Scottsdale, Arizona. The proposed City Center development will include the following land uses:

- **Multi-Family Residential** 272 units
- **Retail** 12,434 square feet
- **Restaurant** 19,264 square feet

This Transportation Impact and Mitigation Analysis includes:

- Level of service analysis of existing conditions for the weekday AM and PM peak hours
- Trip Generation for the existing development
- Trip Generation for the proposed development
- Trip Generation Comparison
- Level of service analysis for the opening year (2026) weekday AM and PM peak hours
    - 2026 No Build
    - 2026 Build

The following are the intersections included in this study:

- Scottsdale Road and Camelback Road (1)
- Camelback Road and Brown Avenue (2)
- Scottsdale Road and Shoeman Lane (4)
- Shoeman Lane and Brown Avenue (5)

Existing Capacity Analysis

The AM and PM peak hour existing conditions capacity analysis were completed for the existing study intersections. The results of the capacity analysis reveal the following location with an existing level of service (LOS) E or F:

Scottsdale Road and Camelback Road (1)

- Eastbound left AM and PM peak hours operate at LOS E
- Eastbound right AM peak hour operates at LOS E
- Westbound shared through-right PM peak hour operates at LOS E
- Southbound left AM and PM peak hours operate at LOS E

Trip Generation

The proposed development is anticipated to generate 2,678 weekday trips with 106 occurring during the AM peak hour and 193 trips during the PM peak hour.

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 (High-Rise)	222	272	Dwelling Units	1,235	73	25	48	87	49	38
Strip Retail Plaza (<40k)	822	12.4	1000 SF GLA	677	29	18	11	82	41	41
Fine Dining Restaurant	931	19.3	1000 SF GFA	1,615	14	8	6	150	101	49
Total				3,527	116	51	65	319	191	128
Internal Capture				849	10	5	5	126	63	63
Total After Internal Capture				2,678	106	46	60	193	128	65

Trip Generation Comparison

The build-out of the proposed City Center development is anticipated to generate 2,772 (51%) fewer weekday trips, with 118 (53%) fewer trips during the AM peak hour, and 224 (54%) fewer trips during the PM peak hour than the previously proposed development.

Trip Generation Comparison – The Scottsdale Collection – Option 3

Land Use	Weekday	AM Peak Hour			PM Peak Hour		
	Total	Total	In	Out	Total	In	Out
Proposed Development	2,678	106	46	60	193	128	65
The Scottsdale Collection - Option 3	5,450	224	133	91	417	208	208
Difference	-2,772	-118	-87	-31	-224	-80	-143
Percent Difference	-51%	-53%	-65%	-34%	-54%	-38%	-69%

Future Conditions - Year 2026

The City Center development is anticipated to be constructed and ready to open in the year 2026. Therefore, year 2026 analyses was completed with and without the build out of the proposed development. An annual growth rate of 3.0% was applied to the existing traffic volumes.

A capacity analysis was completed for both the AM and PM peak hours for year 2026, with and without the build out of the proposed development. All movements operate at a LOS D or better or are maintained at the year 2026 no build level of service with the exception of the following:

Camelback Road and Brown Avenue (2)

- Northbound shared left-right PM peak hour operates at LOS F

Recommendations

The following are the recommendations with the build out of the proposed City Center development:

Camelback Road and Brown Avenue (2)

- Build out of an eastbound right turn deceleration lane.

Brown Avenue and Driveway A (3)

- Build out of a full access driveway allowing all movements into and out of the proposed development.

As with any new development and potential change in traffic patterns, the following is recommended:

- **Monitor and Adjust Signal Timing**
  Monitor traffic patterns in the area and if necessary, adjust nearby signal timing.

2. PROPOSED DEVELOPMENT

The proposed development is located on the southeast corner of Scottsdale Road and Camelback Road in the City of Scottsdale, Arizona. The proposed City Center development will include the following land uses:

- **Multi-Family Residential** 272 units
- **Retail** 12,434 square feet
- **Restaurant** 19,264 square feet

See **Figure 2** and **Appendix A** for the proposed site plan.

There is one (1) access point to the proposed site located along Brown Avenue.

Brown Avenue and Driveway A (3) is an existing driveway located approximately 180 feet south of Camelback Road (centerline to centerline) and will be a full access driveway.

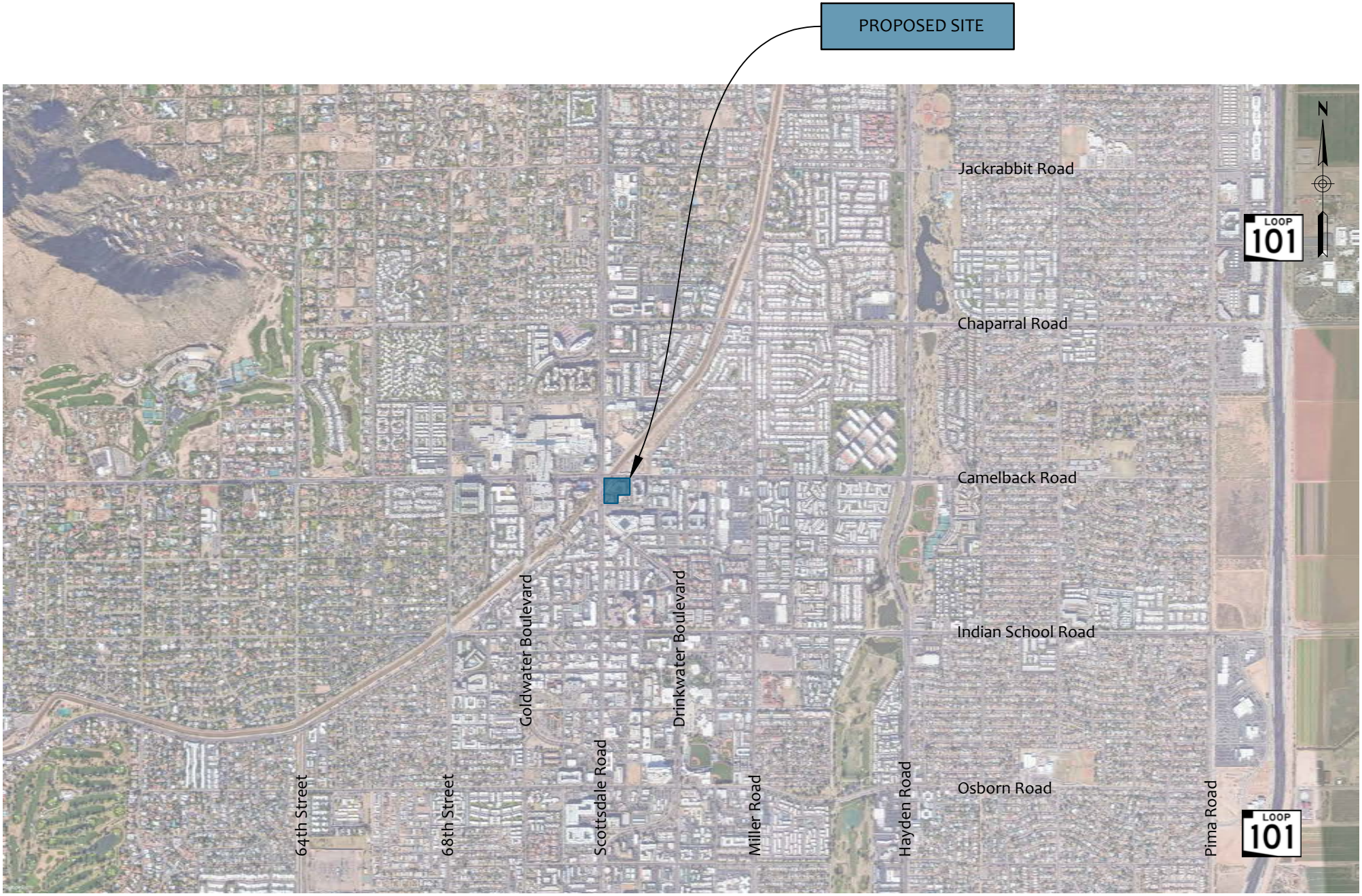


FIGURE 1 | VICINITY MAP

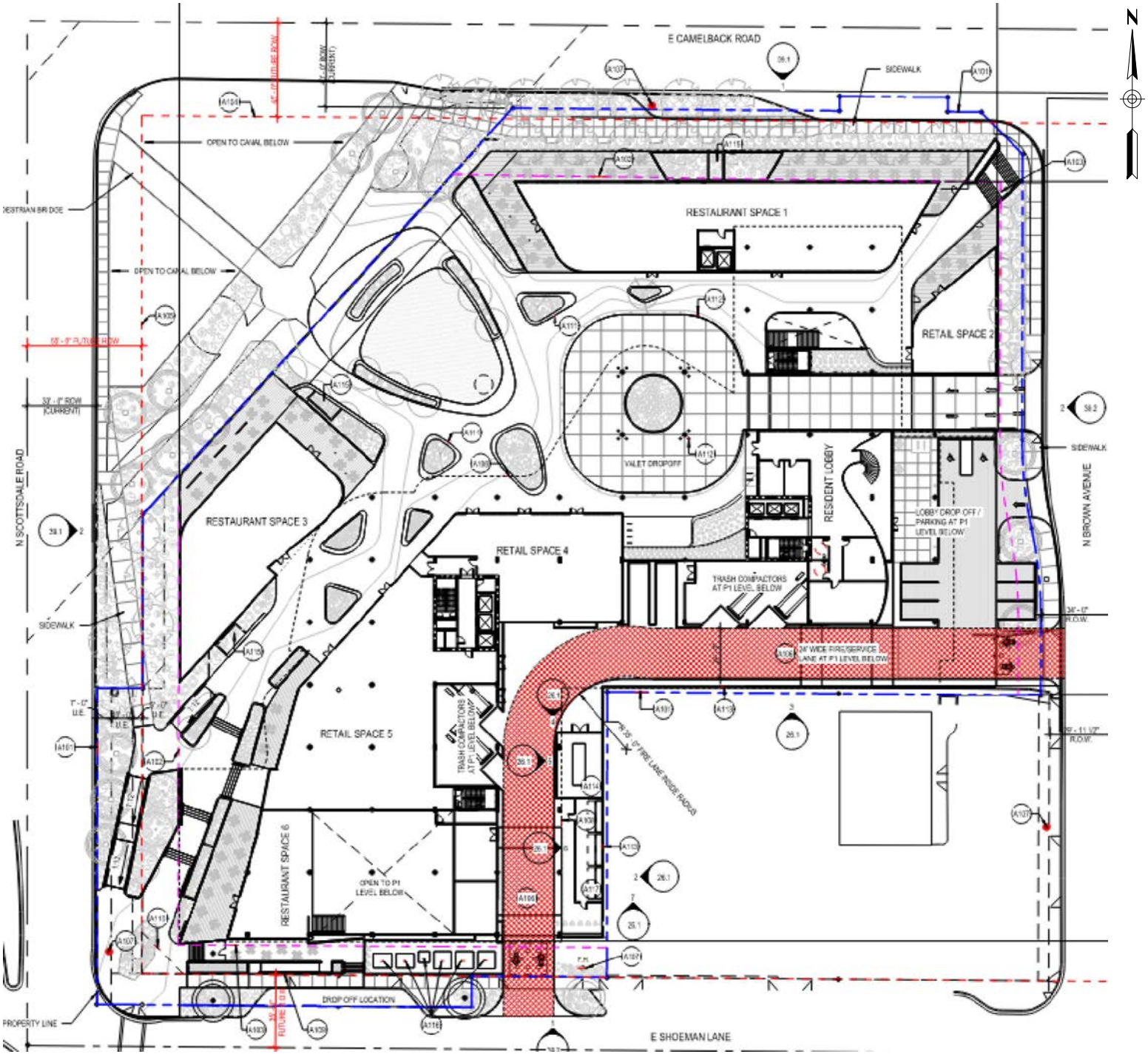
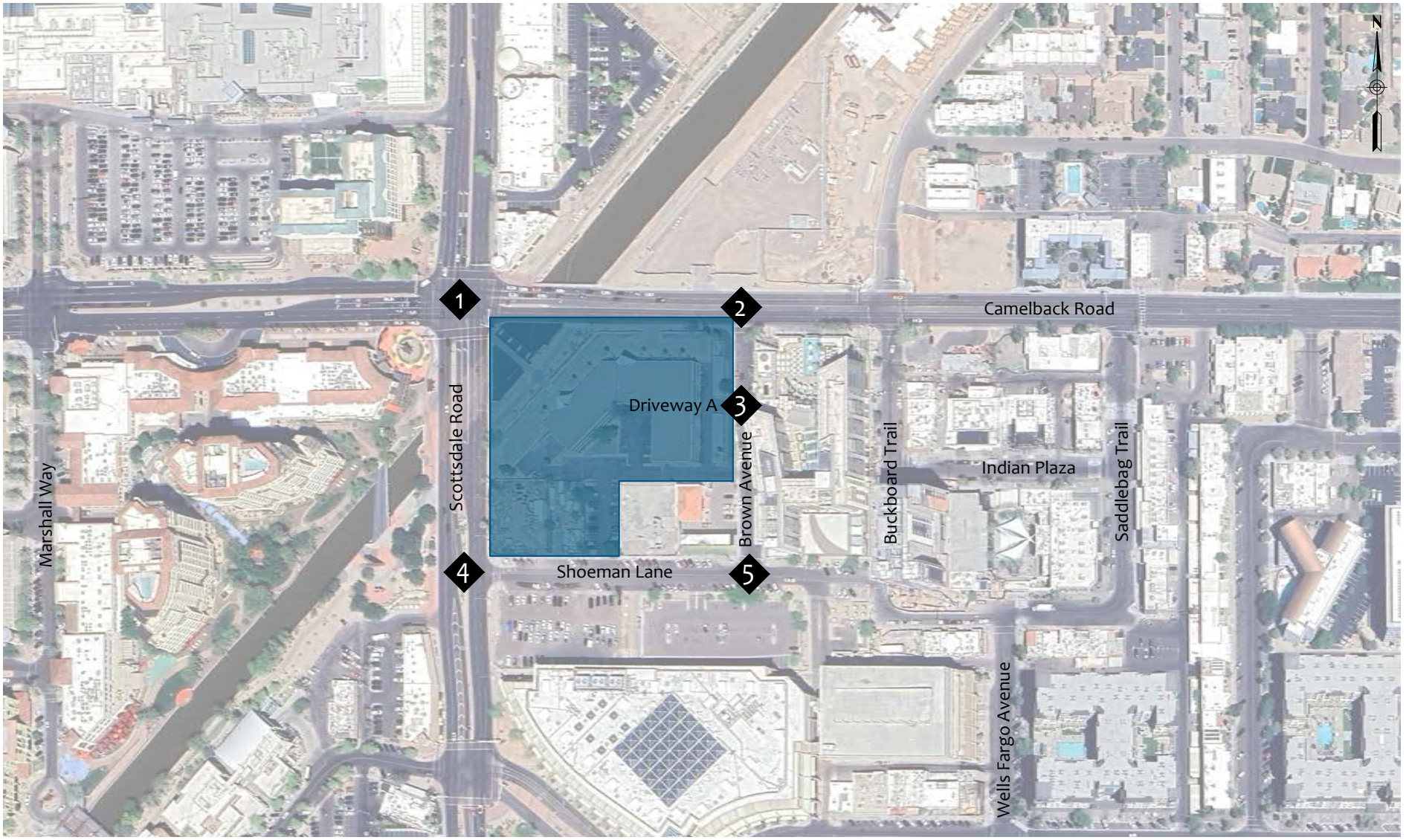


FIGURE 2 | SITE PLAN



Legend

X Intersection

FIGURE 3 | STUDY AREA

3. AREA CONDITIONS

The study area is located in the City of Scottsdale, Arizona. **Sections 3.1** and **3.2** provide detailed descriptions of the study roadway segments and intersections. See **Figure 3** for study area.

3.1. STUDY ROADWAY SEGMENTS

Scottsdale Road runs north-south and in the vicinity of the site provides three (3) through lanes for the northbound and two (2) through lanes for the southbound direction of travel, with a raised landscaped median. There is a posted speed limit of 30 mph. The City of Scottsdale classifies Scottsdale Road as a major collector within the study area, according to *The Scottsdale Master Transportation Plan,* dated July 2016. The City of Scottsdale's *2022 Average Daily Segment Traffic (ADT) Volumes* map reports an ADT of 21,900 vpd along Scottsdale Road, between Camelback Road and Indian School Road.

Camelback Road runs east-west and in the vicinity of the site provides two (2) through lanes for each direction of travel with a two-way left-turn lane. Along this section of roadway there are variable speed limit signs. The speed limit it typically posted at 35 miles per hour (mph) but is lowered to 25 mph on Friday and Saturday from 9:00 PM to 3:00 AM. There are bike lanes provided along both the north and south sides of the roadway. The City of Scottsdale classifies Camelback Road as a minor arterial within the study area, according to *The Scottsdale Master Transportation Plan*, dated July 2016. The City of Scottsdale's *2022 Average Daily Segment Traffic (ADT) Volumes* map reports an ADT of 20,200 vehicles per day (vpd) along Camelback Road, between Scottsdale Road and Miller Road.

Brown Avenue runs north-south and in the vicinity of the site provides one (1) through lane for each direction of travel. There is an unposted speed limit of 25 mph. On-street parking is provided on both sides of the roadway.

Shoeman Lane runs east-west and in the vicinity of the site provides one (1) through lane for each direction of travel between Scottsdale Road and Buckboard Trail. Between Buckboard Trail and Saddlebag Trail, Shoeman Lane is a one-way roadway, providing two (2) westbound through lanes. There is a posted speed limit of 25 mph. On-street parking is provided on both sides of the roadway.

3.2. STUDY INTERSECTIONS

Scottsdale Road and Camelback Road (1) currently operates as a signalized intersection. The eastbound approach provides two (2) dedicated left turn lanes, two (2) through lanes, and one (1) dedicated right turn lane. The westbound approach provides one (1) dedicated left turn lane, one (1) through lane, and one (1) shared through-right turn lane. The northbound approach provides two (2) dedicated left turn lanes, two (2) through lanes, and one (1) shared through-right turn lane. The southbound approach provides two (2) dedicated left turn lanes, three (3) through lanes, and one (1) dedicated right turn lane.

Camelback Road and Brown Avenue (2) currently operates as a stop-controlled T-intersection with stop control on the northbound approach. The eastbound approach provides one (1) through lane and one (1) shared through-right turn lane. The westbound approach provides one (1) dedicated left turn lane, that is part of the two-way left-turn lane down the center of the street, and two (2) through lanes. The northbound approach provides one (1) shared left-right turn lane.

Scottsdale Road and Shoeman Lane (4) currently operates as a stop-controlled T-intersection with stop control on the westbound approach. The westbound approach provides one dedicated right turn lane. The northbound approach provides two (2) through lanes and one (1) shared through-right turn lane. The southbound approach provides one (1) dedicated left turn lane, and two (2) through lanes.

Shoeman Lane and Brown Avenue (6) currently operates as a stop-controlled T-intersection with stop control on the southbound approach. The eastbound approach provides one (1) shared left-through lane. The westbound approach provides one (1) shared through-right turn lane. The southbound approach provides one (1) shared left-right turn lane.

3.3. SURROUNDING AREA LAND USE

The City Center development is located in the Entertainment District of Old Town Scottsdale. The Entertainment District is bordered by Camelback Road, 6th Avenue, Scottsdale Road, and Miller Road to the north, south, west, and east, respectively. The Scottsdale Fashion Square and Scottsdale Waterfront developments are located directly west, across Scottsdale Road. Additionally, several other commercial and residential developments border the Entertainment District to the east, north, and south. The Arizona Canal runs northeast beneath the intersection of Scottsdale Road and Camelback Road (1).

The proposed City Center is bordered by Camelback Road, Shoeman Lane, Scottsdale Road, and Brown Avenue to the north, south, west, and east, respectively. The W Hotel is located directly east, across Brown Avenue and the proposed Marquee development is located directly south, across Shoeman Lane.

3.4. SITE ACCESSIBILITY

Roadway System

The study area is located in the City of Scottsdale, Arizona approximately two (2) miles west of State Route 101 (SR 101). This route provides regional access to the Phoenix metropolitan area. Within the vicinity of the proposed site there is a well-developed roadway network.

Pedestrian Facilities

Continuous sidewalks are generally provided along the study roadway segments within the study area. Marked crosswalks are provided at the intersection of Scottsdale Road and Camelback Road (1).

Bicycle Facilities

Bicycle facilities are not currently provided within the immediate study area.

Transit Facilities

Valley Metro Route 50 operates along Camelback Road within the study area. This route connects Phoenix to Old Town Scottsdale. According to the Valley Metro System Map, there are two (2) stops located near the intersection of Scottsdale Road and Camelback Road (1). This route operates Monday through Friday.

Valley Metro Route 72 operates along Scottsdale Road within the study area. This route connects the City of Chandler to the northern portion of the City of Scottsdale. According to the Valley Metro System Map, there are two (2) stops located near the intersection of Scottsdale Road and Camelback Road (1) This route operates Monday through Friday, with the exception of the northbound stop at Scottsdale Road and Camelback Road (1), which operates Monday – Sunday.

3.5. COLLISION RATES

The City of Scottsdale's 2022 Traffic Volume & Collision 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 major intersections that define the segment, including at minor intersections within the segment. Intersection collisions are collisions that occur at or within 100 feet of a major intersection. The collision rate and city-wide ranking for study roadway segments are shown in **Table 1**. The collision rates and city-wide ranking for the study intersections are shown in **Table 2**.

Table 1 – Collision Rates - Study Roadway Segment

Segment	From	To	Collision Rate	Rank
Scottsdale Road	Indian School Road	Camelback Road	9.26	1
Camelback Road	Scottsdale Road	Miller Road	5.95	8
2020 City of Scottsdale Average Segment Collision Rate			1.38	

Table 2 – Collision Rates - Study Intersections

Intersection	Collision Rate	Rank
Scottsdale Road and Camelback Road	1.37	10
2020 City of Scottsdale Average Intersection Collision Rate	0.54	

4. EXISTING CONDITIONS

4.1. EXISTING LAND USE

The existing site is currently occupied by an office complex and a vacant restaurant parcel. The proposed City Center development will be on 2.72 acres. According to the Maricopa County Assessor's website, the proposed development will be made up of 7 existing parcels that are zoned for Highway Commercial (C-3) land uses. See **Appendix B** for detailed parcel information.

4.2. EXISTING TRAFFIC COUNTS

A local data collection firm, All Traffic Data, was utilized to collect traffic counts. On Tuesday, June 13, 2023, turning movement counts were obtained from 7:00 to 9:00 am and from 4:00 to 6:00 pm at the following locations:

- Scottsdale Road and Camelback Road (1)
- Camelback Road and Brown Avenue (2)
- Scottsdale Road and Shoeman Lane (4)
- Shoeman Lane and Brown Avenue (5)

Additionally, on June 13, 2023, bi-directional tube counts for 24-hours in 15-minute intervals were collected along the following roadway segments:

- Scottsdale Road, south of Camelback Road
- Camelback Road, east of Scottsdale Road
- Shoeman Lane, west of Brown Avenue
- Brown Avenue, north of Shoeman Lane

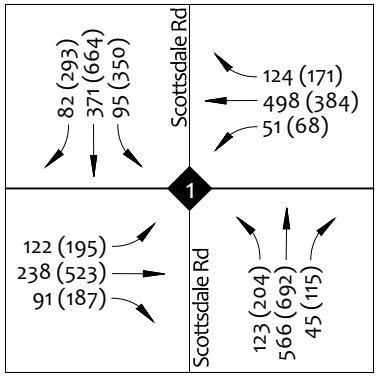
The turning movement counts were then analyzed for the highest 1-hour within each time period. The following peak hours were analyzed throughout this study.

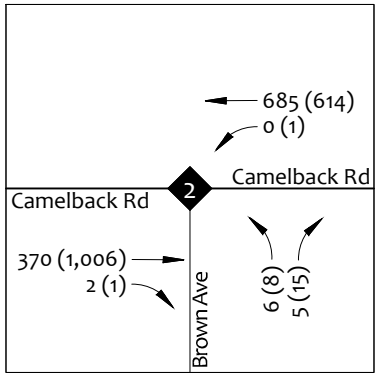
AM Peak Hour	8:00 am – 9:00 am
PM Peak Hour	4:30 pm – 5:30 pm

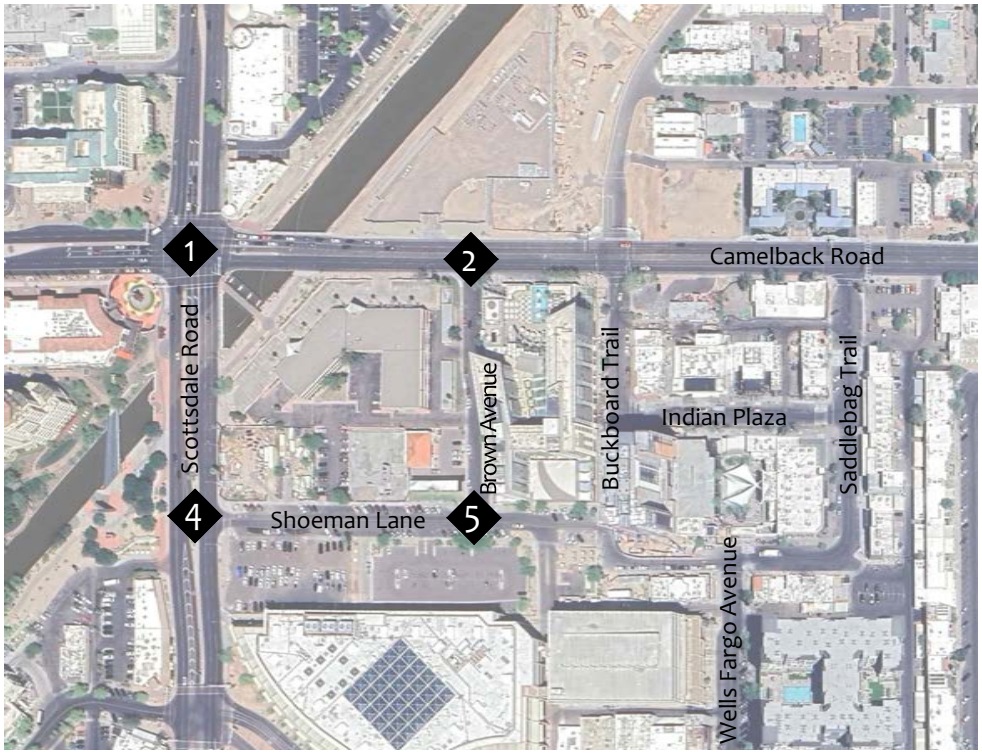
The City of Scottsdale's citywide seasonal adjustment factors were used to adjust the traffic counts. The traffic volumes were adjusted based on the month the counts were taken. Therefore, the recorded traffic volumes were divided by a factor of 0.972.

The recorded turning movement counts indicate that some u-turns movements were performed at study intersections. These u-turn volumes were added to the respective left turn movement volumes for the purposes of this study.

See **Appendix C** for detailed count data. See **Figure 4** for the existing adjusted AM and PM peak hour weekday traffic volumes.



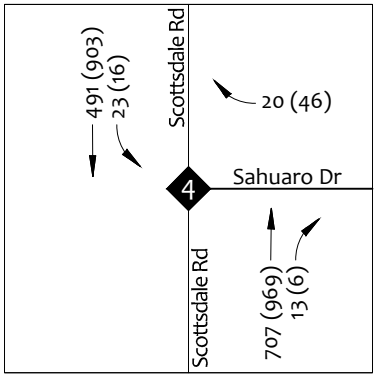




Legend

AM (PM) Peak Hour Traffic Volumes

X Intersection



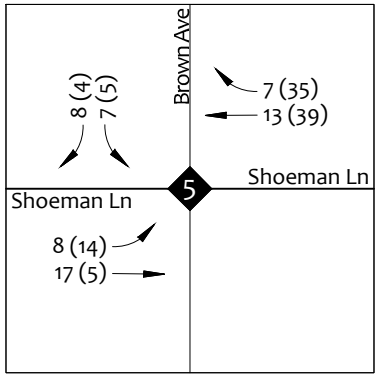


FIGURE 4 | EXISTING TRAFFIC VOLUMES

4.3. EXISTING CAPACITY ANALYSIS

The existing conditions capacity analysis was completed for the existing study intersections. The capacity and level of service for the study area intersections were evaluated using the methodology presented in the 6th *Edition of the Highway Capacity Manual (HCM)*. Traffic analysis software, Synchro Version 11, was used to perform the analyses using the signal timing provided by the City of Scottdale. The existing peak hour factor (PHF) was used. However, if the existing PHF was greater than 0.92, the PHF was defaulted to 0.92. See **Appendix D** for the existing signal timing.

Table 3 is from the 6th *Edition of the Highway Capacity Manual* Exhibit 20-2, which lists the Level of Service (LOS) thresholds for signalized and unsignalized intersections.

Table 3 – Level of Service Criteria

Level of Service (LOS)	Control Delay per Vehicle (s/veh)	
	Signalized Intersection	Unsignalized Intersection
A	≤ 10	0 - 10
B	> 10-20	> 10-15
C	> 20-35	> 15-25
D	> 35-55	> 25-35
E	> 55-80	> 35-50
F	> 80	> 50

The results of the capacity analysis reveal the following locations with an existing level of service (LOS) E or F:

Scottsdale Road and Camelback Road (1)

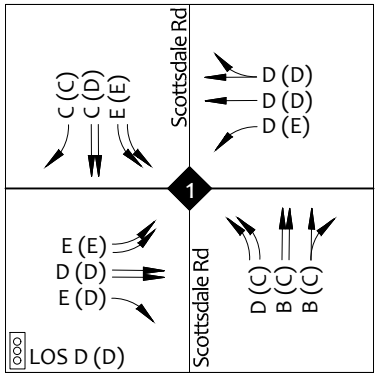
- Eastbound left AM and PM peak hours operate at LOS E
- Eastbound right AM peak hour operates at LOS E
- Westbound shared through-right PM peak hour operates at LOS E
- Southbound left AM and PM peak hours operate at LOS E

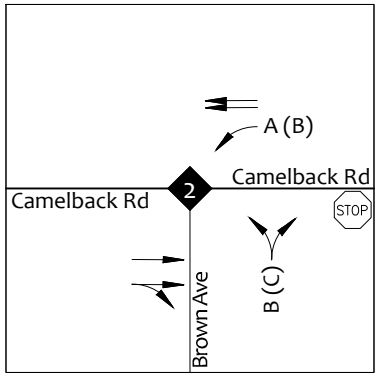
The existing AM and PM peak hour level of service and delay for unsignalized and signalized intersections are shown in **Table 4.**

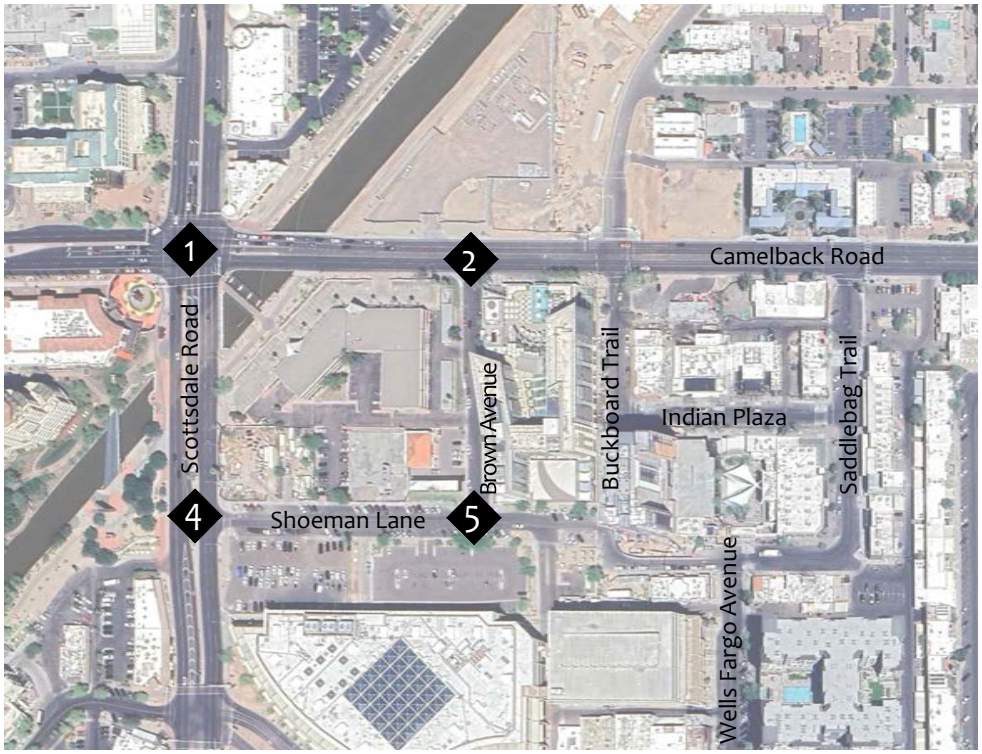
See **Figure 5** for the existing AM and PM peak hour capacity analysis. The detailed capacity analysis sheets can be found in **Appendix E**.

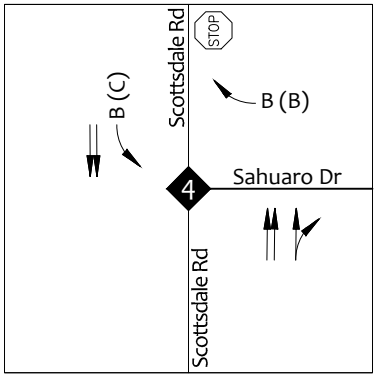
Table 4 – Existing Level of Service and Delay – Unsignalized and Signalized Intersections

Intersection	Existing Conditions			
	AM PEAK		PM PEAK	
Study Intersections	LOS	DELAY	LOS	DELAY
Scottsdale Road and Camelback Road (1) - Signalized				
Overall Intersection	D	39.6	D	44.1
Eastbound Left	E	60.4	E	60.2
Eastbound Through	D	54.6	D	47.7
Eastbound Right	E	55.1	D	45.9
Westbound Left	D	42.0	D	55.0
Westbound Through	D	51.6	D	53.5
Westbound Shared Through-Right	D	52.2	E	55.0
Northbound Left	D	36.7	C	34.9
Northbound Through	B	18.1	C	26.5
Northbound Shared Through-Right	B	18.5	C	27.5
Southbound Left	E	60.8	E	61.2
Southbound Through	C	33.7	D	45.2
Southbound Right	C	20.1	C	34.4
Camelback Road and Brown Avenue (2) - Unsignalized				
Westbound Left	A	0.0	B	10.8
Northbound Shared Left-Right	B	13.1	C	22.0
Scottsdale Road and Shoeman Lane (4) - Unsignalized				
Westbound Right	B	12.2	B	14.7
Southbound Left	B	12.6	C	15.3
Shoeman Lane and Brown Avenue (5) - Unsignalized				
Eastbound Shared Left-Through	A	7.3	A	7.4
Southbound Shared Left-Right	A	8.7	A	9.0









Legend

AM(PM)	Peak Hour Capacity Analysis
X	Intersection
	Lane Configuration

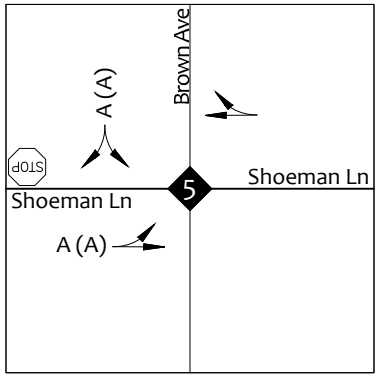


FIGURE 5 | EXISTING CAPACITY ANALYSIS

5. PROJECTED TRAFFIC

5.1. TRIP GENERATION

The trip generation for the proposed development was calculated utilizing the Institute of Transportation Engineers (ITE) publication entitled *Trip Generation, 11th Edition*. The ITE rates are based on studies that measured the 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 considered to be the standard for the transportation engineering profession.

5.1.1. SCOTTSDALE COLLECITON – OPTION 3

On September 18, 2020, a Traffic Impact and Mitigation Analysis (TI&MA) was completed for the proposed The Scottsdale Collection development. A portion of this TI&MA included the proposed City Center development. However, at the time of this report the land uses were unknown and therefore three (3) scenarios were analyzed. Option 3 resulted in the highest number of trips and was utilized throughout the TI&MA. Option 3 included a 449-room hotel and 46,887 square feet of commercial land uses. See **Table 5** for the trip generation for option 3 from the Scottsdale Collection TI&MA.

Table 5 – Trip Generation – (The Scottsdale Collection – Option 3)

Land Use	ITE Code	Qty	Unit	Weekday	AM Peak Hour			PM Peak Hour			Special Peak - 10:30 PM		
				Total	Total	In	Out	Total	In	Out	Total	In	Out
Hotel	310	449	Rooms	4,642	219	129	90	311	159	152	186	95	91
Shopping Center	820	46.887	1000 SF GFA	1,770	44	27	17	179	86	93	12	6	6
Total				6,412	263	156	107	490	245	245	198	101	97
Internal Interaction (10%)				-641	-26	-16	-11	-49	-25	-25	-20	-10	-10
Other Travel Modes (5%)				-321	-13	-8	-5	-25	-12	-12	-10	-5	-5
Total				5,450	224	133	91	417	208	208	168	86	82

5.1.2. PROPOSED DEVELOPMENT

The proposed City Center development will include the following land uses:

- **Multi-Family Residential** 272 units
- **Retail** 12,434 square feet
- **Restaurant** 19,264 square feet

Therefore, the trip generation for the proposed City Center development was calculated utilizing the following ITE Land Uses:

- ITE Land Use 222 – Multifamily Housing (High-Rise)
- ITE Land Use 822 – Strip Retail Plaza (<40k)
- ITE Land Use 931 – Fine Dining Restaurant

Internal Capture

Given the mixed-use nature of the proposed development, which includes residential, retail, and restaurant land uses, it is anticipated that some of the trips will be internal, i.e. beginning and ending within the development. Based on the NCHRP Report 684 – Enhancing Internal Trip Capture Estimation of Mixed-Use Developments, the internal capture rates for trip origins and trip destinations within a multi-use development were applied for weekday AM and PM hours.

Trip generation calculations are shown in **Table 6** below. Detailed trip generation calculations are provided in **Appendix F**.

Table 6 – 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 (High-Rise)	222	272	Dwelling Units	1,235	73	25	48	87	49	38
Strip Retail Plaza (<40k)	822	12.4	1000 SF GLA	677	29	18	11	82	41	41
Fine Dining Restaurant	931	19.3	1000 SF GFA	1,615	14	8	6	150	101	49
Total				3,527	116	51	65	319	191	128
Internal Capture				849	10	5	5	126	63	63
Total After Internal Capture				2,678	106	46	60	193	128	65

The proposed development is anticipated to generate 2,678 weekday trips with 106 occurring during the AM peak hour and 193 trips during the PM peak hour.

5.2. TRIP GENERATION COMPARISON

5.2.1. PROPOSED DEVELOPMENT VERSUS THE SCOTTSDALE COLLECITON – OPTION 3

A trip generation comparison between the proposed City Center development and the proposed Option 3 scenario outlined in the September 18,2020 TI&MA was calculated. See Error! Reference source not found. below.

Table 7 – Trip Generation Comparison – The Scottsdale Collection – Option 3

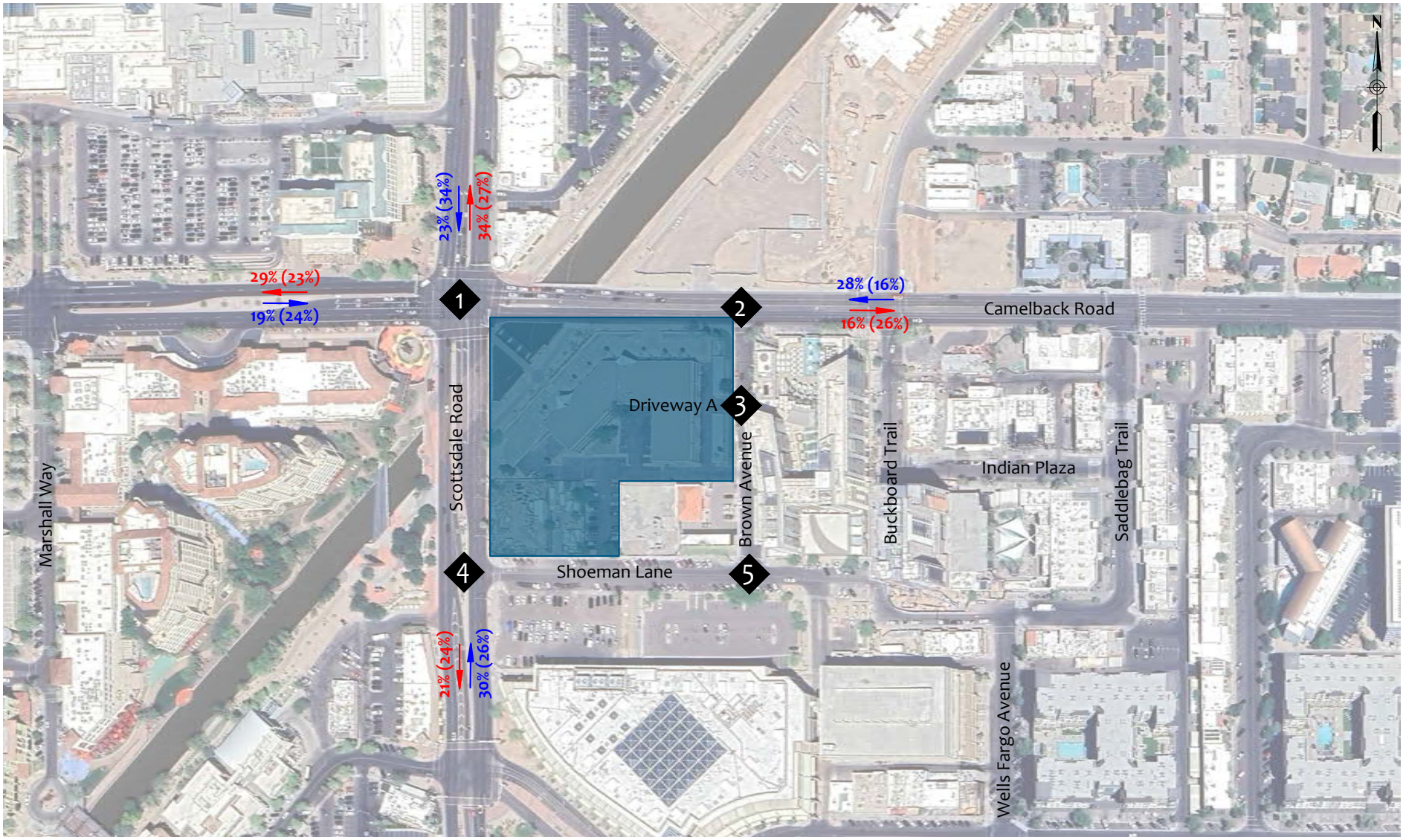
Land Use	Weekday	AM Peak Hour			PM Peak Hour		
	Total	Total	In	Out	Total	In	Out
Proposed Development	2,678	106	46	60	193	128	65
The Scottsdale Collection - Option 3	5,450	224	133	91	417	208	208
Difference	-2,772	-118	-87	-31	-224	-80	-143
Percent Difference	-51%	-53%	-65%	-34%	-54%	-38%	-69%

The build-out of the proposed City Center development is anticipated to generate 2,772 (51%) fewer weekday trips, with 118 (53%) fewer trips during the AM peak hour, and 224(54%) fewer trips during the PM peak hour than the previously proposed development.

5.3. TRIP DISTRIBUTION AND ASSIGNMENT

The trip distribution procedure determines the general pattern of travel for vehicles entering and leaving the proposed development. The trip distribution for the proposed City Center development is based on the distribution of the existing traffic. This project is being developed in a primarily developed area, so it can be assumed that the existing trip distribution will remain. The trip distribution is shown in **Figure 6.**

The trip assignment was generally based on proximity of the driveways, permitted turn movements, as well as ease and probability of use. The site generated traffic volumes are shown in **Figure 7**.



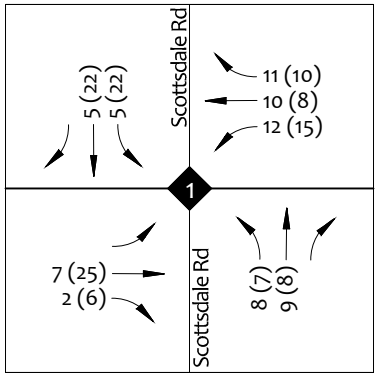
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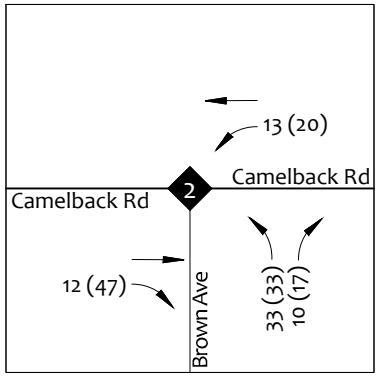
AM (PM) Inbound Trip Distribution Percentages

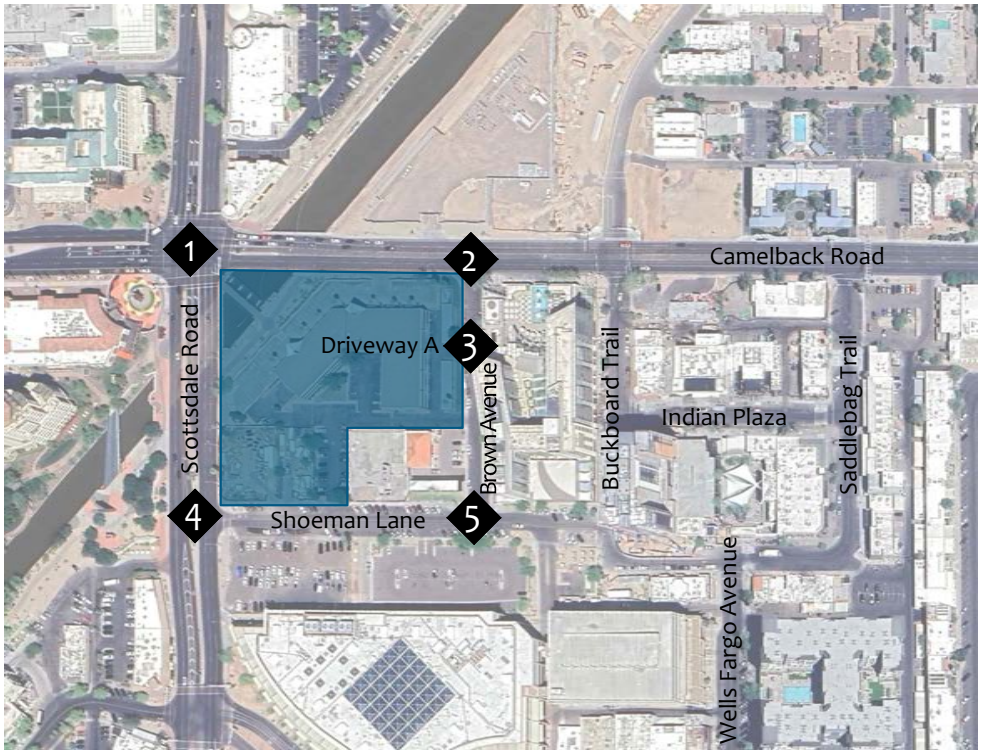
AM (PM) Outbound Trip Distribution Percentages

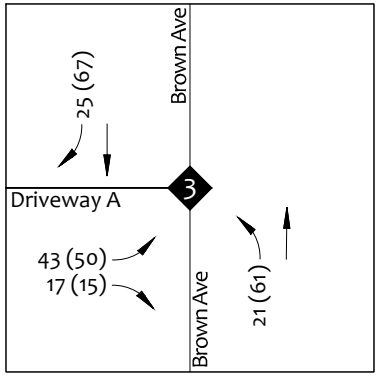
X Intersection

FIGURE 6 | TRIP DISTRIBUTION





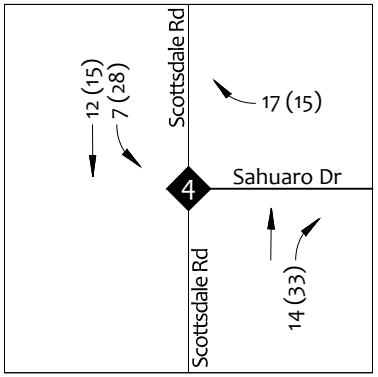




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AM (PM) Peak Hour Traffic Volumes

X Intersection



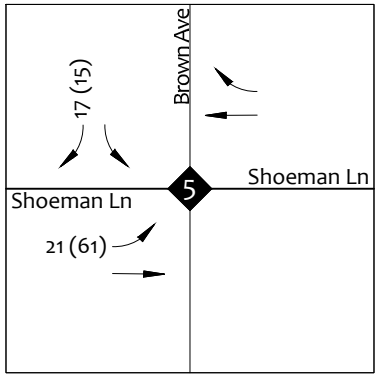


FIGURE 7 | SITE TRAFFIC VOLUMES

6. FUTURE CONDITIONS (YEAR 2026)

The proposed City Center development is anticipated to be constructed and ready to open in the year 2026. This section analyzes the effects the proposed development will have on the surrounding roadway network during the opening year of 2026.

6.1. YEAR 2026 NO BUILD TRAFFIC VOLUMES

According to the 2019 Maricopa Associations of Governments (MAG) socioeconomic projections in the City of Scottsdale within the study area (RAZ 272), it is estimated that in the year 2018 the population was approximately 68,987. MAG estimates that the 2030 population of the surrounding area to be 79,910. This results in an approximate annual growth rate of 1.23%.

As a conservative approach and to account for the future surrounding developments, a 3.0% annual growth rate was utilized. See **Appendix G** for the MAG socioeconomic projections. See **Figure 8** for the year 2026 no build traffic volumes**.**

6.2. YEAR 2026 BUILD TRAFFIC VOLUMES

When the site traffic (**Figure 7**) are added to the year 2026 no build traffic (**Figure 8**), the result is the 2026 build traffic volumes. This represents the traffic volumes with the build out of the proposed development. The year 2026 build traffic volumes are shown in **Figure 9**.

6.3. YEAR 2026 NO BUILD CAPACITY ANALYSIS

The capacity and level of service for the study area intersections were evaluated for the 2026 no build scenario. The PHF was assumed to be 0.92.

The year 2026 no build AM and PM peak hour level of service and delay for unsignalized and signalized intersections are shown in **Table 8.** The detailed capacity analysis sheets can be found in **Appendix H**.

The results of the year 2026 no build capacity analysis are shown in **Figure 10**. The results of the capacity analysis reveal that all movements operate at a LOS D or better.

6.4. YEAR 2026 BUILD CAPACITY ANALYSIS

The capacity and level of service for the study area intersections were evaluated for the year 2026 build traffic volumes. See **Figure 9**. The PHF was assumed to be 0.92.

The year 2026 no build AM and PM peak hour level of service and delay for unsignalized and signalized intersections are shown in **Table 8.** The detailed capacity analysis sheets can be found in **Appendix I**.

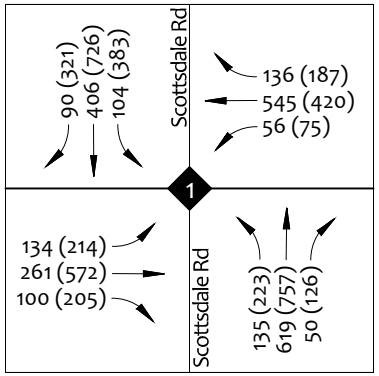
The results of the year 2026 build capacity analysis are shown in **Figure 11.** All movements operate at a LOS D or better or are maintained at the year 2026 no build level of service with the exception of the following:

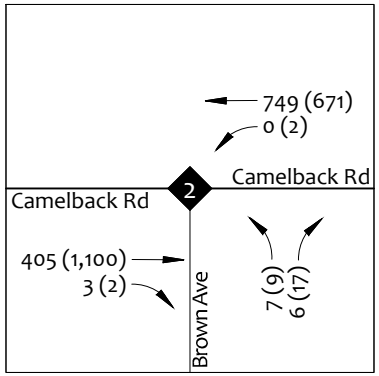
Camelback Road and Brown Avenue (2)

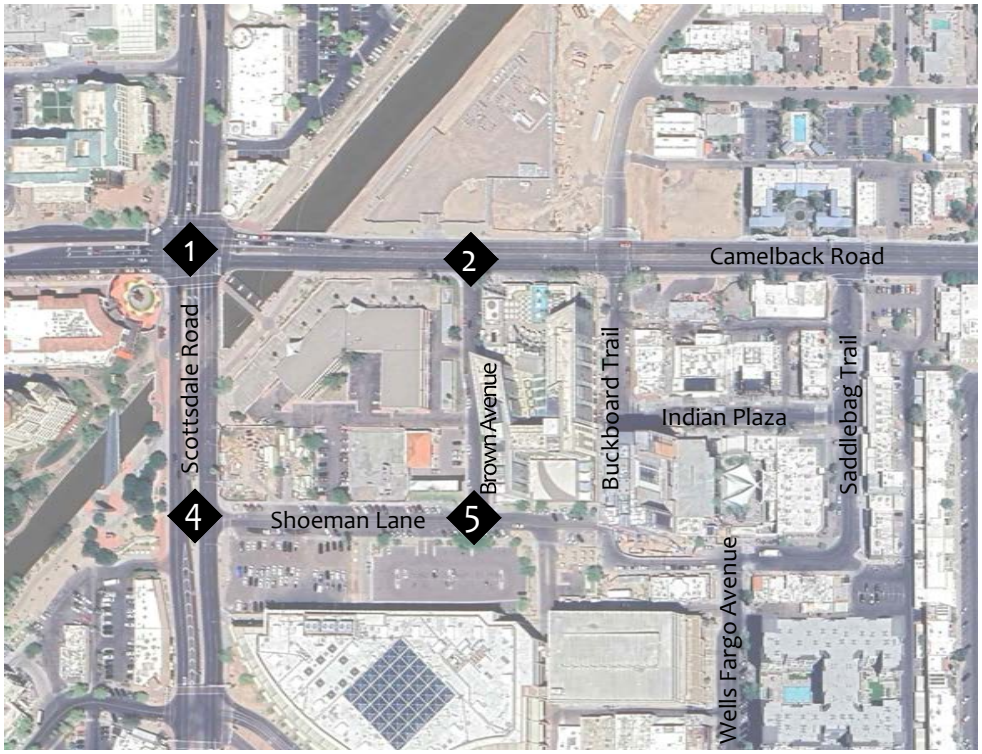
- Northbound shared left-right PM peak hour operates at LOS F

Table 8 – Year 2026 Level of Service and Delay – Unsignalized and Signalized Intersections

Intersection	2026 No Build Conditions				2026 Build Conditions			
	AM PEAK		PM PEAK		AM PEAK		PM PEAK	
Study Intersections	LOS	DELAY	LOS	DELAY	LOS	DELAY	LOS	DELAY
Scottsdale Road and Camelback Road (1) - Signalized								
Overall Intersection	D	40.5	D	45.4	D	40.8	D	46.2
Eastbound Left	E	60.0	E	57.9	E	60.0	E	57.9
Eastbound Through	D	53.9	D	49.8	D	53.8	D	49.9
Eastbound Right	D	54.4	D	45.8	D	54.1	D	45.3
Westbound Left	D	40.7	D	52.8	D	40.6	D	54.3
Westbound Through	D	52.4	D	52.1	D	52.7	D	52.4
Westbound Shared Through-Right	D	52.9	D	53.3	D	53.2	D	53.6
Northbound Left	D	39.0	D	37.7	D	39.8	D	38.4
Northbound Through	C	20.3	C	31.4	C	21.0	C	32.8
Northbound Shared Through-Right	C	20.8	C	32.9	C	21.5	C	34.6
Southbound Left	E	60.4	D	54.1	E	60.3	D	54.4
Southbound Through	C	34.2	D	48.5	C	34.3	D	50.1
Southbound Right	C	20.0	D	38.6	C	20.0	D	38.6
Camelback Road and Brown Avenue (2) - Unsignalized								
Westbound Left	A	0.0	D	25.2	A	8.3	B	11.8
Northbound Shared Left-Right	B	13.9	B	11.3	C	17.5	F	61.5
Brown Avenue and Driveway A (3) - Unsignalized								
Eastbound Shared Left-Right	-	-	-	-	A	9.2	B	10.2
Northbound Shared Left-Through	-	-	-	-	A	7.3	A	7.5
Scottsdale Road and Shoeman Lane (4) - Unsignalized								
Westbound Right	B	12.7	C	15.7	B	13.1	C	16.7
Southbound Left	B	13.4	C	16.7	B	13.7	C	18.6
Shoeman Lane and Brown Avenue (5) - Unsignalized								
Eastbound Shared Left-Through	A	7.3	A	7.4	A	7.3	A	7.5
Southbound Shared Left-Right	A	8.7	A	9.1	A	8.7	A	9.1



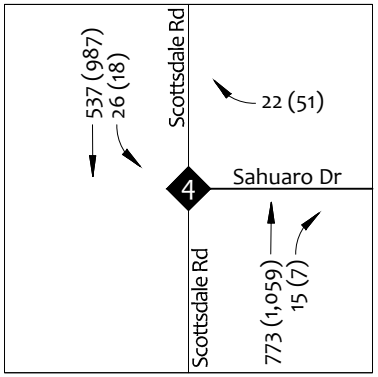




Legend

AM (PM) Peak Hour Traffic Volumes

X Intersection



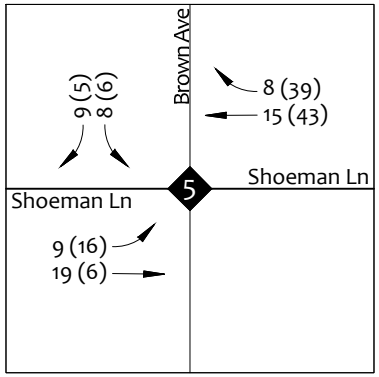
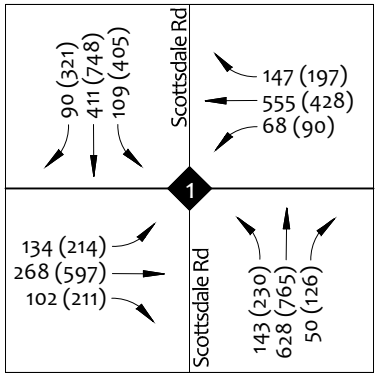
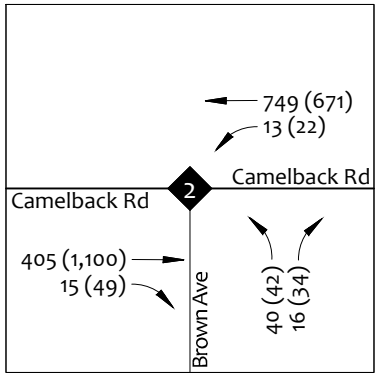
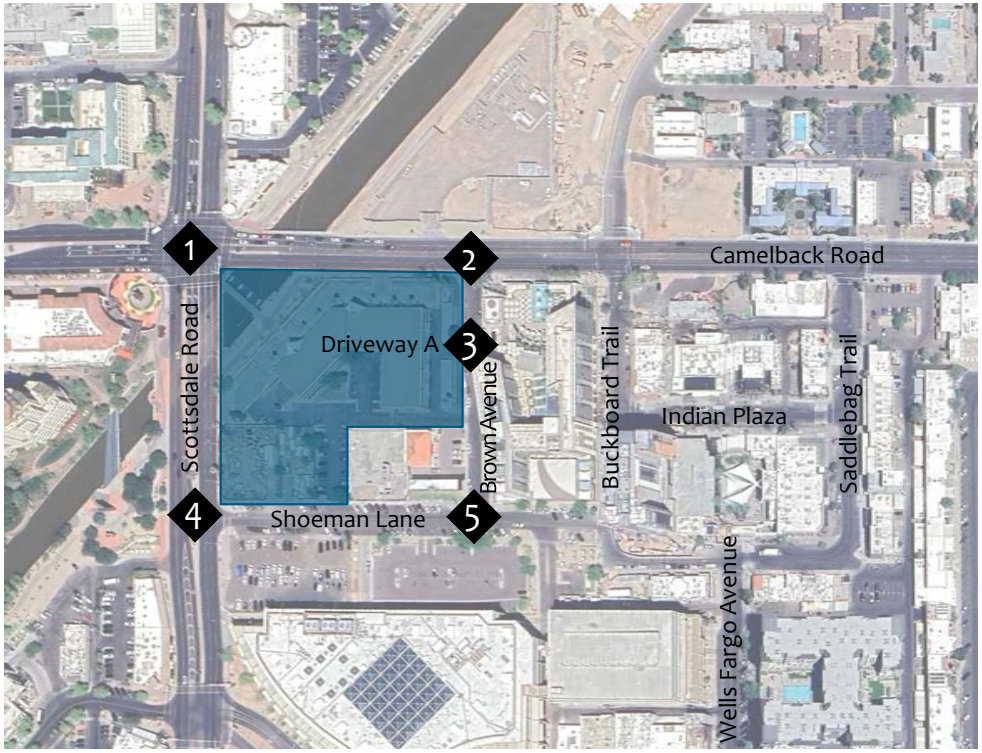
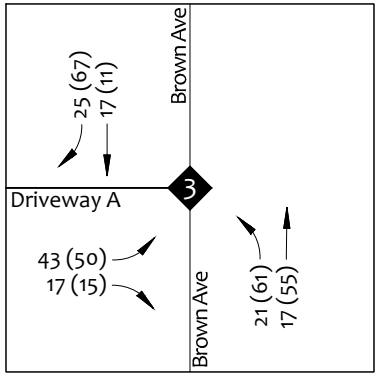


FIGURE 8 | YEAR 2026 BACKGROUND TRAFFIC VOLUMES





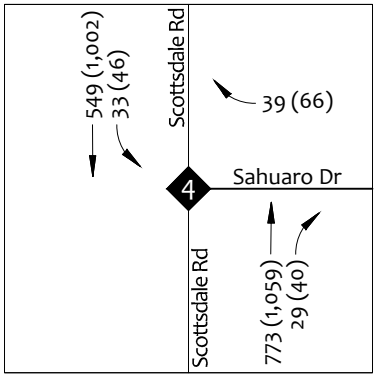




Legend

AM (PM) Peak Hour Traffic Volumes

X Intersection



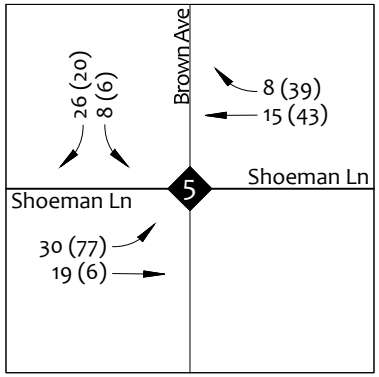
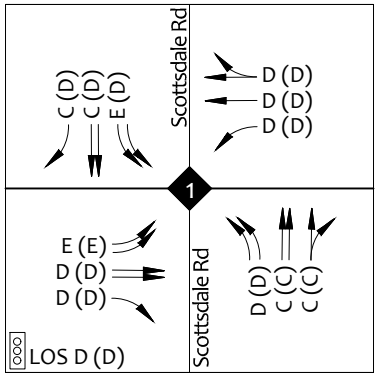
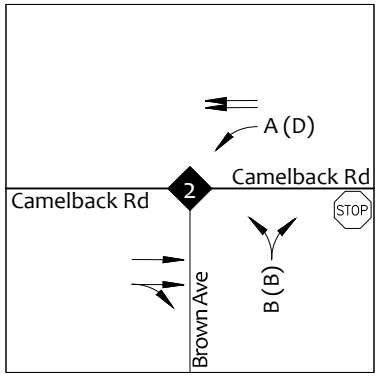
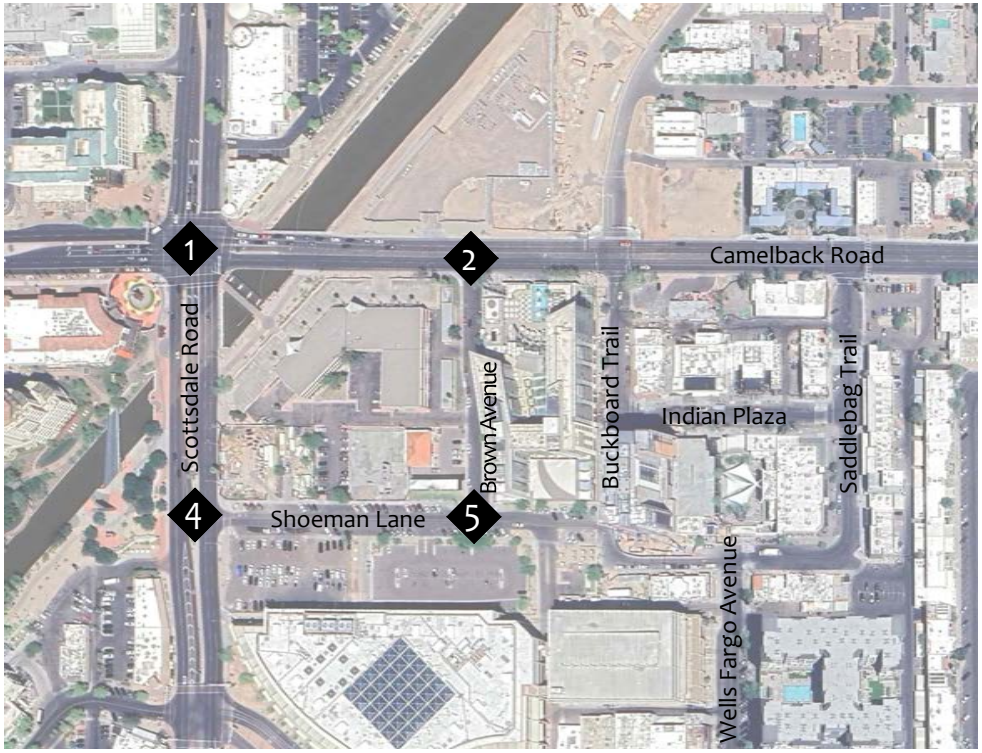
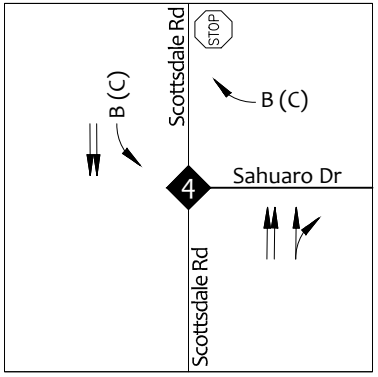


FIGURE 9 | YEAR 2026 BUILD TRAFFIC VOLUMES









Legend

AM(PM)	Peak Hour Capacity Analysis
X	Intersection
	Lane Configuration

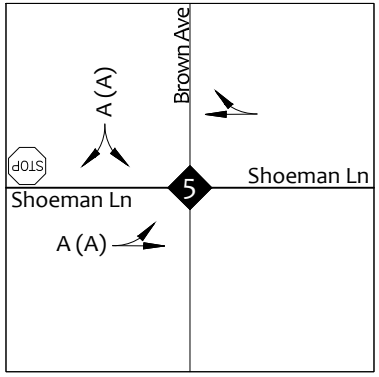
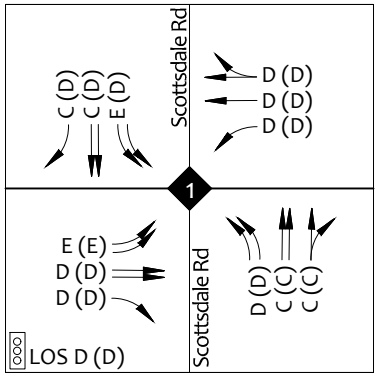
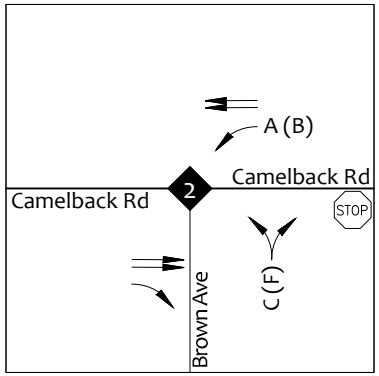
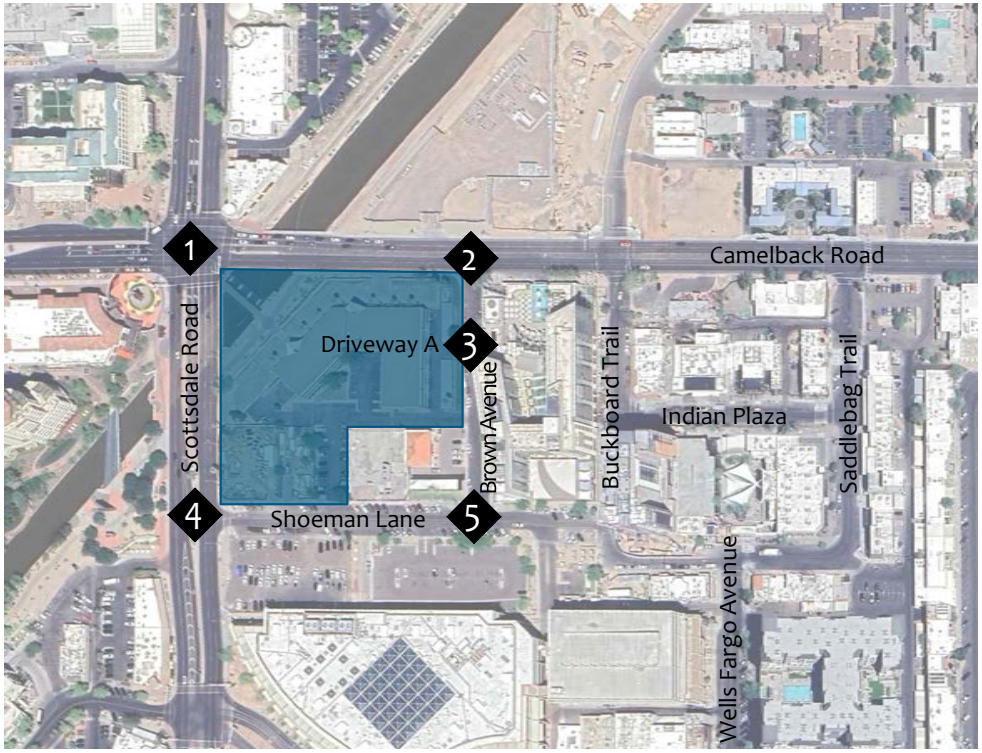
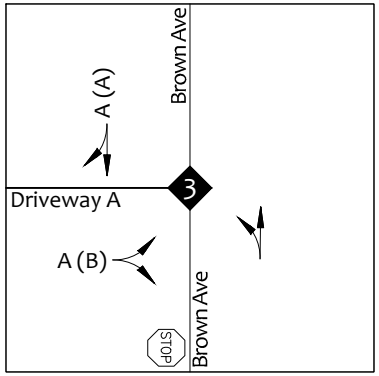


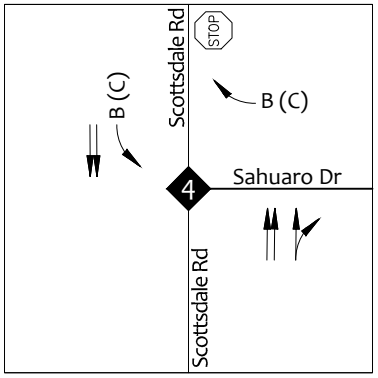
FIGURE 10 | YEAR 2026 NO BUILD CAPACITY ANALYSIS











Legend

AM(PM)	Peak Hour Capacity Analysis
X	Intersection
	Lane Configuration

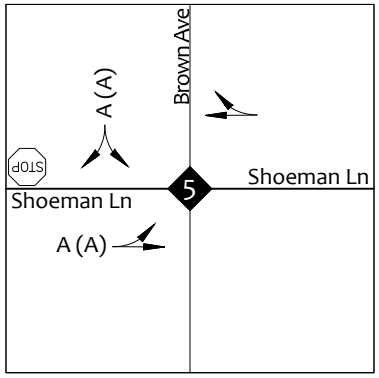


FIGURE 11 | YEAR 2026 BUILD CAPACITY ANALYSIS

7. RECOMMENDATIONS & CONCLUSIONS

The proposed City Center development will be located on the southeast corner of Scottsdale Road and Camelback Road, in Scottsdale, Arizona. The proposed City Center development will include the following land uses:

- **Multi-Family Residential** 272 units
- **Retail** 12,434 square feet
- **Restaurant** 19,264 square feet

Trip Generation

The proposed development is anticipated to generate 2,835 weekday trips with 107 occurring during the AM peak hour and 212 trips during the PM peak hour.

Trip Generation Comparison

The build-out of the proposed City Center development is anticipated to generate 2,772 (51%) fewer weekday trips, with 118 (53%) fewer trips during the AM peak hour, and 224 (54%) fewer trips during the PM peak hour than the previously proposed development.

Recommendations

The following are the recommendations with the build out of the proposed City Center development:

Camelback Road and Brown Avenue (2)

- Build out of an eastbound right turn deceleration lane.

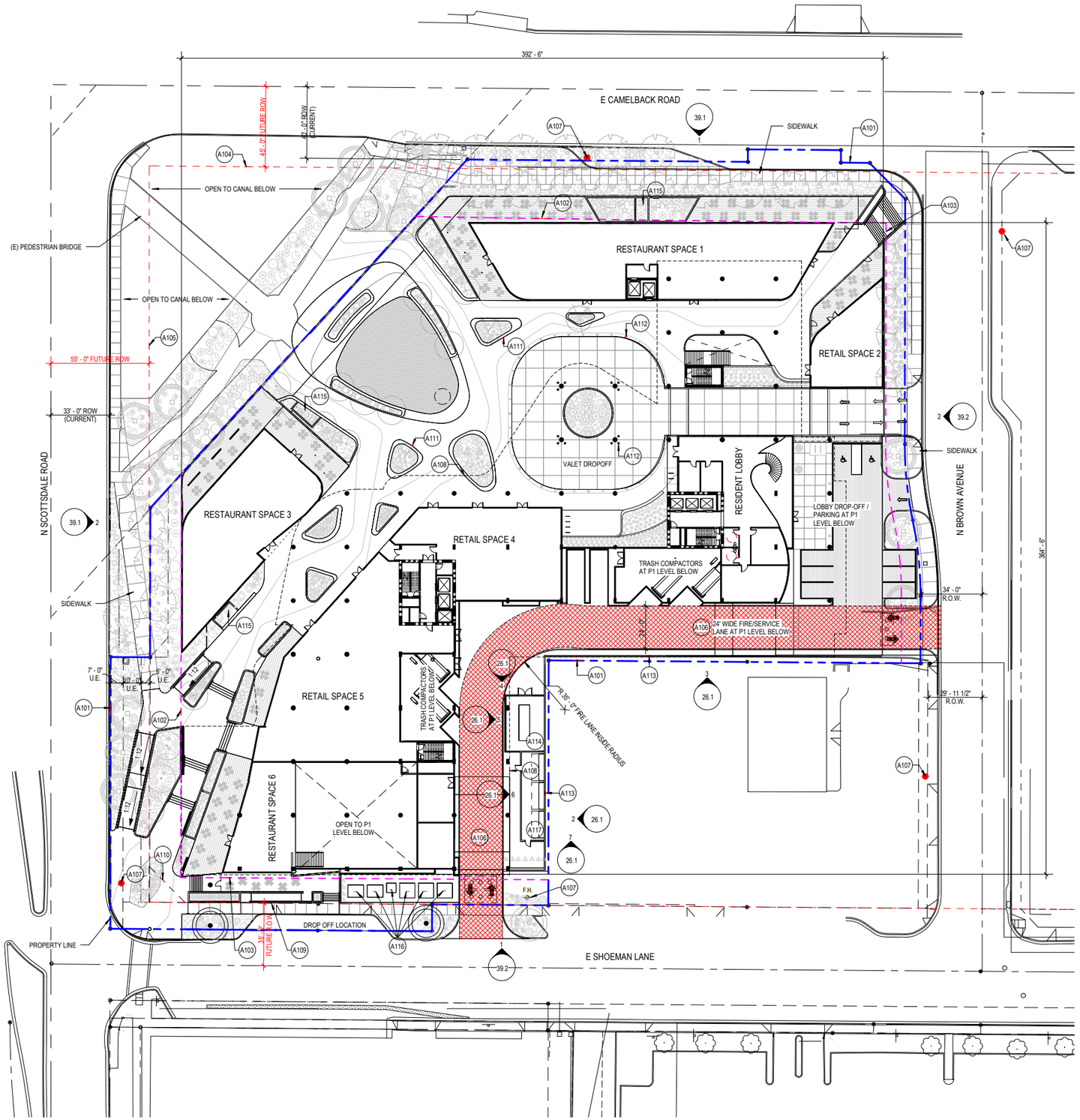
Brown Avenue and Driveway A (3)

- Build out of a full access driveway allowing all movements into and out of the proposed development.

As with any new development and potential change in traffic patterns, the following is recommended:

- **Monitor and Adjust Signal Timing**
  Monitor traffic patterns in the area and if necessary, adjust nearby signal timing.

Appendix A – Proposed Site Plan



NORTH

1 ARCHITECTURAL SITE PLAN
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"

SITE PLAN DATA

ADDRESS	7201 E CAMELBACK ROAD SCOTTSDALE, AZ 85251
APN	173-41-004 173-41-005 173-41-006A 173-41-015A 173-41-016A 173-41-017A 173-41-021A
EXISTING ZONING	D/DMU-3, PBD, DO
PROPOSED ZONING	D/DMU-3, PBD, DO
SUB-DISTRICT	DOWNTOWN MULTIPLE USE TYPE 3
TOTAL SITE AREA	3.16 ACRES (NET) 137,836 SF (NET)

RETAIL BUILDING AREA	**31,698**	**SF**
RETAIL USE SUBTOTAL	*12,434*	
RESTAURANT USE SUBTOTAL	*19,264*	
RESIDENTIAL BUILDING AREA	**435,653**	**SF**
RESIDENTIAL UNIT QUANTITY	*272*	*UNITS*
TOTAL BUILDING AREA (EXCLUDING GARAGE)	**467,351**	**SF**
GARAGE AREA	273,396	SF
TOTAL BUILDING AREA (INCLUDING GARAGE)	**740,747**	**SF**

MAXIMUM ALLOWABLE HEIGHT *PER ZONING CASE 9-NZ-2020, STIPULATION #8*	156'-0"	*(INCLUSIVE OF ROOFTOP APPURTENANCES)*
PROVIDED HEIGHT	156'-0"	
MAX ALLOWABLE GFAR, NON-RESIDENTIAL *PER ZONING CASE 9-NZ-2020, STIPULATION #5*	1.3	
ACTUAL GFAR, NON-RESIDENTIAL	0.30	
BUILDING SETBACKS FROM CURB *PER ZONING ORDINANCE, TABLE 5.3006.C*	40'-0" 20'-0"	*(SCOTTSDALE AND CAMELBACK)* *(SHOEMAN AND BROWN)*
REQUIRED OPEN SPACE *PER ZONING CASE 9-NZ-2020, STIPULATION #10*	15,000	SF
PROVIDED OPEN SPACE	39,129	SF *(BEHIND SETBACK LINE)*
REQUIRED PARKING SPACES *PER CITY CENTER PARKING MASTER PLAN*	488	
PROVIDED PARKING SPACES	554	
REQUIRED BICYCLE PARKING (RESIDENT) REQUIRED BICYCLE PARKING (RETAIL/GUEST) *PER ZONING ORDINACE, § 9.103.C*	42 16	*(1 BICYCLE SPACE PER 10 VEHICLE SPACES)*
PROVIDED BICYCLE PARKING SPACES	64	*(8 LOOP RACKS FOR 2 BICYCLES EA - RETAIL)* *(12 4-BIKE STORAGE RACKS - RESIDENT)*
REQUIRED ACCESSIBLE PARKING SPACES *PER ZONING ORDINACE § 9.105.C.3 AND ADA TABLE...*	10	*(2% OF TOTAL PARKING SPACES)*
PROVIDED ACCESSIBLE PARKING SPACES	12	
REQUIRED VAN PARKING SPACES *PER ZONING ORDINACE § 9.105.C.3 AND ADA TABLE...*	2	*(1 PER EVERY 6 ACCESSIBLE SPACES)*
PROVIDED VAN PARKING SPACES	3	
REQUIRED OFF-STREET LOADING SPACES *PER SCOTTSDALE PLANNING & DEVELOPMENT*	1	
PROVIDED OFF-STREET LOADING SPACES	3	

	UNIT TYPE					
	1 BR	1 BR + DEN	2 BR	2 BR + DEN	3 BR	PER FLOOR
LEVEL 2	2		4			6
LEVEL 3	13	3	9	2	2	29
LEVEL 4	13	3	9	2	2	29
LEVEL 5	13	3	9	2	2	29
LEVEL 6	9	1	9	1		20
LEVEL 7	8	1	10	1		20
LEVEL 8	8	1	10	1		20
LEVEL 9	8	1	10	1		20
LEVEL 10	8	1	10	1		20
LEVEL 11	8	1	10	1		20
LEVEL 12	8	1	10	1		20
LEVEL 13	9	1	9	1		20
LEVEL 14	9	1	8	1		19
SUBTOTAL	**116**	**18**	**117**	**15**	**6**	
	43%	*7%*	*43%*	*6%*	*2%*	*100%*
					TOTAL UNITS	**272**

SHEET KEYNOTES

A101 PROPERTY LINE
A102 40' SETBACK LINE (TABLE 5.3006.C)
A103 20' SETBACK LINE (TABLE 5.3006.C)
A104 45' FUTURE R.O.W. (PER 9-ZN-2020, #24.A)
A105 55' FUTURE R.O.W. (PER 9-ZN-2020, #24.B)
A106 24' WIDE FIRE LANE
A107 FIRE HYDRANT, EXISTING TO REMAIN
A108 LINE OF BUILDING ABOVE
A109 35' FUTURE R.O.W. (PER ALTA SURVEY)
A110 20' SITE VIEW TRIANGLE (PER ALTA SURVEY)
A111 PLANTER, SEE LANDSCAPE/HARDSCAPE PLANS
A112 BOLLARD, TYP
A113 10'-0" TALL MASONRY SCREEN WALL
A114 GENERATOR AND MASONRY ENCLOSURE
A115 GARAGE EXHAUST GRATE
A116 APS EQUIPMENT AND SCREEN ENCLOSURE
A117 SES CABINETS AND MASONRY ENCLOSURE

SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

SMITHGROUP

455 NORTH THIRD STREET
SUITE 250
PHOENIX, AZ 85004
602.265.2200
smithgroup.com

SUSTAINABILITY ENGINEERING GROUP
CIVIL ENGINEER
8280 E GELDING DRIVE, SUITE 101
SCOTTSDALE, AZ 85260
480.588.7226

SMITHGROUP
LANDSCAPE ARCHITECT
455 N THIRD STREET, SUITE 250
PHOENIX, AZ 85004
602.265.2200

ISSUED FOR	REV	DATE

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

CONCEPTUAL PLANS FOR DRB REVIEW ONLY

SHEET TITLE

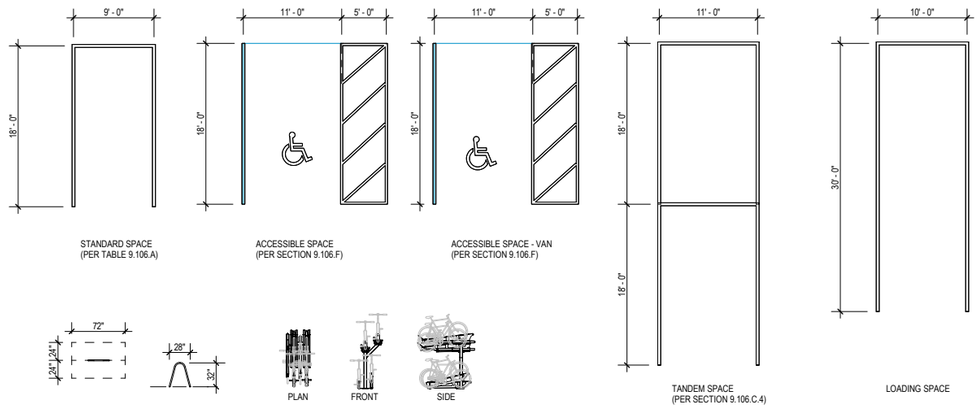
ARCHITECTURAL SITE PLAN

14165.000
PROJECT NUMBER

DRB **24.1**
SHEET NUMBER

START Sheet
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Plot Date:

TYPICAL SPACE DIMENSIONS



PARKING CALCULATIONS

PARKING SPACE COUNT

SPACE TYPE	QUANTITY
LEVEL P1	
STANDARD PARKING SPACE	112
ACCESSIBLE PARKING SPACE	3
ACCESSIBLE PARKING SPACE - VAN	3
TANDEM PARKING SPACE	12
130	
LEVEL P2	
STANDARD PARKING SPACE	199
ACCESSIBLE PARKING SPACE	3
TANDEM PARKING SPACE	6
208	
LEVEL P3	
STANDARD PARKING SPACE	205
ACCESSIBLE PARKING SPACE	3
TANDEM PARKING SPACE	8
216	
TOTAL PARKING SPACES: 554	

TOTAL PARKING SPACES PROVIDED: ***554 SPACES (+66 SPACE SURPLUS)***

MAXIMUM PARKING DEMAND: ***488 SPACES****

**SEE CITY CENTER PARKING MASTER PLAN*

GRAPHIC LEGEND

- STANDARD PARKING SPACE
- ACCESSIBLE PARKING SPACE
- ACCESSIBLE PARKING SPACE - VAN
- TANDEM PARKING SPACE
- LOADING SPACE (10' X 30')



NORTH

1 PARKING PLAN - LEVEL P3
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"



NORTH

2 PARKING PLAN - LEVEL P2
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"

SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

SMITHGROUP

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ISSUED FOR	REV	DATE

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

CONCEPTUAL PLANS FOR DRB REVIEW ONLY

SHEET TITLE

PARKING PLANS

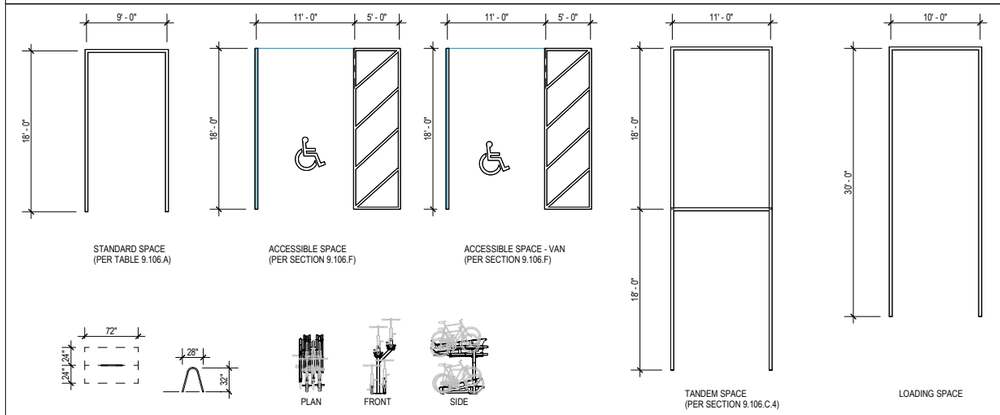
PROJECT NUMBER 14165.000

DRB **35.1**

SHEET NUMBER

Plot Date: 6/29/2023 3:24:10 PM Author

TYPICAL SPACE DIMENSIONS



PARKING CALCULATIONS

PARKING SPACE COUNT

SPACE TYPE	QUANTITY
LEVEL P1	
STANDARD PARKING SPACE	112
ACCESSIBLE PARKING SPACE	3
ACCESSIBLE PARKING SPACE - VAN	3
TANDEM PARKING SPACE	12
130	
LEVEL P2	
STANDARD PARKING SPACE	199
ACCESSIBLE PARKING SPACE	3
TANDEM PARKING SPACE	6
208	
LEVEL P3	
STANDARD PARKING SPACE	205
ACCESSIBLE PARKING SPACE	3
TANDEM PARKING SPACE	8
216	
TOTAL PARKING SPACES: 554	

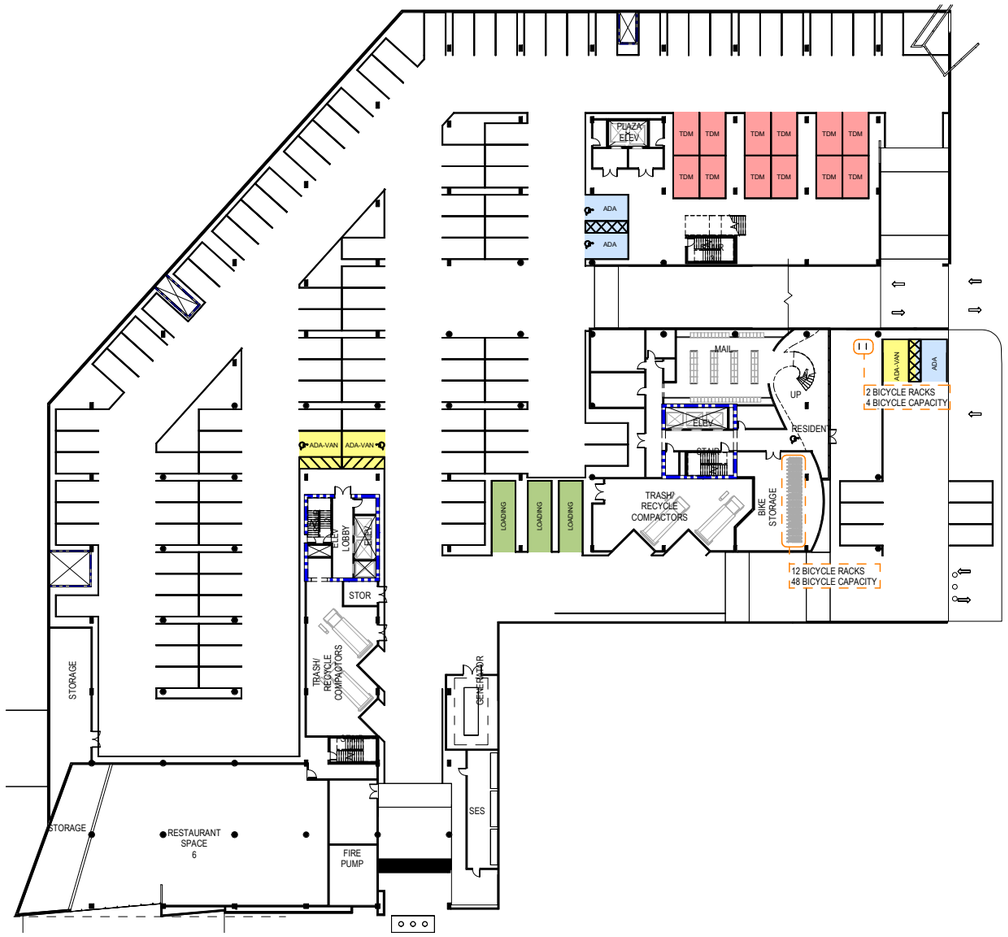
TOTAL PARKING SPACES PROVIDED: ***554 SPACES (+66 SPACE SURPLUS)***

MAXIMUM PARKING DEMAND: ***488 SPACES****

**SEE CITY CENTER PARKING MASTER PLAN*

GRAPHIC LEGEND

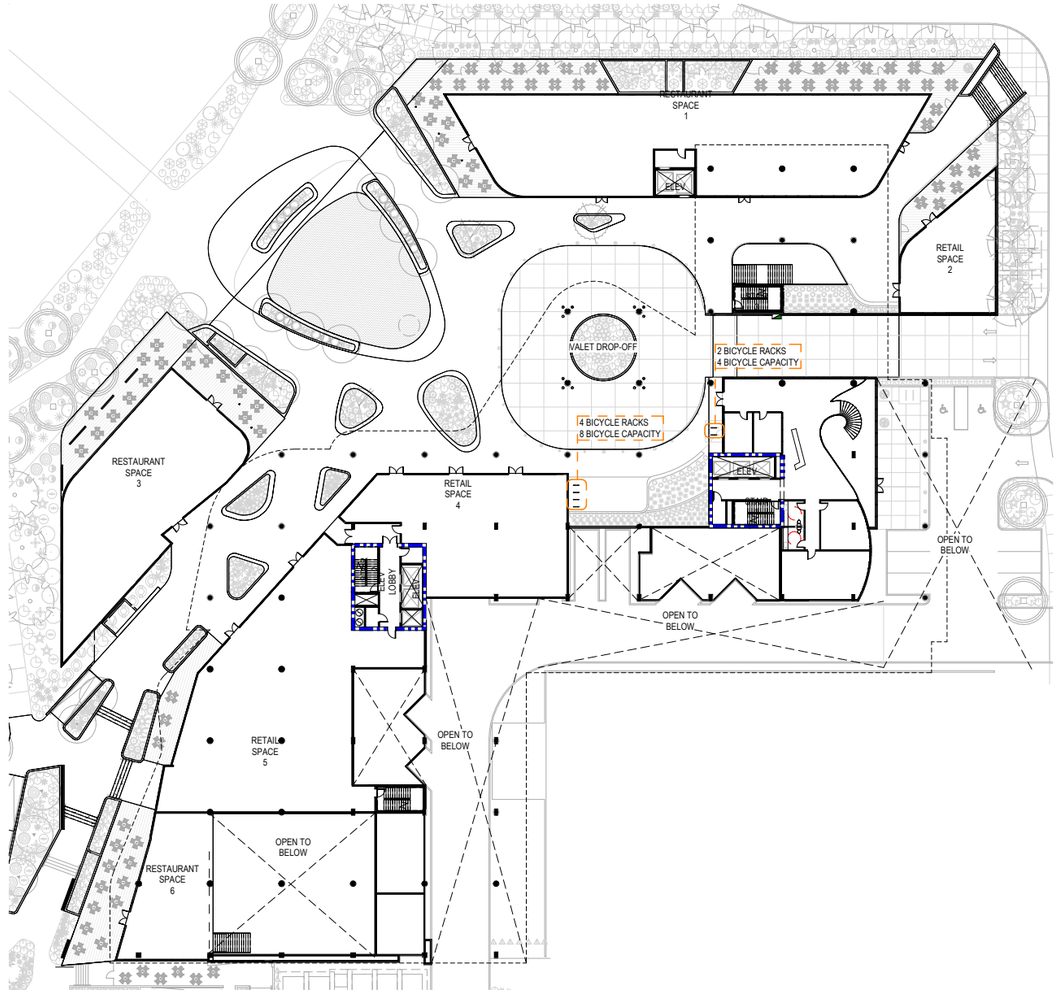
- STANDARD PARKING SPACE
- ACCESSIBLE PARKING SPACE
- ACCESSIBLE PARKING SPACE - VAN
- TANDEM PARKING SPACE
- LOADING SPACE (10' X 30')



NORTH

1 PARKING PLAN - LEVEL P1
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"



NORTH

2 PARKING PLAN - LEVEL 1
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"

SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

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LANDSCAPE ARCHITECT
455 N THIRD STREET, SUITE 250
PHOENIX, AZ 85004
602.265.2200

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SEALS AND SIGNATURES

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SHEET TITLE

PARKING PLANS

14165.000
PROJECT NUMBER

DRB **35.2**
SHEET NUMBER

Author

6/29/2023 3:24:15 PM
Plot Date:

Appendix B – Parcel Information

173-41-006A **Land Parcel**

This is a Land parcel located at 4443 N SCOTTSDALE RD SCOTTSDALE 85251. The current owner is CITY CENTER OPPORTUNITY FUND LLC. It is located in the SHOEMAN TRACT subdivision, and MCR 4231. Its current year full cash value is $1,364,100.

MAPS | PICTOMETRY | $ VIEW/PAY TAX BILL | DEED

OWNER | VALUATIONS | MAP FERRET | SIMILAR PARCELS

REGISTER RENTAL | PRINT DETAILS

PROPERTY INFORMATION

4443 N SCOTTSDALE RD SCOTTSDALE 85251

MCR #	4231
Description	LT 5 SHOEMAN TRACT MCR 42-31 EX S 15F & W 22F FOR ROW PER MOD ON THE WATERFRONT MCR 1511-45
Lat/Long	|
Lot Size	12,894 sq ft.
Zoning	D/DMU-2
Lot #	5
High School District	SCOTTSDALE UNIFIED #48
Elementary School District	SCOTTSDALE UNIFIED SCHOOL DISTRICT
Local Jurisdiction	SCOTTSDALE
S/T/R	23 2N 4E
Market Area/Neighborhood	19/006
Subdivision (8 Parcels)	SHOEMAN TRACT

OWNER INFORMATION

CITY CENTER OPPORTUNITY FUND LLC

Mailing Address	4501 N SCOTTSDALE RD STE 201, SCOTTSDALE, AZ 85251
Deed Number	20230202538
Last Deed Date	04/20/2023
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	2024	2023	2022	2021	2020
Full Cash Value	$1,364,100	$1,078,500	$909,200	$909,200	$782,537
Limited Value	$493,187	$469,702	$447,335	$426,033	$405,746
Legal Class	2.R	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	AG / VACANT LAND / NON-PROFIT R/P
Assessment Ratio	15%	15%	15%	15%	15%
Assessed LPV	$73,978	$70,455	$67,100	$63,905	$60,862
Property Use Code	0021	0021	0021	0021	0021
PU Description	Vacant Land	Vacant Land	Vacant Land	Vacant Land	Vacant Land
Tax Area Code	481400	481400	481400	481400	481400
Valuation Source	Notice	Notice	Notice	Notice	Notice

MAP FERRET MAPS

Mapferret maps, also known as MapId maps, pdf maps, or output maps are now available here without having to search.

- Parcel Maps (1)
- Book/Map Maps (3)

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173-41-005 **Commercial Parcel**

This is a Commercial parcel located at 7216 E SHOEMAN LN SCOTTSDALE 85251. The current owner is CITY CENTER OPPORTUNITY FUND LLC. It is located in the SHOEMAN TRACT subdivision, and MCR 4231. Its current year full cash value is $1,002,484.

MAPS | PICTOMETRY | $ VIEW/PAY TAX BILL | DEED
OWNER | VALUATIONS | ADDITIONAL INFO | SKETCHES
MAP FERRET | SIMILAR PARCELS | REGISTER RENTAL | PRINT DETAILS

PROPERTY INFORMATION

7216 E SHOEMAN LN SCOTTSDALE 85251

MCR #	4231
Description	SHOEMAN TRACT LOT 4 W 64'
Lat/Long	|
Lot Size	9,753 sq ft.
Zoning	C-3
Lot #	4
High School District	SCOTTSDALE UNIFIED #48
Elementary School District	SCOTTSDALE UNIFIED SCHOOL DISTRICT
Local Jurisdiction	SCOTTSDALE
S/T/R	23 2N 4E
Market Area/Neighborhood	19/006
Subdivision (8 Parcels)	SHOEMAN TRACT

OWNER INFORMATION

CITY CENTER OPPORTUNITY FUND LLC

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

In Care Of	GENERAL COUNSEL
Deed Number	20230168658
Last Deed Date	04/03/2023
Sale Date	n/a
Sale Price	n/a

VALUATION INFORMATION

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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	2024	2023	2022	2021	2020
Full Cash Value	$1,002,484	$811,700	$683,900	$684,100	$601,200
Limited Value	$482,479	$459,504	$437,623	$416,784	$396,937
Legal Class	1.12	1.12	1.12	1.12	1.12
Description	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P
Assessment Ratio	16.5%	17%	17.5%	18%	18%
Assessed LPV	$82,021	$78,116	$76,584	$75,021	$71,449
Property Use Code	2010	2010	2010	2010	2010
PU Description	Restaurants/Bars	Restaurants/Bars	Restaurants/Bars	Restaurants/Bars	Restaurants/Bars
Tax Area Code	481400	481400	481400	481400	481400
Valuation Source	Notice	Notice	Notice	Notice	Notice

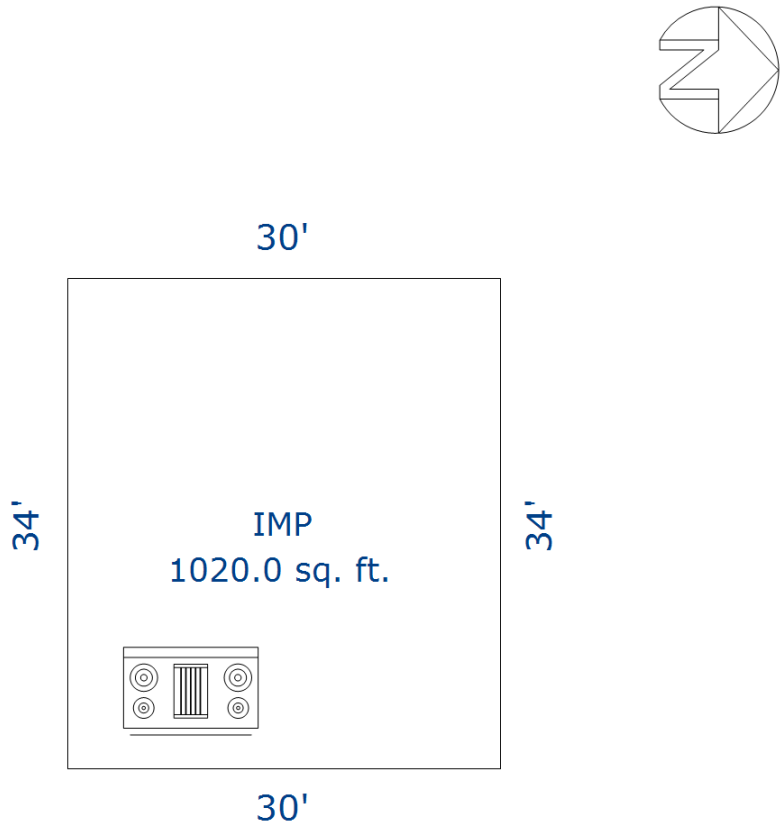
ADDITIONAL PROPERTY INFORMATION

Additional property data.

Description	Imp #	Occupancy	Rank	CCI	Age	Sq Ft.
Restaurant	000101	350	2	C	64	1,020
Site Improvements	000201	163	2	D	64	1

BUILDING SKETCHES

Sketches that illustrate the external dimensions of a property.



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173-41-004 **Commercial Parcel**

This is a Commercial parcel located at 7222 E SHOEMAN LN SCOTTSDALE 85251. The current owner is CITY CENTER OPPORTUNITY FUND LLC. It is located in the SHOEMAN TRACT subdivision, and MCR 4231. Its current year full cash value is $890,500.

MAPS | PICTOMETRY | $ VIEW/PAY TAX BILL | DEED

OWNER | VALUATIONS | MAP FERRET | SIMILAR PARCELS

REGISTER RENTAL | PRINT DETAILS

PROPERTY INFORMATION

7222 E SHOEMAN LN SCOTTSDALE 85251

MCR #	4231
Description	SHOEMAN TRACT LOT 4 E 65' EX S 15' RD
Lat/Long	|
Lot Size	8,905 sq ft.
Zoning	C-3
Lot #	4
High School District	SCOTTSDALE UNIFIED #48
Elementary School District	SCOTTSDALE UNIFIED SCHOOL DISTRICT
Local Jurisdiction	SCOTTSDALE
S/T/R	23 2N 4E
Market Area/Neighborhood	19/006
Subdivision (8 Parcels)	SHOEMAN TRACT

OWNER INFORMATION

CITY CENTER OPPORTUNITY FUND LLC

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

In Care Of	GENERAL COUNSEL
Deed Number	20230168658
Last Deed Date	04/03/2023
Sale Date	n/a
Sale Price	n/a

VALUATION INFORMATION

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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	2024	2023	2022	2021	2020
Full Cash Value	$890,500	$801,400	$801,400	$801,400	$757,600
Limited Value	$399,893	$380,851	$362,715	$345,443	$328,993
Legal Class	1.12	1.12	1.12	1.12	1.12
Description	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P
Assessment Ratio	16.5%	17%	17.5%	18%	18%
Assessed LPV	$65,982	$64,745	$63,475	$62,180	$59,219
Property Use Code	1074	1074	1074	1074	1074
PU Description	Misc. Commercial	Misc. Commercial	Misc. Commercial	Misc. Commercial	Misc. Commercial
Tax Area Code	481400	481400	481400	481400	481400
Valuation Source	Notice	Notice	Notice	Notice	Notice

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173-41-017A **Commercial Parcel**

This is a Commercial parcel The current owner is CITY CENTER OPPORTUNITY FUND LLC. It is located in the SHOEMAN TRACT subdivision, and MCR 4231. Its current year full cash value is $2,304,000.

MAPS | PICTOMETRY | $ VIEW/PAY TAX BILL | DEED

OWNER | VALUATIONS | MAP FERRET | SIMILAR PARCELS

REGISTER RENTAL | PRINT DETAILS

PROPERTY INFORMATION

MCR #	4231
Description	SHOEMAN TRACT TRACT A BEG SW COR TH E 245F TO NE COR LOT 4 N 110F N 84D 04' W 143.08F TO NW LN S 42D 11F W ALG NW LN 153F TO W LN TH S 10F TO BEG EX PER DKT/PG 14489-118-119
Lat/Long	|
Lot Size	23,040 sq ft.
Zoning	C-3
Lot #	
High School District	SCOTTSDALE UNIFIED #48
Elementary School District	SCOTTSDALE UNIFIED SCHOOL DISTRICT
Local Jurisdiction	SCOTTSDALE
S/T/R	23 2N 4E
Market Area/Neighborhood	19/006
Subdivision (8 Parcels)	SHOEMAN TRACT

OWNER INFORMATION

CITY CENTER OPPORTUNITY FUND LLC

Mailing Address	4501 N SCOTTSDALE RD STE 201, SCOTTSDALE, AZ 85251
In Care Of	GENERAL COUNSEL
Deed Number	20230168658
Last Deed Date	04/03/2023
Sale Date	n/a
Sale Price	n/a

VALUATION INFORMATION

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Tax Year	2024	2023	2022	2021	2020
Full Cash Value	$2,304,000	$2,073,600	$2,073,600	$2,073,600	$1,960,300
Limited Value	$1,034,672	$985,402	$938,478	$893,789	$851,228
Legal Class	1.12	1.12	1.12	1.12	1.12
Description	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P
Assessment Ratio	16.5%	17%	17.5%	18%	18%
Assessed LPV	$170,720	$167,518	$164,234	$160,882	$153,221
Property Use Code	1074	1074	1074	1074	1074
PU Description	Misc. Commercial	Misc. Commercial	Misc. Commercial	Misc. Commercial	Misc. Commercial
Tax Area Code	481400	481400	481400	481400	481400
Valuation Source	Notice	Notice	Notice	Notice	Notice

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173-41-016B **Commercial Parcel**

This is a Commercial parcel located at 7201 E CAMELBACK RD SCOTTSDALE 85251. The current owner is CITY CENTER OPPORTUNITY FUND LLC. It is located in the SHOEMAN TRACT subdivision, and MCR 4231. Its current year full cash value is $13,911,700.

MAPS | PICTOMETRY | $ VIEW/PAY TAX BILL | DEED
OWNER | VALUATIONS | ADDITIONAL INFO | SKETCHES
MAP FERRET | SIMILAR PARCELS | REGISTER RENTAL | PRINT DETAILS

PROPERTY INFORMATION

7201 E CAMELBACK RD SCOTTSDALE 85251

MCR #	4231
Description	SHOEMAN TRACT TRACT A EX E 268.5F & EX BEG SW COR TH E 245F N 110F W 143.08F TO NW LN TH SW 153F S 10F TO BEG & EX PER DKT/PG 3882-288 & EX PER DKT/PG 14489-118-119
Lat/Long	|
Lot Size	51,713 sq ft.
Zoning	C-3
Lot #	
High School District	SCOTTSDALE UNIFIED #48
Elementary School District	SCOTTSDALE UNIFIED SCHOOL DISTRICT
Local Jurisdiction	SCOTTSDALE
S/T/R	23 2N 4E
Market Area/Neighborhood	19/006
Subdivision (8 Parcels)	SHOEMAN TRACT

OWNER INFORMATION

CITY CENTER OPPORTUNITY FUND LLC

Mailing Address	4501 N SCOTTSDALE RD STE 201, SCOTTSDALE, AZ 85251
In Care Of	GENERAL COUNSEL
Deed Number	20230168658
Last Deed Date	04/03/2023
Sale Date	n/a
Sale Price	n/a

VALUATION INFORMATION

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Full Cash Value	$13,911,700	$16,895,500	$12,587,000	$12,262,900	$11,892,300
Limited Value	$7,966,414	$7,587,061	$7,225,772	$6,881,688	$6,553,989
Legal Class	1.12	1.12	1.12	1.12	1.12
Description	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P
Assessment Ratio	16.5%	17%	17.5%	18%	18%
Assessed LPV	$1,314,458	$1,289,800	$1,264,510	$1,238,704	$1,179,718
Property Use Code	1513	1513	1513	1513	1513
PU Description	Office Buildings	Office Buildings	Office Buildings	Office Buildings	Office Buildings
Tax Area Code	481400	481400	481400	481400	481400
Valuation Source	Notice	Notice	Notice	Notice	Notice

ADDITIONAL PROPERTY INFORMATION

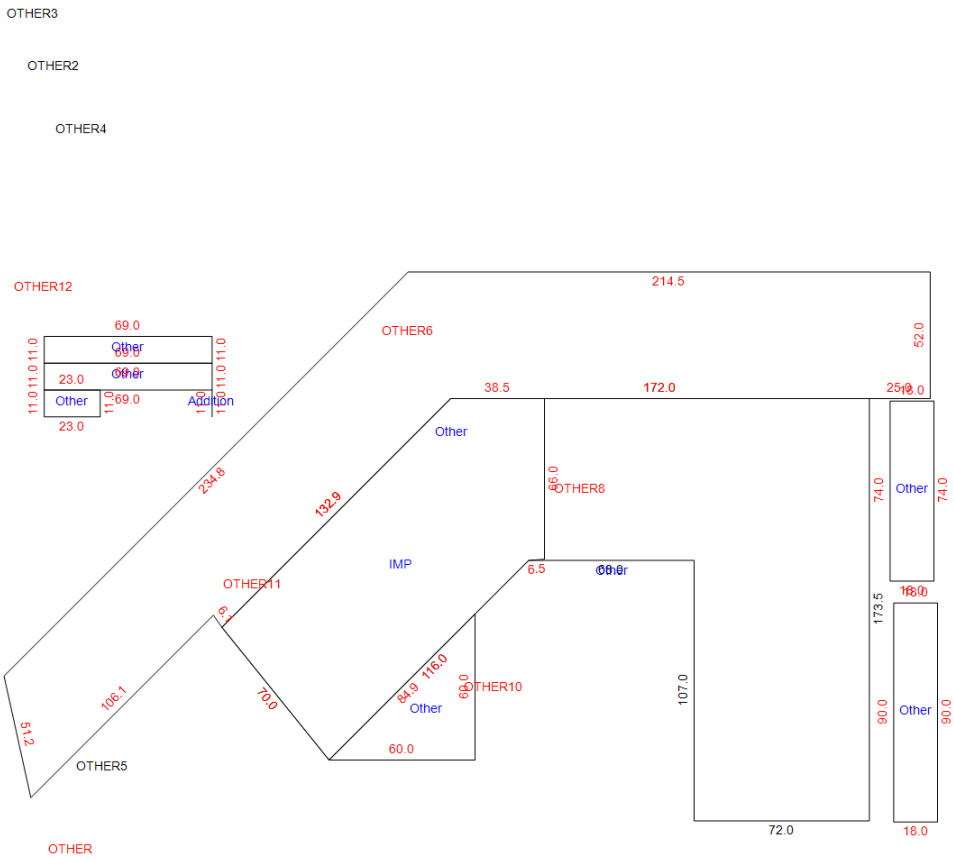
Additional property data.

Description	Imp #	Occupancy	Rank	CCI	Age	Sq Ft.
Office Building	000101	344	3	B	41	68,782
Parking Level	000102	577	1	B	40	30,292
Parking Level	000103	577	1	B	40	25,960

Description	Imp #	Occupancy	Rank	CCI	Age	Sq Ft.
Site Improvements	000201	163	2	D	40	1

BUILDING SKETCHES

Sketches that illustrate the external dimensions of a property.



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173-41-015A **Commercial Parcel**

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MAPS | PICTOMETRY | $ VIEW/PAY TAX BILL | DEED

OWNER | VALUATIONS | MAP FERRET | SIMILAR PARCELS

REGISTER RENTAL | PRINT DETAILS

PROPERTY INFORMATION

MCR #	4231
Description	SHOEMAN TRACT PT TR A W 131F OF E 268.5F OF N 135.3F EX E 26F RD & EX N 7F & EX ER DKT/PG 14489-115-116
Lat/Long	|
Lot Size	11,172 sq ft.
Zoning	C-3
Lot #	
High School District	SCOTTSDALE UNIFIED #48
Elementary School District	SCOTTSDALE UNIFIED SCHOOL DISTRICT
Local Jurisdiction	SCOTTSDALE
S/T/R	23 2N 4E
Market Area/Neighborhood	19/006
Subdivision (8 Parcels)	SHOEMAN TRACT

OWNER INFORMATION

CITY CENTER OPPORTUNITY FUND LLC

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

In Care Of	GENERAL COUNSEL
Deed Number	20230168658
Last Deed Date	04/03/2023
Sale Date	n/a
Sale Price	n/a

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Full Cash Value	$1,117,200	$1,005,400	$1,005,400	$1,005,400	$950,500
Limited Value	$497,953	$474,241	$451,658	$430,150	$409,667
Legal Class	1.12	1.12	1.12	1.12	1.12
Description	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P
Assessment Ratio	16.5%	17%	17.5%	18%	18%
Assessed LPV	$82,162	$80,621	$79,040	$77,427	$73,740
Property Use Code	1074	1074	1074	1074	1074
PU Description	Misc. Commercial	Misc. Commercial	Misc. Commercial	Misc. Commercial	Misc. Commercial
Tax Area Code	481400	481400	481400	481400	481400
Valuation Source	Notice	Notice	Notice	Notice	Notice

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173-41-021A **Commercial Parcel**

This is a Commercial parcel located at 4424 N BROWN AVE SCOTTSDALE 85251. The current owner is CITY CENTER OPPORTUNITY FUND LLC. It is located in the SHOEMAN TRACT subdivision, and MCR 4231. Its current year full cash value is $1,404,700.

MAPS | PICTOMETRY | $ VIEW/PAY TAX BILL | DEED

OWNER | VALUATIONS | MAP FERRET | SIMILAR PARCELS

REGISTER RENTAL | PRINT DETAILS

PROPERTY INFORMATION

4424 N BROWN AVE SCOTTSDALE 85251

MCR #	4231
Description	SHOEMAN TRACT TR A S 151.3F OF W 131F OF E 268.5F EX E 26F RD & EX PER DKT/PG 14489-115-116
Lat/Long	|
Lot Size	14,047 sq ft.
Zoning	C-3
Lot #	
High School District	SCOTTSDALE UNIFIED #48
Elementary School District	SCOTTSDALE UNIFIED SCHOOL DISTRICT
Local Jurisdiction	SCOTTSDALE
S/T/R	23 2N 4E
Market Area/Neighborhood	19/006
Subdivision (8 Parcels)	SHOEMAN TRACT

OWNER INFORMATION

CITY CENTER OPPORTUNITY FUND LLC

Mailing Address	4501 N SCOTTSDALE RD STE 201, SCOTTSDALE, AZ 85251
In Care Of	GENERAL COUNSEL
Deed Number	20230168658
Last Deed Date	04/03/2023
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	2024	2023	2022	2021	2020
Full Cash Value	$1,404,700	$1,264,200	$1,264,200	$1,264,200	$1,195,100
Limited Value	$630,707	$600,674	$572,070	$544,829	$518,885
Legal Class	1.12	1.12	1.12	1.12	1.12
Description	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P	COMMERCIAL / OTHER R/P
Assessment Ratio	16.5%	17%	17.5%	18%	18%
Assessed LPV	$104,066	$102,115	$100,112	$98,069	$93,399
Property Use Code	1074	1074	1074	1074	1074
PU Description	Misc. Commercial	Misc. Commercial	Misc. Commercial	Misc. Commercial	Misc. Commercial
Tax Area Code	481400	481400	481400	481400	481400
Valuation Source	Notice	Notice	Notice	Notice	Notice

MAP FERRET MAPS

Mapferret maps, also known as MapId maps, pdf maps, or output maps are now available here without having to search.

- Parcel Maps (1)
- Book/Map Maps (3)

CAUTION! USERS SHOULD INDEPENDENTLY RESEARCH AND VERIFY INFORMATION ON THIS WEBSITE BEFORE RELYING ON IT.

The Assessor's Office has compiled information on this website that it uses to identify, classify, and value real and personal property. Please contact the Maricopa County S.T.A.R. Center at (602) 506-3406 if you believe any information is incomplete, out of date, or incorrect so that appropriate corrections can be addressed. Please note that a statutory process is also available to correct errors pursuant to Arizona Revised Statutes 42-16254.

The Assessor does not guarantee that any information provided on this website is accurate, complete, or current. In many instances, the Assessor has gathered information from independent sources and made it available on this site, and the original information may have contained errors and omissions. Errors and omissions may also have occurred in the process of gathering, interpreting, and reporting the information. Information on the website is not updated in "real time". In addition, users are cautioned that the process used on this site to illustrate the boundaries of the adjacent parcels is not always consistent with the recorded documents for such parcels. The parcel boundaries depicted on this site are for illustrative purposes only, and the exact relationship of adjacent parcels should be independently researched and verified. The information provided on this site is not the equivalent of a title report or a real estate survey. Users should independently research, investigate and verify all information before relying on it or in the preparation of legal documents.

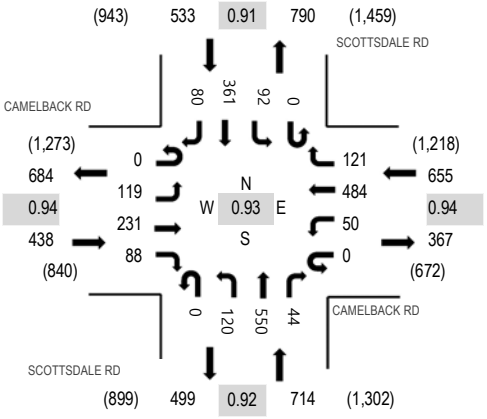
By using this website, you acknowledge having read the above and waive any right you may have to claim against Maricopa County, its officers, employees, and contractors arising out of my reliance on or the use of the information provided on this website.

Appendix C – Traffic Count Data

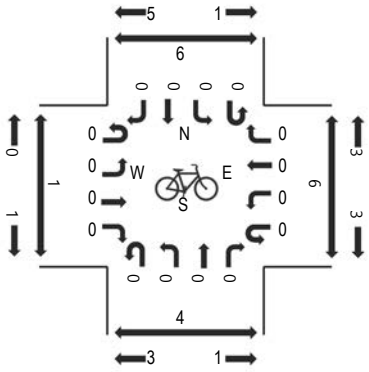
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 SCOTTSDALE RD & CAMELBACK RD AM
Date: Tuesday, June 13, 2023
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

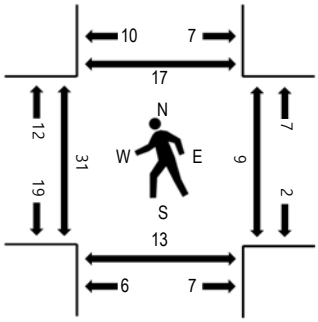
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

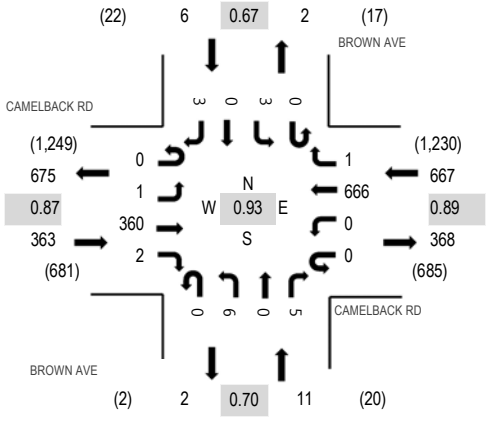
Traffic Counts - Motorized Vehicles

Interval Start Time	CAMELBACK RD Eastbound				CAMELBACK RD Westbound				SCOTTSDALE RD Northbound				SCOTTSDALE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	24	37	12	0	6	76	13	0	13	88	6	0	19	69	15	378	1,963	9	3	7	6
7:15 AM	0	25	60	31	0	1	109	17	0	18	115	9	0	10	63	17	475	2,133	14	4	3	7
7:30 AM	0	20	53	22	0	7	139	28	0	21	137	12	0	10	66	17	532	2,255	7	5	4	13
7:45 AM	0	30	63	25	0	15	120	32	0	21	140	8	0	18	83	23	578	2,290	6	2	5	0
8:00 AM	0	36	51	18	0	12	109	28	0	30	136	8	0	22	82	16	548	2,340	8	3	2	6
8:15 AM	0	26	62	20	0	12	122	32	0	30	156	8	0	18	91	20	597		5	2	5	2
8:30 AM	0	29	66	20	0	10	109	27	0	24	124	11	0	27	102	18	567		13	3	5	7
8:45 AM	0	28	52	30	0	16	144	34	0	36	134	17	0	25	86	26	628		5	1	1	2
Count Total	0	218	444	178	0	79	928	211	0	193	1,030	79	0	149	642	152	4,303		67	23	32	43
Peak Hour	0	119	231	88	0	50	484	121	0	120	550	44	0	92	361	80	2,340		31	9	13	17

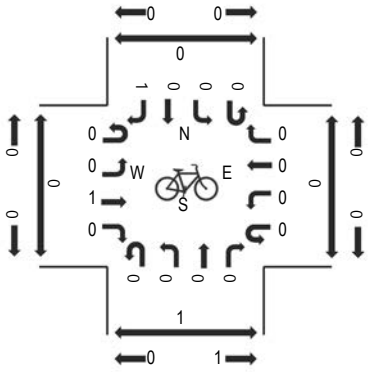
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 BROWN AVE & CAMELBACK RD AM
Date: Tuesday, June 13, 2023
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:45 AM - 09:00 AM

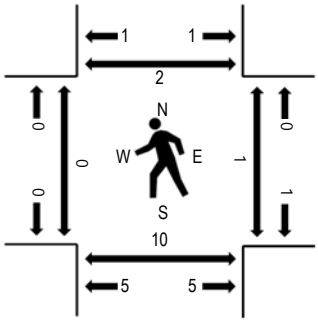
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

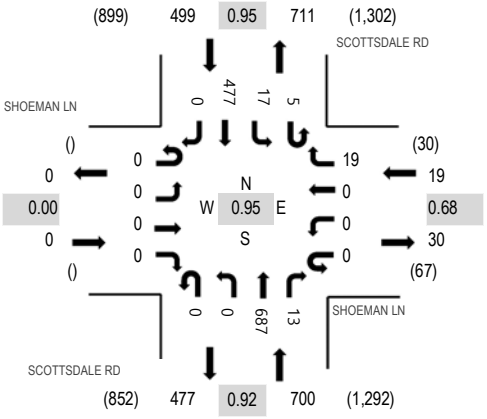
Traffic Counts - Motorized Vehicles

Interval Start Time	CAMELBACK RD Eastbound				CAMELBACK RD Westbound				BROWN AVE Northbound				BROWN AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	3	58	0	0	0	102	1	0	0	0	1	0	2	0	0	167	906	0	2	2	0
7:15 AM	0	4	82	0	0	0	129	0	0	0	0	1	0	1	0	5	222	994	0	0	1	0
7:30 AM	0	0	84	0	0	0	164	2	0	2	0	2	0	0	0	5	259	1,020	0	0	2	2
7:45 AM	0	3	84	0	0	0	163	2	0	1	0	2	0	0	0	3	258	1,024	0	0	1	0
8:00 AM	0	1	80	0	0	0	166	1	0	4	0	1	0	1	0	1	255	1,047	0	0	2	0
8:15 AM	0	0	89	0	0	0	155	0	0	0	0	2	0	0	0	2	248		0	0	2	0
8:30 AM	0	0	102	2	0	0	158	0	0	0	0	1	0	0	0	0	263		0	0	4	1
8:45 AM	0	0	89	0	0	0	187	0	0	2	0	1	0	2	0	0	281		0	1	2	1
Count Total	0	11	668	2	0	0	1,224	6	0	9	0	11	0	6	0	16	1,953		0	3	16	4
Peak Hour	0	1	360	2	0	0	666	1	0	6	0	5	0	3	0	3	1,047		0	1	10	2

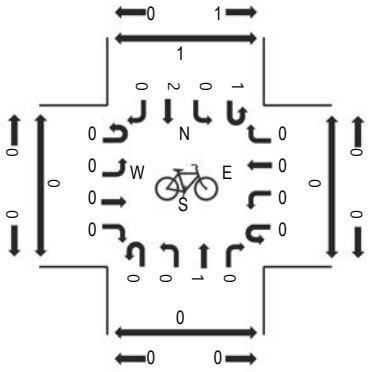
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 SCOTTSDALE RD & SHOEMAN LN AM
Date: Tuesday, June 13, 2023
Peak Hour: 08:00 AM - 09:00 AM
Peak 15-Minutes: 08:15 AM - 08:30 AM

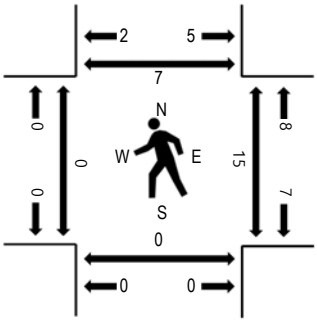
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

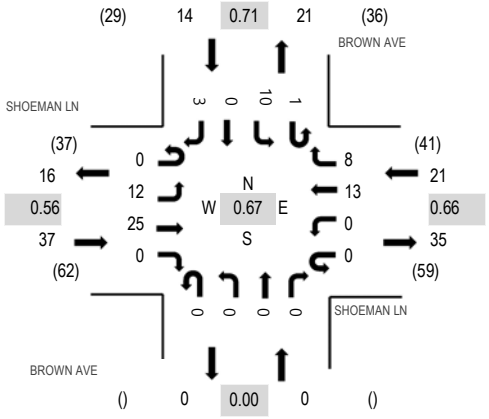
Traffic Counts - Motorized Vehicles

Interval Start Time	SHOEMAN LN Eastbound				SHOEMAN LN Westbound				SCOTTSDALE RD Northbound				SCOTTSDALE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	0	0	0	0	0	0	2	0	0	110	2	0	3	84	0	201	1,003	0	4	0	1
7:15 AM	0	0	0	0	0	0	0	2	0	0	137	2	1	7	87	0	236	1,086	0	1	1	0
7:30 AM	0	0	0	0	0	0	0	4	0	0	167	1	0	3	92	0	267	1,169	0	2	0	0
7:45 AM	0	0	0	0	0	0	0	3	0	0	165	8	0	11	112	0	299	1,203	0	1	0	0
8:00 AM	0	0	0	0	0	0	0	2	0	0	170	0	2	4	106	0	284	1,218	0	5	0	1
8:15 AM	0	0	0	0	0	0	0	5	0	0	185	6	1	5	117	0	319		0	2	0	0
8:30 AM	0	0	0	0	0	0	0	5	0	0	161	3	2	7	123	0	301		0	7	0	2
8:45 AM	0	0	0	0	0	0	0	7	0	0	171	4	0	1	131	0	314		0	1	0	4
Count Total	0	0	0	0	0	0	0	30	0	0	1,266	26	6	41	852	0	2,221		0	23	1	8
Peak Hour	0	0	0	0	0	0	0	19	0	0	687	13	5	17	477	0	1,218		0	15	0	7

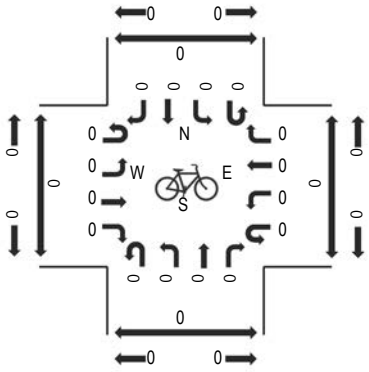
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 4 BROWN AVE & SHOEMAN LN AM
Date: Tuesday, June 13, 2023
Peak Hour: 07:00 AM - 08:00 AM
Peak 15-Minutes: 07:45 AM - 08:00 AM

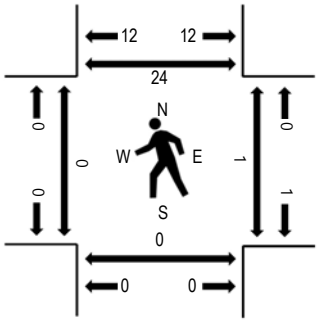
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

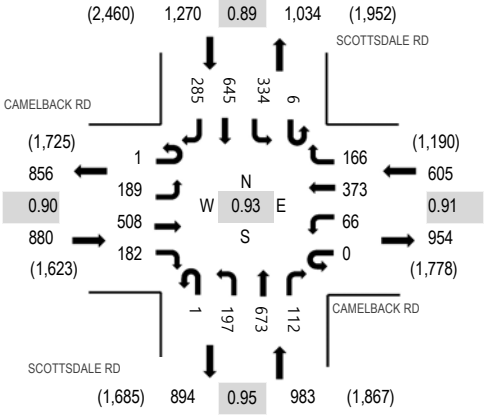
Traffic Counts - Motorized Vehicles

Interval Start Time	SHOEMAN LN Eastbound				SHOEMAN LN Westbound				BROWN AVE Northbound				BROWN AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
7:00 AM	0	2	6	0	0	0	6	2	0	0	0	0	0	2	0	0	18	72	0	0	0	7
7:15 AM	0	5	3	0	0	0	4	1	0	0	0	0	0	2	0	0	15	63	0	0	0	5
7:30 AM	0	0	4	0	0	0	2	2	0	0	0	0	0	3	0	1	12	68	0	0	0	7
7:45 AM	0	5	12	0	0	0	1	3	0	0	0	0	1	3	0	2	27	72	0	1	0	5
8:00 AM	0	0	3	0	0	0	3	1	0	0	0	0	0	2	0	0	9	60	0	0	0	6
8:15 AM	0	2	8	0	0	0	3	2	0	0	0	0	0	3	0	2	20		0	0	0	3
8:30 AM	0	3	5	0	0	0	3	2	0	0	0	0	0	0	0	3	16		0	0	0	2
8:45 AM	0	3	1	0	0	0	4	2	0	0	0	0	0	2	0	3	15		0	2	0	13
Count Total	0	20	42	0	0	0	26	15	0	0	0	0	1	17	0	11	132		0	3	0	48
Peak Hour	0	12	25	0	0	0	13	8	0	0	0	0	1	10	0	3	72		0	1	0	24

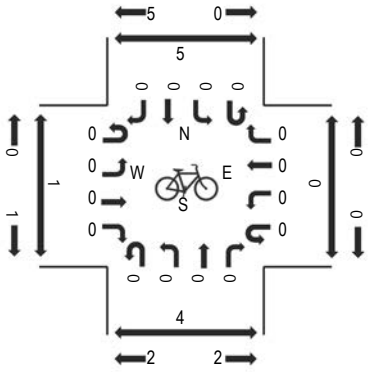
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 1 SCOTTSDALE RD & CAMELBACK RD PM
Date: Tuesday, June 13, 2023
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

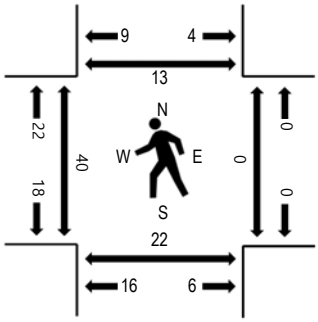
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

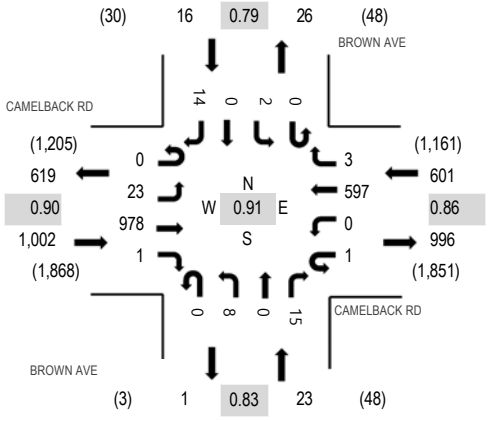
Traffic Counts - Motorized Vehicles

Interval Start Time	CAMELBACK RD Eastbound				CAMELBACK RD Westbound				SCOTTSDALE RD Northbound				SCOTTSDALE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	44	121	31	0	17	103	29	0	49	162	24	4	77	128	61	850	3,538	2	1	6	5
4:15 PM	0	38	106	25	0	10	75	50	0	46	161	29	1	85	164	107	897	3,629	9	1	2	5
4:30 PM	1	50	116	36	0	11	99	45	0	53	152	31	2	86	159	76	917	3,738	4	0	3	4
4:45 PM	0	42	121	40	0	18	69	47	0	49	174	21	2	70	152	69	874	3,704	10	0	2	4
5:00 PM	0	46	143	58	0	18	96	33	1	37	180	25	0	93	145	66	941	3,602	14	0	7	4
5:15 PM	0	51	128	48	0	19	109	41	0	58	167	35	2	85	189	74	1,006		12	0	10	1
5:30 PM	0	47	127	40	0	18	109	29	0	49	151	20	0	62	171	60	883		15	0	11	1
5:45 PM	0	41	85	38	0	12	94	39	1	49	121	22	1	66	136	67	772		19	0	6	5
Count Total	1	359	947	316	0	123	754	313	2	390	1,268	207	12	624	1,244	580	7,140		85	2	47	29
Peak Hour	1	189	508	182	0	66	373	166	1	197	673	112	6	334	645	285	3,738		40	0	22	13

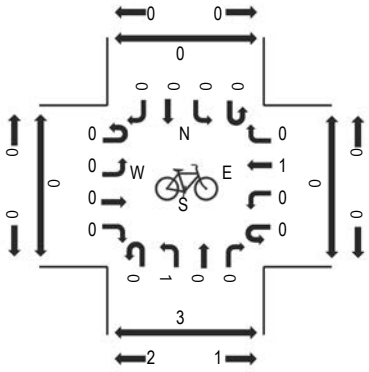
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 2 BROWN AVE & CAMELBACK RD PM
Date: Tuesday, June 13, 2023
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

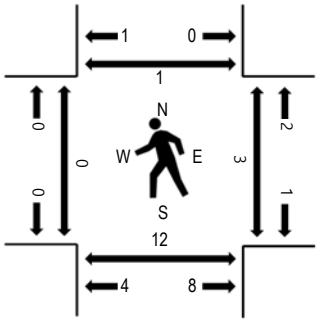
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

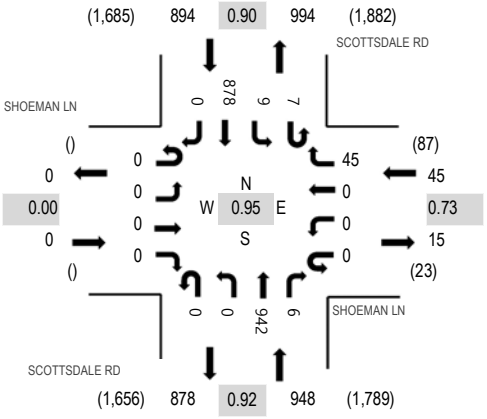
Traffic Counts - Motorized Vehicles

Interval Start Time	CAMELBACK RD Eastbound				CAMELBACK RD Westbound				BROWN AVE Northbound				BROWN AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	1	6	230	0	0	1	129	0	0	5	0	2	0	0	0	4	378	1,519	0	1	3	0
4:15 PM	0	2	223	0	0	0	136	0	0	5	0	3	0	1	0	4	374	1,567	0	0	4	0
4:30 PM	0	6	247	0	1	0	144	0	0	1	0	5	0	1	0	3	408	1,642	0	1	4	0
4:45 PM	0	9	201	0	0	0	135	1	0	4	0	5	0	0	0	4	359	1,609	0	0	0	0
5:00 PM	0	6	270	1	0	0	140	1	0	1	0	1	0	1	0	5	426	1,588	0	1	8	1
5:15 PM	0	2	260	0	0	0	178	1	0	2	0	4	0	0	0	2	449		0	1	0	0
5:30 PM	0	5	215	0	0	0	149	1	0	1	0	2	0	0	0	2	375		0	0	4	1
5:45 PM	0	7	176	1	0	0	144	0	0	3	1	3	0	0	0	3	338		0	0	3	2
Count Total	1	43	1,822	2	1	1	1,155	4	0	22	1	25	0	3	0	27	3,107		0	4	26	4
Peak Hour	0	23	978	1	1	0	597	3	0	8	0	15	0	2	0	14	1,642		0	3	12	1

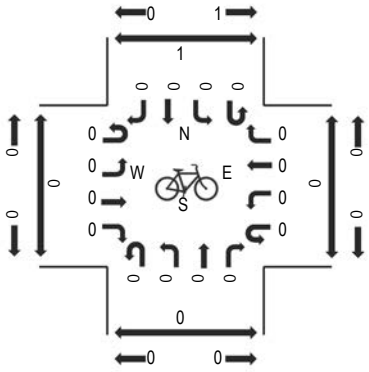
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 3 SCOTTSDALE RD & SHOEMAN LN PM
Date: Tuesday, June 13, 2023
Peak Hour: 04:30 PM - 05:30 PM
Peak 15-Minutes: 05:15 PM - 05:30 PM

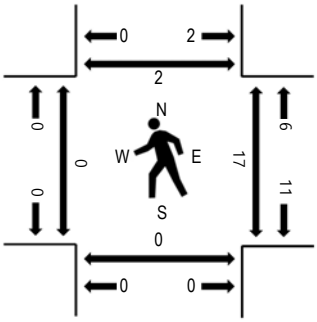
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

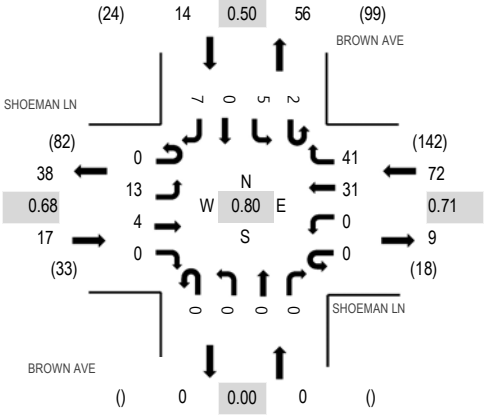
Traffic Counts - Motorized Vehicles

Interval Start Time	SHOEMAN LN Eastbound				SHOEMAN LN Westbound				SCOTTSDALE RD Northbound				SCOTTSDALE RD Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	0	0	0	0	0	0	14	0	0	223	1	1	1	174	0	414	1,740	0	2	0	3
4:15 PM	0	0	0	0	0	0	0	11	0	0	215	0	1	0	198	0	425	1,817	0	3	0	0
4:30 PM	0	0	0	0	0	0	0	16	0	0	240	3	2	4	200	0	465	1,887	0	3	0	2
4:45 PM	0	0	0	0	0	0	0	6	0	0	220	0	2	1	207	0	436	1,879	0	6	0	0
5:00 PM	0	0	0	0	0	0	0	11	0	0	255	3	2	2	218	0	491	1,821	0	3	0	0
5:15 PM	0	0	0	0	0	0	0	12	0	0	227	0	1	2	253	0	495		0	5	0	0
5:30 PM	0	0	0	0	0	0	0	7	0	0	219	2	4	1	224	0	457		0	1	0	0
5:45 PM	0	0	0	0	0	0	0	10	0	0	180	1	3	2	182	0	378		0	3	0	0
Count Total	0	0	0	0	0	0	0	87	0	0	1,779	10	16	13	1,656	0	3,561		0	26	0	5
Peak Hour	0	0	0	0	0	0	0	45	0	0	942	6	7	9	878	0	1,887		0	17	0	2

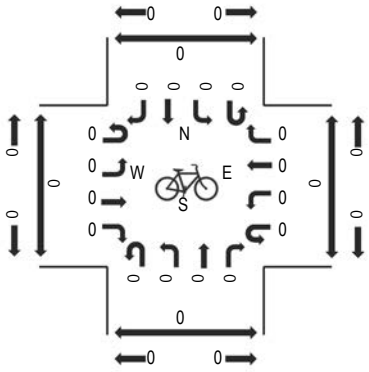
ALL TRAFFIC DATA SERVICES
(303) 216-2439
www.alltrafficdata.net

Location: 4 BROWN AVE & SHOEMAN LN PM
Date: Tuesday, June 13, 2023
Peak Hour: 05:00 PM - 06:00 PM
Peak 15-Minutes: 05:00 PM - 05:15 PM

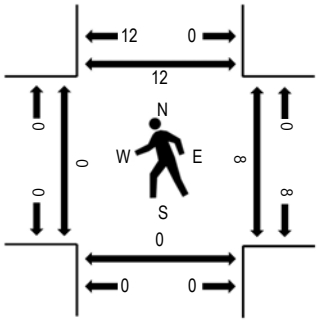
Peak Hour - Motorized Vehicles



Peak Hour - Bicycles



Peak Hour - Pedestrians



Note: Total study counts contained in parentheses.

Traffic Counts - Motorized Vehicles

Interval Start Time	SHOEMAN LN Eastbound				SHOEMAN LN Westbound				BROWN AVE Northbound				BROWN AVE Southbound					Rolling Hour	Pedestrian Crossings			
	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	U-Turn	Left	Thru	Right	Total		West	East	South	North
4:00 PM	0	1	2	0	0	0	11	11	0	0	0	0	0	0	0	2	27	96	0	1	0	0
4:15 PM	0	3	0	0	0	0	8	11	0	0	0	0	0	1	0	2	25	101	0	0	0	2
4:30 PM	0	6	1	0	0	0	13	5	0	0	0	0	0	2	0	2	29	100	0	0	0	1
4:45 PM	0	1	2	0	0	0	6	5	0	0	0	0	0	1	0	0	15	96	0	2	0	5
5:00 PM	0	4	2	0	0	0	11	15	0	0	0	0	0	0	0	0	32	103	0	2	0	0
5:15 PM	0	3	0	0	0	0	8	9	0	0	0	0	1	1	0	2	24		0	5	0	5
5:30 PM	0	3	2	0	0	0	5	8	0	0	0	0	1	4	0	2	25		0	1	0	7
5:45 PM	0	3	0	0	0	0	7	9	0	0	0	0	0	0	0	3	22		0	0	0	0
Count Total	0	24	9	0	0	0	69	73	0	0	0	0	2	9	0	13	199		0	11	0	20
Peak Hour	0	13	4	0	0	0	31	41	0	0	0	0	2	5	0	7	103		0	8	0	12

All Traffic Data Services

SITE 1_E - CAMELBACK RD EAST OF SCOTTSDALE RD

Time	EB	WB	Total
6/13/2023	30	8	38
6/13/2023 12:15:00 AM	16	16	32
6/13/2023 12:30:00 AM	17	10	27
6/13/2023 12:45:00 AM	16	11	27
6/13/2023 1:00:00 AM	9	7	16
6/13/2023 1:15:00 AM	6	9	15
6/13/2023 1:30:00 AM	16	6	22
6/13/2023 1:45:00 AM	5	10	15
6/13/2023 2:00:00 AM	7	14	21
6/13/2023 2:15:00 AM	7	10	17
6/13/2023 2:30:00 AM	3	4	7
6/13/2023 2:45:00 AM	8	5	13
6/13/2023 3:00:00 AM	8	3	11
6/13/2023 3:15:00 AM	10	3	13
6/13/2023 3:30:00 AM	2	2	4
6/13/2023 3:45:00 AM	5	11	16
6/13/2023 4:00:00 AM	7	6	13
6/13/2023 4:15:00 AM	4	10	14
6/13/2023 4:30:00 AM	15	13	28
6/13/2023 4:45:00 AM	16	14	30
6/13/2023 5:00:00 AM	20	22	42
6/13/2023 5:15:00 AM	32	22	54
6/13/2023 5:30:00 AM	20	29	49
6/13/2023 5:45:00 AM	38	50	88
6/13/2023 6:00:00 AM	36	54	90
6/13/2023 6:15:00 AM	21	62	83
6/13/2023 6:30:00 AM	47	65	112
6/13/2023 6:45:00 AM	66	107	173
6/13/2023 7:00:00 AM	62	95	157
6/13/2023 7:15:00 AM	79	127	206
6/13/2023 7:30:00 AM	75	174	249
6/13/2023 7:45:00 AM	89	167	256
6/13/2023 8:00:00 AM	81	149	230
6/13/2023 8:15:00 AM	88	166	254
6/13/2023 8:30:00 AM	104	146	250
6/13/2023 8:45:00 AM	94	194	288
6/13/2023 9:00:00 AM	112	143	255
6/13/2023 9:15:00 AM	123	136	259
6/13/2023 9:30:00 AM	110	137	247
6/13/2023 9:45:00 AM	82	127	209
6/13/2023 10:00:00 AM	114	138	252
6/13/2023 10:15:00 AM	122	123	245
6/13/2023 10:30:00 AM	131	126	257
6/13/2023 10:45:00 AM	123	137	260
6/13/2023 11:00:00 AM	141	153	294
6/13/2023 11:15:00 AM	148	146	294
6/13/2023 11:30:00 AM	162	152	314
6/13/2023 11:45:00 AM	194	154	348
Total	2,721	3,473	6,194
Percentage	43.9%	56.1%	
Peak Hour	11:00 AM	7:30 AM	11:00 AM
Volume	645	656	1,250
PHF	0.831	0.943	0.898

All Traffic Data Services

SITE 1_E - CAMELBACK RD EAST OF SCOTTSDALE RD

Time	EB	WB	Total
6/13/2023 12:00:00 PM	157	145	302
6/13/2023 12:15:00 PM	170	134	304
6/13/2023 12:30:00 PM	136	152	288
6/13/2023 12:45:00 PM	164	155	319
6/13/2023 1:00:00 PM	169	148	317
6/13/2023 1:15:00 PM	189	139	328
6/13/2023 1:30:00 PM	183	132	315
6/13/2023 1:45:00 PM	170	139	309
6/13/2023 2:00:00 PM	183	151	334
6/13/2023 2:15:00 PM	180	100	280
6/13/2023 2:30:00 PM	168	149	317
6/13/2023 2:45:00 PM	156	139	295
6/13/2023 3:00:00 PM	203	115	318
6/13/2023 3:15:00 PM	202	124	326
6/13/2023 3:30:00 PM	207	148	355
6/13/2023 3:45:00 PM	202	136	338
6/13/2023 4:00:00 PM	222	149	371
6/13/2023 4:15:00 PM	220	135	355
6/13/2023 4:30:00 PM	233	155	388
6/13/2023 4:45:00 PM	212	134	346
6/13/2023 5:00:00 PM	261	147	408
6/13/2023 5:15:00 PM	248	169	417
6/13/2023 5:30:00 PM	209	156	365
6/13/2023 5:45:00 PM	173	145	318
6/13/2023 6:00:00 PM	200	113	313
6/13/2023 6:15:00 PM	174	111	285
6/13/2023 6:30:00 PM	191	120	311
6/13/2023 6:45:00 PM	163	95	258
6/13/2023 7:00:00 PM	171	97	268
6/13/2023 7:15:00 PM	132	78	210
6/13/2023 7:30:00 PM	149	101	250
6/13/2023 7:45:00 PM	122	84	206
6/13/2023 8:00:00 PM	134	62	196
6/13/2023 8:15:00 PM	114	67	181
6/13/2023 8:30:00 PM	125	79	204
6/13/2023 8:45:00 PM	131	47	178
6/13/2023 9:00:00 PM	150	55	205
6/13/2023 9:15:00 PM	117	42	159
6/13/2023 9:30:00 PM	103	45	148
6/13/2023 9:45:00 PM	95	41	136
6/13/2023 10:00:00 PM	96	33	129
6/13/2023 10:15:00 PM	65	33	98
6/13/2023 10:30:00 PM	59	33	92
6/13/2023 10:45:00 PM	44	24	68
6/13/2023 11:00:00 PM	55	31	86
6/13/2023 11:15:00 PM	46	25	71
6/13/2023 11:30:00 PM	32	18	50
6/13/2023 11:45:00 PM	20	19	39
Total	7,305	4,849	12,154
Percentage	60.1%	39.9%	
Peak Hour	4:30 PM	5:00 PM	4:30 PM
Volume	954	617	1,559
PHF	0.914	0.913	0.935
Grand Total	10,026	8,322	18,348
Percentage	54.6%	45.4%	

All Traffic Data Services

SITE 1_S - SCOTTSDALE RD SOUTH OF CAMELBACK RD

Time	NB	SB	Total
6/13/2023	31	27	58
6/13/2023 12:15:00 AM	27	19	46
6/13/2023 12:30:00 AM	27	17	44
6/13/2023 12:45:00 AM	20	13	33
6/13/2023 1:00:00 AM	16	11	27
6/13/2023 1:15:00 AM	17	9	26
6/13/2023 1:30:00 AM	19	7	26
6/13/2023 1:45:00 AM	14	8	22
6/13/2023 2:00:00 AM	13	17	30
6/13/2023 2:15:00 AM	13	4	17
6/13/2023 2:30:00 AM	13	8	21
6/13/2023 2:45:00 AM	15	3	18
6/13/2023 3:00:00 AM	12	5	17
6/13/2023 3:15:00 AM	12	4	16
6/13/2023 3:30:00 AM	10	9	19
6/13/2023 3:45:00 AM	16	5	21
6/13/2023 4:00:00 AM	12	8	20
6/13/2023 4:15:00 AM	4	4	8
6/13/2023 4:30:00 AM	17	8	25
6/13/2023 4:45:00 AM	35	12	47
6/13/2023 5:00:00 AM	38	15	53
6/13/2023 5:15:00 AM	57	25	82
6/13/2023 5:30:00 AM	53	28	81
6/13/2023 5:45:00 AM	58	30	88
6/13/2023 6:00:00 AM	64	17	81
6/13/2023 6:15:00 AM	71	41	112
6/13/2023 6:30:00 AM	73	61	134
6/13/2023 6:45:00 AM	103	87	190
6/13/2023 7:00:00 AM	107	87	194
6/13/2023 7:15:00 AM	142	95	237
6/13/2023 7:30:00 AM	170	95	265
6/13/2023 7:45:00 AM	169	123	292
6/13/2023 8:00:00 AM	174	112	286
6/13/2023 8:15:00 AM	194	123	317
6/13/2023 8:30:00 AM	159	132	291
6/13/2023 8:45:00 AM	187	132	319
6/13/2023 9:00:00 AM	152	138	290
6/13/2023 9:15:00 AM	154	121	275
6/13/2023 9:30:00 AM	141	129	270
6/13/2023 9:45:00 AM	146	147	293
6/13/2023 10:00:00 AM	162	152	314
6/13/2023 10:15:00 AM	177	120	297
6/13/2023 10:30:00 AM	171	146	317
6/13/2023 10:45:00 AM	193	150	343
6/13/2023 11:00:00 AM	186	155	341
6/13/2023 11:15:00 AM	229	172	401
6/13/2023 11:30:00 AM	221	188	409
6/13/2023 11:45:00 AM	250	187	437
Total	4,344	3,206	7,550
Percentage	57.5%	42.5%	
Peak Hour	11:00 AM	11:00 AM	11:00 AM
Volume	886	702	1,588
PHF	0.886	0.934	0.908

All Traffic Data Services

SITE 1_S - SCOTTSDALE RD SOUTH OF CAMELBACK RD

Time	NB	SB	Total
6/13/2023 12:00:00 PM	229	184	413
6/13/2023 12:15:00 PM	231	171	402
6/13/2023 12:30:00 PM	220	191	411
6/13/2023 12:45:00 PM	257	189	446
6/13/2023 1:00:00 PM	218	190	408
6/13/2023 1:15:00 PM	219	196	415
6/13/2023 1:30:00 PM	243	192	435
6/13/2023 1:45:00 PM	212	174	386
6/13/2023 2:00:00 PM	226	191	417
6/13/2023 2:15:00 PM	233	183	416
6/13/2023 2:30:00 PM	218	211	429
6/13/2023 2:45:00 PM	199	194	393
6/13/2023 3:00:00 PM	215	182	397
6/13/2023 3:15:00 PM	191	178	369
6/13/2023 3:30:00 PM	208	168	376
6/13/2023 3:45:00 PM	234	184	418
6/13/2023 4:00:00 PM	235	176	411
6/13/2023 4:15:00 PM	236	199	435
6/13/2023 4:30:00 PM	236	206	442
6/13/2023 4:45:00 PM	244	210	454
6/13/2023 5:00:00 PM	243	222	465
6/13/2023 5:15:00 PM	260	256	516
6/13/2023 5:30:00 PM	220	229	449
6/13/2023 5:45:00 PM	193	187	380
6/13/2023 6:00:00 PM	193	202	395
6/13/2023 6:15:00 PM	208	177	385
6/13/2023 6:30:00 PM	176	157	333
6/13/2023 6:45:00 PM	202	169	371
6/13/2023 7:00:00 PM	178	175	353
6/13/2023 7:15:00 PM	173	140	313
6/13/2023 7:30:00 PM	178	142	320
6/13/2023 7:45:00 PM	179	139	318
6/13/2023 8:00:00 PM	138	157	295
6/13/2023 8:15:00 PM	141	134	275
6/13/2023 8:30:00 PM	121	134	255
6/13/2023 8:45:00 PM	127	106	233
6/13/2023 9:00:00 PM	129	110	239
6/13/2023 9:15:00 PM	128	106	234
6/13/2023 9:30:00 PM	91	80	171
6/13/2023 9:45:00 PM	111	63	174
6/13/2023 10:00:00 PM	109	85	194
6/13/2023 10:15:00 PM	117	67	184
6/13/2023 10:30:00 PM	69	64	133
6/13/2023 10:45:00 PM	59	47	106
6/13/2023 11:00:00 PM	58	57	115
6/13/2023 11:15:00 PM	50	42	92
6/13/2023 11:30:00 PM	40	28	68
6/13/2023 11:45:00 PM	34	26	60
Total	8,429	7,270	15,699
Percentage	53.7%	46.3%	
Peak Hour	4:30 PM	4:45 PM	4:45 PM
Volume	983	917	1,884
PHF	0.945	0.896	0.913
Grand Total	12,773	10,476	23,249
Percentage	54.9%	45.1%	

Appendix D – Signal Timing

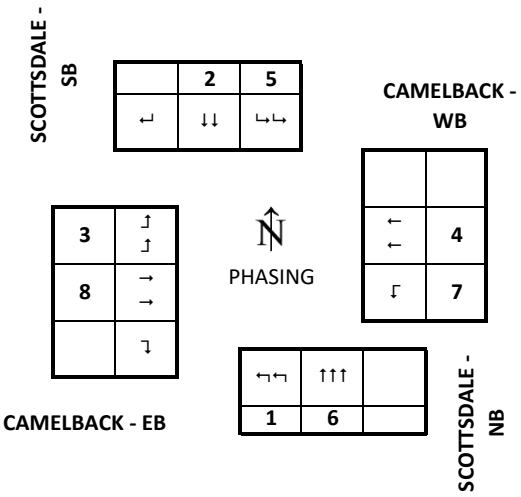
SCOTTSDALE & CAMELBACK

System # 59

BASIC TIMING PLAN

Section #	I.P. Address	Date Designed
	MM1-5-1	
	172.17.10.59	12/20/2016

	Phase	1	2	3	4	5	6	7	8
TIMING PLAN - MM-2-1	Movement	NBL	SBT	EBL	WBT	SBL	NBT	WBL	EBT
	NOTES	PROT		PROT		PROT		PROT	
	MIN GRN	5	10	5	7	5	10	5	7
	BK MGRN								
	CS MGRN								
	DLY GRN								
	WALK		7		7		7		7
	WALK2								
	WLK MAX								
	PED CLR/FDW		23		31		24		25
	PD CLR2								
	PC MAX								
	PED CO								
	VEH EXT	2	2	2	2	2	2	2	2
	VH EXT2								
	MAX 1	20	50	20	50	20	50	20	50
	MAX 2	35	65	40	65	35	65	40	65
	MAX 3								
	DYM MAX								
	DYM STP								
	YELLOW	3	4.4	3.3	4	3.6	3.6	3.3	4
	RED CLR	2	1.0	2	1.5	2	1.4	2	1.5
	RED MAX								
	RED RVT	2	2	2	2	2	2	2	2
	ACT B4								
	SEC/ACT								
	MAX INT								
	TIME B4								
	CARS WT								
	STPTDUC								
	TTREDUC								
	MIN GAP								
RECALLS - MM-2-8	LOCK DET								
	VEH RECALL		X				X		
	PED RECALL								
	MAX RECALL								
	SOFT RECALL								
	NO REST								
	ADD INIT CAL								



PHASING SEQUENCES				
TOD: MORNING				
R1	2	1	3	4
R2	5	6	8	7
		B		B
Use Timing plan:				
TOD: MIDDAY				
R1	2	1	3	4
R2	5	6	8	7
		B		B
Use Timing plan:				
TOD: EVENING				
R1	2	1	3	4
R2	5	6	8	7
		B		B
Use Timing plan:				
TOD: WEEKEND				
R1	2	1	3	4
R2	5	6	8	7
		B		B
Use Timing plan:				
FREE				
R1	2	1	3	4
R2	5	6	8	7
		B		B
Use Timing plan: 254				

NOTES
4" Delayed Green for NB/SB walk.

EXPIRES XX/XX/XXXX

SCOTTSDALE & CAMELBACK

System #	59

COORDINATOR	Section #	Date Updated
	0	12/20/2016

	PHASE	1	2	3	4	5	6	7	8	
	FDW		23		31		24		25	
	YELLOW	3	4.4	3.3	4	3.6	3.6	3.3	4	
	ALL RED	2	1	2	1.5	2	1.4	2	1.5	
	WALK		23		31		24		25	

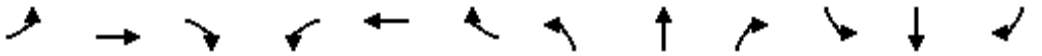
										COORD PATTERN	OFFSET
PLAN 1 AM PLAN OPERATIVE TIMES	R1	2	↓	1	↰	3	↱	4	←		
	R2	5	↳	6	↑	8	→	7	↲	Balanced	99
		RING 1				RING 2					
	PHASE	1	2	3	4	5	6	7	8		
	SPLIT	18	42	16	44	20	40	14	46	Target Cycle Length	
	COORD		X				X			120	
	RECALLS		V				V			Actual Cycle Length	
	GREEN	13.0	36.6	10.7	38.5	14.4	35.0	8.7	40.5	120	

										COORD PATTERN	OFFSET
PLAN 4 MIDDAY PLAN OPERATIVE TIMES	R1	2	↓	1	↰	3	↱	4	←		
	R2	5	↳	6	↑	8	→	7	↲	Balanced	86
		RING 1				RING 2					
	PHASE	1	2	3	4	5	6	7	8		
	SPLIT	22	37	17	44	20	39	14	47	Target Cycle Length	
	COORD		X				X			120	
	RECALLS		V				V			Actual Cycle Length	
	GREEN	###	###	###	###	###	###	8.7	###	120	

										COORD PATTERN	OFFSET
PLAN 7 PM PLAN OPERATIVE TIMES	R1	2	↓	1	↰	3	↱	4	←		
	R2	5	↳	6	↑	8	→	7	↲	Balanced	40
		RING 1				RING 2					
	PHASE	1	2	3	4	5	6	7	8		
	SPLIT	23	38	19	40	25	36	16	43	Target Cycle Length	
	COORD		X				X			120	
	RECALLS		V				V			Actual Cycle Length	
	GREEN	###	###	###	###	###	###	###	###	120	

										COORD PATTERN	OFFSET
PLAN 10 MIDNIGHT PLAN OPERATIVE TIMES	R1	2	↓	1	↰	3	↱	4	←		
	R2	5	↳	6	↑	8	→	7	↲	Balanced	5
		RING 1				RING 2					
	PHASE	1	2	3	4	5	6	7	8		
	SPLIT	17	33	15	25	15	35	14	26	Target Cycle Length	
	COORD		X				X			90	
	RECALLS		V				V			Actual Cycle Length	
	GREEN	###	###	9.7	###	9.4	###	8.7	###	90	

Appendix E – Existing Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	122	238	91	51	498	124	123	566	45	95	371	82
Future Volume (veh/h)	122	238	91	51	498	124	123	566	45	95	371	82
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	133	259	99	55	541	135	134	615	49	103	403	89
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	190	366	163	319	646	160	810	2374	188	158	1084	483
Arrive On Green	0.05	0.10	0.10	0.18	0.23	0.23	0.23	0.49	0.49	0.05	0.31	0.31
Sat Flow, veh/h	3456	3554	1585	1781	2820	701	3456	4824	381	3456	3554	1585
Grp Volume(v), veh/h	133	259	99	55	340	336	134	433	231	103	403	89
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1744	1728	1702	1802	1728	1777	1585
Q Serve(g_s), s	4.5	8.5	7.2	3.1	21.9	22.1	3.7	8.9	9.0	3.5	10.7	3.9
Cycle Q Clear(g_c), s	4.5	8.5	7.2	3.1	21.9	22.1	3.7	8.9	9.0	3.5	10.7	3.9
Prop In Lane	1.00		1.00	1.00		0.40	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	190	366	163	319	407	399	810	1675	886	158	1084	483
V/C Ratio(X)	0.70	0.71	0.61	0.17	0.84	0.84	0.17	0.26	0.26	0.65	0.37	0.18
Avail Cap(c_a), veh/h	308	1199	535	319	570	560	810	1675	886	415	1084	483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.7	52.1	51.5	41.7	44.1	44.2	36.6	17.7	17.8	56.3	32.7	19.3
Incr Delay (d2), s/veh	4.6	2.5	3.6	0.3	7.5	8.0	0.1	0.4	0.7	4.5	1.0	0.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	3.8	3.0	1.4	10.2	10.2	1.6	3.5	3.8	1.6	4.6	2.0
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.4	54.6	55.1	42.0	51.6	52.2	36.7	18.1	18.5	60.8	33.7	20.1
LnGrp LOS	E	D	E	D	D	D	D	B	B	E	C	C
Approach Vol, veh/h		491			731			798			595	
Approach Delay, s/veh		56.3			51.2			21.3			36.3	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.1	42.0	11.9	33.0	11.1	64.0	27.0	17.9
Change Period (Y+Rc), s	5.0	5.4	* 5.3	5.5	5.6	* 5	5.5	* 5.5
Max Green Setting (Gmax), s	13.0	36.6	* 11	38.5	14.4	* 35	8.7	* 41
Max Q Clear Time (g_c+I1), s	5.7	12.7	6.5	24.1	5.5	11.0	5.1	10.5
Green Ext Time (p_c), s	0.2	2.8	0.1	3.4	0.2	4.1	0.0	1.9

Intersection Summary	
HCM 6th Ctrl Delay	39.6
HCM 6th LOS	D

Notes

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.1

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	370	2	0	685	6	5
Future Vol, veh/h	370	2	0	685	6	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	402	2	0	745	7	5

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	404	0	776	202
Stage 1	-	-	-	-	403	-
Stage 2	-	-	-	-	373	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1151	-	334	805
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	666	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1151	-	334	805
Mov Cap-2 Maneuver	-	-	-	-	334	-
Stage 1	-	-	-	-	644	-
Stage 2	-	-	-	-	666	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.1
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	455	-	-	1151	-
HCM Lane V/C Ratio	0.026	-	-	-	-
HCM Control Delay (s)	13.1	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	20	707	13	23	491
Future Vol, veh/h	0	20	707	13	23	491
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	22	768	14	25	534

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	391	0	0	782	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	0	519	-	-	498	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	519	-	-	498	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.2	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	519	498	-
HCM Lane V/C Ratio	-	-	0.042	0.05	-
HCM Control Delay (s)	-	-	12.2	12.6	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.1	0.2	-

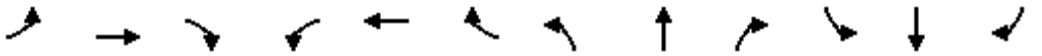
Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	8	17	13	7	7	8
Future Vol, veh/h	8	17	13	7	7	8
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	67	67	67	67	67	67
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	12	25	19	10	10	12

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	29	0	-	0	73	24
Stage 1	-	-	-	-	24	-
Stage 2	-	-	-	-	49	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1584	-	-	-	931	1052
Stage 1	-	-	-	-	999	-
Stage 2	-	-	-	-	973	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1584	-	-	-	924	1052
Mov Cap-2 Maneuver	-	-	-	-	924	-
Stage 1	-	-	-	-	991	-
Stage 2	-	-	-	-	973	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1584	-	-	-	988
HCM Lane V/C Ratio	0.008	-	-	-	0.023
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	195	523	187	68	384	171	204	692	115	350	664	293
Future Volume (veh/h)	195	523	187	68	384	171	204	692	115	350	664	293
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	212	568	203	74	417	186	222	752	125	380	722	318
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	273	717	320	150	501	221	912	1788	295	446	965	431
Arrive On Green	0.08	0.20	0.20	0.08	0.21	0.21	0.26	0.40	0.40	0.13	0.27	0.27
Sat Flow, veh/h	3456	3554	1585	1781	2399	1058	3456	4416	728	3456	3554	1585
Grp Volume(v), veh/h	212	568	203	74	308	295	222	578	299	380	722	318
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1680	1728	1702	1739	1728	1777	1585
Q Serve(g_s), s	7.2	18.2	14.1	4.8	19.9	20.2	6.1	14.6	14.8	12.9	22.3	16.9
Cycle Q Clear(g_c), s	7.2	18.2	14.1	4.8	19.9	20.2	6.1	14.6	14.8	12.9	22.3	16.9
Prop In Lane	1.00		1.00	1.00		0.63	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	273	717	320	150	371	351	912	1378	704	446	965	431
V/C Ratio(X)	0.78	0.79	0.63	0.49	0.83	0.84	0.24	0.42	0.42	0.85	0.75	0.74
Avail Cap(c_a), veh/h	395	1111	495	159	511	483	912	1378	704	559	965	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	54.2	45.5	43.9	52.5	45.4	45.6	34.7	25.6	25.7	51.1	39.9	23.6
Incr Delay (d2), s/veh	5.9	2.2	2.1	2.5	8.1	9.4	0.1	0.9	1.9	10.1	5.3	10.8
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	8.1	5.6	2.2	9.4	9.2	2.5	5.9	6.3	6.1	10.2	7.4
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.2	47.7	45.9	55.0	53.5	55.0	34.9	26.5	27.5	61.2	45.2	34.4
LnGrp LOS	E	D	D	D	D	E	C	C	C	E	D	C
Approach Vol, veh/h		983			677			1099			1420	
Approach Delay, s/veh		50.0			54.3			28.5			47.1	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	36.7	38.0	14.8	30.5	21.1	53.6	15.6	29.7
Change Period (Y+Rc), s	5.0	5.4	* 5.3	5.5	5.6	* 5	5.5	* 5.5
Max Green Setting (Gmax), s	18.0	32.6	* 14	34.5	19.4	* 31	10.7	* 38
Max Q Clear Time (g_c+I1), s	8.1	24.3	9.2	22.2	14.9	16.8	6.8	20.2
Green Ext Time (p_c), s	0.5	3.7	0.3	2.8	0.6	4.7	0.0	4.0

Intersection Summary	
HCM 6th Ctrl Delay	44.1
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.3

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1006	1	1	614	8	15
Future Vol, veh/h	1006	1	1	614	8	15
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	91	91	91	91	91	91
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1105	1	1	675	9	16

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1106	0	1446	553
Stage 1	-	-	-	-	1106	-
Stage 2	-	-	-	-	340	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	627	-	122	477
Stage 1	-	-	-	-	278	-
Stage 2	-	-	-	-	692	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	627	-	122	477
Mov Cap-2 Maneuver	-	-	-	-	122	-
Stage 1	-	-	-	-	278	-
Stage 2	-	-	-	-	691	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	22
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	237	-	-	627	-
HCM Lane V/C Ratio	0.107	-	-	0.002	-
HCM Control Delay (s)	22	-	-	10.8	-
HCM Lane LOS	C	-	-	B	-
HCM 95th %tile Q(veh)	0.4	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	46	969	6	16	903
Future Vol, veh/h	0	46	969	6	16	903
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	50	1053	7	17	982

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	530	0	0	1060	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	0	422	-	-	366	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	422	-	-	366	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	14.7	0	0.3
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	422	366	-
HCM Lane V/C Ratio	-	-	0.118	0.048	-
HCM Control Delay (s)	-	-	14.7	15.3	-
HCM Lane LOS	-	-	B	C	-
HCM 95th %tile Q(veh)	-	-	0.4	0.1	-

Intersection	
Int Delay, s/veh	1.8

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	14	5	39	35	5	4
Future Vol, veh/h	14	5	39	35	5	4
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	78	78	78	78	78	78
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	6	50	45	6	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	95	0	-	0	115	73
Stage 1	-	-	-	-	73	-
Stage 2	-	-	-	-	42	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1499	-	-	-	881	989
Stage 1	-	-	-	-	950	-
Stage 2	-	-	-	-	980	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1499	-	-	-	870	989
Mov Cap-2 Maneuver	-	-	-	-	870	-
Stage 1	-	-	-	-	939	-
Stage 2	-	-	-	-	980	-

Approach	EB	WB	SB
HCM Control Delay, s	5.5	0	9
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1499	-	-	-	919
HCM Lane V/C Ratio	0.012	-	-	-	0.013
HCM Control Delay (s)	7.4	0	-	-	9
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0

Appendix F – Trip Generation

City Center

Completed:

Checked:

11th Edition Trip Generation Calculations

222 Multifamily Housing (High-Rise) (More Than Ten Levels)																						
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator			
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Multifamily Housing (High-Rise)	**222**	**292**	**Dwelling Units**	**4.54**	**50%**	**50%**	**0.27**	**34%**	**66%**	**0.32**	**56%**	**44%**	**1,326**	**663**	**663**	**79**	**27**	**52**	**93**	**52**	**41**	**Average**
Multifamily Housing (High-Rise)	222	292	Dwelling Units	3.74	50%	50%	0.09	34%	66%	0.09	56%	44%	1,092	546	546	26	9	17	26	15	11	Minimum
Multifamily Housing (High-Rise)	222	292	Dwelling Units	6.45	50%	50%	0.67	34%	66%	0.80	56%	44%	1,883	942	941	196	67	129	234	131	103	Maximum
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour of Generator			Weekday			AM Peak Hour			PM Peak Hour of Generator			
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Multifamily Housing (High-Rise)	222	292	Dwelling Units	T=3.76(X)+377.04	50%	50%	T=.22(X)+18.85	34%	66%	T=.26(X)+23.12	56%	44%	1,475	738	737	83	28	55	99	55	44	Equation

Multifamily Housing (High-Rise)	Standard Deviation	0.81	0.11	0.13	
	Number of Studies	8	45	45	
	Average Size	484	372	372	
	R^2	0.97	0.64	0.67	

822 Strip Retail Plaza (<40k)																						
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Strip Retail Plaza (<40k)	**822**	**10.7**	**1000 SF GLA**	**54.45**	**50%**	**50%**	**2.36**	**60%**	**40%**	**6.59**	**50%**	**50%**	**583**	**291**	**292**	**25**	**15**	**10**	**71**	**35**	**36**	**Average**
Strip Retail Plaza (<40k)	822	10.7	1000 SF GLA	47.86	50%	50%	1.60	60%	40%	2.81	50%	50%	512	256	256	17	11	6	30	15	15	Minimum
Strip Retail Plaza (<40k)	822	10.7	1000 SF GLA	65.07	50%	50%	3.73	60%	40%	15.20	50%	50%	697	348	349	40	24	16	163	81	82	Maximum
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Strip Retail Plaza (<40k)	822	10.7	1000 SF GLA	T=42.20(X)+229.68	50%	50%	Ln(T)=0.66Ln(X)+1.84	60%	40%	Ln(T)=0.71Ln(X)+2.72	50%	50%	682	341	341	31	19	12	82	41	41	Equation

Strip Retail Plaza (<40k)	Standard Deviation	7.81	0.94	2.94	
	Number of Studies	4	5	25	
	Average Size	19	18	21	
	R^2	0.96	0.57	0.56	

931 Fine Dining Restaurant																						
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Rate	% In	% Out	Rate	% In	% Out	Rate	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Fine Dining Restaurant	931	21.0	1000 SF GFA	83.84	50%	50%	0.73	55%	45%	7.80	67%	33%	1,760	880	880	15	8	7	164	110	54	Average
Fine Dining Restaurant	931	21.0	1000 SF GFA	33.45	50%	50%	0.25	55%	45%	2.62	67%	33%	702	351	351	5	3	2	55	37	18	Minimum
Fine Dining Restaurant	931	21.0	1000 SF GFA	139.93	50%	50%	1.60	55%	45%	18.68	67%	33%	2,937	1,469	1,468	34	19	15	392	263	129	Maximum
Land Use	ITE Code	Qty	Unit	Weekday			AM Peak Hour			PM Peak Hour			Weekday			AM Peak Hour			PM Peak Hour			
				Equation	% In	% Out	Equation	% In	% Out	Equation	% In	% Out	Total	In	Out	Total	In	Out	Total	In	Out	
Fine Dining Restaurant	931	21.0	1000 SF GFA	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	Equation

Fine Dining Restaurant	Standard Deviation	40.01	0.42	4.49	
	Number of Studies	10	7	19	
	Average Size	9	10	9	
	R^2	N/A	N/A	N/A	

NCHRP 8-51 Internal Trip Capture Estimation Tool			
Project Name:	City Center	**Organization:**	Lokahi
Project Location:	City of Scottsdale	**Performed By:**	TG
Scenario Description:		**Date:**	6/20/2023
Analysis Year:		**Checked By:**	
Analysis Period:	**AM Street 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[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	822	10,708	1000 SF GLA	25	16	9
Restaurant	931	20,990	1000 SF GLA	15	8	7
Cinema/Entertainment				0		
Residential	222	292	Units	79	27	52
Hotel				0		
All Other Land Uses[2]				0		
Total				119	51	68

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[2]						

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		1	0	1	0
Restaurant	0	1		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	1	2	0		0
Hotel	0	0	0	0	0	

Table 5-A: Computations Summary

	Total	Entering	Exiting
All Person-Trips	119	51	68
Internal Capture Percentage	10%	12%	9%
External Vehicle-Trips[3]	107	45	62
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	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	13%	22%
Restaurant	38%	14%
Cinema/Entertainment	N/A	N/A
Residential	4%	6%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

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

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[4]Person-Trips

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

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	City Center
Analysis Period:	**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	16	16	1.00	9	9
Restaurant	1.00	8	8	1.00	7	7
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	27	27	1.00	52	52
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	3		1	0	1	0
Restaurant	2	1		0	0	0
Cinema/Entertainment	0	0	0		0	0
Residential	1	1	10	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		5	2	0	0	0
Retail	0		4	0	1	0
Restaurant	0	1		0	1	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	3	2	0		0
Hotel	0	1	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[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	2	14	16	14	0	0
Restaurant	3	5	8	5	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	1	26	27	26	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	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[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	2	7	9	7	0	0
Restaurant	1	6	7	6	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	3	49	52	49	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-A

[2]Person-Trips

[3]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:	City Center	**Organization:**	Lokahi
Project Location:	City of Scottsdale	**Performed By:**	TG
Scenario Description:		**Date:**	6/20/2023
Analysis Year:		**Checked By:**	
Analysis Period:	**PM Street 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[1]	Quantity	Units	Total	Entering	Exiting
Office				0		
Retail	822	10,708	1000 SF GLA	71	35	36
Restaurant	931	20,990	1000 SF GLA	164	110	54
Cinema/Entertainment				0		
Residential	222	292	Units	93	52	41
Hotel				0		
All Other Land Uses[2]				0		
Total				328	197	131

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[2]						

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		10	0	9	0
Restaurant	0	18		0	8	0
Cinema/Entertainment	0	0	0		0	0
Residential	0	4	9	0		0
Hotel	0	0	0	0	0	

Table 5-P: Computations Summary

	Total	Entering	Exiting
All Person-Trips	328	197	131
Internal Capture Percentage	35%	29%	44%
External Vehicle-Trips[3]	212	139	73
External Transit-Trips[4]	0	0	0
External Non-Motorized Trips[4]	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	63%	53%
Restaurant	17%	48%
Cinema/Entertainment	N/A	N/A
Residential	33%	32%
Hotel	N/A	N/A

[1]Land Use Codes (LUCs) from *Trip Generation Informational Report*, published by the Institute of Transportation Engineers.

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

[3]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[4]Person-Trips

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

Estimation Tool Developed by the Texas Transportation Institute

Project Name:	City Center
Analysis Period:	**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	35	35	1.00	36	36
Restaurant	1.00	110	110	1.00	54	54
Cinema/Entertainment	1.00	0	0	1.00	0	0
Residential	1.00	52	52	1.00	41	41
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	1		10	1	9	2
Restaurant	2	22		4	10	4
Cinema/Entertainment	0	0	0		0	0
Residential	2	17	9	0		1
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		3	2	0	2	0
Retail	0		32	0	24	0
Restaurant	0	18		0	8	0
Cinema/Entertainment	0	1	3		2	0
Residential	0	4	15	0		0
Hotel	0	1	6	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[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	22	13	35	13	0	0
Restaurant	19	91	110	91	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	17	35	52	35	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	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[1]	Transit[2]	Non-Motorized[2]
Office	0	0	0	0	0	0
Retail	19	17	36	17	0	0
Restaurant	26	28	54	28	0	0
Cinema/Entertainment	0	0	0	0	0	0
Residential	13	28	41	28	0	0
Hotel	0	0	0	0	0	0
All Other Land Uses[3]	0	0	0	0	0	0

[1]Vehicle-trips computed using the mode split and vehicle occupancy values provided in Table 2-P

[2]Person-Trips

[3]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.

Appendix G – MAG Socioeconomic Projections

Socioeconomic Projections

Population and Employment

by Municipal Planning Area, Jurisdiction, and Regional Analysis Zone

June 2019



MARICOPA ASSOCIATION of GOVERNMENTS

302 North 1st Avenue, Suite 300
Phoenix, Arizona 85003
(602) 254-6300

Maricopa Association of Governments
Table 1: Total Population by Municipal Planning Area
July 1, 2018 and Projections July 1, 2020 to July 1, 2055

Municipal Planning Area	Total Population					
	2018	2020	2030	2040	2050	2055
Apache Junction	59,000	60,800	70,000	92,000	117,100	132,600
Avondale	84,200	86,700	101,800	111,900	119,000	122,100
Buckeye	89,000	97,700	186,600	305,400	409,900	459,300
Carefree	3,700	3,800	4,100	4,200	4,200	4,300
Cave Creek	5,900	6,000	6,500	7,000	7,200	7,300
Chandler	270,300	279,500	309,100	321,100	329,000	332,400
El Mirage	34,300	35,100	36,500	36,900	37,200	37,200
Florence	79,400	85,500	120,300	160,500	209,900	231,400
Fort McDowell Yavapai Native Nation	1,000	1,100	1,100	1,100	1,100	1,100
Fountain Hills	24,000	24,700	26,200	26,600	26,900	27,000
Gila Bend	2,500	2,700	3,700	3,700	3,900	4,200
Gila River Indian Native Nation	12,000	12,200	12,300	12,300	12,300	12,300
Gilbert	256,500	265,900	293,500	308,800	318,100	321,400
Glendale	272,200	279,100	306,400	323,400	333,200	338,800
Goodyear	87,300	92,100	140,300	192,200	228,600	247,900
Guadalupe	6,300	6,400	6,700	6,800	6,800	6,800
Litchfield Park	13,300	14,000	15,400	15,700	16,100	16,400
Maricopa	59,800	67,000	90,800	106,400	121,600	128,900
Mesa	533,400	552,800	607,500	649,400	680,000	690,300
Paradise Valley	14,000	14,100	14,700	15,100	15,200	15,300
Peoria	188,500	196,600	232,400	273,700	312,600	329,900
Phoenix	1,653,500	1,697,700	1,881,900	2,019,300	2,117,400	2,155,300
Queen Creek	58,700	65,000	90,900	109,000	120,900	128,500
Salt River Pima-Maricopa Native Nation	6,800	6,100	5,700	5,800	5,800	5,800
Scottsdale	245,500	253,800	281,900	299,400	311,400	316,700
Surprise	144,000	150,300	216,700	307,500	383,300	417,200
Tempe	185,300	190,000	217,100	247,000	272,400	282,200
Tolleson	7,000	7,100	8,600	10,300	11,400	11,800
Unicorporated Pinal County	66,800	68,600	79,100	93,700	110,800	122,700
Unincorporated Maricopa County	97,900	101,200	110,500	116,800	137,000	152,600
Wickenburg	8,200	8,500	9,400	9,500	9,800	10,000
Youngtown	6,600	6,800	7,300	7,700	7,800	7,800

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2019

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

Maricopa Association of Governments
Table 2: Total Employment by Municipal Planning Area
July 1, 2018 and Projections July 1, 2020 to July 1, 2055

	Total Employment					
Municipal Planning Area	**2018**	**2020**	**2030**	**2040**	**2050**	**2055**
Apache Junction	7,800	8,800	13,100	17,800	26,400	30,500
Avondale	22,400	23,200	30,400	36,200	42,800	45,400
Buckeye	21,600	26,900	42,900	64,500	98,000	128,900
Carefree	1,600	1,600	2,100	2,400	2,500	2,600
Cave Creek	2,200	2,400	2,700	2,900	3,000	3,200
Chandler	145,500	154,700	182,300	202,100	215,200	222,000
El Mirage	5,000	5,100	6,500	7,200	8,000	8,900
Florence	11,000	12,100	17,000	26,400	40,900	51,100
Fort McDowell Yavapai Native Nation	2,200	2,400	2,400	2,500	2,600	2,600
Fountain Hills	7,100	7,700	9,100	9,800	10,200	10,300
Gila Bend	900	900	1,200	1,300	1,500	1,700
Gila River Indian Native Nation	10,500	10,700	11,500	13,100	14,800	15,500
Gilbert	92,800	98,600	120,200	135,900	146,600	152,200
Glendale	103,800	111,400	134,000	153,100	168,900	175,900
Goodyear	35,900	37,200	50,600	69,000	92,600	102,500
Guadalupe	1,300	1,300	1,500	1,600	1,600	1,600
Litchfield Park	3,800	4,400	5,200	5,900	6,400	6,700
Maricopa	6,200	7,100	11,400	18,200	28,200	33,500
Mesa	197,200	205,900	249,000	296,000	333,700	351,000
Paradise Valley	6,300	6,300	6,800	7,100	7,500	7,700
Peoria	58,200	62,400	73,100	84,800	91,900	96,300
Phoenix	897,700	937,600	1,084,000	1,189,200	1,264,900	1,298,900
Queen Creek	15,500	16,400	19,900	24,000	28,900	31,100
Salt River Pima-Maricopa Native Nation	21,200	22,900	28,200	33,900	35,900	36,400
Scottsdale	197,200	207,400	235,500	252,000	261,700	267,000
Surprise	33,600	36,400	59,500	86,400	113,400	130,500
Tempe	190,000	200,500	231,200	257,700	280,000	290,900
Tolleson	17,700	18,300	21,200	23,900	26,000	26,700
Unicorporated Pinal County	3,500	3,900	6,000	8,900	13,500	17,800
Unincorporated Maricopa County	28,600	31,500	35,500	41,100	51,200	58,400
Wickenburg	4,400	4,600	5,200	5,600	6,000	6,200
Youngtown	1,500	1,800	2,200	2,700	2,800	3,100

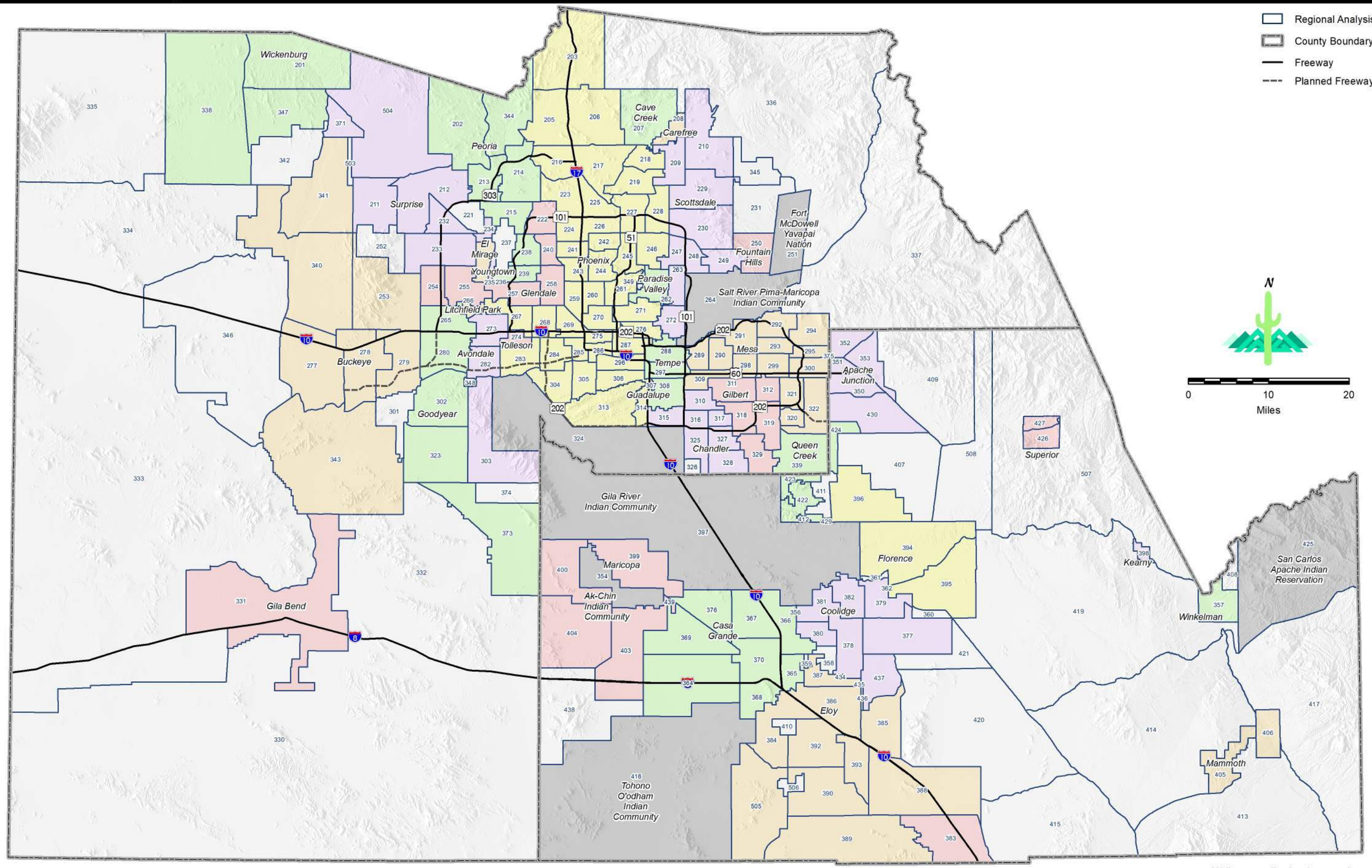
Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), June 2019

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

Regional Analysis Zones (RAZ), 2019
Maricopa and Pinal Counties, Arizona

MARICOPA ASSOCIATION of GOVERNMENTS



Source: MAG and the MAG member agencies, CAG and the CAG member agencies

Date: May 2019

While every effort has been made to ensure the accuracy of this information, the Maricopa Association of Governments makes no warranty, expressed or implied, as to its accuracy and expressly disclaims liability for the accuracy thereof.

Maricopa Association of Governments
Table 4: Population by Regional Analysis Zone (RAZ) by MPA
July 1, 2018 and Projections July 1, 2020 to July 1, 2055

RAZ	County	Total Population					
		2018	2020	2030	2040	2050	2055
	Total	1,653,469	1,697,722	1,881,876	2,019,269	2,117,427	2,155,333
Queen Creek MPA							
339	**Maricopa County**	49,781	53,579	72,670	82,172	87,155	89,586
422	**Pinal County**	13	13	300	437	564	638
423	**Pinal County**	1,286	1,410	3,714	6,136	7,457	8,686
424	**Pinal County**	7,642	10,003	14,200	20,287	25,759	29,586
	Total	58,722	65,005	90,884	109,032	120,935	128,496
Salt River Pima-Maricopa Native Nation MPA							
264	**Maricopa County**	6,798	6,073	5,708	5,820	5,820	5,820
	Total	6,798	6,073	5,708	5,820	5,820	5,820
Scottsdale MPA							
209	**Maricopa County**	12,188	12,605	13,961	14,512	14,984	15,255
210	**Maricopa County**	6,013	6,591	10,463	12,339	13,491	13,961
229	**Maricopa County**	20,542	21,269	25,221	27,864	29,698	30,229
230	**Maricopa County**	32,232	33,028	38,882	43,580	46,789	48,510
247	**Maricopa County**	13,549	13,858	15,420	16,342	16,871	17,019
248	**Maricopa County**	36,178	37,227	38,468	38,807	39,048	39,143
249	**Maricopa County**	20,903	21,410	22,543	22,768	22,839	22,848
263	**Maricopa County**	34,908	35,814	37,002	37,252	37,584	37,773
272	**Maricopa County**	68,987	71,970	79,910	85,942	90,054	91,927
	Total	245,500	253,772	281,870	299,406	311,358	316,665
Surprise MPA							
211	**Maricopa County**	863	884	4,471	23,112	36,704	40,737
212	**Maricopa County**	10,265	11,365	37,615	69,296	85,862	93,806
232	**Maricopa County**	29,296	30,200	34,506	37,144	37,927	38,313
233	**Maricopa County**	87,834	91,276	111,822	119,384	123,777	126,523
234	**Maricopa County**	8,969	9,467	10,460	10,878	11,335	11,488
371	**Maricopa County**	342	344	434	734	2,584	4,316
504	**Maricopa County**	6,460	6,718	17,425	46,912	85,127	102,004
	Total	144,029	150,254	216,733	307,460	383,316	417,187
Tempe MPA							
288	**Maricopa County**	73,442	76,444	100,651	129,202	150,094	157,410
297	**Maricopa County**	53,146	54,092	56,336	57,432	61,780	64,273
308	**Maricopa County**	58,756	59,473	60,120	60,348	60,476	60,559
	Total	185,344	190,009	217,107	246,982	272,350	282,242

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), May 2019

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

Maricopa Association of Governments
Table 5: Employment by Regional Analysis Zone (RAZ) by MPA
July 1, 2018 and Projections July 1, 2020 to July 1, 2055

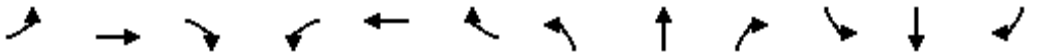
		Total Employment					
RAZ	County	2018	2020	2030	2040	2050	2055
	Total	897,713	937,622	1,083,980	1,189,209	1,264,941	1,298,903
Queen Creek MPA							
339	**Maricopa County**	13,933	14,696	16,482	18,825	20,733	21,151
422	**Pinal County**	9	8	18	22	31	39
423	**Pinal County**	89	109	351	620	1,068	1,639
424	**Pinal County**	1,435	1,576	3,073	4,571	7,020	8,309
	Total	15,466	16,389	19,924	24,038	28,852	31,138
Salt River Pima-Maricopa Native Nation MPA							
264	**Maricopa County**	21,160	22,869	28,215	33,871	35,903	36,442
	Total	21,160	22,869	28,215	33,871	35,903	36,442
Scottsdale MPA							
209	**Maricopa County**	4,488	4,659	4,851	5,174	5,161	5,344
210	**Maricopa County**	2,386	3,018	2,759	3,091	3,139	3,191
229	**Maricopa County**	9,604	10,005	11,231	11,962	12,193	12,896
230	**Maricopa County**	23,272	24,919	32,112	36,968	40,834	42,136
247	**Maricopa County**	44,254	47,089	52,652	54,822	55,679	56,105
248	**Maricopa County**	29,603	30,901	33,285	34,001	34,234	34,548
249	**Maricopa County**	7,409	7,692	8,179	8,684	8,906	9,045
263	**Maricopa County**	26,351	26,961	28,903	30,245	30,919	31,381
272	**Maricopa County**	49,833	52,185	61,540	67,039	70,676	72,330
	Total	197,200	207,429	235,512	251,986	261,741	266,976
Surprise MPA							
211	**Maricopa County**	60	53	1,560	3,172	4,766	7,017
212	**Maricopa County**	2,008	2,338	5,821	9,965	13,362	15,709
232	**Maricopa County**	8,349	9,228	11,297	12,187	12,875	13,116
233	**Maricopa County**	19,943	21,079	32,661	44,032	52,007	57,402
234	**Maricopa County**	2,588	2,711	3,354	3,922	4,239	4,386
371	**Maricopa County**	18	20	327	423	2,381	2,937
504	**Maricopa County**	677	1,020	4,460	12,695	23,763	29,886
	Total	33,643	36,449	59,480	86,396	113,393	130,453
Tempe MPA							
288	**Maricopa County**	88,927	94,229	111,010	128,894	144,714	152,703
297	**Maricopa County**	44,730	47,069	53,149	57,125	60,725	62,552
308	**Maricopa County**	56,380	59,208	67,052	71,701	74,542	75,596
	Total	190,037	200,506	231,211	257,720	279,981	290,851

Notes: Numbers rounded to the nearest 100. These projections include both the Maricopa County and Pinal County portions for Apache Junction, Queen Creek, and the Gila River Indian Community. Peoria and Wickenburg include only the Maricopa County portion.

Source: Maricopa Association of Governments (MAG) Socioeconomic Projections of Population and Employment by Municipal Planning Area (MPA) and Regional Analysis Zone (RAZ), May 2019

For explanation of variables and complete notation on this series, please refer to the Notes and Caveats in Appendix A.

Appendix H – Year 2026 No Build Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	261	100	56	545	136	135	619	50	104	406	90
Future Volume (veh/h)	134	261	100	56	545	136	135	619	50	104	406	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	284	109	61	592	148	147	673	54	113	441	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	396	177	344	696	173	733	2248	179	170	1084	483
Arrive On Green	0.06	0.11	0.11	0.19	0.25	0.25	0.21	0.47	0.47	0.05	0.31	0.31
Sat Flow, veh/h	3456	3554	1585	1781	2818	703	3456	4821	384	3456	3554	1585
Grp Volume(v), veh/h	146	284	109	61	373	367	147	474	253	113	441	98
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1744	1728	1702	1801	1728	1777	1585
Q Serve(g_s), s	5.0	9.3	7.9	3.4	24.0	24.1	4.2	10.4	10.5	3.9	11.8	4.3
Cycle Q Clear(g_c), s	5.0	9.3	7.9	3.4	24.0	24.1	4.2	10.4	10.5	3.9	11.8	4.3
Prop In Lane	1.00		1.00	1.00		0.40	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	205	396	177	344	439	430	733	1587	840	170	1084	483
V/C Ratio(X)	0.71	0.72	0.62	0.18	0.85	0.85	0.20	0.30	0.30	0.66	0.41	0.20
Avail Cap(c_a), veh/h	366	1199	535	344	570	559	733	1587	840	472	1084	483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	51.5	50.9	40.5	43.1	43.1	38.9	19.9	19.9	56.1	33.1	19.1
Incr Delay (d2), s/veh	4.6	2.4	3.5	0.2	9.3	9.8	0.1	0.5	0.9	4.4	1.1	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	4.2	3.2	1.5	11.4	11.3	1.8	4.1	4.5	1.8	5.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	53.9	54.4	40.7	52.4	52.9	39.0	20.3	20.8	60.4	34.2	20.0
LnGrp LOS	E	D	D	D	D	D	D	C	C	E	C	C
Approach Vol, veh/h		539			801			874			652	
Approach Delay, s/veh		55.7			51.7			23.6			36.6	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	30.5	42.0	12.4	35.1	11.5	60.9	28.7	18.9
Change Period (Y+Rc), s	5.0	5.4	* 5.3	5.5	5.6	* 5	5.5	* 5.5
Max Green Setting (Gmax), s	11.0	36.6	* 13	38.5	16.4	* 31	10.7	* 41
Max Q Clear Time (g_c+I1), s	6.2	13.8	7.0	26.1	5.9	12.5	5.4	11.3
Green Ext Time (p_c), s	0.2	3.0	0.2	3.5	0.2	4.2	0.0	2.1

Intersection Summary	
HCM 6th Ctrl Delay	40.5
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.2

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	405	3	0	749	7	6
Future Vol, veh/h	405	3	0	749	7	6
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	440	3	0	814	8	7

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	443	0	849	222
Stage 1	-	-	-	-	442	-
Stage 2	-	-	-	-	407	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1113	-	300	782
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	641	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1113	-	300	782
Mov Cap-2 Maneuver	-	-	-	-	300	-
Stage 1	-	-	-	-	615	-
Stage 2	-	-	-	-	641	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	13.9
HCM LOS			B

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	419	-	-	1113	-
HCM Lane V/C Ratio	0.034	-	-	-	-
HCM Control Delay (s)	13.9	-	-	0	-
HCM Lane LOS	B	-	-	A	-
HCM 95th %tile Q(veh)	0.1	-	-	0	-

Intersection	
Int Delay, s/veh	0.4

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	22	773	15	26	537
Future Vol, veh/h	0	22	773	15	26	537
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	24	840	16	28	584

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	428	0	0	856	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	0	492	-	-	459	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	492	-	-	459	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	12.7	0	0.6
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	492	459	-
HCM Lane V/C Ratio	-	-	0.049	0.062	-
HCM Control Delay (s)	-	-	12.7	13.4	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.2	0.2	-

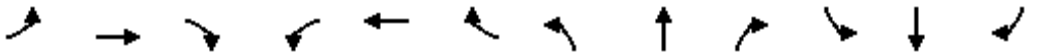
Intersection	
Int Delay, s/veh	3.1

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	9	19	15	8	8	9
Future Vol, veh/h	9	19	15	8	8	9
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	10	21	16	9	9	10

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	25	0	-	0	62	21
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	41	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1589	-	-	-	944	1056
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	981	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1589	-	-	-	938	1056
Mov Cap-2 Maneuver	-	-	-	-	938	-
Stage 1	-	-	-	-	996	-
Stage 2	-	-	-	-	981	-

Approach	EB	WB	SB
HCM Control Delay, s	2.3	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1589	-	-	-	997
HCM Lane V/C Ratio	0.006	-	-	-	0.019
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	572	205	75	420	187	223	757	126	383	726	321
Future Volume (veh/h)	214	572	205	75	420	187	223	757	126	383	726	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	233	622	223	82	457	203	242	823	137	416	789	349
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	300	756	337	178	545	240	820	1605	265	497	965	431
Arrive On Green	0.09	0.21	0.21	0.10	0.23	0.23	0.24	0.36	0.36	0.14	0.27	0.27
Sat Flow, veh/h	3456	3554	1585	1781	2399	1057	3456	4413	730	3456	3554	1585
Grp Volume(v), veh/h	233	622	223	82	337	323	242	634	326	416	789	349
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1680	1728	1702	1739	1728	1777	1585
Q Serve(g_s), s	7.9	20.0	15.5	5.2	21.7	22.0	6.9	17.5	17.6	14.1	24.9	18.7
Cycle Q Clear(g_c), s	7.9	20.0	15.5	5.2	21.7	22.0	6.9	17.5	17.6	14.1	24.9	18.7
Prop In Lane	1.00		1.00	1.00		0.63	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	300	756	337	178	404	382	820	1238	632	497	965	431
V/C Ratio(X)	0.78	0.82	0.66	0.46	0.84	0.84	0.29	0.51	0.52	0.84	0.82	0.81
Avail Cap(c_a), veh/h	567	962	429	367	555	525	820	1238	632	818	965	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	45.1	43.3	50.9	44.2	44.3	37.5	29.9	29.9	50.0	40.9	23.5
Incr Delay (d2), s/veh	4.3	4.7	2.5	1.8	7.9	9.0	0.2	1.5	3.0	4.1	7.6	15.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	9.1	6.2	2.4	10.2	9.9	2.9	7.2	7.7	6.2	11.6	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	49.8	45.8	52.8	52.1	53.3	37.7	31.4	32.9	54.1	48.5	38.6
LnGrp LOS	E	D	D	D	D	D	D	C	C	D	D	D
Approach Vol, veh/h		1078			742			1202			1554	
Approach Delay, s/veh		50.7			52.7			33.1			47.8	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	33.5	38.0	15.7	32.8	22.8	48.6	17.5	31.0
Change Period (Y+Rc), s	5.0	5.4	* 5.3	5.5	5.6	* 5	5.5	* 5.5
Max Green Setting (Gmax), s	9.0	32.6	* 20	37.5	28.4	* 13	24.7	* 33
Max Q Clear Time (g_c+I1), s	8.9	26.9	9.9	24.0	16.1	19.6	7.2	22.0
Green Ext Time (p_c), s	0.0	3.0	0.5	3.3	1.2	0.0	0.1	3.5

Intersection Summary	
HCM 6th Ctrl Delay	45.4
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.4

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1100	2	2	671	9	17
Future Vol, veh/h	1100	2	2	671	9	17
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1196	2	2	729	10	18

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1198	0	1566	599
Stage 1	-	-	-	-	1197	-
Stage 2	-	-	-	-	369	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	578	-	102	445
Stage 1	-	-	-	-	249	-
Stage 2	-	-	-	-	670	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	578	-	102	445
Mov Cap-2 Maneuver	-	-	-	-	102	-
Stage 1	-	-	-	-	249	-
Stage 2	-	-	-	-	668	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0	25.2
HCM LOS			D

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	206	-	-	578	-
HCM Lane V/C Ratio	0.137	-	-	0.004	-
HCM Control Delay (s)	25.2	-	-	11.3	-
HCM Lane LOS	D	-	-	B	-
HCM 95th %tile Q(veh)	0.5	-	-	0	-

Intersection	
Int Delay, s/veh	0.5

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	51	1059	7	18	987
Future Vol, veh/h	0	51	1059	7	18	987
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	55	1151	8	20	1073

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	580	0	0	1159	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	0	392	-	-	328	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	392	-	-	328	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	15.7	0	0.3
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	392	328	-
HCM Lane V/C Ratio	-	-	0.141	0.06	-
HCM Control Delay (s)	-	-	15.7	16.7	-
HCM Lane LOS	-	-	C	C	-
HCM 95th %tile Q(veh)	-	-	0.5	0.2	-

Intersection	
Int Delay, s/veh	2.6

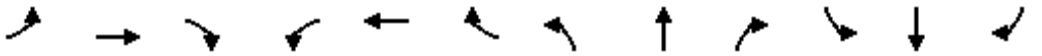
Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	16	6	43	39	6	5
Future Vol, veh/h	16	6	43	39	6	5
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	35	7	47	42	7	5

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	89	0	-	0	145	68
Stage 1	-	-	-	-	68	-
Stage 2	-	-	-	-	77	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1506	-	-	-	847	995
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	946	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1506	-	-	-	828	995
Mov Cap-2 Maneuver	-	-	-	-	828	-
Stage 1	-	-	-	-	933	-
Stage 2	-	-	-	-	946	-

Approach	EB	WB	SB
HCM Control Delay, s	6.3	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1506	-	-	-	896
HCM Lane V/C Ratio	0.023	-	-	-	0.013
HCM Control Delay (s)	7.4	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0

Appendix I – Year 2026 Build Capacity Analysis



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	134	268	102	68	555	147	143	628	50	109	411	90
Future Volume (veh/h)	134	268	102	68	555	147	143	628	50	109	411	90
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	146	291	111	74	603	160	155	683	54	118	447	98
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	205	404	180	352	704	186	711	2211	174	176	1084	483
Arrive On Green	0.06	0.11	0.11	0.20	0.25	0.25	0.21	0.46	0.46	0.05	0.31	0.31
Sat Flow, veh/h	3456	3554	1585	1781	2779	736	3456	4827	379	3456	3554	1585
Grp Volume(v), veh/h	146	291	111	74	385	378	155	480	257	118	447	98
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1738	1728	1702	1802	1728	1777	1585
Q Serve(g_s), s	5.0	9.5	8.0	4.2	24.8	24.9	4.5	10.7	10.8	4.0	12.0	4.3
Cycle Q Clear(g_c), s	5.0	9.5	8.0	4.2	24.8	24.9	4.5	10.7	10.8	4.0	12.0	4.3
Prop In Lane	1.00		1.00	1.00		0.42	1.00		0.21	1.00		1.00
Lane Grp Cap(c), veh/h	205	404	180	352	450	440	711	1559	825	176	1084	483
V/C Ratio(X)	0.71	0.72	0.62	0.21	0.86	0.86	0.22	0.31	0.31	0.67	0.41	0.20
Avail Cap(c_a), veh/h	366	1199	535	352	570	558	711	1559	825	472	1084	483
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	55.4	51.3	50.7	40.3	42.7	42.7	39.6	20.5	20.6	55.9	33.2	19.1
Incr Delay (d2), s/veh	4.6	2.4	3.4	0.3	10.1	10.5	0.2	0.5	1.0	4.3	1.2	0.9
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.3	4.3	3.3	1.8	11.8	11.7	1.9	4.2	4.6	1.8	5.2	2.2
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	60.0	53.8	54.1	40.6	52.7	53.2	39.8	21.0	21.5	60.3	34.3	20.0
LnGrp LOS	E	D	D	D	D	D	D	C	C	E	C	C
Approach Vol, veh/h		548			837			892			663	
Approach Delay, s/veh		55.5			51.9			24.4			36.8	
Approach LOS		E			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	29.7	42.0	12.4	35.9	11.7	60.0	29.2	19.1
Change Period (Y+Rc), s	5.0	5.4	* 5.3	5.5	5.6	* 5	5.5	* 5.5
Max Green Setting (Gmax), s	11.0	36.6	* 13	38.5	16.4	* 31	10.7	* 41
Max Q Clear Time (g_c+I1), s	6.5	14.0	7.0	26.9	6.0	12.8	6.2	11.5
Green Ext Time (p_c), s	0.2	3.1	0.2	3.5	0.2	4.3	0.0	2.2

Intersection Summary	
HCM 6th Ctrl Delay	40.8
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	0.9

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	405	15	13	749	40	16
Future Vol, veh/h	405	15	13	749	40	16
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	440	16	14	814	43	17

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	456	0	875	220
Stage 1	-	-	-	-	440	-
Stage 2	-	-	-	-	435	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	1101	-	289	784
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	620	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	1101	-	285	784
Mov Cap-2 Maneuver	-	-	-	-	285	-
Stage 1	-	-	-	-	616	-
Stage 2	-	-	-	-	612	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.1	17.5
HCM LOS			C

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	348	-	-	1101	-
HCM Lane V/C Ratio	0.175	-	-	0.013	-
HCM Control Delay (s)	17.5	-	-	8.3	-
HCM Lane LOS	C	-	-	A	-
HCM 95th %tile Q(veh)	0.6	-	-	0	-

Intersection	
Int Delay, s/veh	5.1

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	43	17	21	17	17	25
Future Vol, veh/h	43	17	21	17	17	25
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	47	18	23	18	18	27

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	96	32	45	0	-	0
Stage 1	32	-	-	-	-	-
Stage 2	64	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	903	1042	1563	-	-	-
Stage 1	991	-	-	-	-	-
Stage 2	959	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	889	1042	1563	-	-	-
Mov Cap-2 Maneuver	889	-	-	-	-	-
Stage 1	976	-	-	-	-	-
Stage 2	959	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	9.2	4.1	0
HCM LOS	A		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1563	-	928	-	-
HCM Lane V/C Ratio	0.015	-	0.07	-	-
HCM Control Delay (s)	7.3	0	9.2	-	-
HCM Lane LOS	A	A	A	-	-
HCM 95th %tile Q(veh)	0	-	0.2	-	-

Intersection	
Int Delay, s/veh	0.7

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	39	773	29	33	549
Future Vol, veh/h	0	39	773	29	33	549
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	42	840	32	36	597

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	436	0	0	872	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	0	486	-	-	451	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	486	-	-	451	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	13.1	0	0.8
HCM LOS	B		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	486	451	-
HCM Lane V/C Ratio	-	-	0.087	0.08	-
HCM Control Delay (s)	-	-	13.1	13.7	-
HCM Lane LOS	-	-	B	B	-
HCM 95th %tile Q(veh)	-	-	0.3	0.3	-

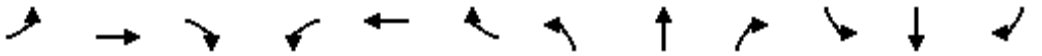
Intersection	
Int Delay, s/veh	4.9

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	30	19	15	8	8	26
Future Vol, veh/h	30	19	15	8	8	26
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	21	16	9	9	28

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	25	0	-	0	108	21
Stage 1	-	-	-	-	21	-
Stage 2	-	-	-	-	87	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1589	-	-	-	889	1056
Stage 1	-	-	-	-	1002	-
Stage 2	-	-	-	-	936	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1589	-	-	-	870	1056
Mov Cap-2 Maneuver	-	-	-	-	870	-
Stage 1	-	-	-	-	981	-
Stage 2	-	-	-	-	936	-

Approach	EB	WB	SB
HCM Control Delay, s	4.5	0	8.7
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1589	-	-	-	1005
HCM Lane V/C Ratio	0.021	-	-	-	0.037
HCM Control Delay (s)	7.3	0	-	-	8.7
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.1	-	-	-	0.1



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	597	211	90	428	197	230	765	126	405	748	321
Future Volume (veh/h)	214	597	211	90	428	197	230	765	126	405	748	321
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Work Zone On Approach		No			No			No			No	
Adj Sat Flow, veh/h/ln	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870	1870
Adj Flow Rate, veh/h	233	649	229	98	465	214	250	832	137	440	813	349
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	300	781	348	176	552	252	801	1551	254	521	965	431
Arrive On Green	0.09	0.22	0.22	0.10	0.23	0.23	0.23	0.35	0.35	0.15	0.27	0.27
Sat Flow, veh/h	3456	3554	1585	1781	2370	1083	3456	4421	724	3456	3554	1585
Grp Volume(v), veh/h	233	649	229	98	348	331	250	640	329	440	813	349
Grp Sat Flow(s),veh/h/ln	1728	1777	1585	1781	1777	1675	1728	1702	1740	1728	1777	1585
Q Serve(g_s), s	7.9	20.9	15.8	6.3	22.4	22.7	7.2	18.0	18.2	14.9	25.9	18.7
Cycle Q Clear(g_c), s	7.9	20.9	15.8	6.3	22.4	22.7	7.2	18.0	18.2	14.9	25.9	18.7
Prop In Lane	1.00		1.00	1.00		0.65	1.00		0.42	1.00		1.00
Lane Grp Cap(c), veh/h	300	781	348	176	414	390	801	1195	611	521	965	431
V/C Ratio(X)	0.78	0.83	0.66	0.56	0.84	0.85	0.31	0.54	0.54	0.84	0.84	0.81
Avail Cap(c_a), veh/h	567	962	429	367	555	524	801	1195	611	818	965	431
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Uniform Delay (d), s/veh	53.6	44.7	42.7	51.6	43.9	44.0	38.2	31.1	31.2	49.6	41.3	23.5
Incr Delay (d2), s/veh	4.3	5.2	2.6	2.8	8.5	9.6	0.2	1.7	3.4	4.8	8.8	15.2
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	9.6	6.3	2.9	10.6	10.2	3.0	7.5	8.0	6.7	12.2	8.6
Unsig. Movement Delay, s/veh												
LnGrp Delay(d),s/veh	57.9	49.9	45.3	54.3	52.4	53.6	38.4	32.8	34.6	54.4	50.1	38.6
LnGrp LOS	E	D	D	D	D	D	D	C	C	D	D	D
Approach Vol, veh/h		1111			777			1219			1602	
Approach Delay, s/veh		50.6			53.1			34.5			48.8	
Approach LOS		D			D			C			D	

Timer - Assigned Phs	1	2	3	4	5	6	7	8
Phs Duration (G+Y+Rc), s	32.8	38.0	15.7	33.5	23.7	47.1	17.3	31.9
Change Period (Y+Rc), s	5.0	5.4	* 5.3	5.5	5.6	* 5	5.5	* 5.5
Max Green Setting (Gmax), s	9.0	32.6	* 20	37.5	28.4	* 13	24.7	* 33
Max Q Clear Time (g_c+I1), s	9.2	27.9	9.9	24.7	16.9	20.2	8.3	22.9
Green Ext Time (p_c), s	0.0	2.6	0.5	3.3	1.2	0.0	0.2	3.4

Intersection Summary	
HCM 6th Ctrl Delay	46.2
HCM 6th LOS	D

Notes

User approved pedestrian interval to be less than phase max green.

* HCM 6th computational engine requires equal clearance times for the phases crossing the barrier.

Intersection	
Int Delay, s/veh	2.6

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Traffic Vol, veh/h	1100	49	22	671	42	34
Future Vol, veh/h	1100	49	22	671	42	34
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	100	100	-	0	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	1196	53	24	729	46	37

Major/Minor	Major1		Major2		Minor1	
Conflicting Flow All	0	0	1249	0	1609	598
Stage 1	-	-	-	-	1196	-
Stage 2	-	-	-	-	413	-
Critical Hdwy	-	-	4.14	-	6.84	6.94
Critical Hdwy Stg 1	-	-	-	-	5.84	-
Critical Hdwy Stg 2	-	-	-	-	5.84	-
Follow-up Hdwy	-	-	2.22	-	3.52	3.32
Pot Cap-1 Maneuver	-	-	553	-	95	445
Stage 1	-	-	-	-	249	-
Stage 2	-	-	-	-	636	-
Platoon blocked, %	-	-		-		
Mov Cap-1 Maneuver	-	-	553	-	91	445
Mov Cap-2 Maneuver	-	-	-	-	91	-
Stage 1	-	-	-	-	249	-
Stage 2	-	-	-	-	609	-

Approach	EB	WB	NB
HCM Control Delay, s	0	0.4	61.5
HCM LOS			F

Minor Lane/Major Mvmt	NBLn1	EBT	EBR	WBL	WBT
Capacity (veh/h)	141	-	-	553	-
HCM Lane V/C Ratio	0.586	-	-	0.043	-
HCM Control Delay (s)	61.5	-	-	11.8	-
HCM Lane LOS	F	-	-	B	-
HCM 95th %tile Q(veh)	3	-	-	0.1	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Traffic Vol, veh/h	50	15	61	55	11	67
Future Vol, veh/h	50	15	61	55	11	67
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	0	-	-	-	-	-
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	54	16	66	60	12	73

Major/Minor	Minor2		Major1		Major2	
Conflicting Flow All	241	49	85	0	-	0
Stage 1	49	-	-	-	-	-
Stage 2	192	-	-	-	-	-
Critical Hdwy	6.42	6.22	4.12	-	-	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	2.218	-	-	-
Pot Cap-1 Maneuver	747	1020	1512	-	-	-
Stage 1	973	-	-	-	-	-
Stage 2	841	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	713	1020	1512	-	-	-
Mov Cap-2 Maneuver	713	-	-	-	-	-
Stage 1	929	-	-	-	-	-
Stage 2	841	-	-	-	-	-

Approach	EB	NB	SB
HCM Control Delay, s	10.2	3.9	0
HCM LOS	B		

Minor Lane/Major Mvmt	NBL	NBT	EBLn1	SBT	SBR
Capacity (veh/h)	1512	-	766	-	-
HCM Lane V/C Ratio	0.044	-	0.092	-	-
HCM Control Delay (s)	7.5	0	10.2	-	-
HCM Lane LOS	A	A	B	-	-
HCM 95th %tile Q(veh)	0.1	-	0.3	-	-

Intersection	
Int Delay, s/veh	0.9

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Vol, veh/h	0	66	1059	40	46	1002
Future Vol, veh/h	0	66	1059	40	46	1002
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	-	0	-	-	120	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	0	72	1151	43	50	1089

Major/Minor	Minor1		Major1		Major2	
Conflicting Flow All	-	597	0	0	1194	0
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-
Critical Hdwy	-	7.14	-	-	5.34	-
Critical Hdwy Stg 1	-	-	-	-	-	-
Critical Hdwy Stg 2	-	-	-	-	-	-
Follow-up Hdwy	-	3.92	-	-	3.12	-
Pot Cap-1 Maneuver	0	382	-	-	315	-
Stage 1	0	-	-	-	-	-
Stage 2	0	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	-	382	-	-	315	-
Mov Cap-2 Maneuver	-	-	-	-	-	-
Stage 1	-	-	-	-	-	-
Stage 2	-	-	-	-	-	-

Approach	WB	NB	SB
HCM Control Delay, s	16.6	0	0.8
HCM LOS	C		

Minor Lane/Major Mvmt	NBT	NBR	WBLn1	SBL	SBT
Capacity (veh/h)	-	-	382	315	-
HCM Lane V/C Ratio	-	-	0.188	0.159	-
HCM Control Delay (s)	-	-	16.6	18.6	-
HCM Lane LOS	-	-	C	C	-
HCM 95th %tile Q(veh)	-	-	0.7	0.6	-

Intersection	
Int Delay, s/veh	4.3

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Traffic Vol, veh/h	77	6	43	39	6	20
Future Vol, veh/h	77	6	43	39	6	20
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Stop	Stop
RT Channelized	-	None	-	None	-	None
Storage Length	-	-	-	-	0	-
Veh in Median Storage, #	-	0	0	-	0	-
Grade, %	-	0	0	-	0	-
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	84	7	47	42	7	22

Major/Minor	Major1		Major2		Minor2	
Conflicting Flow All	89	0	-	0	243	68
Stage 1	-	-	-	-	68	-
Stage 2	-	-	-	-	175	-
Critical Hdwy	4.12	-	-	-	6.42	6.22
Critical Hdwy Stg 1	-	-	-	-	5.42	-
Critical Hdwy Stg 2	-	-	-	-	5.42	-
Follow-up Hdwy	2.218	-	-	-	3.518	3.318
Pot Cap-1 Maneuver	1506	-	-	-	745	995
Stage 1	-	-	-	-	955	-
Stage 2	-	-	-	-	855	-
Platoon blocked, %		-	-	-		
Mov Cap-1 Maneuver	1506	-	-	-	703	995
Mov Cap-2 Maneuver	-	-	-	-	703	-
Stage 1	-	-	-	-	902	-
Stage 2	-	-	-	-	855	-

Approach	EB	WB	SB
HCM Control Delay, s	7	0	9.1
HCM LOS			A

Minor Lane/Major Mvmt	EBL	EBT	WBT	WBR	SBLn1
Capacity (veh/h)	1506	-	-	-	908
HCM Lane V/C Ratio	0.056	-	-	-	0.031
HCM Control Delay (s)	7.5	0	-	-	9.1
HCM Lane LOS	A	A	-	-	A
HCM 95th %tile Q(veh)	0.2	-	-	-	0.1

To:	Alexa Taylor SmithGroup	**Date:**	June 29, 2023
From:	Shelly Sorensen, PE, PTOE		
Job Number:	23.5537		
RE:	City Center The Scottsdale Collection Parking Master Plan Update (Approved Case #9-ZN-2020)		



INTRODUCTION

Lōkahi, LLC (Lōkahi) has prepared a Parking Update for the proposed City Center, located near the southeast corner of Scottsdale Road and Camelback Road, in Scottsdale, Arizona.

The proposed City Center development will include the following land uses:

- **Multi-Family Residential** 272 units
  - *1 Bedroom* *134 units*
  - *2 Bedroom* *132 units*
  - *3 Bedroom* *6 units*
- **Retail/Restaurant** 31,698 square feet

The proposed City Center development is providing 554 parking stalls. See **Attachment A** for the proposed site plan.

The proposed City Center was included as part of a larger area wide Parking Master Plan. Case 9-ZN-2020 was approved by City Council on December 7, 2020, which included the Parking Master Plan for The Scottsdale Collection, dated September 29, 2020.

As the design of the site is now underway, there have since been minor modifications. This memorandum provides updated parking calculations using these recent site plan refinements.

10555 N. 114th Street, Suite 105
Scottsdale, AZ 85259
480.536.7150
www.lokahigroup.com

PARKING CALCULATIONS

The previously approved City Center parking calculations evaluated three possible land use options that included a mix of hotel, multi-family residential and retail/restaurant uses. Using the same approved parking calculation methodology, the parking calculations are shown below:

Use	Rate	Quantity	Units	Parking Stalls
Dwellings, Multiple-Family	1.10 Per each bedroom	416	Bedrooms	458
Non-Residential Area	1 Per 350 SF GFA	31,698	Square Feet	91
			Total	**549**

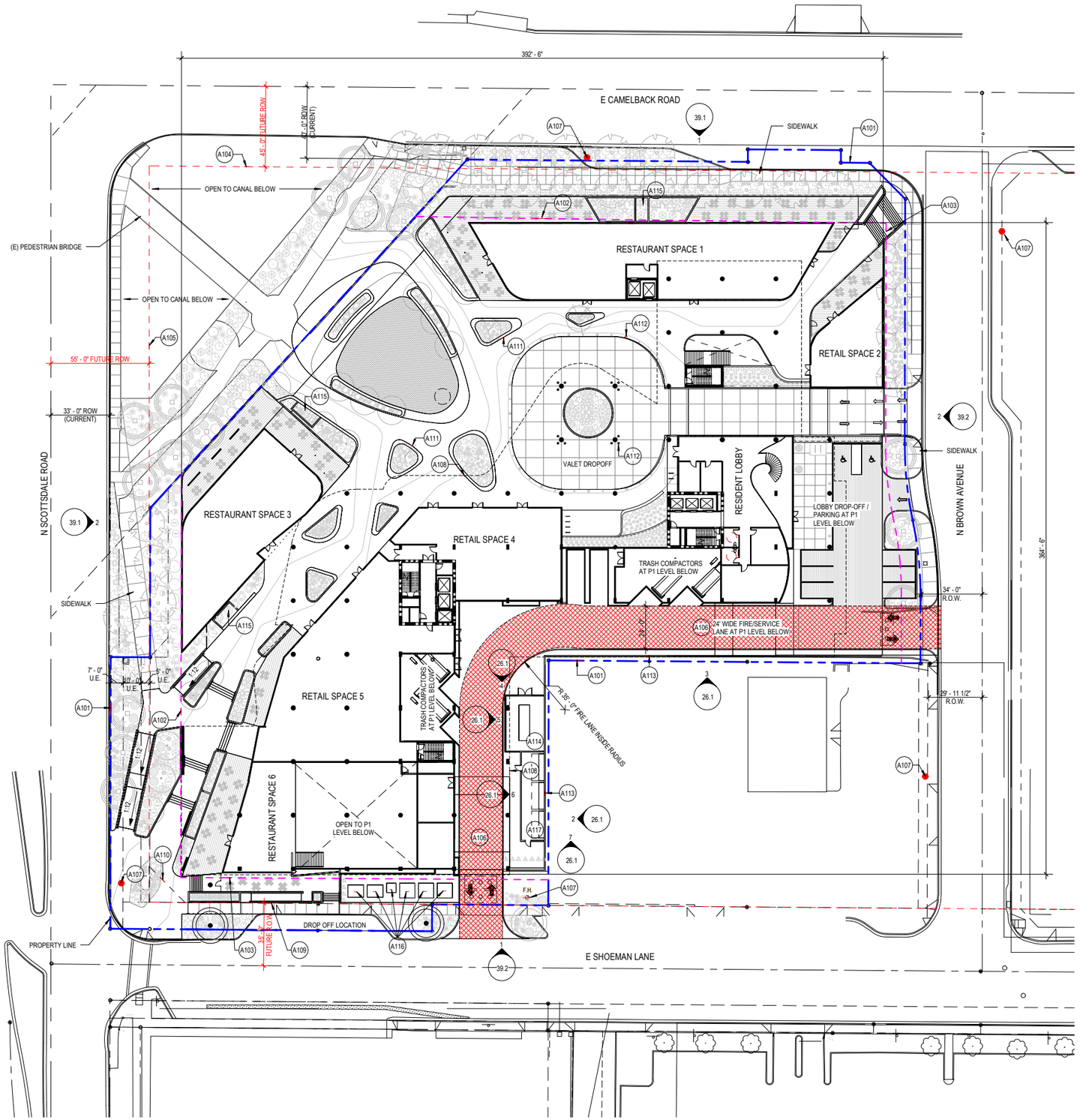
For mixed-use developments, like the City Center, the City of Scottsdale Code of Ordinances provides shared use parking calculations. Applying the shared use parking methodology, that was also included in the previously approved study results in the following:

General Land Use Classification	Parking Required	Weekday			Weekend		
		12 am - 7 am	7 am - 6 pm	6 pm to 12 am	12 am - 7 am	7 am - 6 pm	6 pm to 12 am
Residential	458	458	252	389	458	298	344
Restauratant and Bars	60	30	42	60	27	42	60
Retail	31	0	31	25	0	31	19
Total	549	**488**	325	474	485	371	423
Difference From Provided	**5**	**66**	**229**	**80**	**69**	**183**	**131**
% Difference	**0.9%**	**13.5%**	**70.5%**	**16.9%**	**14.2%**	**49.3%**	**31.0%**

CONCLUSION

With a maximum parking demand of 488 parking stalls and a total of 554 proposed parking stalls provided for the City Center development results in a surplus of 66 (13.5%) parking stalls.

ATTACHMENT A – PROPOSED SITE PLAN



NORTH

1 ARCHITECTURAL SITE PLAN
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"

SITE PLAN DATA

ADDRESS	7201 E CAMELBACK ROAD SCOTTSDALE, AZ 85251
APN	173-41-004 173-41-005 173-41-006A 173-41-015A 173-41-016A 173-41-017A 173-41-021A
EXISTING ZONING	D/DMU-3, PBD, DO
PROPOSED ZONING	D/DMU-3, PBD, DO
SUB-DISTRICT	DOWNTOWN MULTIPLE USE TYPE 3
TOTAL SITE AREA	3.16 ACRES (NET) 137,836 SF (NET)

RETAIL BUILDING AREA	**31,698**	**SF**
RETAIL USE SUBTOTAL	*12,434*	
RESTAURANT USE SUBTOTAL	*19,264*	
RESIDENTIAL BUILDING AREA	**435,653**	**SF**
RESIDENTIAL UNIT QUANTITY	*272*	*UNITS*
TOTAL BUILDING AREA (EXCLUDING GARAGE)	**467,351**	**SF**
GARAGE AREA	273,396	SF
TOTAL BUILDING AREA (INCLUDING GARAGE)	**740,747**	**SF**

MAXIMUM ALLOWABLE HEIGHT *PER ZONING CASE 9-NZ-2020, STIPULATION #8*	156'-0"	*(INCLUSIVE OF ROOFTOP APPURTENANCES)*
PROVIDED HEIGHT	156'-0"	
MAX ALLOWABLE GFAR, NON-RESIDENTIAL *PER ZONING CASE 9-NZ-2020, STIPULATION #5*	1.3	
ACTUAL GFAR, NON-RESIDENTIAL	0.30	
BUILDING SETBACKS FROM CURB *PER ZONING ORDINANCE, TABLE 5.3006.C*	40'-0" 20'-0"	*(SCOTTSDALE AND CAMELBACK)* *(SHOEMAN AND BROWN)*
REQUIRED OPEN SPACE *PER ZONING CASE 9-NZ-2020, STIPULATION #10*	15,000	SF
PROVIDED OPEN SPACE	39,129	SF *(BEHIND SETBACK LINE)*
REQUIRED PARKING SPACES *PER CITY CENTER PARKING MASTER PLAN*	488	
PROVIDED PARKING SPACES	554	
REQUIRED BICYCLE PARKING (RESIDENT) REQUIRED BICYCLE PARKING (RETAIL/GUEST) *PER ZONING ORDINACE, § 9.103.C*	42 16	*(1 BICYCLE SPACE PER 10 VEHICLE SPACES)*
PROVIDED BICYCLE PARKING SPACES	64	*(8 LOOP RACKS FOR 2 BICYCLES EA - RETAIL)* *(12 4-BIKE STORAGE RACKS - RESIDENT)*
REQUIRED ACCESSIBLE PARKING SPACES *PER ZONING ORDINACE § 9.105.C.3 AND ADA TABLE...*	10	*(2% OF TOTAL PARKING SPACES)*
PROVIDED ACCESSIBLE PARKING SPACES	12	
REQUIRED VAN PARKING SPACES *PER ZONING ORDINACE § 9.105.C.3 AND ADA TABLE...*	2	*(1 PER EVERY 6 ACCESSIBLE SPACES)*
PROVIDED VAN PARKING SPACES	3	
REQUIRED OFF-STREET LOADING SPACES *PER SCOTTSDALE PLANNING & DEVELOPMENT*	1	
PROVIDED OFF-STREET LOADING SPACES	3	

	UNIT TYPE					
	1 BR	1 BR + DEN	2 BR	2 BR + DEN	3 BR	PER FLOOR
LEVEL 2	2		4			6
LEVEL 3	13	3	9	2	2	29
LEVEL 4	13	3	9	2	2	29
LEVEL 5	13	3	9	2	2	29
LEVEL 6	9	1	9	1		20
LEVEL 7	8	1	10	1		20
LEVEL 8	8	1	10	1		20
LEVEL 9	8	1	10	1		20
LEVEL 10	8	1	10	1		20
LEVEL 11	8	1	10	1		20
LEVEL 12	8	1	10	1		20
LEVEL 13	9	1	9	1		20
LEVEL 14	9	1	8	1		19
SUBTOTAL	**116**	**18**	**117**	**15**	**6**	
	43%	*7%*	*43%*	*6%*	*2%*	*100%*
					TOTAL UNITS	**272**

SHEET KEYNOTES

A101 PROPERTY LINE
A102 40' SETBACK LINE (TABLE 5.3006.C)
A103 20' SETBACK LINE (TABLE 5.3006.C)
A104 45' FUTURE R.O.W. (PER 9-ZN-2020, #24.A)
A105 55' FUTURE R.O.W. (PER 9-ZN-2020, #24.B)
A106 24' WIDE FIRE LANE
A107 FIRE HYDRANT, EXISTING TO REMAIN
A108 LINE OF BUILDING ABOVE
A109 35' FUTURE R.O.W. (PER ALTA SURVEY)
A110 20' SITE VIEW TRIANGLE (PER ALTA SURVEY)
A111 PLANTER, SEE LANDSCAPE/HARDSCAPE PLANS
A112 BOLLARD, TYP
A113 10'-0" TALL MASONRY SCREEN WALL
A114 GENERATOR AND MASONRY ENCLOSURE
A115 GARAGE EXHAUST GRATE
A116 APS EQUIPMENT AND SCREEN ENCLOSURE
A117 SES CABINETS AND MASONRY ENCLOSURE

SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

SMITHGROUP

455 NORTH THIRD STREET
SUITE 250
PHOENIX, AZ 85004
602.265.2200
smithgroup.com

SUSTAINABILITY ENGINEERING GROUP
CIVIL ENGINEER
8280 E GELDING DRIVE, SUITE 101
SCOTTSDALE, AZ 85260
480.588.7226

SMITHGROUP
LANDSCAPE ARCHITECT
455 N THIRD STREET, SUITE 250
PHOENIX, AZ 85004
602.265.2200

ISSUED FOR	REV	DATE

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

CONCEPTUAL PLANS FOR DRB REVIEW ONLY

SHEET TITLE

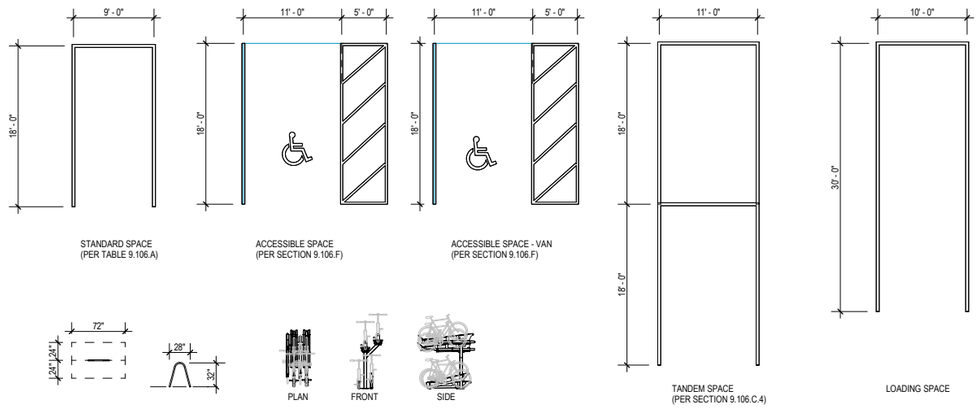
ARCHITECTURAL SITE PLAN

14165.000
PROJECT NUMBER

DRB **24.1**
SHEET NUMBER

START Sheet
6/29/2023 3:24:08 PM
Plot Date:

TYPICAL SPACE DIMENSIONS



PARKING CALCULATIONS

PARKING SPACE COUNT

SPACE TYPE	QUANTITY
LEVEL P1	
STANDARD PARKING SPACE	112
ACCESSIBLE PARKING SPACE	3
ACCESSIBLE PARKING SPACE - VAN	3
TANDEM PARKING SPACE	12
130	
LEVEL P2	
STANDARD PARKING SPACE	199
ACCESSIBLE PARKING SPACE	3
TANDEM PARKING SPACE	6
208	
LEVEL P3	
STANDARD PARKING SPACE	205
ACCESSIBLE PARKING SPACE	3
TANDEM PARKING SPACE	8
216	
TOTAL PARKING SPACES: 554	

TOTAL PARKING SPACES PROVIDED: ***554 SPACES (+66 SPACE SURPLUS)***

MAXIMUM PARKING DEMAND: ***488 SPACES****

**SEE CITY CENTER PARKING MASTER PLAN*

GRAPHIC LEGEND

- STANDARD PARKING SPACE
- ACCESSIBLE PARKING SPACE
- ACCESSIBLE PARKING SPACE - VAN
- TANDEM PARKING SPACE
- LOADING SPACE (10' X 30')



NORTH

1 PARKING PLAN - LEVEL P3
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"



NORTH

2 PARKING PLAN - LEVEL P2
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"

SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
SCOTTSDALE, AZ 85251

SMITHGROUP

455 NORTH THIRD STREET
SUITE 250
PHOENIX, AZ 85004
602.265.2200
smithgroup.com

SUSTAINABILITY ENGINEERING GROUP
CIVIL ENGINEER
8280 E GELDING DRIVE, SUITE 101
SCOTTSDALE, AZ 85260
480.588.7226

SMITHGROUP
LANDSCAPE ARCHITECT
455 N THIRD STREET, SUITE 250
PHOENIX, AZ 85004
602.265.2200

ISSUED FOR	REV	DATE

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

CONCEPTUAL PLANS FOR DRB REVIEW ONLY

SHEET TITLE

PARKING PLANS

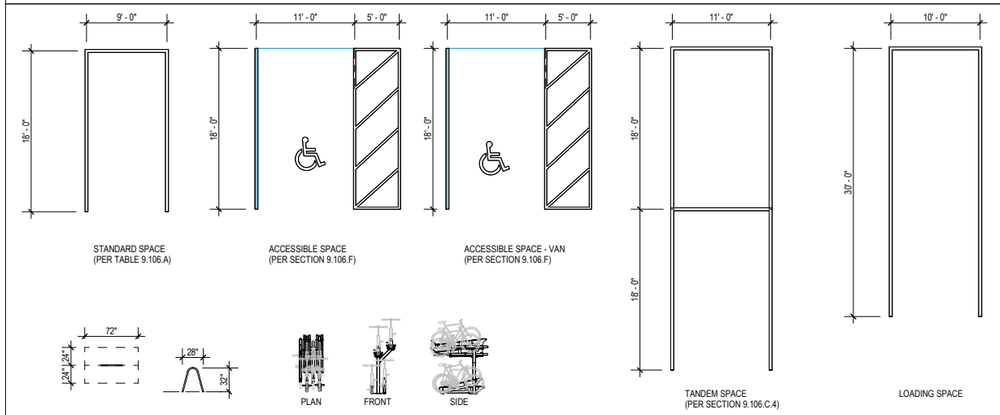
PROJECT NUMBER 14165.000

DRB **35.1**

SHEET NUMBER

Plot Date: 6/29/2023 3:24:10 PM Author

TYPICAL SPACE DIMENSIONS



PARKING CALCULATIONS

PARKING SPACE COUNT

SPACE TYPE	QUANTITY
LEVEL P1	
STANDARD PARKING SPACE	112
ACCESSIBLE PARKING SPACE	3
ACCESSIBLE PARKING SPACE - VAN	3
TANDEM PARKING SPACE	12
130	
LEVEL P2	
STANDARD PARKING SPACE	199
ACCESSIBLE PARKING SPACE	3
TANDEM PARKING SPACE	6
208	
LEVEL P3	
STANDARD PARKING SPACE	205
ACCESSIBLE PARKING SPACE	3
TANDEM PARKING SPACE	8
216	
TOTAL PARKING SPACES: 554	

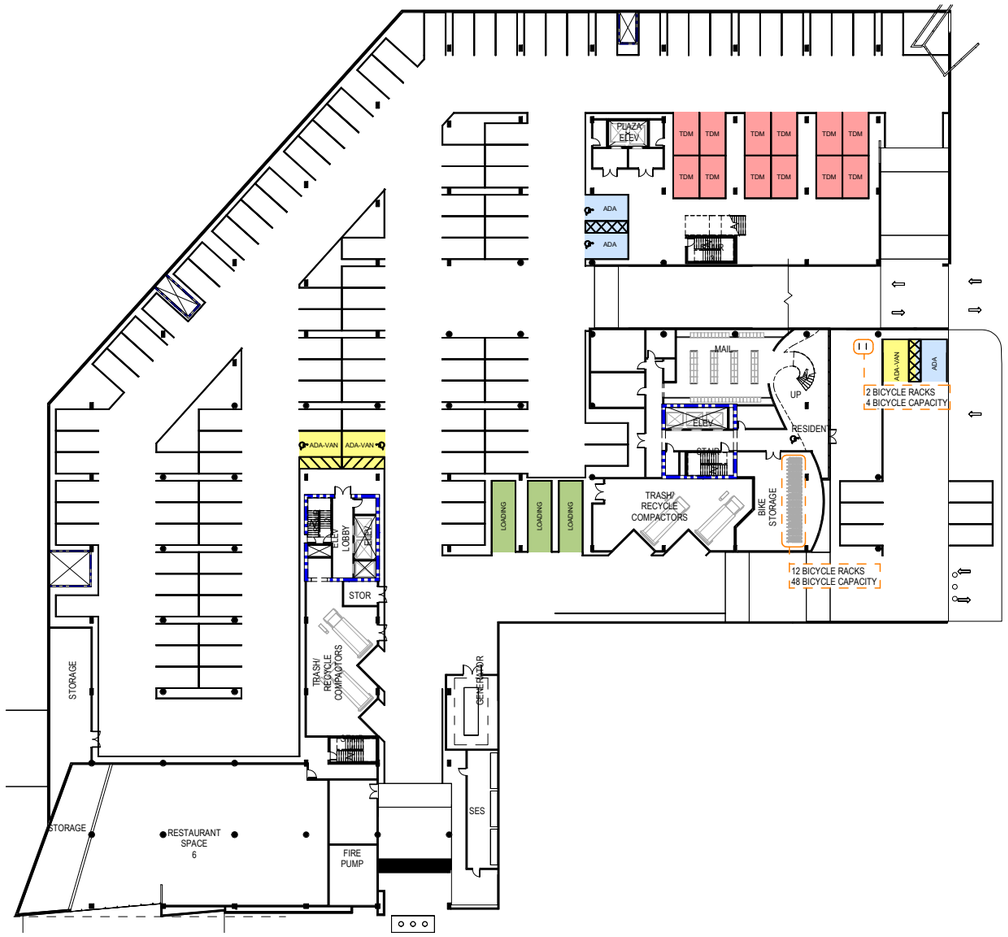
TOTAL PARKING SPACES PROVIDED: ***554 SPACES (+66 SPACE SURPLUS)***

MAXIMUM PARKING DEMAND: ***488 SPACES****

**SEE CITY CENTER PARKING MASTER PLAN*

GRAPHIC LEGEND

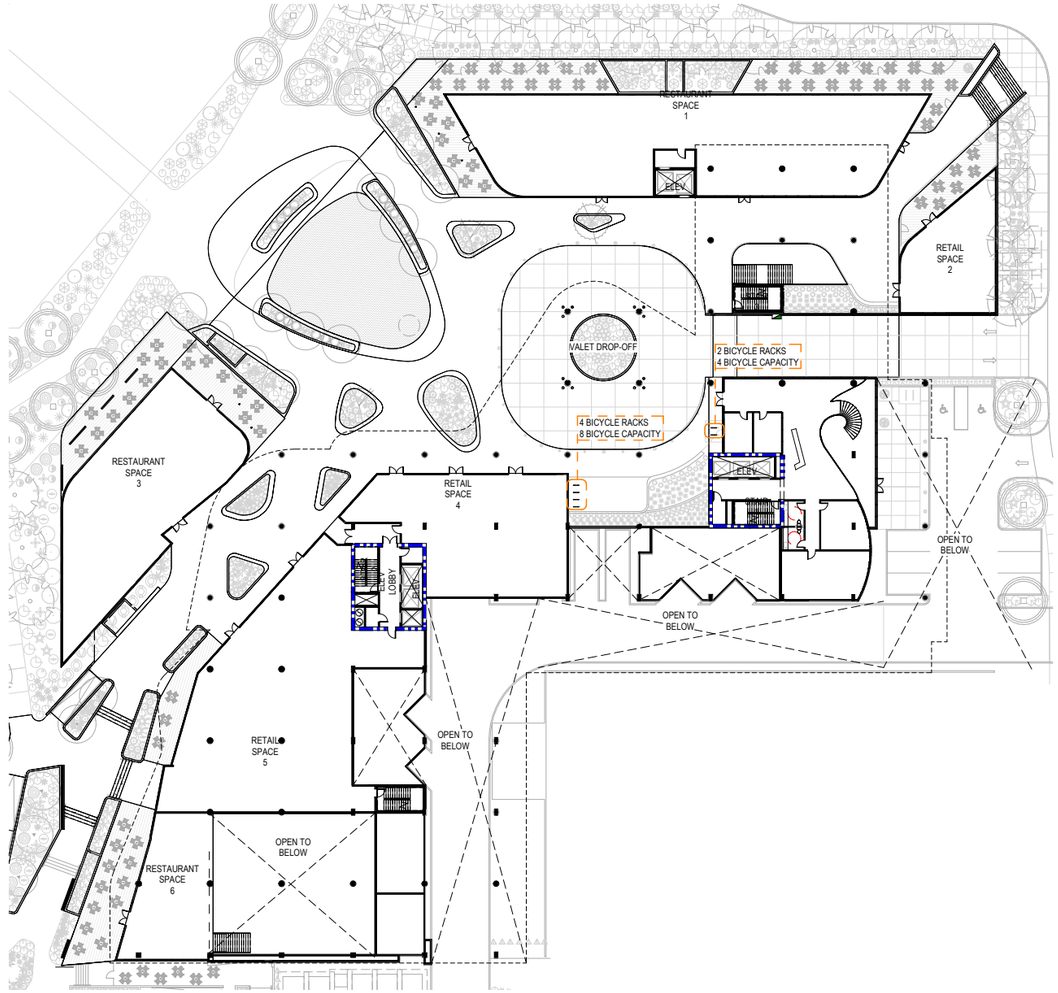
- STANDARD PARKING SPACE
- ACCESSIBLE PARKING SPACE
- ACCESSIBLE PARKING SPACE - VAN
- TANDEM PARKING SPACE
- LOADING SPACE (10' X 30')



NORTH

1 PARKING PLAN - LEVEL P1
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"



NORTH

2 PARKING PLAN - LEVEL 1
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"

SCOTTSDALE CITY CENTER

7201 EAST CAMELBACK ROAD
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SEALS AND SIGNATURES

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CONCEPTUAL PLANS FOR DRB REVIEW ONLY

SHEET TITLE

PARKING PLANS

14165.000
PROJECT NUMBER

DRB **35.2**
SHEET NUMBER

Author

6/29/2023 3:24:15 PM
Plot Date:

FINAL WASTEWATER REPORT

SCOTTSDALE CITY CENTER

7201 East Camelback Road
Scottsdale, AZ 85251

Prepared For:

SMITHGROUP

455 North 3rd Street, Suite 250
Phoenix, Arizona 85004
602.265.2200 www.smithgroup.com



Prepared by:

Sustainability Engineering Group

5240 N. 16th Street, Suite 105
Phoenix, AZ 85016
480.588.7226 www.azSEG.com

Project Number: 221117

Date: June 22, 2023

Case No.: 9-ZN-2020; 1-II-2020 **Plan Check No.: TBD**



Table of Contents

1. INTRODUCTION 1
1.1 SUMMARY OF PROPOSED DEVELOPMENT: 1
1.2 LEGAL DESCRIPTIONS AND AREA: 1
2. DESIGN DOCUMENTATION 1
2.1 DESIGN COMPLIANCE: 1
3. EXISTING CONDITIONS 2
3.1 EXISTING ZONING & LAND USE: 2
3.2 EXISTING TOPOGRAPHY, VEGETATION AND LANDFORM FEATURES: 2
3.3 EXISTING UTILITIES: 2
4. PROPOSED SEWER 2
4.1 GENERAL: 2
5. SANITARY SYSTEM COMPUTATIONS 3
5.1 SEWER FLOW UNIT DEMANDS AND PEAKING FACTORS: 3
5.2 VARIANCE FROM STATED DESIGN FLOWS: 3
5.3 SEWER FLOWS ROUTED TO CAMELBACK ROAD: 3
5.4 SEWER FLOWS EVALUATED IN SCOTTSDALE COLLECTIVE MASTER PLAN: 4
6. COMPUTATION SUMMARIES 4
6.1 SUMMARY OF FLOWS TO CAMELBACK ROAD: 4
7. CONCLUSIONS 4
7.1 PROPOSED IMPROVEMENTS: 4
7.2 PROJECT SCHEDULE: 4
8. SUPPORTING MAPS 4
8.1 UTILITY PLANS 4
9. REFERENCES 5

LIST OF FIGURES:

FIGURE 1 - Vicinity Map
FIGURE 2 - Local Projects
FIGURE 3 - Site Plan
FIGURE 4 - City Sewer Q-S Map 17-45 and 18-45

APPENDIX:

APPENDIX I - Camelback Road Sewer Extension
APPENDIX II - Sewer Hydraulic Calculations
APPENDIX III - Utility Line Modifications

1. INTRODUCTION

1.1 SUMMARY OF PROPOSED DEVELOPMENT:

City Center is a multi-story development located southeast of the Scottsdale Road/Camelback Road intersection and will replace an existing commercial/office building. Refer to **FIGURE 1** for a Vicinity Map, **FIGURE 2** highlighting major developments along the Camelback corridor and **FIGURE 3** showing the proposed site plan.

This report presents a wastewater infrastructure analysis for redevelopment of the seven commercial parcels comprising City Center. They will be replatted for high density residential and commercial retail uses. The intent of this design report is to evaluate the downstream wastewater infrastructure providing service to City Center compliant to City, County and State requirements.

1.2 LEGAL DESCRIPTIONS AND AREA:

The following parcels are all located within Section 23, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Scottsdale, Arizona.

- 173-41-016B; 51,713 square feet
- 173-41-017A; 23,040 square feet
- 173-41-015A; 11,172 square feet
- 173-41-021A; 14,047 square feet
- 173-41-006A; 12,894 square feet
- 173-41-005; 9,753 square feet
- 173-41-004; 8,905 square feet

The parcels total 131,524 square feet or 3.02 acres, more or less. Parcel areas have been obtained from Maricopa County Assessor's Office.

2. DESIGN DOCUMENTATION

2.1 DESIGN COMPLIANCE:

Preparation of this report has been done in accordance with requirements of the City of Scottsdale's Design Standards & Policies Manual (DS&PM) 2018 [1], direction from the City of Scottdale Water Resources Department and requirements of Maricopa County Environmental Health Department. Design flow calculations for the proposed sewer infrastructure are all based on the DS+PM recommendations in Section 7-1.403.

3. EXISTING CONDITIONS

3.1 EXISTING ZONING & LAND USE:

This existing parcels are zoned D/DMU-3 PBD DO, Downtown Multiple Use – Type 3. The four northern parcels are presently developed for commercial office use. The three southern parcels are presently undeveloped and being utilized for parking and construction yards.

3.2 EXISTING TOPOGRAPHY, VEGETATION AND LANDFORM FEATURES:

This area of Scottsdale is relatively flat with minor grades sloping to the Indian Bend Wash approximately one-half mile to the east. All parcels have been previously developed with buildings and pavement covering most of the properties and minor site landscaping typical of the downtown vicinity.

3.3 EXISTING UTILITIES:

Public sewer lines abut the north, east and south frontages of the development with an 8" VCP extending into the site from Brown Avenue north of the Upton Condos described as follow:

- N Scottsdale Road: No Service
- Camelback Road: 15" PVC and 12" VCP sewers flowing easterly.
- Brown Avenue: 8" PVC/VCP sewer flowing southerly. The sewer originates just south of Camelback Road.
- Shoeman Lane: 8" VCP located on the south side of the ROW, originating off the southeast corner of the subject property and flowing easterly.
- Mid-site: 8" VCP flowing east to Brown Avenue. This main is located in a 16' P.U. and provides service to all parcels bound by the associated public roads, except 173-41-004 (Parking lot) which appears to not have service.

Refer to **FIGURE 4** for the City's local sewer quarter section maps.

4. PROPOSED SEWER

4.1 GENERAL:

The Maya Hotel provided a 12" sewer stub at the intersection of Camelback Road and Buckboard Trail. Sewer service to the City Center site will be provided by a new 12" sewer line constructed along Camelback Road (refer to **APPENDIX I**). An 8" service line will be extended through the garage structure and provide service to the site.

Capacities of the offsite sewer system were evaluated in a Master plan Update and Sewer Design Report for Scottsdale Collective (ref.3). The Maya Hotel development constructed an interim sewer connection between a new 15" sewer line and an existing 15" sewer line in Camelback Road near 75th Street. An in-lieu payment was made to the City for the reach of a future sewer between 75th Street

and Miller Road. This reach will be constructed by the City's Capital Improvement Program when determined necessary.

The existing 8" VCP currently serving the lots will be terminated at the west property line of the Upton Condos with a new manhole and remain in place to serve these two properties. A new 10' wide easement will be dedicated on the City Center site with an existing 8' wide easement preserved offsite south of the property. The existing easement and sewer line west of the Upton Condos will be abandoned and the pipe removed, placing a new manhole at the northwest corner of the Upton Condo site. No structural improvements are proposed within the 10' wide easement with the existing sewer being approximately 6' south of the north easement line.

Refer to **APPENDIX II and APPENDIX III** for the proposed sewer hydraulic calculations and sewer modifications respectively.

All applicable existing sewer services shall be abandoned per City requirements.

5. SANITARY SYSTEM COMPUTATIONS

5.1 SEWER FLOW UNIT DEMANDS AND PEAKING FACTORS:

TABLE 1 - COS DS+PM DESIGN CRITERIA

Land Use	Unit Demand (gpd)	Unit	Design Peaking Factor
High Density Residential	140	per unit	4.5
Restaurant	1.2	per sq. ft.	6
Commercial/Retail	0.5	per sq. ft.	3
Fitness/Spa	0.8	per sq. ft.	3.5
Pool Backwash	144,000	per day	1

5.2 VARIANCE FROM STATED DESIGN FLOWS:

No variance to the DS+PM requirements is being requested with this multi-story development.

5.3 SEWER FLOWS ROUTED TO CAMELBACK ROAD:

TABLE 2 - CITY CENTER SEWER DEMANDS

	Units or Area (sq. ft.)	Unit Demand (gpd)	Avg. Day Demand (gpd)	Avg. Day Demand (gpm)	Peak Flow (gpm)
High Density Residential	292	140	40,880.0	28.4	127.8
Restaurant	19,264	1.2	23,116.8	16.1	96.3
Commercial/Retail	8,716	0.5	4,358.0	3.0	9.1
SUBTOTAL			**68,354.8**	**47.5**	**233.1**
Pool Backwash			144,000.0	100.0	100.0
Spa			72,000.0	50.0	50.0
		TOTAL DEMANDS:	**284,354.8**	**197.5**	**383.1**

APPENDIX II shows the 12" sewer conceys the 233 gpm peak day flow with a depth of 4.1 inches at a velocity of 2.2 fps. The peak day flow plus a 150 gpm of the pool backwash & spa flows at 2.5 fps with a 5.4 inch depth.

5.4 SEWER FLOWS EVALUATED IN SCOTTSDALE COLLECTIVE MASTER PLAN:

Table 3 was taken from the Master Plan Update for Scottsdale Collective and shows the new design has an approximate 33% reduction in sewer flow to Camelback Road.

TABLE 3 -SEWER DEMANDS FOR CITY CENTER FROM THE Scottsdale Collective MASTER PLAN UPDATE

	Units or Area (sq. ft.)	Unit Demand (gpd)	Avg. Day Demand (gpd)	Avg. Day Demand (gpm)	Peak Hour (gpm)
High Density Residential	146	140	20,440	14	64
Resort Hotel	214	380	81,320	56	254
Restaurant	41,109	1.2	49,331	34	206
		SUBTOTAL	**151,091**	**105**	**524**
Pool Backwash			144,000	100	100
		TOTAL DEMAND	**295,091**	**205**	**624**

6. COMPUTATION SUMMARIES

6.1 SUMMARY OF FLOWS TO CAMELBACK ROAD:

APPENDIX II provides hydraulic calculations for the reach of 12" sewer from City Center to Buckboard Trail where it will connect to the existing 15" sewer system installed with the Maya Hotel project. Flow hydraulics are all compliant to the City's DS+PM criteria.

7. CONCLUSIONS

7.1 PROPOSED IMPROVEMENTS:

Construction of City Center will require:

- a 12" sewer extension west of Buckboard Trail along Camelback Road to the site.
- Removal of an existing 8" sewer west of the Upton Condos.
- The proposed restaurants will each provide a grease interceptor.

7.2 PROJECT SCHEDULE:

It is anticipated City Center will be developed as a single phase beginning in 2024.

8. SUPPORTING MAPS

8.1 UTILITY PLANS

Preliminary utility exhibits are provided in **APPENDICES I and III.**

9. REFERENCES

1. City of Scottsdale Design Standards & Policies Manual, 2018 (Chapter 7 – Wastewater)
2. City of Scottsdale Sewer Quarter Section number 17-45
3. Wastewater Master Plan Update for Scottsdale Collective and Final Sewer Design Report for Maya Hotel Peeps and Fiesta dated December 24, 2021

FIGURES

1. Vicinity Map
2. Local Projects, Approves or Proposed
3. Site Plan
4. City Sewer Q-S Maps

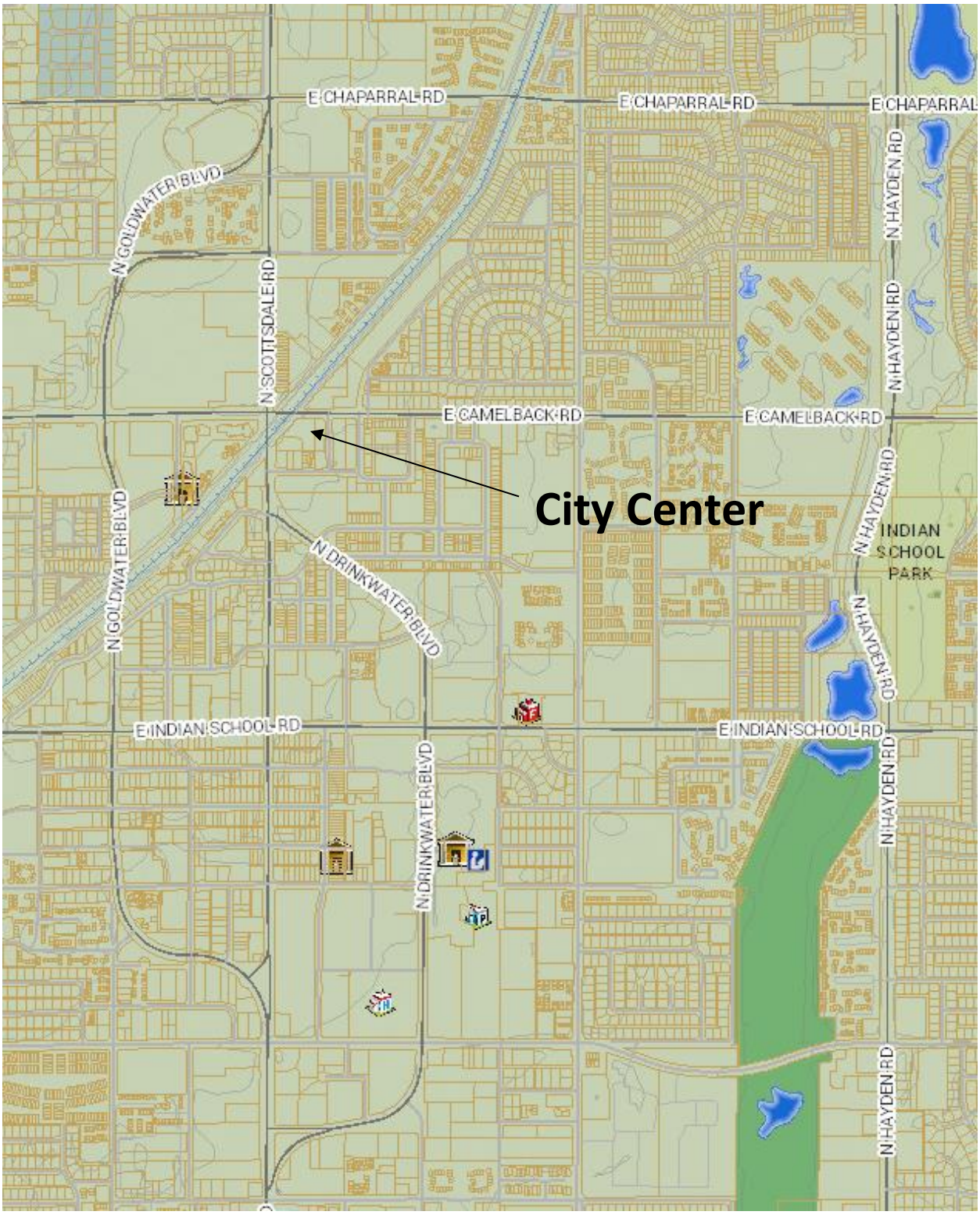


FIGURE 1 – Vicinity Map

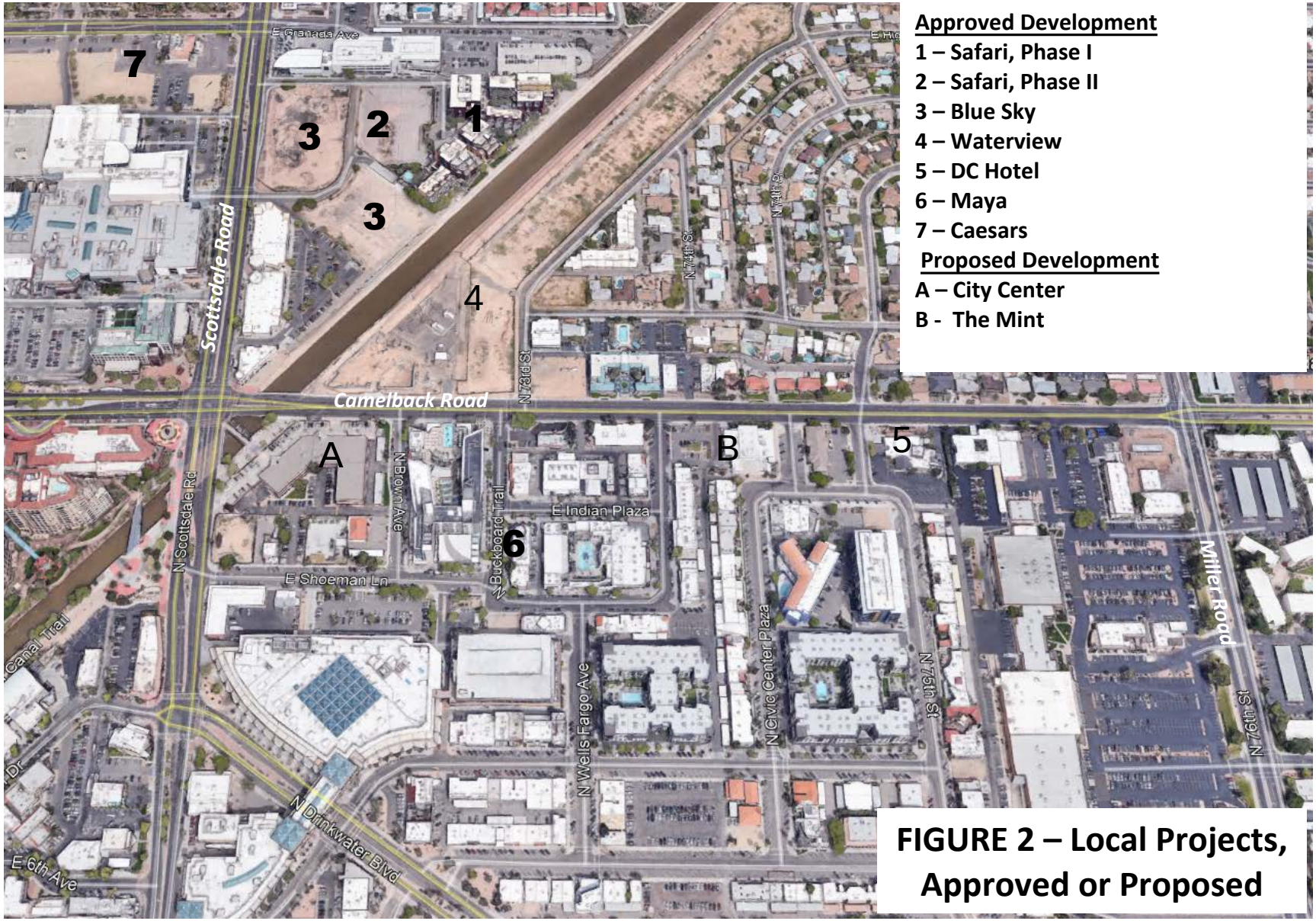
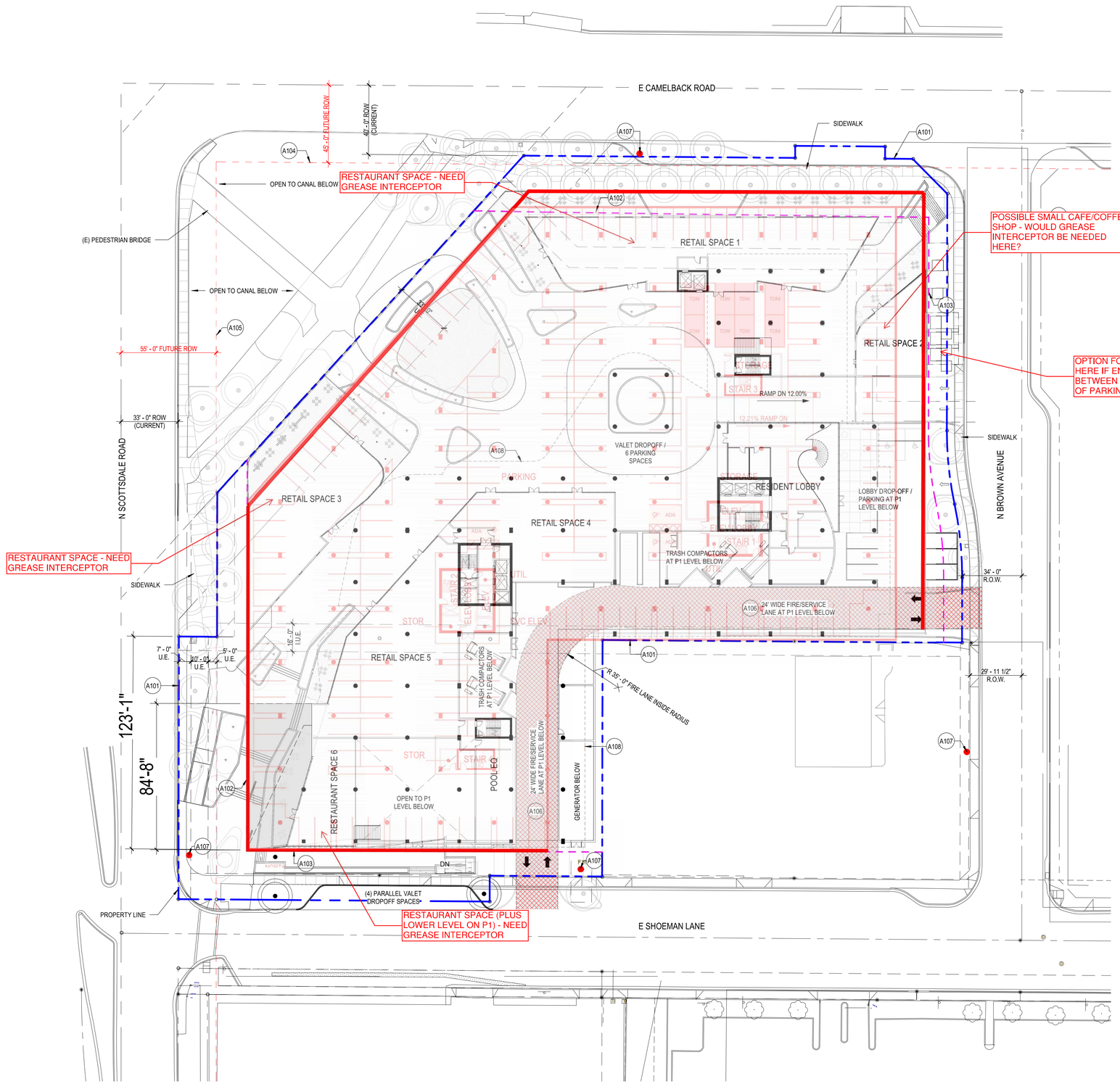


FIGURE 2 – Local Projects, Approved or Proposed



NORTH

1 ARCHITECTURAL SITE PLAN
SCALE: 1" = 30'-0"

0 30' 60' 90'
GRAPHIC SCALE: 1" = 30' - 0"

SITE PLAN DATA

ADDRESS	7201 E CAMELBACK ROAD SCOTTSDALE, AZ 85251
APN	173-41-004 173-41-005 173-41-006A 173-41-015A 173-41-016A 173-41-017A 173-41-021A
EXISTING ZONING	D/DMU-3, PBD, DO
PROPOSED ZONING	D/DMU-3, PBD, DO
SUB-DISTRICT	DOWNTOWN MULTIPLE USE TYPE 3
TOTAL SITE AREA	3.16 ACRES (NET) 137,836 SF (NET)

RETAIL BUILDING AREA	31,698	SF
RESIDENTIAL BUILDING AREA	435,653	SF
TOTAL BUILDING AREA (EXCLUDING GARAGE)	467,351	SF
GARAGE AREA	273,396	SF
TOTAL BUILDING AREA (INCLUDING GARAGE)	740,747	SF

MAXIMUM ALLOWABLE HEIGHT *PER ZONING CASE 9-NZ-2020, STIPULATION #8*	156'-0"	*(INCLUSIVE OF ROOFTOP APPURTENANCES)*
PROVIDED HEIGHT	156'-0"	
MAX ALLOWABLE GFAR, NON-RESIDENTIAL *PER ZONING CASE 9-NZ-2020, STIPULATION #5*	1.3	
ACTUAL GFAR, NON-RESIDENTIAL	0.30	
	40'-0"	*(FROM EXISTING CURB, SCOTTSDALE AND...*
ONING ORDINANCE, TABLE 5.3006.C	20'-0"	*(FROM EXISTING CURB, SHOEMAN AND...*
REQUIRED OPEN SPACE *PER ZONING CASE 9-NZ-2020, STIPULATION #10*	15,000	SF
PROVIDED OPEN SPACE	32,000	SF
REQUIRED PARKING SPACES *PER ZONING ORDINACE, TABLE 9.103.B*	589	*(SEE CALCULATIONS BELOW)*
PROVIDED PARKING SPACES	566	
REQUIRED BICYCLE PARKING SPACES *PER ZONING ORDINACE, § 9.103.C*	59	*(1 BICYCLE SPACE PER 10 VEHICLE SPACES)*
PROVIDED BICYCLE PARKING SPACES	60	*(30 LOOP RACKS FOR 2 BICYCLES EACH)*
REQUIRED ACCESSIBLE PARKING SPACES *PER ZONING ORDINACE § 9.105.C.3 AND ADA TABLE...*	12	*(2% OF TOTAL PARKING SPACES)*
PROVIDED ACCESSIBLE PARKING SPACES	12	
REQUIRED VAN PARKING SPACES *PER ZONING ORDINACE § 9.105.C.3 AND ADA TABLE...*	2	*(1 PER EVERY 6 ACCESSIBLE SPACES)*
PROVIDED VAN PARKING SPACES	3	
REQUIRED OFF-STREET LOADING SPACES *PER SCOTTSDALE PLANNING & DEVELOPMENT*	1	
PROVIDED OFF-STREET LOADING SPACES	3	

SHEET KEYNOTES

A101 PROPERTY LINE
A102 40' SETBACK LINE (TABLE 5.3006.C)
A103 20' SETBACK LINE (TABLE 5.3006.C)
A104 45' FUTURE R.O.W. (PER 9-ZN-2020, #24.A)
A105 55' FUTURE R.O.W. (PER 9-ZN-2020, #24.B)
A106 24' WIDE FIRE LANE
A107 FIRE HYDRANT, EXISTING TO REMAIN
A108 LINE OF BUILDING ABOVE

LOGO PLACEHOLDER

CITY CENTER RESIDENTIAL TOWER
7201 E CAMELBACK ROAD
SCOTTSDALE, AZ 85251

SMITHGROUP
455 NORTH THIRD STREET
SUITE 250
PHOENIX, AZ 85004
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602.265.2200

ISSUED FOR	REV	DATE

SEALS AND SIGNATURES

NOT FOR CONSTRUCTION

SHEET TITLE
ARCHITECTURAL SITE PLAN

FIGURE 3. SITE PLAN

PROJECT NUMBER 14165.000

SHEET NUMBER DRB 24.1

Plot Date: 6/6/2023 3:54:53 PM START Sheet

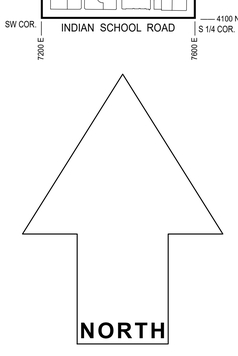
GENERAL NOTES:

- THIS IS A COMPUTER GENERATED DRAWING. FOR ANY REVISIONS PLEASE CONTACT THE CITY OF SCOTTSDALE GIS DEPARTMENT AT (480) 312-7792.
- THE SECTION LINE BEARING AND DISTANCES ARE BASED ON THE CITY OF SCOTTSDALE GPS SURVEY OF SEPTEMBER, 1991. BEARINGS ARE NAD 83 GRID AND DISTANCES ARE FLATTENED TO GROUND. WHERE NO CORNER WAS FOUND THE DIMENSIONS ARE GIVEN TO CALCULATED SECTION CORNERS AND ARE NOTED AS 'CALCULATED' ON THE MAP.

LEGEND:

- Cleanout
- Lift Station (LS)
- Manhole
- Non-GPS Point
- Plug
- Sewer Service Point
- Sewer Tap Point
- Sewer Valve
- Treatment Plant
- Sewer Main - Gravity
- Sewer Main - Force (Force)
- Sewer Main - Private

VICINITY MAP



SEWER

QUARTER SECTION MAP

17-45

SW 1/4 SEC. 23 T2N R4E

FIGURE 4

N O T I C E

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THE CITY OF SCOTTSDALE

CITY OF SCOTTSDALE

SCOTTSDALE GEOGRAPHIC INFORMATION SYSTEMS

3629 North Drinkwater Boulevard
Scottsdale, Arizona 85251

27-AUG-17

18-44

18-46

17-45

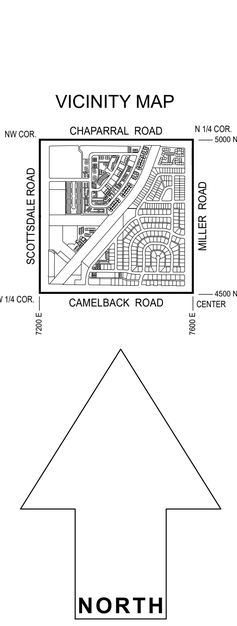
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LEGEND:

- Cleanout
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- Sewer Service Point
- Sewer Tap Point
- Sewer Valve
- Treatment Plant
- Sewer Main - Gravity
- Sewer Main - Force (Force)
- Sewer Main - Private

VICINITY MAP



SEWER

QUARTER SECTION MAP

18-45

NW 1/4 SEC. 23 T2N R4E

FIGURE 4

N O T I C E

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THE CITY OF SCOTTSDALE

CITY OF SCOTTSDALE

SCOTTSDALE GEOGRAPHIC INFORMATION SYSTEMS

3629 North Drinkwater Boulevard
Scottsdale, Arizona 85251

02-FEB-20

APPENDIX I
Camelback Road Sewer Extension

MAYA HOTEL
OFFSITE SEWER IMPROVEMENTS
FUTURE SEWER LINE TO CITY CENTER
(NOT FOR CONSTRUCTION)

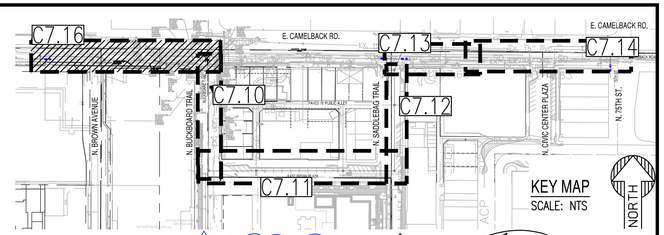
UTILITY CROSSINGS (FOR REFERENCE ONLY)

	CROSSING ID	UTILITY	ELEVATION	SEPARATION (FT)	
	UC-18	6" WATER BOT	1266.57	4.17	NO EXTRA PROTECTION REQUIRED
		12" SEWER TOP	1262.40		
	UC-19	6" SEWER BOT	–	–	10' OF DEPTH, COULD NOT FIND.
		12" SEWER TOP	1262.47		
	UC-20	2" ELECTRIC BOT	1269.08	6.14	NO EXTRA PROTECTION REQUIRED
		12" SEWER TOP	1262.94		
	UC-20A	2" ELECTRIC BOT	1269.50	5.94	NO EXTRA PROTECTION REQUIRED
		12" SEWER TOP	1263.56		
	UC-20B	2" ELECTRIC BOT	1271.46	7.10	NO EXTRA PROTECTION REQUIRED
		12" SEWER TOP	1264.36		
	UC-21	15" IRR BOT	1264.98	2.00	10' OF DEPTH, COULD NOT FIND.
		12" SEWER TOP	1262.98		
	UC-22	16" WATER BOT	TBD	–	16" WATER ELEVATION TO BE VERIFIED
		12" SEWER TOP	1263.70		
●	UC-23	16" WATER BOT	1266.43	2.00	16" WATER ELEVATION TO BE VERIFIED
		12" SEWER TOP	1264.43		
	UC-24	18" IRR BOT	1266.81	2.40	18" IRR ELEVATION TO BE VERIFIED
		12" SEWER TOP	1264.41		

● REQUIRES VERTICAL REALIGNMENT PER C.O.S. STD. DET. 2370 AND 2372. USE MECHANICALLY RESTRAINED JOINTS.

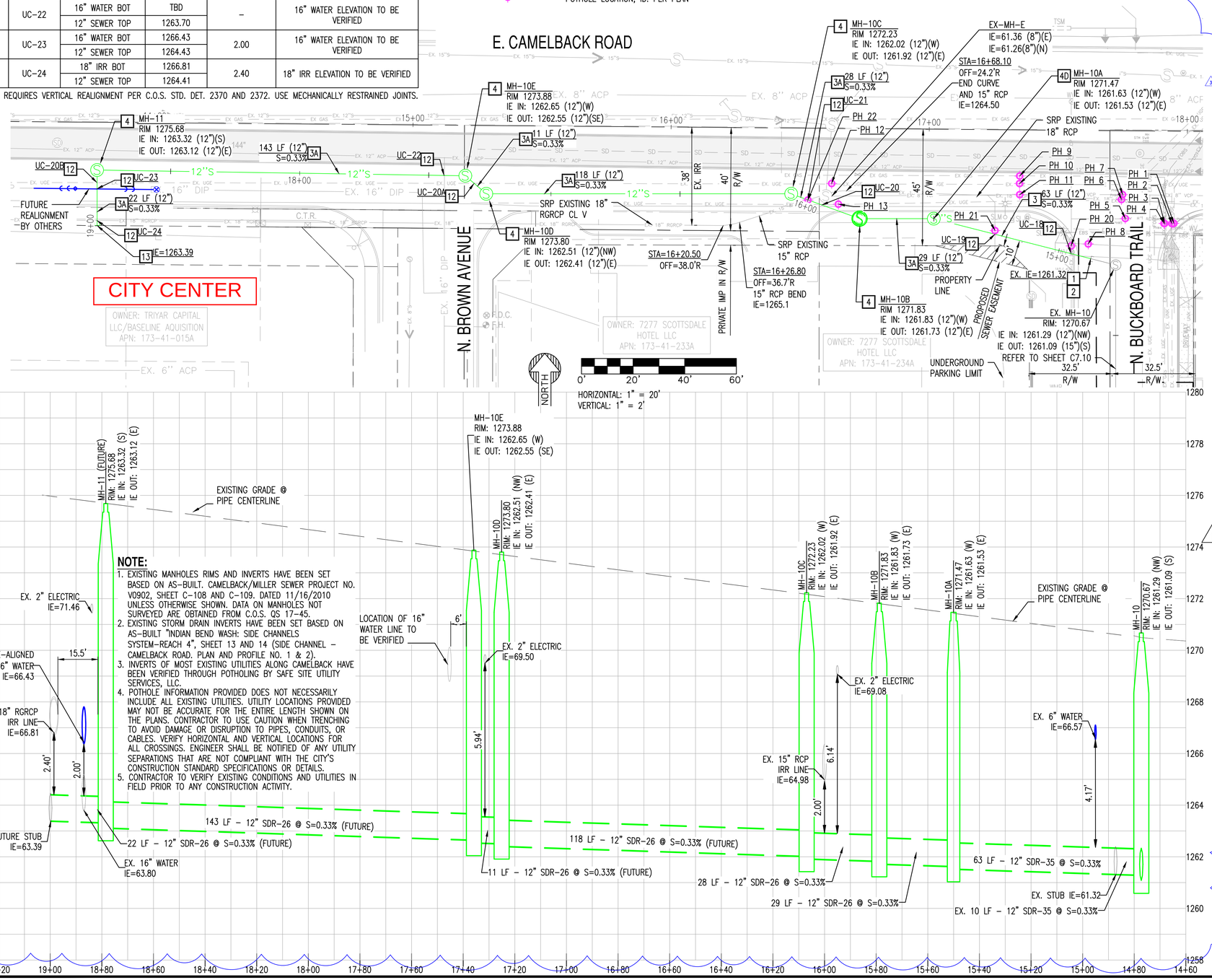
PROPOSED LEGEND:

- 12"S — SEWER LINE
- SEWER MANHOLE
- SEWER CAP
- SAWCUT LINE
- POTHOLE LOCATION, ID. PER PLAN



Registered Professional Engineer (Civil) CERTIFICATE NO. 45621 ALI SAMIH FAKIH Date Signed 08-31-2022 ARIZONA, U.S.A. EXPIRATION DATE: 12-31-2024

Registered Professional Engineer (Civil) CERTIFICATE NO. 45621 ALI SAMIH FAKIH Date Signed 08-31-2022 ARIZONA, U.S.A. EXPIRATION DATE: 12-31-2024



3 SRP UPDATE 02/01/2023 1 SEWER RE-ROUTE 08/24/2022

POTHOLE RESULTS

POTHOLE ID	UTILITY TYPE	PIPE/STRUCTURE SIZE	NATURAL GRADE	INVERT ELEVATION	COVER (FT)
1	COMM	2"	1269.86	1268.71	0.95
2	ELEC	2"	1269.95	1267.74	6.76
3	GAS	4"	1269.94	1264.49	5.05
4	ELEC	2"	1269.94	1263.34	6.40
5	WATER	8"	1269.97	1265.76	3.50
6	IRR	15"	1270.05	1266.40	2.20
7	SEWER	8"	1270.05	1261.44	7.78
8	WATER	6"	1262.45	–	8' OF DEPTH, COULD NOT FIND
9	GAS	4"	1271.05	1267.52	3.20
10	ELEC	2"	1271.05	1265.28	4.60
11	SEWER	8"	1271.01	1261.64	7.70
12	ELEC	2"	1271.50	1267.30	4.00
13	ELEC	2"	1271.10	1268.43	2.50
20	WATER	6"	1270.73	1266.63	3.60
21	SEWER	6"	1271.13	–	10' OF DEPTH, COULD NOT FIND
22	IRR	15"	1272.12	–	10' OF DEPTH, COULD NOT FIND

SANITARY CONSTRUCTION KEY NOTES

1. CONTRACTOR SHALL VERIFY THE LOCATION OF THE EXISTING SANITARY SEWER LINE BEFORE PROCEEDING WITH TRENCHING.
2. CONTRACTOR SHALL CONTACT ENGINEER IF EXISTING SEWER ELEVATION IS HIGHER THAN PROPOSED TIE-IN INVERT PRIOR TO ANY CONSTRUCTION ACTIVITY.
3. FURNISH AND INSTALL PVC-SDR 35 SEWER LINE. SIZE, LENGTH AND SLOPE PER PLAN.
3A. FURNISH AND INSTALL PVC-SDR 26 SEWER LINE. SIZE, LENGTH AND SLOPE PER PLAN.
4. FURNISH AND INSTALL 5' DIAMETER PRECAST CONCRETE SEWER MANHOLE PER MAG STD. DET. 420-1 (NO STEPS) WITH 12 CONCRETE COLLAR PER C.O.S. STD. DET. 2270 (18" COLLAR IN UNPAVED LOCATIONS). 30" WATERTIGHT COVER PER MAG STD. DET. 424-2 AND C.O.S. STD. DET. 2421. CAST-IN-PLACE BASE. MANHOLE TO BE EPOXY COATED IN ACCORDANCE WITH C.O.S. REQUIREMENTS.
4D. FURNISH AND INSTALL 4' DIAMETER PRECAST CONCRETE SEWER MANHOLE PER MAG STD. DET. 420-1 (NO STEPS) WITH 12 CONCRETE COLLAR PER C.O.S. STD. DET. 2270 (18" COLLAR IN UNPAVED LOCATIONS). CAST-IN-PLACE BASE. MANHOLE TO BE EPOXY COATED IN ACCORDANCE WITH C.O.S. REQUIREMENTS.
12. CONTRACTOR SHALL VERIFY ALL INVERTS AND CLEARANCE OF CROSSING UTILITIES PRIOR TO COMMENCING CONSTRUCTION.
13. PROVIDE PLUG AND MARKER FOR SEWER STUB PER MAG STD. DET 427.

EXISTING LEGEND:

- PROPERTY LINE
- EX. S — SEWER LINE
- SEWER MANHOLE
- LP STREET LIGHT
- EX. GAS — GAS LINE
- EX. UGT — DRY UTILITIES (COMM)
- EX. IRR — IRRIGATION LINE
- EX. UGE — ELECTRICITY LINE
- EX. UNK — UNKNOWN UTILITY
- EXISTING GROUND (PROFILE)
- STORM BOX

NOTE:
1. EXISTING MANHOLES RIMS AND INVERTS HAVE BEEN SET BASED ON AS-BUILT. CAMELBACK/MILLER SEWER PROJECT NO. V0902, SHEET C-108 AND C-109. DATED 11/16/2010 UNLESS OTHERWISE SHOWN. DATA ON MANHOLES NOT SURVEYED ARE OBTAINED FROM C.O.S. QS 17-45.
2. EXISTING STORM DRAIN INVERTS HAVE BEEN SET BASED ON AS-BUILT "INDIAN BEND WASH: SIDE CHANNELS SYSTEM-REACH 4", SHEET 13 AND 14 (SIDE CHANNEL – CAMELBACK ROAD. PLAN AND PROFILE NO. 1 & 2).
3. INVERTS OF MOST EXISTING UTILITIES ALONG CAMELBACK HAVE BEEN VERIFIED THROUGH POTHOLING BY SAFE SITE UTILITY SERVICES, LLC.
4. POTHOLE INFORMATION PROVIDED DOES NOT NECESSARILY INCLUDE ALL EXISTING UTILITIES. UTILITY LOCATIONS PROVIDED MAY NOT BE ACCURATE FOR THE ENTIRE LENGTH SHOWN ON THE PLANS. CONTRACTOR TO USE CAUTION WHEN TRENCHING TO AVOID DAMAGE OR DISRUPTION TO PIPES, CONDUITS, OR CABLES. VERIFY HORIZONTAL AND VERTICAL LOCATIONS FOR ALL CROSSINGS. ENGINEER SHALL BE NOTIFIED OF ANY UTILITY SEPARATIONS THAT ARE NOT COMPLIANT WITH THE CITY'S CONSTRUCTION STANDARD SPECIFICATIONS OR DETAILS.
5. CONTRACTOR TO VERIFY EXISTING CONDITIONS AND UTILITIES IN FIELD PRIOR TO ANY CONSTRUCTION ACTIVITY.

PRELIMINARY
NOT FOR
CONSTRUCTION

SUSTAINABILITY ENGINEERING GROUP
8280 E. GELDING DRIVE SUITE 101, SCOTTSDALE, ARIZONA 85260
WWW.AZSEG.COM TEL. 480.588.7226 FAX. 480.259.3534

RSP

Notice! Arizona 811 at least two full working days before you begin excavation. ARIZONA811 Call 811 or visit Arizona811.com

PROJECT: MAYA HOTEL
LOCATION: NEC OF BUCKBOARD TRAIL AND SHOEMAN LANE SCOTTSDALE, AZ.

DRAWN	PG	07/13/2022
DESIGNED	PG	07/13/2022
QC	SC	07/15/2022
QA	TM	08/09/2022
PROJ. MGR.	AF	07/19/2022

DATE: 01/27/2022
ISSUED FOR: PERMIT

REVISION NO.:	DATE:
1 SEWER RE-ROUTE	08/24/2022
2	
3 SRP UPDATE	02/01/2023
4	

JOB NO.: 200121

SHEET TITLE: FUTURE SEWER LINE TO CITY CENTER APPENDIX I

PAGE NO.: 17 OF 18
SHEET NO.: C7.16

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CASE NO.: 9-ZN-2020, 25-DR-2020 PLAN CHECK NO.: 4436-21-1

APPENDIX II
Sewer Hydraulic Calculations

12" Camelback Sewer - Peak Flow w/o Pool Backwash

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

Roughness Coefficient	0.013	
Channel Slope	0.00330	ft/ft
Diameter	12.0	in
Discharge	233.1	gpm

Results

Normal Depth	4.12	in
Flow Area	0.24	ft²
Wetted Perimeter	1.25	ft
Hydraulic Radius	2.29	in
Top Width	11.4	in
Critical Depth	3.59	in
Percent Full	34.4	%
Critical Slope	0.00562	ft/ft
Velocity	2.17	ft/s
Velocity Head	0.07	ft
Specific Energy	0.42	ft
Froude Number	0.76	
Maximum Discharge	988.1	gpm
Discharge Full	918.6	gal/min
Slope Full	0.00021	ft/ft
Flow Type	SubCritical	

APPENDIX II –
Sewer Hydraulic Calculations

12" Camelback Sewer - Peak Flow w/ 150 gpm Pool Backwash

Project Description

Friction Method	Manning Formula
Solve For	Normal Depth

Input Data

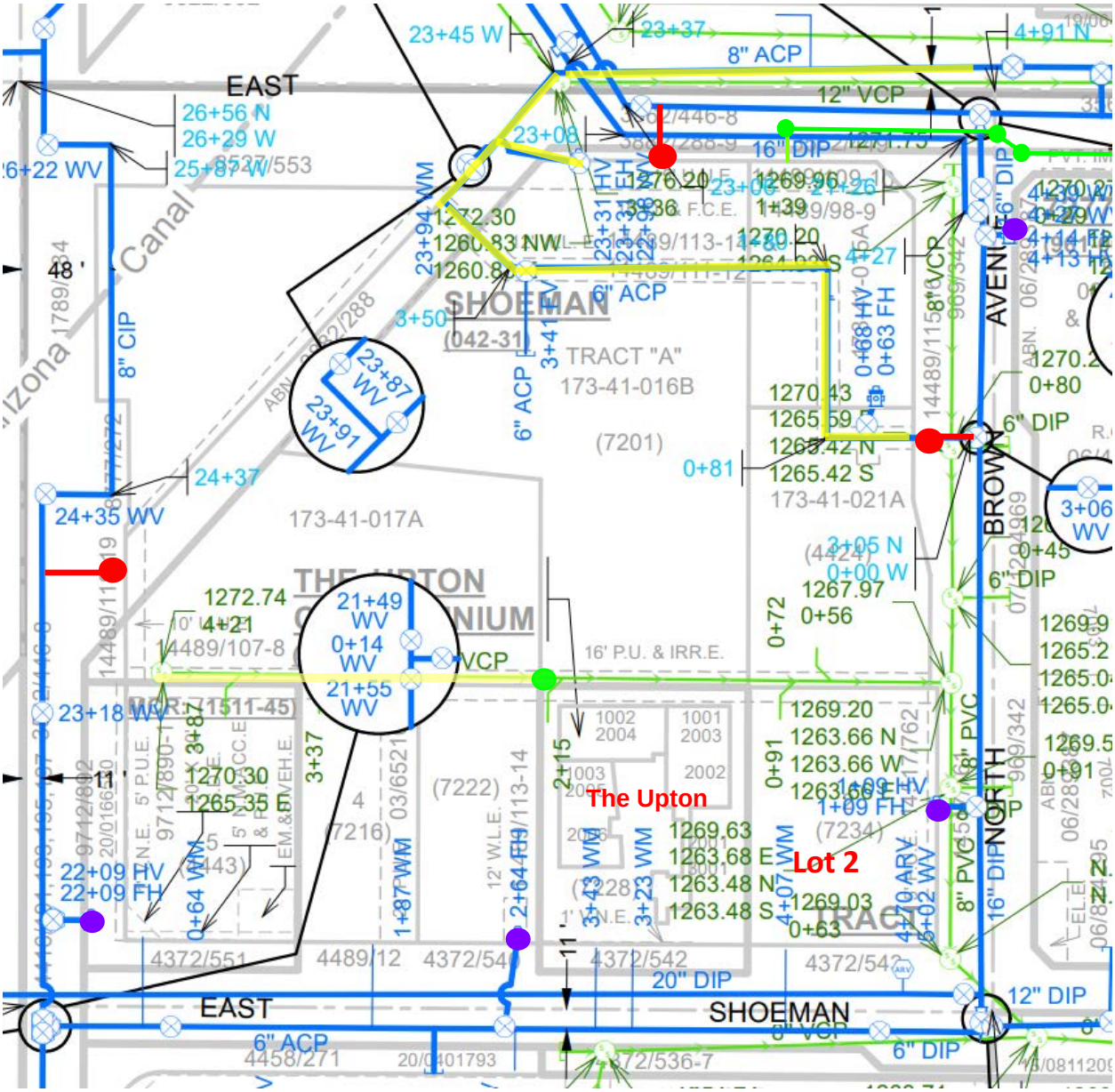
Roughness Coefficient	0.013	
Channel Slope	0.00330	ft/ft
Diameter	12.0	in
Discharge	383.1	gpm

Results

Normal Depth	5.41	in
Flow Area	0.34	ft²
Wetted Perimeter	1.47	ft
Hydraulic Radius	2.80	in
Top Width	11.9	in
Critical Depth	4.64	in
Percent Full	45.1	%
Critical Slope	0.00572	ft/ft
Velocity	2.49	ft/s
Velocity Head	0.10	ft
Specific Energy	0.55	ft
Froude Number	0.75	
Maximum Discharge	988.1	gpm
Discharge Full	918.6	gal/min
Slope Full	0.00057	ft/ft
Flow Type	SubCritical	

APPENDIX II –
Sewer Hydraulic Calculations

APPENDIX III
Utility Line Modifications



Propose to abandon yellow highlighted sewer and water lines

Propose new fire hydrants as shown in red

Existing fire hydrants shown in purple

Proposed new manhole in green

APPENDIX III - Utility Line Modifications

FINAL WATER REPORT

SCOTTSDALE CITY CENTER

7201 East Camelback Road
Scottsdale, AZ 85251

Prepared For:

SMITHGROUP

455 North 3rd Street, Suite 250
Phoenix, Arizona 85004
602.265.2200 www.smithgroup.com

Prepared by:

SEG



Sustainability Engineering Group
5240 N. 16th Street, Suite 105
Phoenix, AZ 85016
480.588.7226 www.azSEG.com

Project Number: 221117

Submittal Date: July 06, 2023

Case No.: 9-ZN-2020; 1-II-2020 Plan Check No.: TBD



Table of Contents

1. INTRODUCTION 1
1.1. SUMMARY OF PROPOSED DEVELOPMENT: 1
1.2. LEGAL DESCRIPTIONS AND AREA: 1
2. DESIGN DOCUMENTATION 1
2.1. DESIGN COMPLIANCE: 1
3. EXISTING CONDITIONS 2
3.1. EXISTING ZONING & LAND USE: 2
3.2. EXISTING TOPOGRAPHY, VEGETATION AND LANDFORM FEATURES: 2
3.3. EXISTING UTILITIES: 2
3.4. FIRE HYDRANT FLOW TESTING: 2
4. PROPOSED CONDITIONS 3
4.1. PROPOSED WATER SYSTEM: 3
4.2. MAINTENANCE RESPONSIBILITIES: 3
5. WATER SYSTEM COMPUTATIONS 3
5.1. WATER FLOW DEMANDS: 3
5.2. VARIANCE FROM STATED DESIGN FLOWS: 4
5.3. WATER MODELING: 4
5.4. WATER SUMMARY: 4
6. SUMMARY 5
6.1. SUMMARY OF PROPOSED IMPROVEMENTS: 5
6.2. PROJECT SCHEDULE: 5
7. SUPPORTING MAPS 5
7.1. UTILITY PLANS 5
8. REFERENCES 5

LIST OF FIGURES:

FIGURE 1 - Vicinity Map
FIGURE 2 - Local Projects
FIGURE 3 - Site Plan
FIGURE 4 - City Water Q-S Map 17-45



APPENDICIES:

APPENDIX I - Fire Hydrant Flow Tests
APPENDIX II - Water Model Reports
APPENDIX III - Utility Service Plan
APPENDIX IV - Utility Line Modifications

1. INTRODUCTION

1.1. SUMMARY OF PROPOSED DEVELOPMENT:

City Center is a multi-story development located southeast of the Scottsdale Road/Camelback Road intersection and will replace an existing commercial/office building. Refer to **FIGURE 1** for a Vicinity Map and **FIGURE 2** highlighting major developments along the Camelback corridor..

This report presents a water infrastructure analysis for redevelopment of the seven commercial parcels comprising City Center. They will be replatted for high density residential and retail uses (see **FIGURE 3** for a site plan). The intent of this design report is to evaluate the local water infrastructure providing service to City Center compliant to City, County and State requirements.

1.2. LEGAL DESCRIPTIONS AND AREA:

The following parcels are all located within Section 23, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Scottsdale, Arizona.

- 173-41-016B; 51,713 square feet
- 173-41-017A; 23,040 square feet
- 173-41-015A; 11,172 square feet
- 173-41-021A; 14,047 square feet
- 173-41-006A; 12,894 square feet
- 173-41-005; 9,753 square feet
- 173-41-004; 8,905 square feet

The parcels total 131,524 square feet or 3.02 acres, more or less. Parcel areas have been obtained from Maricopa County Assessor's Office.

2. DESIGN DOCUMENTATION

2.1. DESIGN COMPLIANCE:

Preparation of this report has been done in accordance with the City of Scottsdale Design Standards & Policies Manual (DS&PM) 2018 [1] and requirements of Maricopa County Environmental Services Department under jurisdiction of the State of Arizona. Design calculations for the proposed water infrastructure are all based on the DS+PM recommendations in Section 6-1.403.

3. EXISTING CONDITIONS

3.1. EXISTING ZONING & LAND USE:

This existing parcels are zoned D/DMU-3 PBD DO, Downtown Multiple Use – Type 3. The four northern parcels are presently developed for commercial office use. The three southern parcels are presently undeveloped and being utilized for parking and construction yards.

3.2. EXISTING TOPOGRAPHY, VEGETATION AND LANDFORM FEATURES:

This area of Scottsdale is relatively flat with minor grades sloping to the Indian Bend Wash approximately one mile to the east. All parcels have been previously developed with buildings and pavement covering most of the properties and minor site landscaping typical of the downtown vicinity.

3.3. EXISTING UTILITIES:

Public water lines abut all sides of the development with a 6" ACP looping through the property from Camelback Road to Brown Avenue.

- Camelback Road: 8" ACP, 12" ACP and 16" DIP
- Brown Avenue: 16" DIP
- Shoeman Lane: 6" ACP and 20" DIP
- Scottsdale Road: 8" CIP

Fire Hydrants and water meters exist around the site's periphery. The water meters to be removed will be inventoried for development fee credit. Refer to **FIGURE 4** for City Quarter Section Map (QS 17-45).

3.4. FIRE HYDRANT FLOW TESTING:

Updated flow testing was performed on June 27, 2023, at 8:35 am. A flow test completed with the Scottsdale Collective Master Plan as performed on April 13, 2020, at 6:55 am and is included for reference. Results of the tests, including corresponding supply curves, are shown in **APPENDIX I.** Table 1 summarizes the results of those tests.

Table 1 - SUMMARY OF FIRE HYDRANT FLOW TESTING

Test Date	Test Description	STATIC PRESSURE (psi)	RESIDUAL PRESSURE (psi)	FLOWING GPM	GPM @ 20 PSI	GPM @ 30 PSI
06/27/2023	Raw Data	106	96	2,578	8,240	7,707
06/27/2023	Data with 34 psi Safety Factor	72	62	2,578	6,280	5,596
4/13/2020	Raw Data	100	90	2,468	7,587	7,058
4/13/2020	Data with 28 psi Safety Facor	72	62	2,468	6,013	5,357

4. PROPOSED CONDITIONS

4.1. PROPOSED WATER SYSTEM:

City Center will remove a public water line crossing the site. An existing fire hydrant located near the Arizona Canal will need to be reconnected to the existing 16" pipe in Camelback Road. The reach of existing 8" ACP between the hydrant and Brown Avenue will be abandoned and removed. Existing fire hydrants on the property will be retained or relocated as necessary to provide adequate coverage.

A pump room for domestic and fire service is proposed near the southeast corner of the development at Shoeman Road. The 16" pipe in Shoeman Road will be tapped with a 6" to 8" pipe for the pump room service. Restaurant and landscape services can be connected to the 12" line in Camelback Road, an 8" stub remaining off the 16" line in Brown Avenue or the 6" line in Shoeman lane as needed (see **APPENDIX III** for the utility service plan).

All unused existing water service lines to the site will be removed to the main per City requirements. A map indicating water line modifications and fire hydrant locations is included as **APPENDIX IV.**

4.2. MAINTENANCE RESPONSIBILITIES:

No water main extensions are proposed. All proposed water meters will be installed in rights-of-ways or easements dedicated to the city. Backflow prevention will be provided on all metered services and along with the fire lines will be privately owned and maintained by the building owners.

5. WATER SYSTEM COMPUTATIONS

5.1. WATER FLOW DEMANDS:

The City design criteria and resulting maximum demands for the average, max day and peak hour flows are shown in Tables below

Table 2: COS Design Criteria - Average Day Demands

Land Use	Unit Demand (gpm)	Unit	Max Day Factor	Peak Hour Factor
High Density Residential	0.27	per unit	2	3.5
Restaurant	1.81E-03	per sq. ft.	2	5 to 6*
Commercial/Retail	1.11E-03	per sq. ft.	2	3.5
Fitness/Spa	1.11E-03	per sq. ft.	2	3.5

* 6.0 for floor areas < 15,000 sf; 5.0 for floor areas > 15,000 sf

Table 3: WATER DEMAND CALCULATIONS

	Units or Area (sq. ft.)	Unit Demand (gpm)	Avg. Day Demand (gpm)	Max Day Demand (gpm)	Peak Hour Demand (gpm)
High Density Residential	292	0.27	78.8	157.7	275.9
Restaurant	19,264	1.81E-03	34.9	69.7	209.2
Commercial/Retail	8,716	1.11E-03	9.7	19.3	33.9
		TOTAL DEMANDS:	123.4	246.8	519.0

City Center will require the public water system to provide fire protection up to 2500 gpm plus maximum day demand consistent with other high-rise/high-density projects in the city. The residential towers will require building pumps and storage required within the structure.

5.2. VARIANCE FROM STATED DESIGN FLOWS:

No variance from the stated design criteria in the DS+PM is requested.

5.3. WATER MODELING:

Bentley WaterCAD® Version 8i is the computer modeling tool that is used in this final design report**.** The general methodology will consist of modeling the network of water distribution pipes and inputting demands to evaluate compliance to the City's pressure, head loss, and water demand requirements during daily demands and fire events. The connection to the water system is modeled as a reservoir and pump. The pump will simulate the pressure drop and the available flow from the existing water system as depicted by the respective fire flow tests. Modeling uses reduced data with a safety factor.

5.4. WATER SUMMARY:

The water model layout and reports are included in **APPENDIX II**. Table 4 presents a summary of the modeling output.

Table 4: WaterCAD® Analysis Results

Demand Scenario	Water Demand (GPM)	Pressure (PSI)				Max. Velocity (ft/s)	Pipe ID
		Min.	Node	Max.	Node		
Average Day Demand	123.4	68	J-14	74	J-10	0.2	P-10
Maximum Day Demand	246.8	68	J-14	74	J-10	0.3	P-10
Peak Hour Demand	519.0	67	J-14	73	J-10	0.9	P-10
MD+FF - NEC	2746.8	55	J-14	62	J-10	2.4	P-4
MD+FF - SWC	2746.8	48	J-12	62	J-8	10.2	P-10

6. SUMMARY

6.1. SUMMARY OF PROPOSED IMPROVEMENTS:

This design report supports the development of City Center compliant to the requirements stated in Chapter 6 of the COS DS+PM. This final analysis indicates the existing water infrastructure is sufficient to provide domestic service and fire protection. All existing metered services, fire lines and pipes not needed for the master planned development will be inventoried and shown to be removed per requirements of the DS+PM on the final improvement plans.

6.2. PROJECT SCHEDULE:

It is anticipated City Center will develop in 2024 as a single phase.

7. SUPPORTING MAPS

7.1. UTILITY PLANS

A Water Utility Exhibit with proposed service connections to the existing water system is included as **APPENDIX II.**

8. REFERENCES

1. COS QS Water Plan number 17-45
2. City of Scottsdale Design Standards & Policies Manual, 2018 (Chapter 6 – Water)

FIGURES

1. Vicinity Map
2. Local Projects
3. Site Plan
4. City Water Q-S Map 17-45

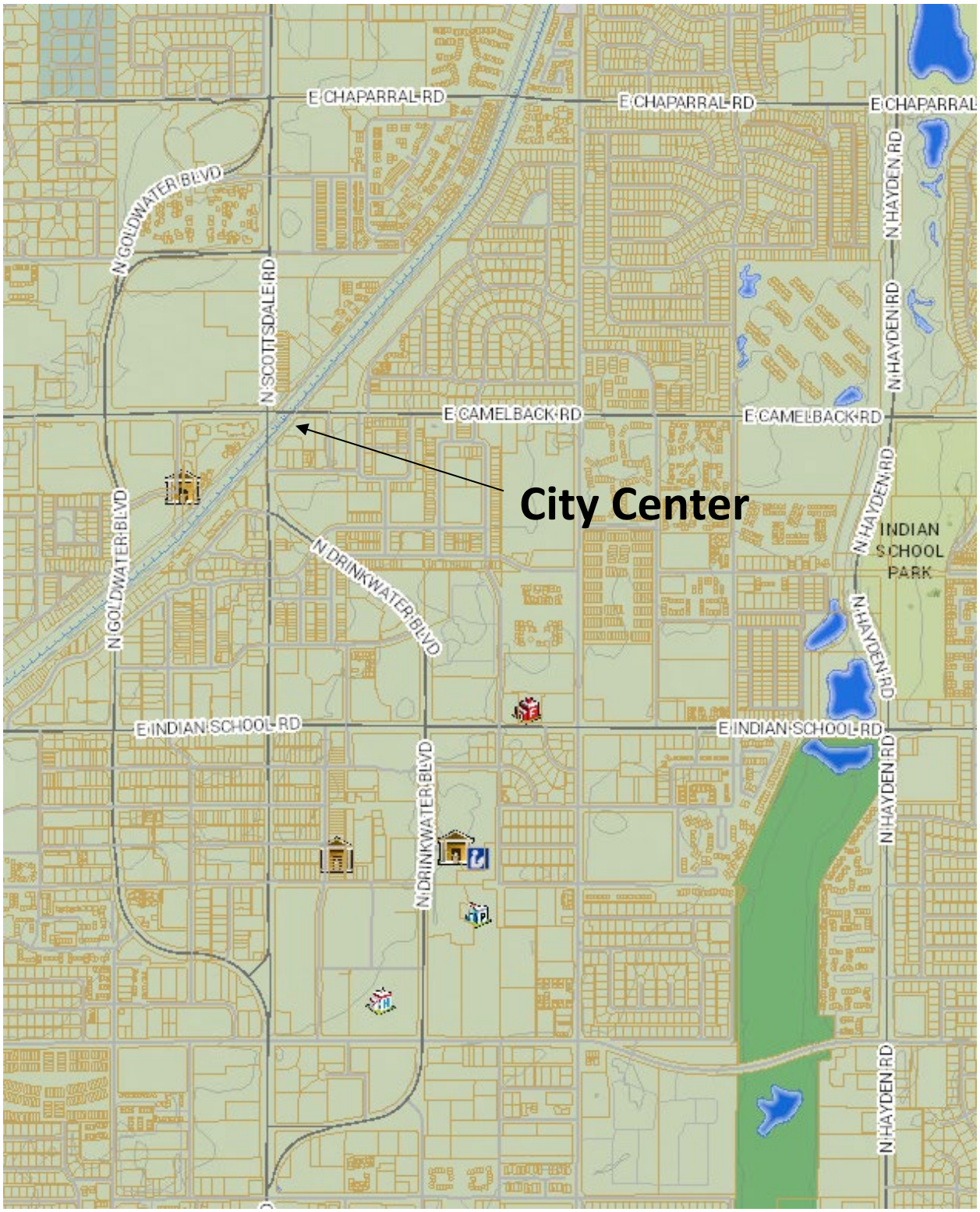
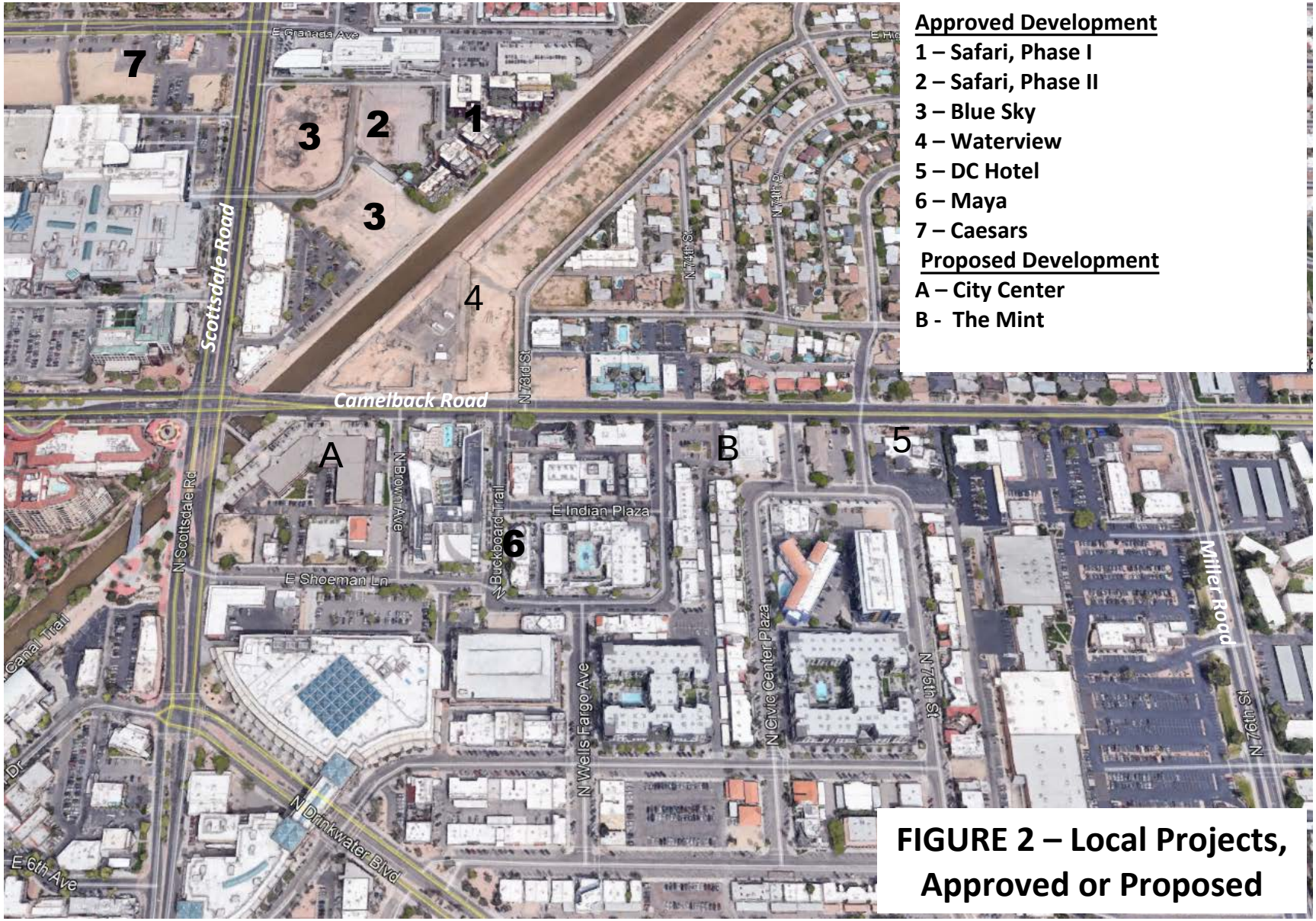


FIGURE 1 – Vicinity Map



Approved Development

1 – Safari, Phase I
2 – Safari, Phase II
3 – Blue Sky
4 – Waterview
5 – DC Hotel
6 – Maya
7 – Caesars

Proposed Development

A – City Center
B - The Mint

FIGURE 2 – Local Projects, Approved or Proposed

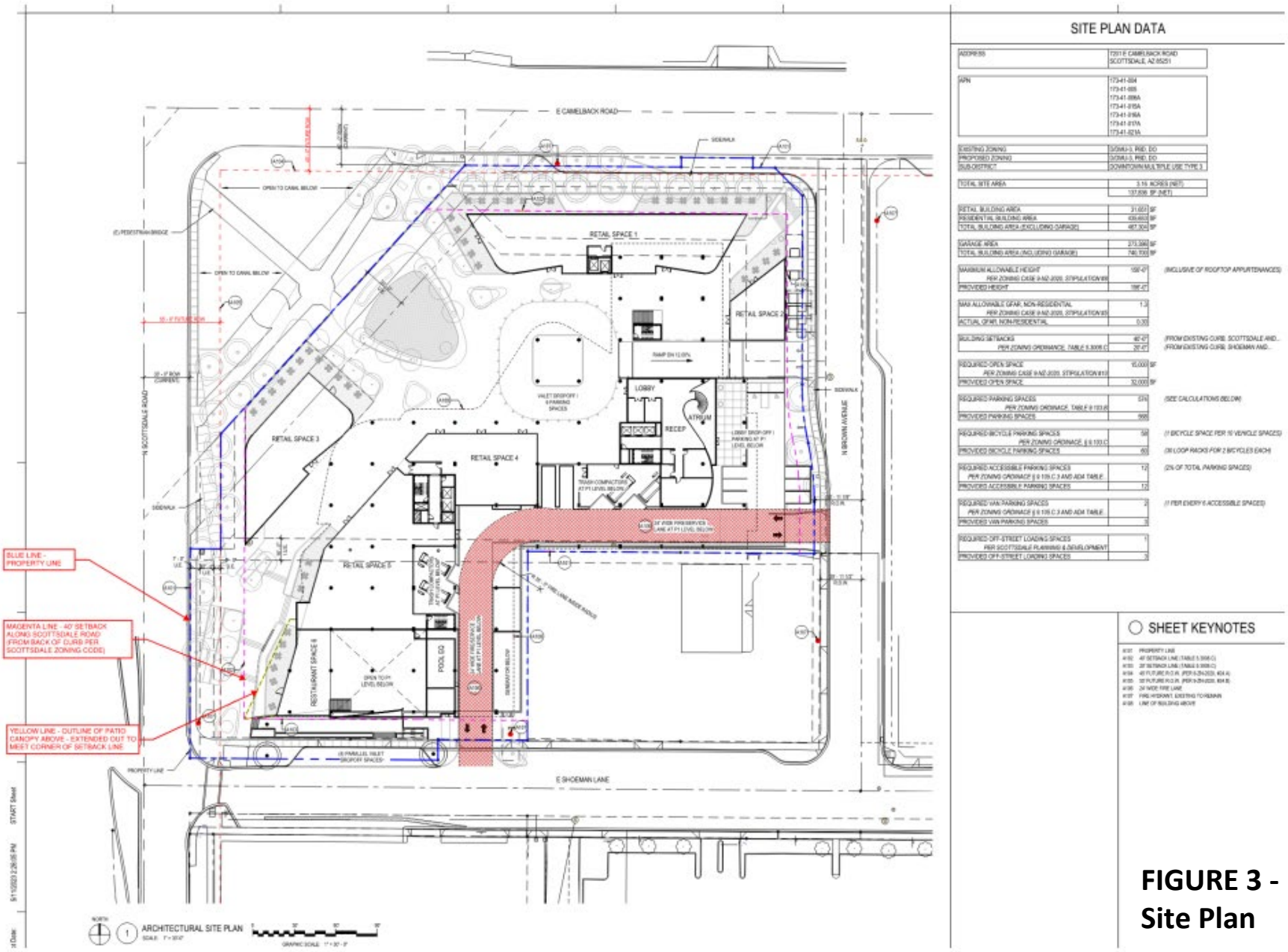
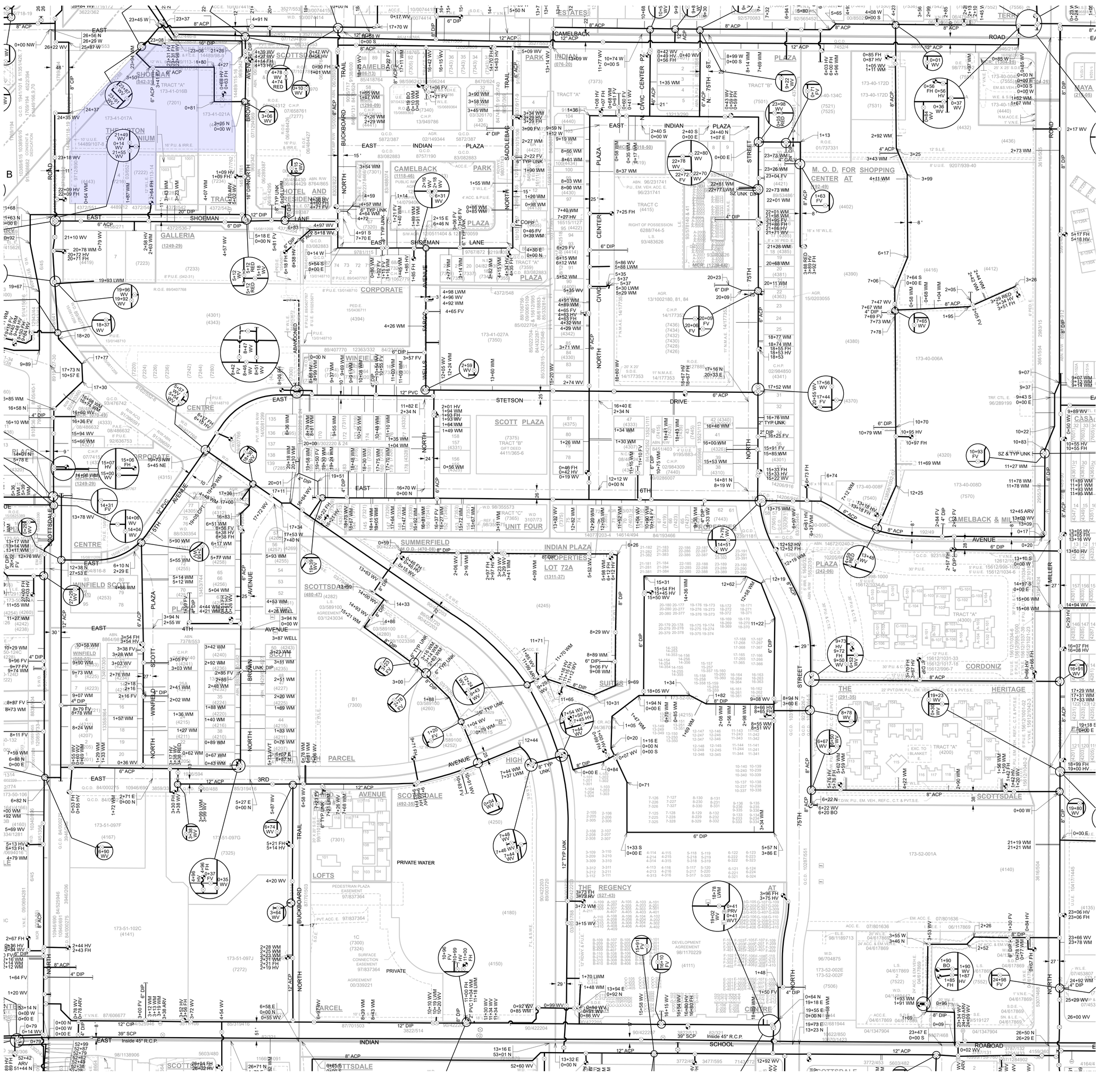


FIGURE 3 - Site Plan



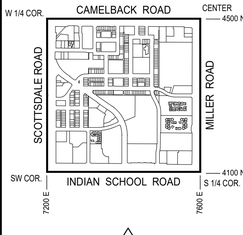
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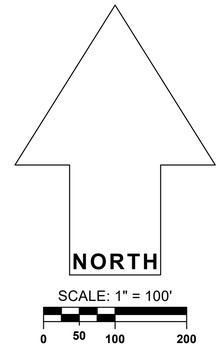
- THIS IS A COMPUTER GENERATED DRAWING. FOR ANY REVISIONS PLEASE CONTACT THE CITY OF SCOTTSDALE GIS DEPARTMENT AT (480) 312-7792.
- THE SECTION LINE BEARING AND DISTANCES ARE BASED ON THE CITY OF SCOTTSDALE GPS SURVEY OF SEPTEMBER, 1991. BEARINGS ARE NAD 83 GRID AND DISTANCES ARE FLATTENED TO GROUND. WHERE NO CORNER WAS FOUND THE DIMENSIONS ARE GIVEN TO CALCULATED SECTION CORNERS AND ARE NOTED AS 'CALCULATED' ON THE MAP.

LEGEND:

- Air Release Valve (ARV)
- Non-potable Air Release Valve (NPARV)
- Blowoff
- Cap
- Cathodic Protection (CPT)
- Fill Drain (F&D)
- Fire Hydrant
- Non-GPS Point
- Pressure Reducing Valve (PRV)
- Pump (WP)
- Reducer
- Sample Station (SS)
- Water Manhole (WMH)
- Non-Potable Manhole (NPMH)
- Well (WELL)
- Valve
- Non-potable Valve (NPV)
- Vault (WVT)
- Water Main
- Non-Potable Main (NP)
- Fire / Private Main
- Non-Scottsdale Main

VICINITY MAP





The map scale of 1" = 100' is based on a full size print of 30" x 36"

WATER

QUARTER SECTION MAP

17-45

SW 1/4 SEC. 23 T2N R4E

FIGURE 4

N O T I C E

THIS DOCUMENT IS PROVIDED FOR GENERAL INFORMATION PURPOSES ONLY. THE CITY OF SCOTTSDALE DOES NOT WARRANT ITS ACCURACY, COMPLETENESS OR SUITABILITY FOR ANY PARTICULAR PURPOSE. IT SHOULD NOT BE RELIED UPON WITHOUT FIELD VERIFICATION.

THE CITY OF SCOTTSDALE

CITY OF SCOTTSDALE

SCOTTSDALE GEOGRAPHIC INFORMATION SYSTEMS

3629 North Drinkwater Boulevard
Scottsdale, Arizona 85251

APPENDICIES

I. Fire Hydrant Flow Tests

II. Water Model Reports

III. Utility Plan

IV. Utility Line Modifications

Arizona Flow Testing LLC

HYDRANT FLOW TEST REPORT

Project Name:	Scottsdale Collective-City Center
Project Address:	Brown Ave. & Shoeman Lane (NWC), Scottsdale, Arizona, 85251
Client Project No.:	Not Provided
Arizona Flow Testing Project No.:	23495
Flow Test Permit No.:	C72645
Date and time flow test conducted:	June 27, 2023 at 8:35 AM
Data is current and reliable until:	December 27, 2023
Conducted by:	Floyd Vaughan – Arizona Flow Testing, LLC (480-250-8154)
Witnessed by:	Vince Cusumano – City of Scottsdale-Inspector (602-828-0847)

Raw Test Data

Static Pressure: **106.0 PSI**
(Measured in pounds per square inch)

Residual Pressure: **96.0 PSI**
(Measured in pounds per square inch)

Pitot Pressure: **36.0 PSI**

(Measured in pounds per square inch)

Diffuser Orifice Diameter: One 4-inch Pollard Diffuser
(Measured in inches)

Coefficient of Diffuser: 0.9

Flowing GPM: **2,578 GPM**
(Measured in gallons per minute)

GPM @ 20 PSI: **8,240 GPM**

Data with 34 PSI Safety Factor

Static Pressure: **72.0 PSI**
(Measured in pounds per square inch)

Scottsdale requires a maximum Static Pressure of 72 PSI for AFES Design.

Residual Pressure: **62.0 PSI**
(Measured in pounds per square inch)

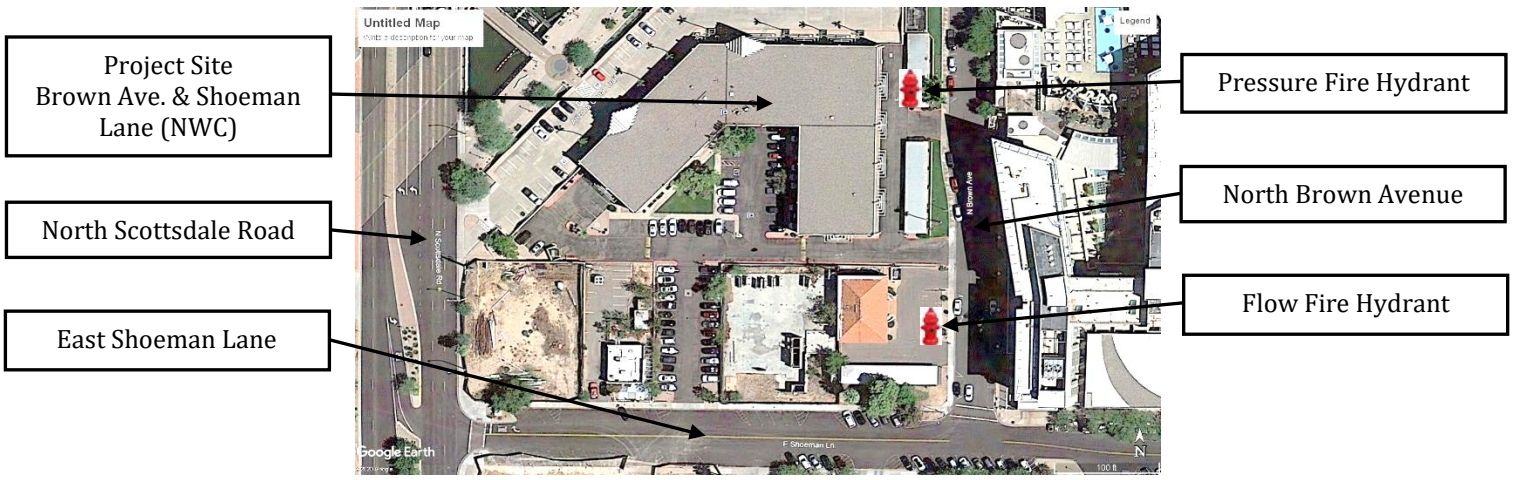
Approx. distance between hydrants: 250 Feet

Main size: Not Provided

Flowing GPM: **2,578 GPM**

GPM @ 20 PSI**:** **6,280 GPM**

Flow Test Location **North**



2023-06-27 FH Flow Test – Raw Data

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Logarithmic Graph of Water Supply

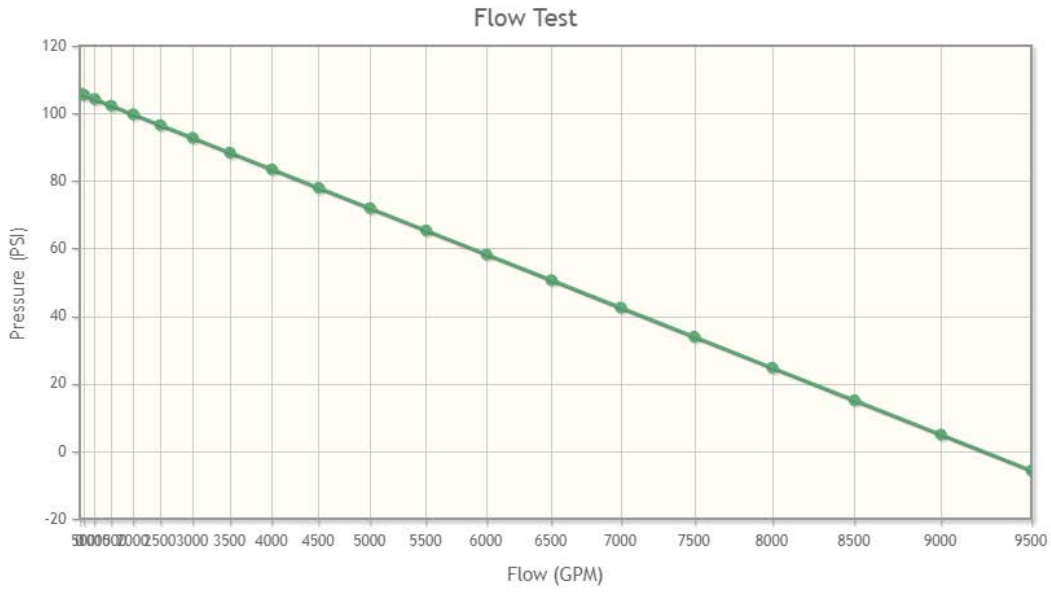
Summary: This app provides a N^1.85 logarithmic graph based on NFPA 291 recommendations. We also offer a blank PDF logarithmic flow test sheet.

Graph Points

106	Static Pressure
96	Residual Pressure
2578	Residual Flow

Data Points

Flow	Pressure
7707.655	30



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APPENDIX I

2023-06-27 FH Flow Test – Data with 34 psi Safety Factor

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Log

Logarithmic Graph of Water Supply

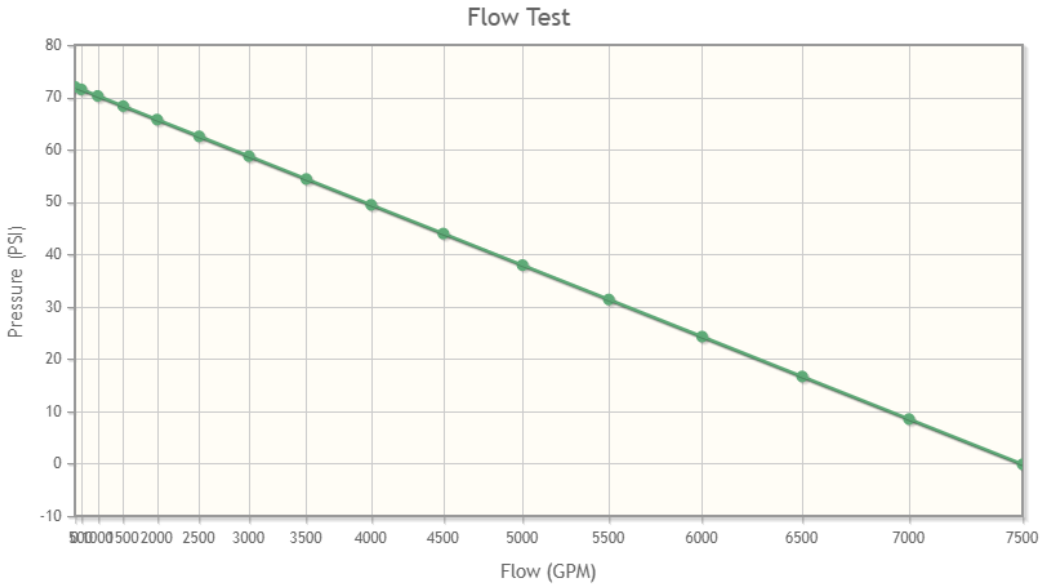
Summary: This app provides a N^1.85 logarithmic graph based on NFPA 291 recommendations. We also offer a blank PDF logarithmic flow test sheet.

Graph Points

72	Static Pressure
62	Residual Pressure
2578	Residual Flow

Data Points

Flow	Pressure
5595.482	30



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APPENDIX I

Arizona Flow Testing LLC

HYDRANT FLOW TEST REPORT

Project Name:	Scottsdale Collective-City Center
Project Address:	Brown Ave. & Shoeman Lane (NWC), Scottsdale, Arizona, 85251
Client Project No.:	Not Provided
Arizona Flow Testing Project No.:	20137A
Flow Test Permit No.:	C61868
Date and time flow test conducted:	April 13, 2020 at 6:55 AM
Data is current and reliable until:	October 13, 2020
Conducted by:	Floyd Vaughan – Arizona Flow Testing, LLC (480-250-8154)
Coordinated by:	Ray Padilla –City of Scottsdale-Inspector (602-541-0586)

Raw Test Data

Static Pressure: **100.0 PSI**
(Measured in pounds per square inch)

Residual Pressure: **90.0 PSI**
(Measured in pounds per square inch)

Pitot Pressure: **33.0 PSI**

(Measured in pounds per square inch)

Diffuser Orifice Diameter: One 4-inch Pollard Diffuser
(Measured in inches)

Coefficient of Diffuser: 0.9

Flowing GPM: **2,468 GPM**
(Measured in gallons per minute)

GPM @ 20 PSI: **7,587 GPM**

Data with 28 PSI Safety Factor

Static Pressure: **72.0 PSI**
(Measured in pounds per square inch)

Residual Pressure: **62.0 PSI**
(Measured in pounds per square inch)

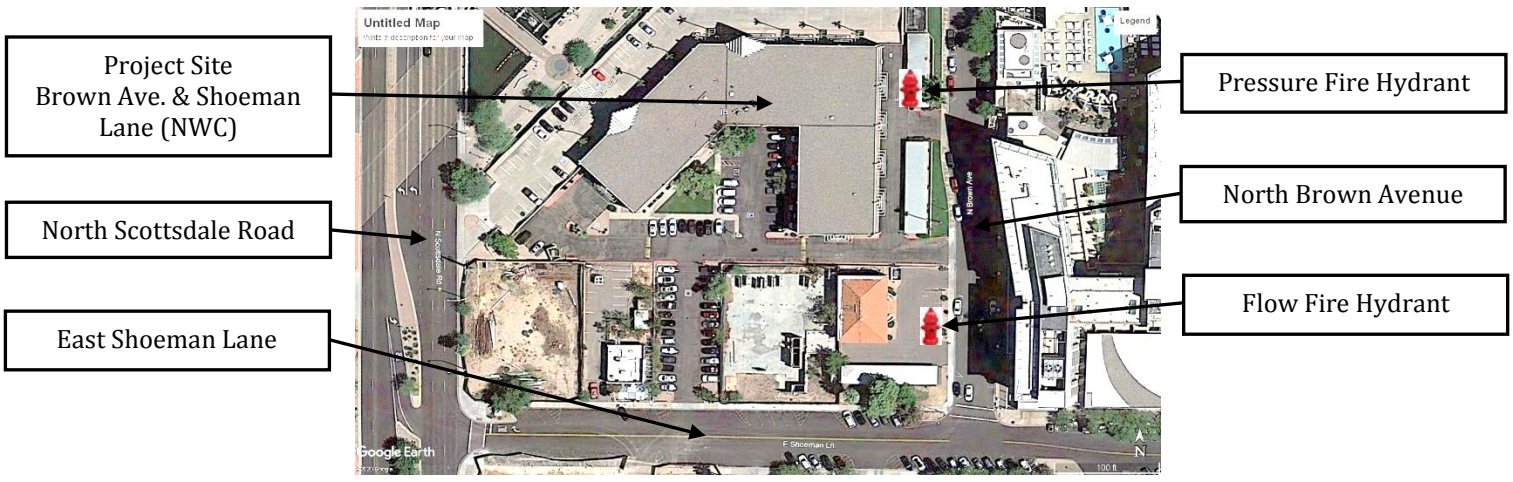
Distance between hydrants: Approx.: 250 feet

Main size: Not Provided

Flowing GPM: **2,468 GPM**

GPM @ 20 PSI**:** **6,013 GPM**

Flow Test Location **North**



2020-04-13 FH Flow Test – Raw Data

ANVIL FIRE PLLC | PACKAGED ENCLOSURES | PUMPS | APPS | BLOG | CONTACT

Logarithmic Graph of Water Supply

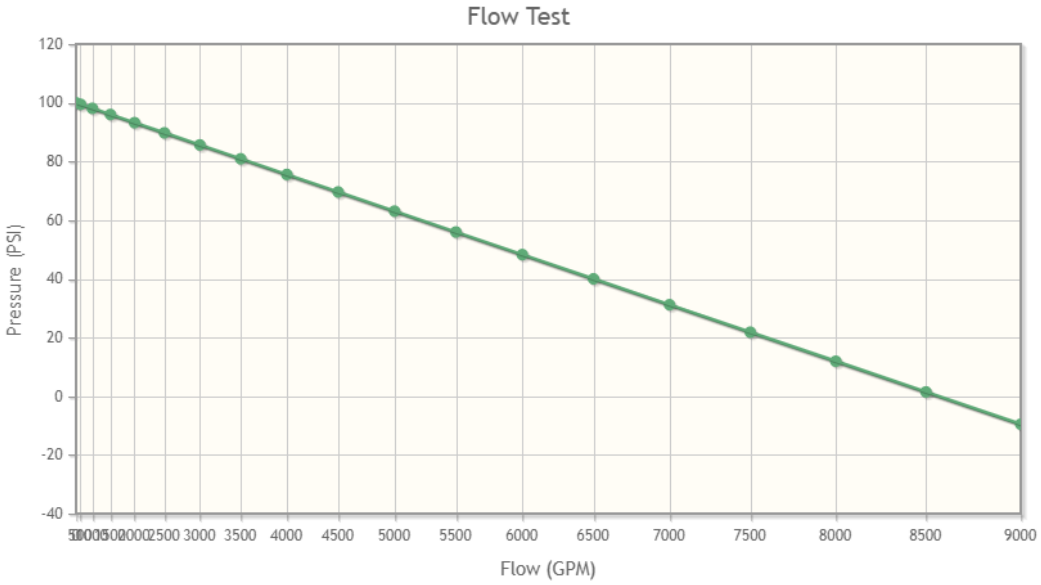
Summary: This app provides a N^1.85 logarithmic graph based on NFPA 291 recommendations. We also offer a blank PDF logarithmic flow test sheet.

Graph Points

100	Static Pressure
90	Residual Pressure
2468	Residual Flow

Data Points

Flow	Pressure
7058.267	30



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APPENDIX I

2020-04-13 FH Flow Test – Data with 28 psi Safety Factor

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Logarithmic Graph of Water Supply

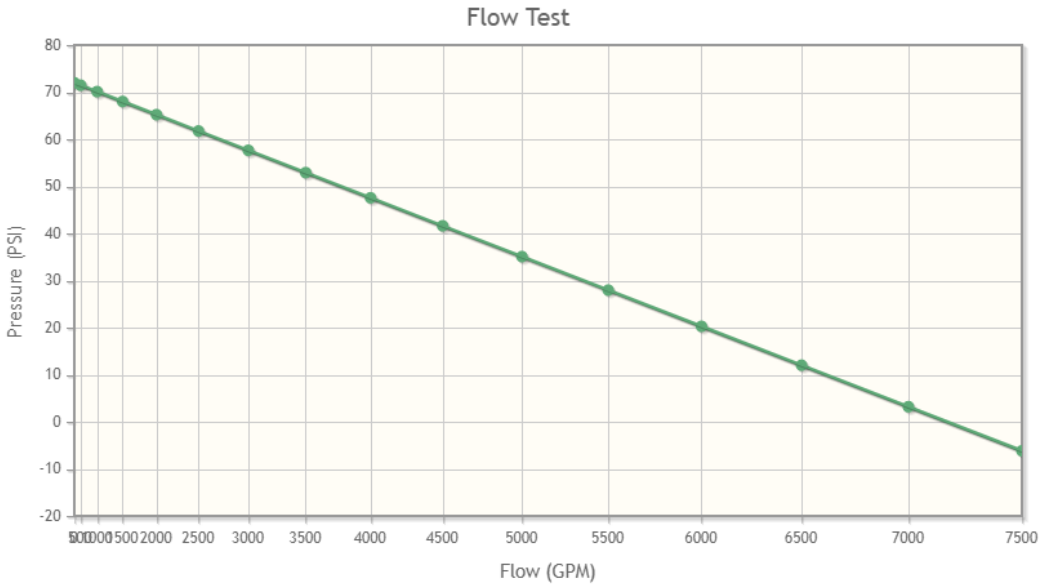
Summary: This app provides a N^1.85 logarithmic graph based on NFPA 291 recommendations. We also offer a blank PDF logarithmic flow test sheet.

Graph Points

72	Static Pressure
62	Residual Pressure
2468	Residual Flow

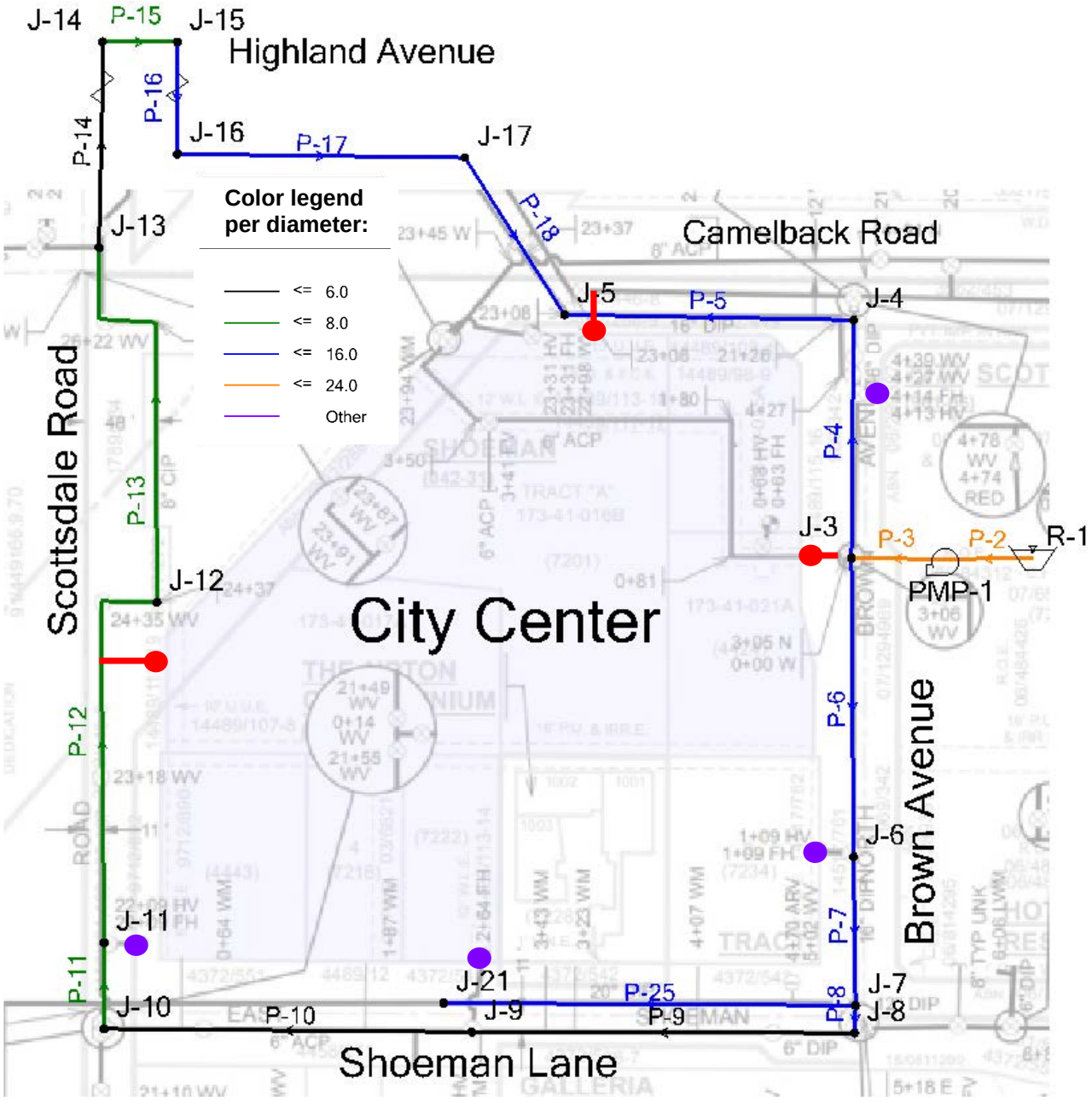
Data Points

Flow	Pressure
5356.730	30



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APPENDIX I



- **Propose new fire hydrants as shown in red**
- **Existing fire hydrants shown in purple**

APPENDIX II – Water Model

City Center Water Model.wtg

Active Scenario: ADD

FlexTable: Junction Table

ID	Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
36	J-3	1,270.30	0	1,436.71	72
38	J-4	1,270.00	0	1,436.71	72
40	J-5	1,272.30	12	1,436.71	71
42	J-6	1,269.60	0	1,436.71	72
44	J-7	1,269.00	0	1,436.71	73
46	J-8	1,269.00	0	1,436.71	73
48	J-9	1,267.00	0	1,436.70	73
54	J-10	1,265.40	0	1,436.70	74
56	J-11	1,266.00	12	1,436.70	74
60	J-12	1,272.40	12	1,436.70	71
86	J-13	1,276.00	0	1,436.70	70
76	J-14	1,280.20	0	1,436.71	68
81	J-15	1,280.20	0	1,436.71	68
83	J-16	1,275.60	0	1,436.71	70
78	J-17	1,273.40	0	1,436.71	71
92	J-21	1,267.00	89	1,436.71	73

City Center Water Model.wtg
Active Scenario: ADD
FlexTable: Pipe Table

Label	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Length (ft)	Velocity (ft/s)
P-2	24.0	Ductile Iron	130.0	123	59	0.09
P-3	24.0	Ductile Iron	130.0	123	60	0.09
P-4	16.0	Ductile Iron	130.0	22	156	0.04
P-5	16.0	Ductile Iron	130.0	22	190	0.04
P-6	16.0	Ductile Iron	130.0	101	196	0.16
P-7	16.0	Ductile Iron	130.0	101	98	0.16
P-8	16.0	Ductile Iron	130.0	13	18	0.02
P-9	6.0	Asbestos Cement	140.0	13	251	0.15
P-10	6.0	Asbestos Cement	140.0	13	241	0.15
P-11	8.0	Cast iron	130.0	13	57	0.08
P-12	8.0	Cast iron	130.0	1	261	0.01
P-13	8.0	Ductile Iron	130.0	-10	1,063	0.07
P-14	6.0	Ductile Iron	130.0	-10	537	0.12
P-15	8.0	Ductile Iron	130.0	-10	49	0.07
P-16	16.0	Ductile Iron	130.0	-10	1,100	0.02
P-17	16.0	Ductile Iron	130.0	-10	100	0.02
P-18	16.0	Ductile Iron	130.0	-10	200	0.02
P-25	16.0	Ductile Iron	130.0	89	270	0.14

City Center Water Model.wtg

Active Scenario: ADD

FlexTable: Pump Table

Label	Elevation (ft)	Pump Status	Hydraulic Grade (Suction) (ft)	Hydraulic Grade (Discharge) (ft)	Flow (Total) (gpm)	Pump Head (ft)
PMP-1	1,270.30	On	1,270.50	1,436.71	123	166.21

City Center Water Model.wtg
Active Scenario: ADD
FlexTable: Reservoir Table

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	1,270.50	123	1,270.50

City Center Water Model.wtg

Active Scenario: MDD

FlexTable: Junction Table

ID	Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
36	J-3	1,270.30	0	1,436.47	72
38	J-4	1,270.00	0	1,436.47	72
40	J-5	1,272.30	23	1,436.47	71
42	J-6	1,269.60	0	1,436.47	72
44	J-7	1,269.00	0	1,436.46	72
46	J-8	1,269.00	0	1,436.46	72
48	J-9	1,267.00	0	1,436.45	73
54	J-10	1,265.40	0	1,436.43	74
56	J-11	1,266.00	23	1,436.43	74
60	J-12	1,272.40	23	1,436.43	71
86	J-13	1,276.00	0	1,436.44	69
76	J-14	1,280.20	0	1,436.47	68
81	J-15	1,280.20	0	1,436.47	68
83	J-16	1,275.60	0	1,436.47	70
78	J-17	1,273.40	0	1,436.47	71
92	J-21	1,267.00	177	1,436.46	73

City Center Water Model.wtg
Active Scenario: MDD
FlexTable: Pipe Table

Label	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Length (ft)	Velocity (ft/s)
P-2	24.0	Ductile Iron	130.0	247	59	0.18
P-3	24.0	Ductile Iron	130.0	247	60	0.18
P-4	16.0	Ductile Iron	130.0	44	156	0.07
P-5	16.0	Ductile Iron	130.0	44	190	0.07
P-6	16.0	Ductile Iron	130.0	203	196	0.32
P-7	16.0	Ductile Iron	130.0	203	98	0.32
P-8	16.0	Ductile Iron	130.0	26	18	0.04
P-9	6.0	Asbestos Cement	140.0	26	251	0.29
P-10	6.0	Asbestos Cement	140.0	26	241	0.29
P-11	8.0	Cast iron	130.0	26	57	0.16
P-12	8.0	Cast iron	130.0	3	261	0.02
P-13	8.0	Ductile Iron	130.0	-21	1,063	0.13
P-14	6.0	Ductile Iron	130.0	-21	537	0.23
P-15	8.0	Ductile Iron	130.0	-21	49	0.13
P-16	16.0	Ductile Iron	130.0	-21	1,100	0.03
P-17	16.0	Ductile Iron	130.0	-21	100	0.03
P-18	16.0	Ductile Iron	130.0	-21	200	0.03
P-25	16.0	Ductile Iron	130.0	177	270	0.28

City Center Water Model.wtg
Active Scenario: MDD
FlexTable: Pump Table

Label	Elevation (ft)	Pump Status	Hydraulic Grade (Suction) (ft)	Hydraulic Grade (Discharge) (ft)	Flow (Total) (gpm)	Pump Head (ft)
PMP-1	1,270.30	On	1,270.50	1,436.47	247	165.97

City Center Water Model.wtg
Active Scenario: MDD
FlexTable: Reservoir Table

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	1,270.50	247	1,270.50

City Center Water Model.wtg

Active Scenario: PHD

FlexTable: Junction Table

ID	Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
36	J-3	1,270.30	0	1,435.51	71
38	J-4	1,270.00	0	1,435.51	72
40	J-5	1,272.30	70	1,435.50	71
42	J-6	1,269.60	0	1,435.49	72
44	J-7	1,269.00	0	1,435.48	72
46	J-8	1,269.00	0	1,435.48	72
48	J-9	1,267.00	0	1,435.33	73
54	J-10	1,265.40	0	1,435.18	73
56	J-11	1,266.00	70	1,435.17	73
60	J-12	1,272.40	70	1,435.17	70
86	J-13	1,276.00	0	1,435.28	69
76	J-14	1,280.20	0	1,435.49	67
81	J-15	1,280.20	0	1,435.50	67
83	J-16	1,275.60	0	1,435.50	69
78	J-17	1,273.40	0	1,435.50	70
92	J-21	1,267.00	309	1,435.46	73

City Center Water Model.wtg

Active Scenario: PHD

FlexTable: Pipe Table

Label	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Length (ft)	Velocity (ft/s)
P-2	24.0	Ductile Iron	130.0	519	59	0.37
P-3	24.0	Ductile Iron	130.0	519	60	0.37
P-4	16.0	Ductile Iron	130.0	130	156	0.21
P-5	16.0	Ductile Iron	130.0	130	190	0.21
P-6	16.0	Ductile Iron	130.0	389	196	0.62
P-7	16.0	Ductile Iron	130.0	389	98	0.62
P-8	16.0	Ductile Iron	130.0	80	18	0.13
P-9	6.0	Asbestos Cement	140.0	80	251	0.91
P-10	6.0	Asbestos Cement	140.0	80	241	0.91
P-11	8.0	Cast iron	130.0	80	57	0.51
P-12	8.0	Cast iron	130.0	10	261	0.06
P-13	8.0	Ductile Iron	130.0	-60	1,063	0.38
P-14	6.0	Ductile Iron	130.0	-60	537	0.68
P-15	8.0	Ductile Iron	130.0	-60	49	0.38
P-16	16.0	Ductile Iron	130.0	-60	1,100	0.10
P-17	16.0	Ductile Iron	130.0	-60	100	0.10
P-18	16.0	Ductile Iron	130.0	-60	200	0.10
P-25	16.0	Ductile Iron	130.0	309	270	0.49

City Center Water Model.wtg

Active Scenario: PHD

FlexTable: Pump Table

Label	Elevation (ft)	Pump Status	Hydraulic Grade (Suction) (ft)	Hydraulic Grade (Discharge) (ft)	Flow (Total) (gpm)	Pump Head (ft)
PMP-1	1,270.30	On	1,270.50	1,435.51	519	165.01

City Center Water Model.wtg
Active Scenario: PHD
FlexTable: Reservoir Table

Label	Elevation (ft)	Flow (Out net) (gpm)	Hydraulic Grade (ft)
R-1	1,270.50	519	1,270.50

City Center Water Model.wtg
Active Scenario: MDD+FF - NEC
FlexTable: Junction Table

ID	Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
36	J-3	1,270.30	1,000	1,408.57	60
38	J-4	1,270.00	1,000	1,408.36	60
40	J-5	1,272.30	523	1,408.33	59
42	J-6	1,269.60	0	1,408.56	60
44	J-7	1,269.00	0	1,408.56	60
46	J-8	1,269.00	0	1,408.56	60
48	J-9	1,267.00	0	1,408.46	61
54	J-10	1,265.40	0	1,408.37	62
56	J-11	1,266.00	23	1,408.37	62
60	J-12	1,272.40	23	1,408.36	59
86	J-13	1,276.00	0	1,408.35	57
76	J-14	1,280.20	0	1,408.33	55
81	J-15	1,280.20	0	1,408.33	55
83	J-16	1,275.60	0	1,408.33	57
78	J-17	1,273.40	0	1,408.33	58
92	J-21	1,267.00	177	1,408.55	61

City Center Water Model.wtg
Active Scenario: MDD+FF - NEC
FlexTable: Pipe Table

Label	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Length (ft)	Velocity (ft/s)
P-2	24.0	Ductile Iron	130.0	2,747	59	1.95
P-3	24.0	Ductile Iron	130.0	2,747	60	1.95
P-4	16.0	Ductile Iron	130.0	1,508	156	2.41
P-5	16.0	Ductile Iron	130.0	508	190	0.81
P-6	16.0	Ductile Iron	130.0	239	196	0.38
P-7	16.0	Ductile Iron	130.0	239	98	0.38
P-8	16.0	Ductile Iron	130.0	62	18	0.10
P-9	6.0	Asbestos Cement	140.0	62	251	0.70
P-10	6.0	Asbestos Cement	140.0	62	241	0.70
P-11	8.0	Cast iron	130.0	62	57	0.40
P-12	8.0	Cast iron	130.0	39	261	0.25
P-13	8.0	Ductile Iron	130.0	16	1,063	0.10
P-14	6.0	Ductile Iron	130.0	16	537	0.18
P-15	8.0	Ductile Iron	130.0	16	49	0.10
P-16	16.0	Ductile Iron	130.0	16	1,100	0.02
P-17	16.0	Ductile Iron	130.0	16	100	0.02
P-18	16.0	Ductile Iron	130.0	16	200	0.02
P-25	16.0	Ductile Iron	130.0	177	270	0.28

City Center Water Model.wtg
Active Scenario: MDD+FF - SWC
FlexTable: Junction Table

ID	Label	Elevation (ft)	Demand (gpm)	Hydraulic Grade (ft)	Pressure (psi)
36	J-3	1,270.30	0	1,411.85	61
38	J-4	1,270.00	0	1,411.80	61
40	J-5	1,272.30	23	1,411.75	60
42	J-6	1,269.60	0	1,411.45	61
44	J-7	1,269.00	0	1,411.25	62
46	J-8	1,269.00	0	1,411.24	62
48	J-9	1,267.00	0	1,397.94	57
54	J-10	1,265.40	0	1,385.15	52
56	J-11	1,266.00	1,023	1,384.30	51
60	J-12	1,272.40	523	1,384.41	48
86	J-13	1,276.00	0	1,393.11	51
76	J-14	1,280.20	0	1,410.95	57
81	J-15	1,280.20	0	1,411.35	57
83	J-16	1,275.60	0	1,411.66	59
78	J-17	1,273.40	0	1,411.69	60
92	J-21	1,267.00	1,000	1,411.08	62

City Center Water Model.wtg
Active Scenario: MDD+FF - SWC
FlexTable: Pipe Table

Label	Diameter (in)	Material	Hazen-Williams C	Flow (gpm)	Length (ft)	Velocity (ft/s)
P-2	24.0	Ductile Iron	130.0	2,570	59	1.82
P-3	24.0	Ductile Iron	130.0	2,570	60	1.82
P-4	16.0	Ductile Iron	130.0	672	156	1.07
P-5	16.0	Ductile Iron	130.0	672	190	1.07
P-6	16.0	Ductile Iron	130.0	1,898	196	3.03
P-7	16.0	Ductile Iron	130.0	1,898	98	3.03
P-8	16.0	Ductile Iron	130.0	898	18	1.43
P-9	6.0	Asbestos Cement	140.0	898	251	10.19
P-10	6.0	Asbestos Cement	140.0	898	241	10.19
P-11	8.0	Cast iron	130.0	898	57	5.73
P-12	8.0	Cast iron	130.0	-125	261	0.80
P-13	8.0	Ductile Iron	130.0	-648	1,063	4.14
P-14	6.0	Ductile Iron	130.0	-648	537	7.36
P-15	8.0	Ductile Iron	130.0	-648	49	4.14
P-16	16.0	Ductile Iron	130.0	-648	1,100	1.03
P-17	16.0	Ductile Iron	130.0	-648	100	1.03
P-18	16.0	Ductile Iron	130.0	-648	200	1.03
P-25	16.0	Ductile Iron	130.0	1,000	270	1.60

City Center Water Model.wtg
Active Scenario: MDD+FF - SWC
Pump Definition Detailed Report: PMP-1

Element Details

ID	64	Notes	
Label	PMP-1		

Pump Definition Type

Pump Definition Type	Standard (3 Point)	Design Head	143.20 ft
Shutoff Flow	0 gpm	Maximum Operating Flow	6,013 gpm
Shutoff Head	166.30 ft	Maximum Operating Head	46.20 ft
Design Flow	2,468 gpm		

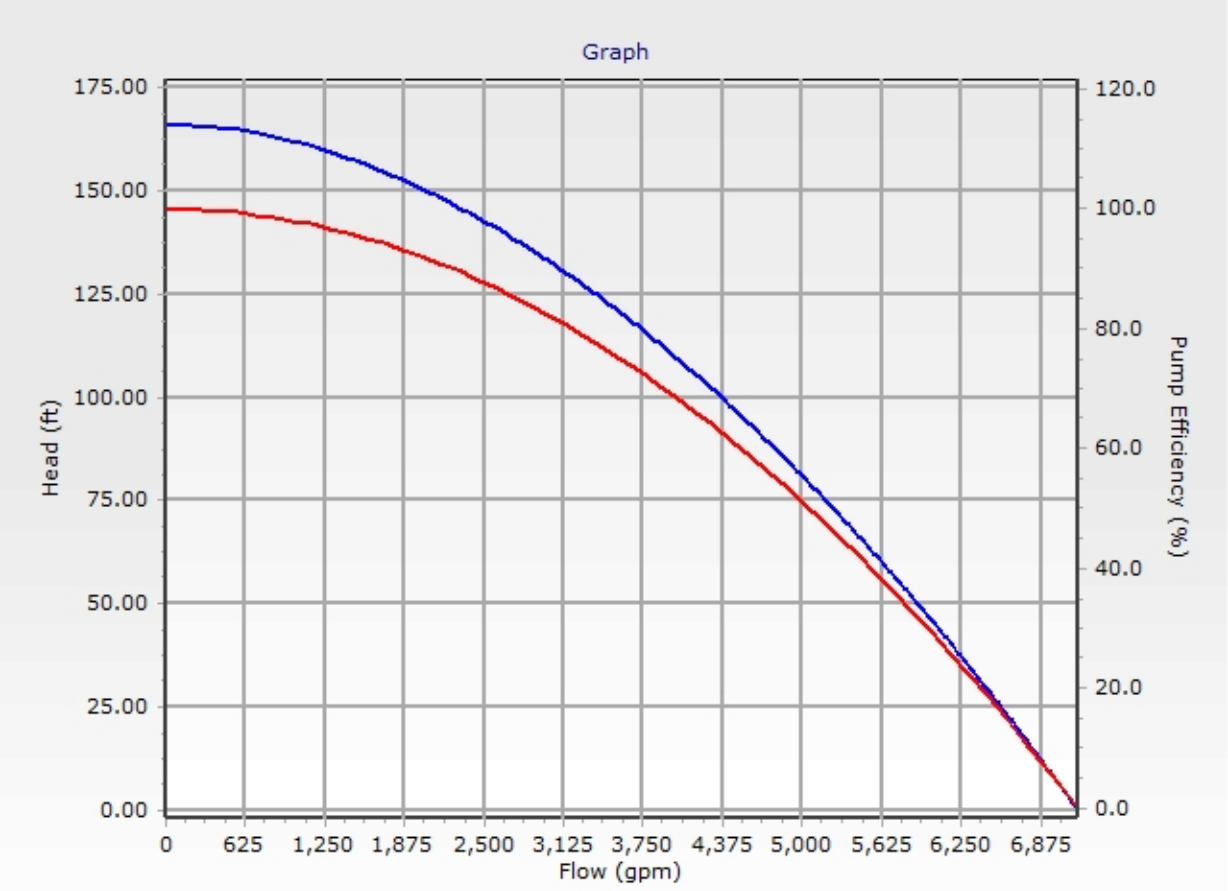
Pump Efficiency Type

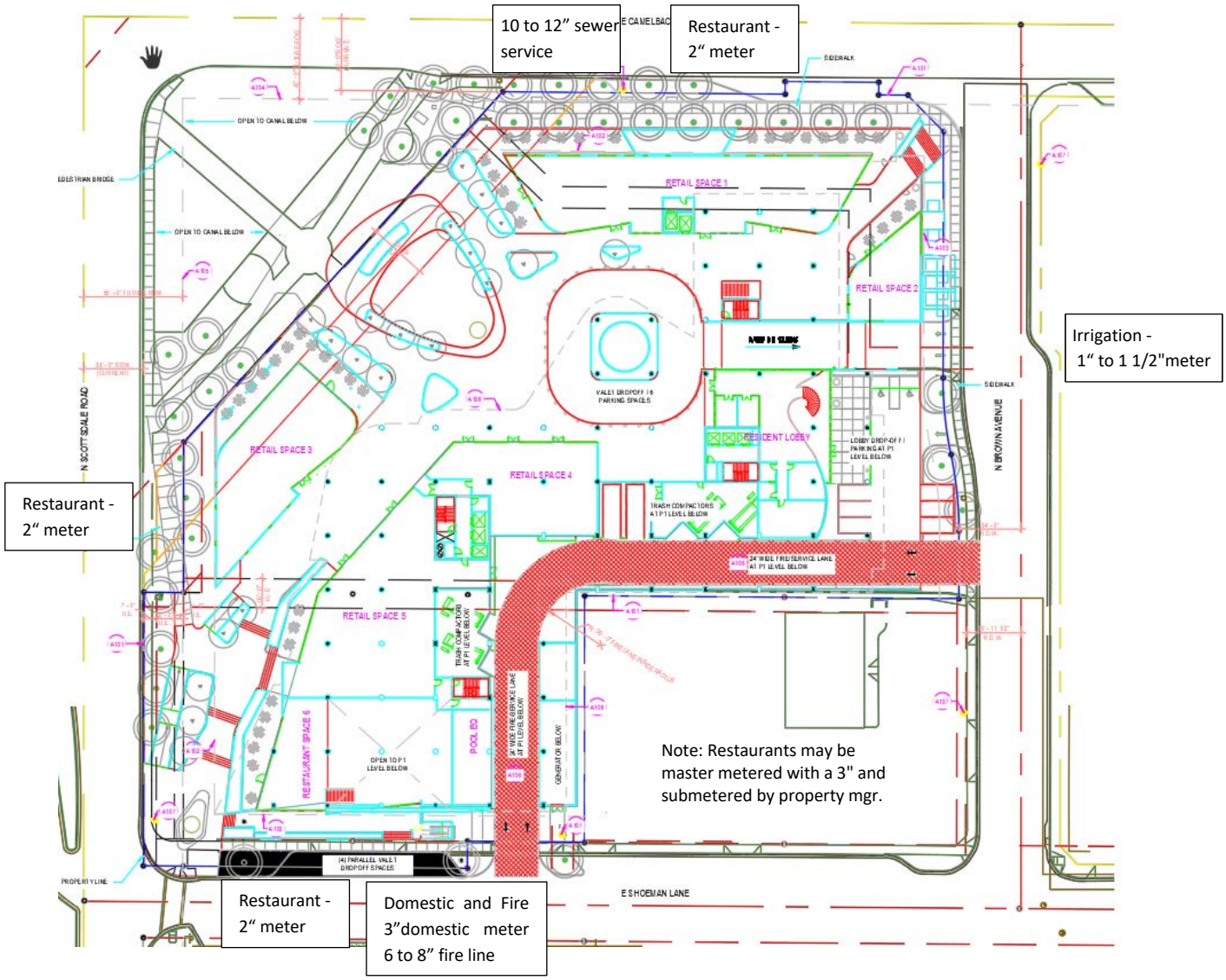
Pump Efficiency Type	Best Efficiency Point	Motor Efficiency	100.0 %
BEP Efficiency	100.0 %	Is Variable Speed Drive?	False
BEP Flow	0 gpm		

Transient (Physical)

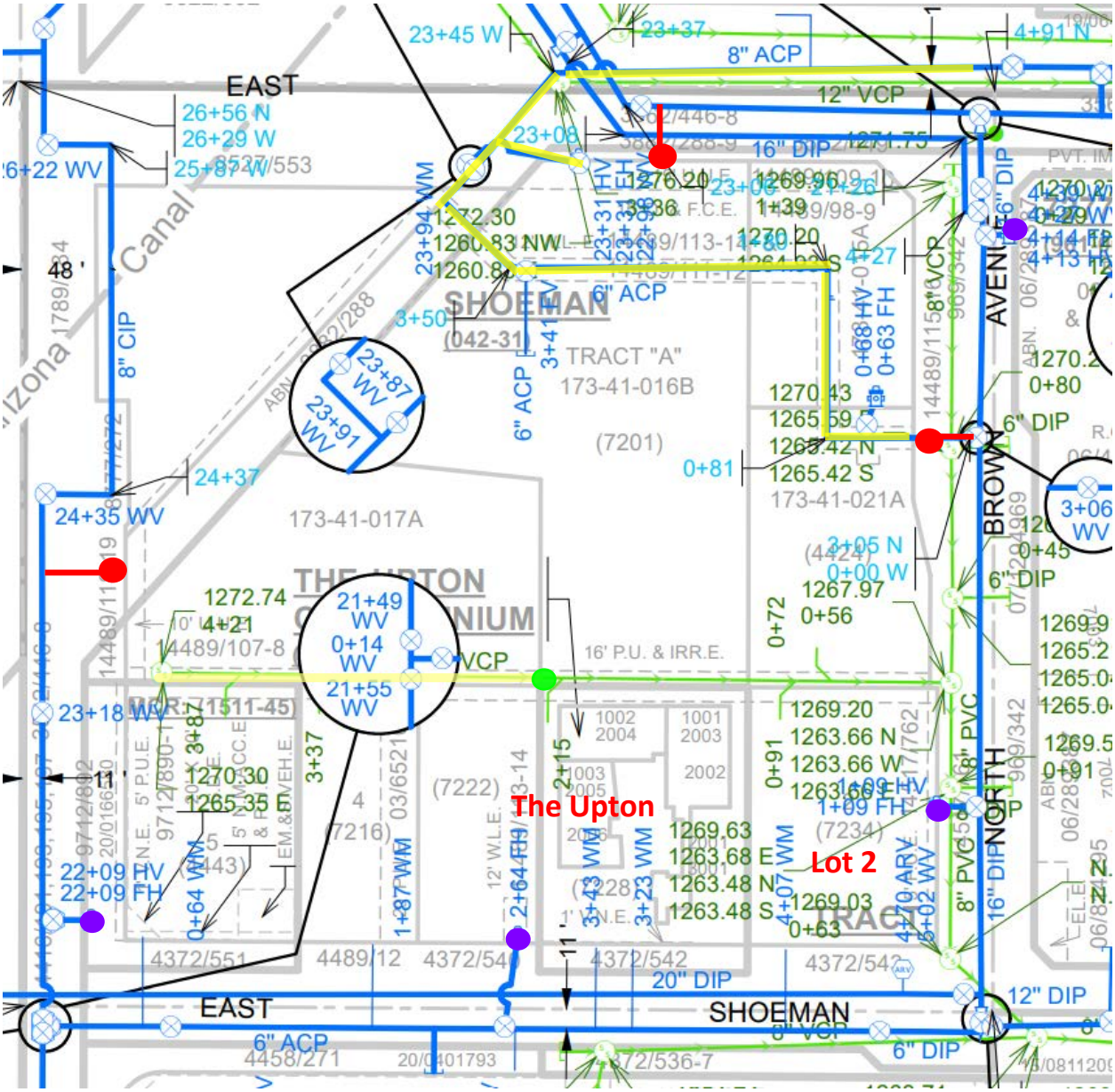
Inertia (Pump and Motor)	0.000 lb·ft²	Specific Speed	SI=25, US=1280
Speed (Full)	0 rpm	Reverse Spin Allowed?	True

City Center Water Model.wtg
Active Scenario: MDD+FF - SWC
Pump Definition Detailed Report: PMP-1





APPENDIX III -
Utility Service Plan



Propose to abandon yellow highlighted line

Propose new fire hydrants as shown in red

Existing fire hydrants shown in purple

Proposed new manhole in green

APPENDIX IV - Utility Line Modifications

PRELIMINARY
DRAINAGE REPORT

CITY CENTER RESIDENTIAL
7201 E. CAMELBACK ROAD, SCOTTSDALE, AZ 85251

Prepared For:
SmithGroup
455 N. 3rd Street., Suite 250
Phoenix, Arizona, 85004
Phone: 602.265.2200

Prepared by:

SEG



Sustainability Engineering Group
455 N. 16TH, Suite 105
Phoenix, AZ 85016
480.588.7226 www.azSEG.com
Project Number: 221117

Submittal Date: June 22, 2023 (DRB)

TABLE OF CONTENTS



TABLE OF CONTENTS i

APPENDIX: ii

1. INTRODUCTION 1
2. LOCATION AND PROJECT DESCRIPTION 1
   - 2.1. LOCATION: 1
   - 2.2. EXISTING AND PROPOSED DEVELOPMENTS SURROUNDING THE SITE: 1
   - 2.3. EXISTING SITE DESCRIPTION: 2
   - 2.4. EXISTING STUDIES: 2
   - 2.5. PROPOSED SITE DEVELOPMENT: 2
   - 2.6. FLOOD HAZARD ZONE: 2
3. EXISTING DRAINAGE CONDITIONS 3
   - 3.1. OFF-SITE: 3
   - 3.2. ON-SITE: 3
   - 3.3. STORMWATER RETENTION: 4
4. PROPOSED STORM WATER MANAGEMENT 5
   - 4.1. DESIGN INTENT: 5
   - 4.2. DESIGN STORM REQUIREMENTS: 6
   - 4.3. LAND CHARACTERISTICS: 6
   - 4.4. STORMWATER RETENTION: 7
   - 4.5. STORAGE PROVIDED: 8
   - 4.6. STORMWATER DISCHARGE 9
   - 4.7. PIPE CAPACITY CALCULATIONS: 9
   - 4.8. STORM DRAIN INLET CALCULATIONS: 9
   - 4.9. ADEQ WATER QUALITY REQUIREMENTS 9
5. FLOOD SAFETY FOR DWELLINGS 9
   - 5.1. FINISHED FLOOR ELEVATIONS 9
6. CONCLUSIONS 10
   - 6.1. OVERALL PROJECT: 10
7. REFERENCES 10

LIST OF FIGURES

FIGURE 1 - Vicinity Map
FIGURE 2 - Aerial
FIGURE 3 - FIRM
FIGURE 4 - FLO2D Exhibit

APPENDIX:

APPENDIX I - Rainfall Data
APPENDIX II - Calculations
APPENDIX III - Preliminary Grading and Drainage Plan

1. INTRODUCTION

This Preliminary Drainage Report represents the storm water analysis for the City Center residential development proposed in Scottsdale, Arizona. The purpose of this preliminary report is to provide the hydrologic and hydraulic analysis required by the City of Scottsdale. This report includes discussions and calculations defining the storm water management concepts for the collection and conveyance necessary to comply with the drainage requirements of the City of Scottsdale and Maricopa County. Preparation of this report has been done in accordance with the requirements of the City of Scottsdale Design Standards & Policies Manual (DS&PM) 2018 [1], and the Drainage Design Manuals for Maricopa County, Arizona, Volumes I[2] and Volume II[3].

2. LOCATION AND PROJECT DESCRIPTION

2.1. LOCATION:

The subject property consists of land located in Scottsdale, AZ:

- A portion of the Northwest Quarter of Section 23, Township 2 North, Range 4 East of the Gila and Salt River Base and Meridian, Maricopa County, Arizona.
- Parcel ID Numbers: 173-41-015A, 173-41-016B, 173-41-017A, 173-41-021A, 173-41-006A, 173-41-005 and 173-41-004.
- Address: 7201 E. Camelback Road, Scottsdale, AZ 85251.

Refer to **FIGURE 1** - **Vicinity Map** for the project's location with respect to major cross streets.

2.2. EXISTING AND PROPOSED DEVELOPMENTS SURROUNDING THE SITE:

Existing site context related to surrounding developments is as follows:

- West: Across N. Scottsdale Road
  - The Arizona Canal Trail.
  - Parcel 173-42-385A; Commercial development; Zoning is D/RCO-2.
  - Parcel 173-42-345A; Residential development; Zoning is D/RCO-2.
  - Parcel 173-42-007B; Park site; Zoning is C-2.
- North: Across E. Camelback Road
  - The Arizona Canal Trail.
  - Parcel 173-38-073D; Salt River Project building; Zoning is D/OR-2.
- South: Across E. Shoeman Lane.
  - Parcel 173-41-232; Existing building; Zoning is C-3.
  - Parcel 173-41-002; Office building; Zoning is C-3.
  - Parcel 173-41-271; Parking lot; Zoning unknown.
- East: Across N Brown Ave. W Hotel development consisting of the following parcels:

- Parcel 173-41-241.
- Parcel 173-41-242.
- Parcel 173-41-243.
- Parcel 173-41-244.
- Parcel 173-41-245.
- Parcel 173-41-246.

2.3. EXISTING SITE DESCRIPTION:

The project area includes approximately 132,122 sq. ft. (3.04 acres) of land designated as D/DMU-3 per COS Parcel Information Map. The site is currently developed as an existing commercial site. Three drywells exists on the site but retention system has not been found, so the existing retention calculation would be made with the areas considered to the drywells. Based on the existing slope, the land slopes away from the existing building towards the existing dry wells and adjacent roads.

Refer to **FIGURE 2 – Aerial Map** for an aerial image of the site.

2.4. EXISTING STUDIES:

There is an existing conditionally approved city drainage report prepared by Sustainability Engineering Group dated July 27, 2020[4] for a Master Plan where the site is included.

2.5. PROPOSED SITE DEVELOPMENT:

Site development includes the demolition of the existing structures and their designated parking lots, and construction of a new 14 floor residential development with amenities areas and 3 levels of underground parking. The proposed development contains four points of access from the surrounding roads, three from Brown Avenue, and one from E. Shoeman Lane.

Refer to **APPENDIX III** – Preliminary Grading and Drainage Plan for site layout.

2.6. FLOOD HAZARD ZONE:

FIRM Map Number 04013C1770M dated September 18, 2020 indicates the site has a Zone X (No Screen) which is further described as areas of minimal flood hazard.

Refer to **FIGURE 3** for the FIRM.

3. EXISTING DRAINAGE CONDITIONS

3.1. OFF-SITE:

The city quarter section maps for Storm Water and Contour as well as obtained Flo-2D Maps from the Lower Indian Bend Wash were obtained and provide the following information for offsite drainage:

- There is a 144" R.C.P. storm drain running east along Camelback Road.
- There is an existing 18" H.D.P.E. pipe running from north to south along Brown Avenue and an existing catch basin, EX-CB-1, located at the southeast corner of the Shoeman Lane and Brown avenue intersection.
- According to the Flo-2D Map, flow patterns adjacent to the proposed City Center site are the following:
    - North: the north portion of the site drains onto Camelback road and is conveyed west to east via curb and gutter to the nearest catch basins at the Miller Road intersection.
    - East: flow arrows illustrate offsite flow from Brown Avenue entering the site. However based on the topographic survey, flow from Brown Avenue does not enter the site and is conveyed through curb and gutter to EX-CB-1.
    - South: all runoff along Shoeman Lane drains west- east past Brown Avenue
    - West: Scottsdale Road drains north to south via curb and gutter without entering the site.

Refer to **FIGURE 4** for the **Flo-2D Exhibit.**

3.2. ON-SITE:

The existing site is fully developed with minor landscape areas. There are three existing drywells to which the site drains to. The majority of the site drains to an existing drywell, EX-DW-1 & EX-DW-2, located within the south parking area. The northern parking lot drains to existing drywell, EX-DW-3, located at the northeast corner of the parking lot. The as-builts do not provide the retention volumes provided under existing condition. Based on the drainage area map, a calculation of the existing retention volume is provided in section 3.3.
Refer to **APPENDIX II** for Drywells locations.

HYDROLOGIC ANALYSIS: The hydrologic analysis is determined using the procedures in the City of Scottsdale Design Standards & Policies Manual and the Drainage Design Manual for Maricopa County, Arizona, Volume I. The Rational Method was utilized to compute the on-site peak discharges. The Rational Method equation is displayed as shown below:

$$Q=C_{wt}IA$$

Where: C_{wt} = The runoff coefficient relating runoff to rainfall

I = Average rainfall intensity in inches/hour, lasting for Tc.

Tc = The time of concentration (Using Five minutes for the developed areas).

A = The contributing drainage area in acres.

Refer to section 4.3 for land characteristics.

Table 1 below is a summary of existing conditions runoff calculations:

Table 1

EXISTING SITE DISCHARGES									
	TOTAL AREA	Cwt	Intensity 10 yr	Q 10	Intensity 100 yr	Q 100	Control Point	Total flows Q10	Total flows Q100
	(ac)	(-)	(in/hr)	(cfs)	(in/hr)	(cfs)	CP#	(cfs)	(cfs)
	3.08	0.86	4.72	-	7.46	-	-	12.51	19.78
EX-A1	0.28	0.91	4.72	1.21	7.46	1.91	CP-1	1.21	1.91
EX-A2	0.38	0.95	4.72	1.70	7.46	2.69	CP-2	1.70	2.69
EX-A3	0.69	0.95	4.72	3.09	7.46	4.89	ON-SITE RETENTION	7.87	12.44
EX-A4	1.17	0.86	4.72	4.77	7.46	7.55			
EX-A5	0.20	0.93	4.72	0.87	7.46	1.38	CP-3	1.51	2.39
EX-A7	0.30	0.45	4.72	0.64	7.46	1.01			
EX-A6	0.06	0.78	4.72	0.22	7.46	0.35	EX-CB-1	0.22	0.35

Overall project area includes **3.08 Acres at C_{wt} = 0.86** (Existing Conditions).

Refer to the **Existing Cwt Exhibit** and **Existing Conditions Drainage Area Map** in **Appendix II.**

3.3. STORMWATER RETENTION:

Based on the existing conditions drainage area map for the City Center, approximately **13,132 CF** is required to provide retention for drainage areas EX-A3 and EX-A4. This volume is considered part of the information about the existing retention structure, whose location and capacity are unknown.

Per City of Scottsdale DS&PM 4-1.201, development storage requirements for the 100-yr, 2-hr storm event are calculated as follows:

$$V_r = C\left(\frac{P}{12}\right)A$$

where:

V_r = Required storage (cf)

ΔC = Weighted average runoff coefficient

P = Precipitation amount =2.17 in per NOAA Atlas 14 Precipitation Frequency Estimates

A = Total area of site (sf)

Based on the C-values identified in section 4.3 below, the following existing retention for each drainage area:

Table 2 below represents existing required retention:

Table 2

Existing Required Storage Volume Calculations					
					Vr=1*(P/12)*Cw*A
					P=100-yr, 2-hr=2.17 in.
Drainage Area ID	Area (acres)	C_w (-)	Depth (in)	Volume Req. (acre-ft)	Volume Req. (CF)
EX-A3	0.69	0.95	2.17	0.119	5,163.44
EX-A4	1.17	0.86	2.17	0.183	7,967.69
TOTALS:	**1.86**	**0.90**	**2.17**	**0.301**	**13,131.13**

Previous table show the estimation of the current existing retention, since retention has not been found, 100yr-2hour storm event retention would be provided in proposed conditions.

4. PROPOSED STORM WATER MANAGEMENT

4.1. DESIGN INTENT:

On-site drainage will be directed to underground retention basins via catch basins and the roof flows will be directed to the storm network via roof drains. The design intent for this preliminary drainage report is to provide the retention required for the redeveloped site and to attenuate any excess stormwater runoff to historical outlets, where needed. The site proposed impervious causes increase in runoff compared to existing conditions.

Refer to **Appendix II** for **Proposed Conditions Drainage Area Map.**

4.2. DESIGN STORM REQUIREMENTS:

In accordance with City of Scottsdale requirements, stormwater storage for the 100-year 2-hour storm event would be
provided.

4.3. LAND CHARACTERISTICS:

The proposed project sites consist mainly of a commercial building with access drives to adjacent streets and minor landscape areas along the west and north boundaries. Based on the DS&PM, runoff coefficients for the 100-year storm event used are as follows:

- C=0.95 for building or concrete and paved surface
- C=0.45 for natural desert or desert landscape

HYDROLOGIC ANALYSIS: The hydrologic analysis is determined using the procedures in the City of Scottsdale Design Standards & Policies Manual and the Drainage Design Manual for Maricopa County, Arizona, Volume I. The Rational Method was utilized to compute the on-site peak discharges. The Rational Method equation is displayed as shown below:

$$Q=C_{wt}IA$$

Where: C_{wt} = The runoff coefficient relating runoff to rainfall

I = Average rainfall intensity in inches/hour, lasting for Tc.

Tc = The time of concentration (Using Five minutes for the developed areas).

A = The contributing drainage area in acres.

Table 3 below is a summary of proposed conditions runoff calculations:

Table 3

PROPOSED SITE DISCHARGES									
	TOTAL AREA	Cwt	Intensity 10 yr	Q 10	Intensity 100 yr	Q 100	Control Point	Total flows Q10	Total flows Q100
	(ac)	(-)	(in/hr)	(cfs)	(in/hr)	(cfs)	CP#	(cfs)	(cfs)
	3.04	0.93	4.72	-	7.46	-	-	13.42	21.21
DA-A1	0.33	0.95	4.72	1.48	7.46	2.34	BASIN 1	6.64	10.49
DA-A2	0.15	0.95	4.72	0.67	7.46	1.06			
DA-R1	0.16	0.95	4.72	0.72	7.46	1.13			
DA-R2	0.84	0.95	4.72	3.77	7.46	5.95			
DA-B1	0.07	0.95	4.72	0.31	7.46	0.50	BASIN 2	5.15	8.14
DA-B2	0.50	0.89	4.72	2.10	7.46	3.32			
DA-R3	0.39	0.95	4.72	1.75	7.46	2.76			
DA-R4	0.16	0.95	4.72	0.72	7.46	1.13			
DA-R5	0.06	0.95	4.72	0.27	7.46	0.43			
DA-C1	0.14	0.88	4.72	0.58	7.46	0.92	CP-3	0.58	0.92
DA-D1	0.24	0.93	4.72	1.05	7.46	1.66	CP-1	1.05	1.66

Overall project area includes **3.04 Acres at C_{wt} = 0.93** (Proposed Conditions).

Refer to the **Proposed Cwt Exhibit** and **Proposed Conditions Drainage Area Map** in **Appendix II.**

Pre vs Post onsite flows to historic outfalls are presented in the table below:

***Table 4* – Pre vs. Post Flows**

							Ultimate flows to public storm drain system			
	Q10 (cfs)			Q100 (cfs)			**Q10 (cfs)**		**Q100 (cfs)**	
Outfall	Existing	Proposed	Δ	Existing	Proposed	Δ	Existing	Proposed	Existing	Proposed
CP-1	1.21	1.05	-0.16	1.91	1.66	-0.25	4.64	1.63	7.34	2.58
CP-2	1.70	0.00	-1.70	2.69	0.00	-2.69				
CP-3	1.51	0.58	-0.93	2.39	0.92	-1.47				
EX-CB-1	0.22	0.00	-0.22	0.35	0.00	-0.35				

Flows to the historical outfalls are reduced, consequently the proposed conditions are favorable.

Refer to **APPENDIX II** for more information.

4.4. STORMWATER RETENTION:

Since the existing retention structure cannot be defined, the required retention volume will be that for a 100-year, 2-hour storm calculated as follows:

Per City of Scottsdale DS&PM 4-1.201, development storage requirements for the 100-yr, 2-hr storm event are calculated as follows:

$$V_r = C\left(\frac{P}{12}\right)A$$

where:
V_r = Required storage (cf)
ΔC = Weighted average runoff coefficient
P = Precipitation amount =2.17 in per NOAA Atlas 14 Precipitation Frequency Estimates
A = Total area of site (sf)

Based on the C-values identified in section 4.3 below, the following existing retention for each drainage area:

Calculated required volume is shown in Table 5 below:

Table 5

Proposed City Center Required Storage Volume Calculations					
					Vr=1*(P/12)*Cw*A
					P=100-yr, 2-hr=2.17 in.
Drainage Area ID	Area (acres)	C_w (-)	Depth (in)	Volume Req. (acre-ft)	Volume Req. (CF)
ON-SITE RETENTION - BASIN 1 - UG Storage					
DA-A1	0.33	0.95	2.17	0.057	2,469.47
DA-A2	0.15	0.95	2.17	0.026	1,122.49
DA-R1	0.16	0.95	2.17	0.027	1,197.32
DA-R2	0.84	0.95	2.17	0.144	6,285.93
TOTALS:	**1.48**	**0.95**	**2.17**	**0.254**	**11,075.20**
ON-SITE RETENTION - BASIN 2 - UG Storage					
DA-B1	0.07	0.95	2.17	0.012	523.83
DA-B2	0.50	0.89	2.17	0.081	3,509.25
DA-R3	0.39	0.95	2.17	0.067	2,918.47
DA-R4	0.16	0.95	2.17	0.027	1,197.32
DA-R5	0.06	0.95	2.17	0.010	448.99
TOTALS:	**1.18**	**0.93**	**2.17**	**0.197**	**8,597.85**

4.5. STORAGE PROVIDED:

Retention Basin 1:

The storage volume of underground rectangular vault is calculated using V = L x W x H.

- Proposed 30' X 20' X 20' Rectangular Vault = **12,000 CF.**

Retention Basin 2:

The storage volume of underground rectangular vault is calculated using V = L x W x H.

- Proposed 45' X 20' X 10' Rectangular Vault = **9,000 CF.**

Table 6 below presents a summary of the storage volume calculations:

Table 6

Proposed Retention Basin Summary			
Basin (ID)	TYPE (--)	Vp (CF)	Vr (CF)
Basin 1	UG	12,000	11,076
Basin 2	UG	9,000	8,598
Total:		**21,000**	**19,674**

4.6. STORMWATER DISCHARGE

The storage volume must be discharged within 36 hours in accordance with agency requirements. Drywells are proposed in the on-site storage facilities to dispose stormwater within thirty-six (36) hours. The calculation is as follows:

- Minimum percolating rate of a drywell (for planning purposes) = 0.1 cfs
- Volume to be drained in 36 hours = 0.1 cfs * 36 hours * 3600 sec/hour = 12,960 cf.
- The number of drywells will be reduced if geotechnical testing for percolation rates determine adequate infiltration is available in the native soils at lower depths. If the percolation rate of the drywells is less than 0.1 cfs the number of drywells may have to be increased.

Basin 1 Provided storage = 12,000 CF.
12,000 CF /12,960 CF per drywell = 0.93 = 1 drywells required.

Basin 1 Provided storage = 9,000 CF.
9,000 CF /12,960 CF per drywell = 0.69 = 1 drywells required.

4.7. PIPE CAPACITY CALCULATIONS:

Pipes capacity calculations will be discussed at a later stage of the project.

4.8. STORM DRAIN INLET CALCULATIONS:

Storm drain inlet calculations will be discussed at a later stage of the project.

4.9. ADEQ WATER QUALITY REQUIREMENTS

The total disturbed area of this site is approximately 3.04 acres. The Arizona Department of Environmental Quality requires that any site disturbance over an acre is required to submit a NOI. An NOI will be submitted to ADEQ for this site after the first submittal of the construction documents as this site disturbance is over one acre.

5. FLOOD SAFETY FOR DWELLINGS

5.1. FINISHED FLOOR ELEVATIONS

This project lies in an "X" Flood Zone. Therefore, the proposed building finished floor elevations will be set a minimum of 12 inches above the 100-year high-water elevation of any adjacent streets and drainage paths and a minimum of 14 inches above the low top of curb of the lot. This will ensure that each building will be well above the 100-year water level.

6. CONCLUSIONS

6.1. OVERALL PROJECT:

1. The finish floor elevations will be designed a minimum of 14 inches above the lot Ultimate Outfall.
2. Total flows to historical outfalls will be reduced.
3. On-site storage facilities will be provided to account for the 100-year, 2hr event.

7. REFERENCES

1. *Design Standards & Policies Manual, City of Scottsdale – January 2018*
2. *Drainage Design Manual for Maricopa County, Arizona, Volume I, Hydrology, Flood Control District of Maricopa County, Fourth Edition, December 14, 2018*
3. *Drainage Design Manual for Maricopa County, Arizona, Volume II, Hydraulics, Flood Control District of Maricopa County, December 14, 2018*
4. *Drainage Master Plan: Scottsdale Collective per Sustainability Engineering Group, 2020*

FIGURES

1. Vicinity Map
2. Aerial
3. FIRM
4. FLO2D Exhibit

MARICOPA COUNTY
ASSESSOR'S OFFICE

FIGURE 1. VICINITY MAP



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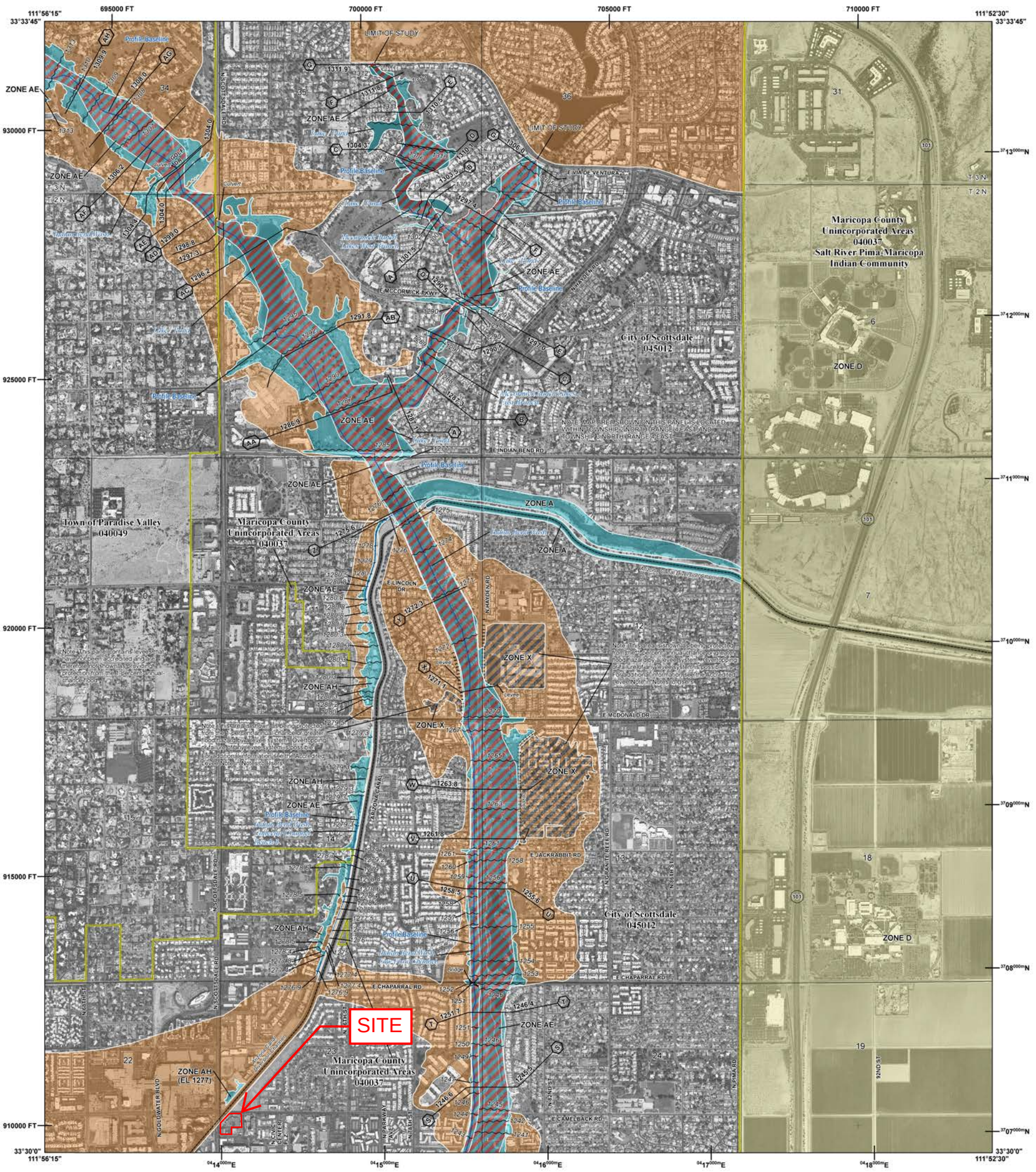
MARICOPA COUNTY
ASSESSOR'S OFFICE

FIGURE 2. AERIAL



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3. FIRM



FLOOD HAZARD INFORMATION

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

THE INFORMATION DEPICTED ON THIS MAP AND SUPPORTING DOCUMENTATION ARE ALSO AVAILABLE IN DIGITAL FORMAT AT HTTPS://MSC.FEMA.GOV

SPECIAL FLOOD HAZARD AREAS	Without Base Flood Elevation (BFE) *Zone A,V, A99*
	With BFE or Depth *Zone AE, AO, AH, VE, AR*
	Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD	0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile *Zone X*
	Future Conditions 1% Annual Chance Flood Hazard *Zone X*
	Area with Reduced Flood Risk due to Levee See Notes. *Zone X*
	Area with Flood Risk due to Levee *Zone D*
OTHER AREAS	NO SCREEN Area of Minimal Flood Hazard *Zone X*
	Area of Undetermined Flood Hazard *Zone D*
GENERAL STRUCTURES	Channel, Culvert, or Storm Sewer
	Levee, Dike, or Floodwall
OTHER FEATURES	E 18.2 / 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
	8 Coastal Transect
	Coastal Transect Baseline
	Profile Baseline
	Hydrographic Feature
	513 Base Flood Elevation Line (BFE)
	Limit of Study
	Jurisdiction Boundary

NOTES TO USERS

For information and questions about this Flood Insurance Rate Map (FIRM), available products associated with this FIRM, including historic versions, the current map date for each FIRM panel, how to order products, or the National Flood Insurance Program (NFIP) in general, please call the FEMA Map Information eXchange at 1-877-FEMA-MAP (1-877-336-2627) or visit the FEMA Flood Map Service Center website at https://msc.fema.gov. Available products may include previously issued Letters of Map Change, a Flood Insurance Study Report, and/or digital versions of this map. Many of these products can be ordered or obtained directly from the website.

Communities annexing land on adjacent FIRM panels must obtain a current copy of the adjacent panel as well as the current FIRM Index. These may be ordered directly from the Flood Map Service Center at the number listed above.

For community and countywide map dates refer to the Flood Insurance Study Report for this jurisdiction.

To determine if flood insurance is available in this community, contact your Insurance agent or call the National Flood Insurance Program at 1-800-638-6620.

Base map information shown on this FIRM was derived from U.S. Census Bureau TIGER files, dated 2014, and digital data provided by the Flood Control District of Maricopa County. Digital orthophotography was provided by the Flood Control District of Maricopa County. The imagery was flown in Fall 2013 and was produced with a 0.8 foot ground sample distance.

ACCREDITED LEVEE NOTES TO USERS: Check with your local community to obtain more information, such as the estimated level of protection provided (which may exceed the 1-percent-annual-chance level) and Emergency Action Plan, on the levee system(s) shown as providing protection for areas on this panel. To mitigate flood risk in residual risk areas, property owners and residents are encouraged to consider flood insurance and floodproofing or other protective measures. For more information on flood insurance, interested parties should visit the FEMA Website at http://www.fema.gov/national-flood-insurance-program.

SCALE

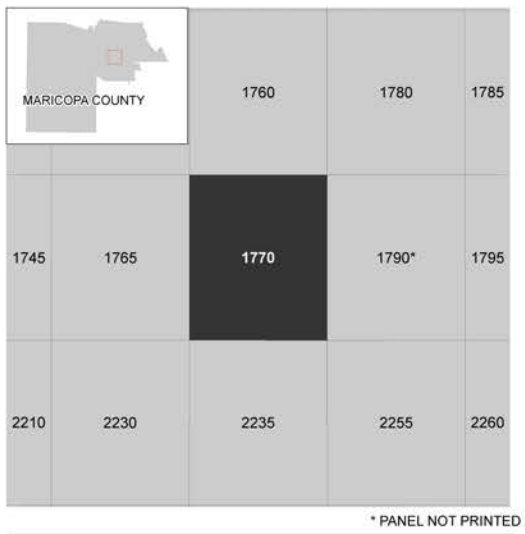
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Western Hemisphere; Vertical Datum: NAVD88

1 inch = 1,000 feet 1:12,000

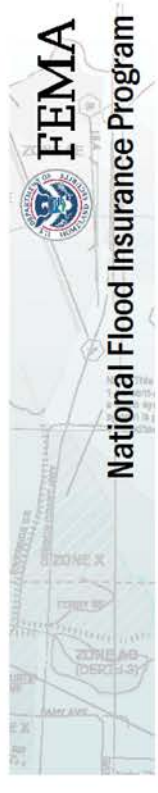
0 1,000 2,000 4,000 feet

0 250 500 1,000 meters

PANEL LOCATOR



* PANEL NOT PRINTED



NATIONAL FLOOD INSURANCE PROGRAM
FLOOD INSURANCE RATE MAP

MARICOPA COUNTY, ARIZONA
and Incorporated Areas

PANEL 1770 OF 4425

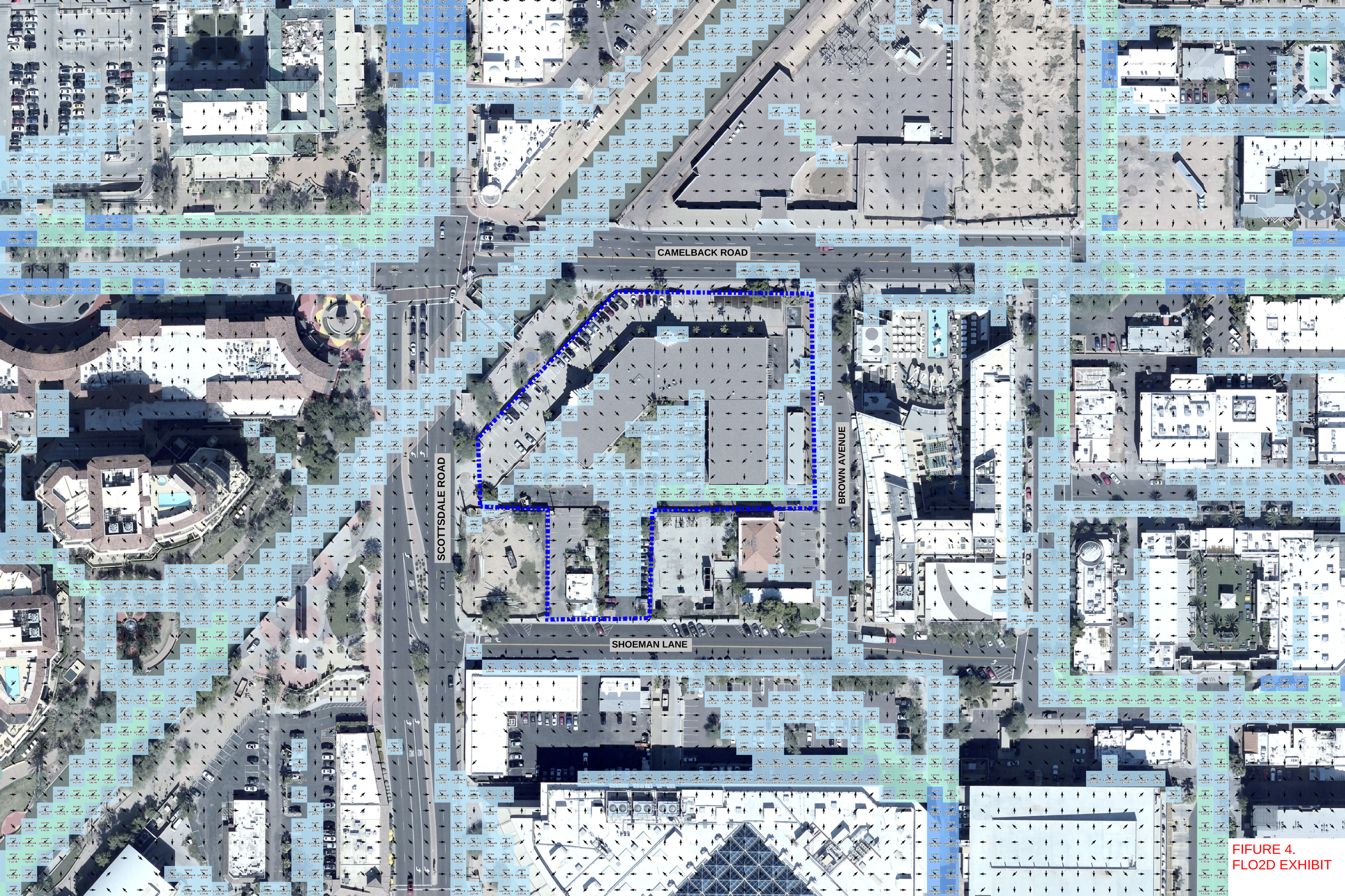
Panel Contains:

COMMUNITY	NUMBER	PANEL	SUFFIX
MARICOPA COUNTY	040037	1770	M
PARADISE VALLEY, TOWN OF	040049	1770	M
SCOTTSDALE, CITY OF	045012	1770	M

VERSION NUMBER
2.3.3.2

MAP NUMBER
04013C1770M

MAP REVISED
September 18, 2020



FIFURE 4.
FLO2D EXHIBIT

APPENDIX I

RAINFALL DATA

NOAA Atlas 14, Volume 1, Version 5
Location name: Scottsdale, Arizona, USA*
Latitude: 33.5017°, Longitude: -111.9253°
Elevation: 1269 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	2.21 (1.85-2.69)	2.88 (2.42-3.52)	3.92 (3.28-4.76)	4.72 (3.91-5.70)	5.78 (4.73-6.96)	6.62 (5.34-7.92)	7.46 (5.90-8.90)	8.33 (6.48-9.92)	9.48 (7.18-11.3)	10.4 (7.69-12.4)
10-min	1.68 (1.40-2.05)	2.20 (1.85-2.68)	2.98 (2.49-3.62)	3.59 (2.98-4.33)	4.40 (3.59-5.30)	5.03 (4.06-6.02)	5.68 (4.49-6.78)	6.34 (4.93-7.55)	7.22 (5.47-8.62)	7.89 (5.86-9.43)
15-min	1.39 (1.16-1.69)	1.81 (1.53-2.21)	2.46 (2.06-2.99)	2.96 (2.46-3.58)	3.64 (2.97-4.38)	4.16 (3.36-4.98)	4.70 (3.71-5.60)	5.24 (4.07-6.24)	5.96 (4.52-7.12)	6.52 (4.84-7.80)
30-min	0.934 (0.782-1.14)	1.22 (1.03-1.49)	1.66 (1.39-2.01)	2.00 (1.66-2.41)	2.45 (2.00-2.95)	2.80 (2.26-3.35)	3.16 (2.50-3.77)	3.53 (2.74-4.20)	4.02 (3.04-4.79)	4.39 (3.26-5.25)
60-min	0.578 (0.484-0.704)	0.755 (0.636-0.921)	1.03 (0.858-1.25)	1.24 (1.02-1.49)	1.52 (1.24-1.82)	1.73 (1.40-2.08)	1.96 (1.55-2.33)	2.18 (1.70-2.60)	2.48 (1.88-2.97)	2.72 (2.02-3.25)
2-hr	0.335 (0.285-0.400)	0.433 (0.369-0.519)	0.580 (0.492-0.691)	0.692 (0.580-0.823)	0.845 (0.701-0.998)	0.962 (0.788-1.13)	1.08 (0.873-1.28)	1.21 (0.954-1.42)	1.37 (1.06-1.61)	1.50 (1.13-1.78)
3-hr	0.243 (0.205-0.293)	0.312 (0.265-0.377)	0.409 (0.346-0.493)	0.487 (0.408-0.583)	0.595 (0.492-0.708)	0.682 (0.555-0.809)	0.772 (0.618-0.916)	0.867 (0.681-1.03)	0.997 (0.760-1.18)	1.10 (0.820-1.31)
6-hr	0.146 (0.126-0.172)	0.185 (0.161-0.218)	0.238 (0.205-0.279)	0.280 (0.239-0.327)	0.337 (0.284-0.391)	0.381 (0.317-0.441)	0.428 (0.350-0.495)	0.475 (0.382-0.551)	0.541 (0.423-0.628)	0.592 (0.453-0.689)
12-hr	0.081 (0.071-0.094)	0.103 (0.089-0.119)	0.130 (0.113-0.151)	0.152 (0.131-0.175)	0.181 (0.154-0.208)	0.203 (0.171-0.234)	0.226 (0.188-0.260)	0.249 (0.205-0.287)	0.281 (0.225-0.325)	0.305 (0.240-0.356)
24-hr	0.048 (0.043-0.055)	0.061 (0.055-0.070)	0.080 (0.071-0.090)	0.094 (0.084-0.107)	0.115 (0.101-0.129)	0.130 (0.114-0.147)	0.147 (0.127-0.165)	0.164 (0.141-0.185)	0.188 (0.160-0.212)	0.207 (0.174-0.233)
2-day	0.026 (0.023-0.029)	0.033 (0.030-0.038)	0.044 (0.039-0.049)	0.052 (0.046-0.059)	0.064 (0.056-0.072)	0.073 (0.064-0.083)	0.083 (0.072-0.094)	0.093 (0.081-0.105)	0.108 (0.092-0.122)	0.119 (0.101-0.135)
3-day	0.018 (0.016-0.021)	0.023 (0.021-0.026)	0.031 (0.027-0.035)	0.037 (0.033-0.042)	0.045 (0.040-0.051)	0.052 (0.046-0.059)	0.059 (0.052-0.067)	0.067 (0.058-0.076)	0.078 (0.066-0.088)	0.087 (0.073-0.098)
4-day	0.014 (0.013-0.016)	0.018 (0.016-0.021)	0.024 (0.021-0.027)	0.029 (0.026-0.033)	0.036 (0.032-0.041)	0.042 (0.036-0.047)	0.048 (0.041-0.054)	0.054 (0.046-0.061)	0.063 (0.053-0.071)	0.070 (0.059-0.079)
7-day	0.009 (0.008-0.010)	0.011 (0.010-0.013)	0.015 (0.013-0.017)	0.018 (0.016-0.021)	0.023 (0.020-0.026)	0.026 (0.023-0.030)	0.030 (0.026-0.034)	0.034 (0.029-0.038)	0.040 (0.034-0.045)	0.044 (0.037-0.050)
10-day	0.007 (0.006-0.008)	0.009 (0.008-0.010)	0.011 (0.010-0.013)	0.014 (0.012-0.016)	0.017 (0.015-0.019)	0.020 (0.017-0.022)	0.023 (0.019-0.025)	0.025 (0.022-0.029)	0.030 (0.025-0.033)	0.033 (0.028-0.037)
20-day	0.004 (0.003-0.004)	0.005 (0.005-0.006)	0.007 (0.006-0.008)	0.008 (0.007-0.009)	0.010 (0.009-0.011)	0.012 (0.010-0.013)	0.013 (0.011-0.015)	0.014 (0.012-0.016)	0.016 (0.014-0.018)	0.018 (0.015-0.020)
30-day	0.003 (0.003-0.003)	0.004 (0.003-0.004)	0.005 (0.005-0.006)	0.006 (0.006-0.007)	0.008 (0.007-0.009)	0.009 (0.008-0.010)	0.010 (0.009-0.011)	0.011 (0.010-0.012)	0.013 (0.011-0.014)	0.014 (0.012-0.016)
45-day	0.002 (0.002-0.002)	0.003 (0.003-0.003)	0.004 (0.003-0.004)	0.005 (0.004-0.005)	0.006 (0.005-0.007)	0.007 (0.006-0.007)	0.007 (0.006-0.008)	0.008 (0.007-0.009)	0.009 (0.008-0.010)	0.010 (0.009-0.011)
60-day	0.002 (0.001-0.002)	0.002 (0.002-0.003)	0.003 (0.003-0.004)	0.004 (0.003-0.004)	0.005 (0.004-0.005)	0.005 (0.005-0.006)	0.006 (0.005-0.007)	0.007 (0.006-0.007)	0.007 (0.006-0.008)	0.008 (0.007-0.009)

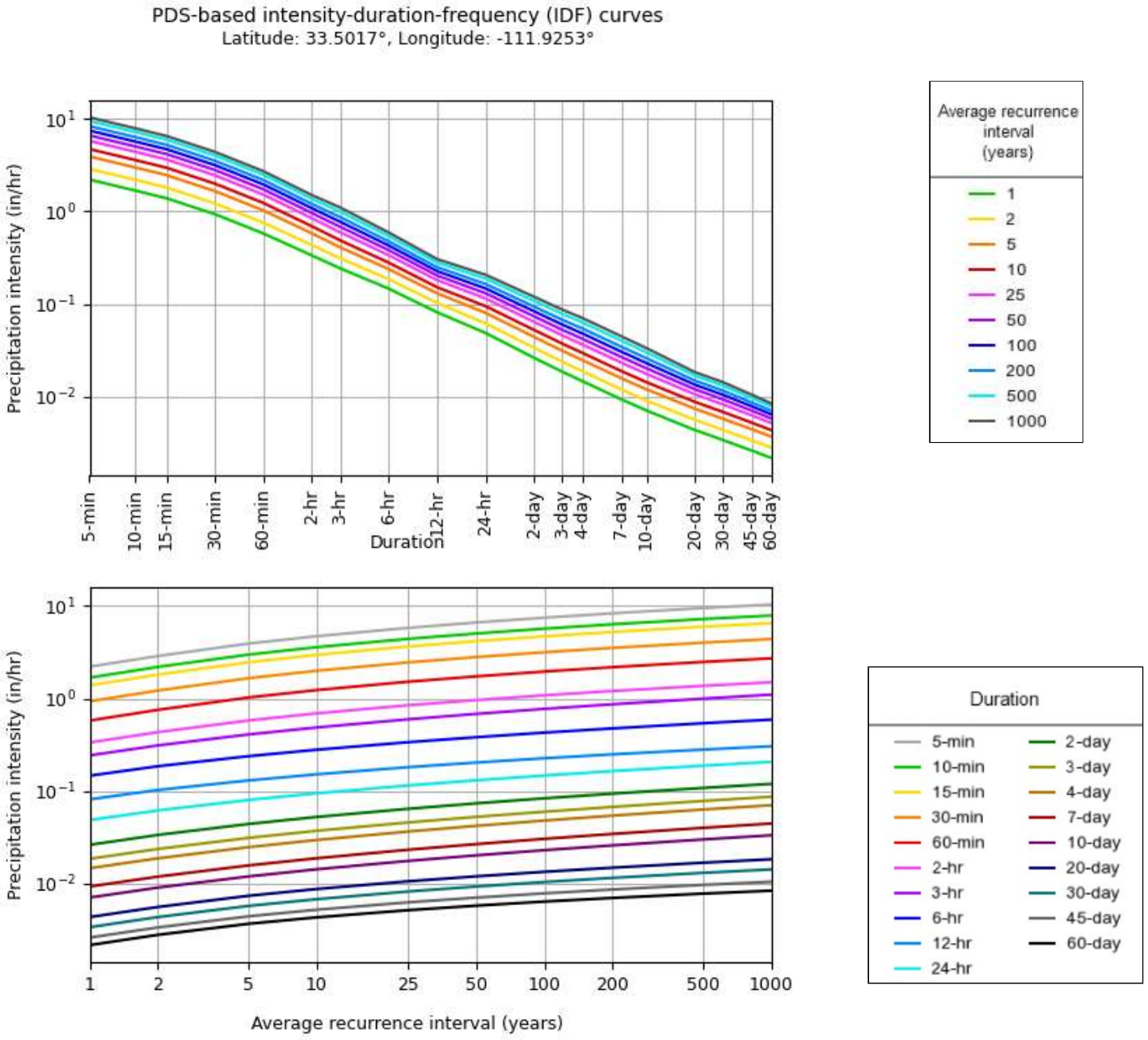
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical



NOAA Atlas 14, Volume 1, Version 5

Created (GMT): Wed Jun 14 18:34:31 2023

Back to Top

Maps & aerials

Small scale terrain

NOAA Atlas 14, Volume 1, Version 5
Location name: Scottsdale, Arizona, USA*
Latitude: 33.5017°, Longitude: -111.9253°
Elevation: 1269 ft**
* source: ESRI Maps
** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Trypaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

PF_tabular | PF_graphical | Maps_&_aerials

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches)[1]

Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	**0.184** (0.154-0.224)	**0.240** (0.202-0.293)	**0.327** (0.273-0.397)	**0.393** (0.326-0.475)	**0.482** (0.394-0.580)	**0.552** (0.445-0.660)	**0.622** (0.492-0.742)	**0.694** (0.540-0.827)	**0.790** (0.598-0.943)	**0.864** (0.641-1.03)
10-min	**0.280** (0.234-0.341)	**0.366** (0.308-0.446)	**0.497** (0.415-0.604)	**0.598** (0.496-0.722)	**0.734** (0.599-0.883)	**0.839** (0.677-1.00)	**0.947** (0.749-1.13)	**1.06** (0.821-1.26)	**1.20** (0.911-1.44)	**1.32** (0.976-1.57)
15-min	**0.347** (0.290-0.423)	**0.453** (0.382-0.553)	**0.616** (0.515-0.748)	**0.741** (0.615-0.895)	**0.910** (0.743-1.09)	**1.04** (0.839-1.24)	**1.17** (0.928-1.40)	**1.31** (1.02-1.56)	**1.49** (1.13-1.78)	**1.63** (1.21-1.95)
30-min	**0.467** (0.391-0.569)	**0.610** (0.514-0.744)	**0.829** (0.693-1.01)	**0.998** (0.828-1.21)	**1.23** (1.00-1.47)	**1.40** (1.13-1.68)	**1.58** (1.25-1.89)	**1.76** (1.37-2.10)	**2.01** (1.52-2.40)	**2.20** (1.63-2.62)
60-min	**0.578** (0.484-0.704)	**0.755** (0.636-0.921)	**1.03** (0.858-1.25)	**1.24** (1.02-1.49)	**1.52** (1.24-1.82)	**1.73** (1.40-2.08)	**1.96** (1.55-2.33)	**2.18** (1.70-2.60)	**2.48** (1.88-2.97)	**2.72** (2.02-3.25)
2-hr	**0.670** (0.571-0.800)	**0.867** (0.739-1.04)	**1.16** (0.984-1.38)	**1.38** (1.16-1.65)	**1.69** (1.40-2.00)	**1.92** (1.58-2.27)	**2.17** (1.75-2.55)	**2.41** (1.91-2.84)	**2.74** (2.12-3.23)	**3.00** (2.27-3.55)
3-hr	**0.730** (0.618-0.880)	**0.937** (0.797-1.13)	**1.23** (1.04-1.48)	**1.46** (1.23-1.75)	**1.79** (1.48-2.13)	**2.05** (1.67-2.43)	**2.32** (1.86-2.75)	**2.60** (2.05-3.08)	**2.99** (2.28-3.55)	**3.31** (2.46-3.93)
6-hr	**0.879** (0.760-1.04)	**1.11** (0.967-1.31)	**1.43** (1.23-1.68)	**1.68** (1.44-1.96)	**2.02** (1.70-2.34)	**2.29** (1.90-2.65)	**2.57** (2.10-2.97)	**2.85** (2.29-3.30)	**3.24** (2.54-3.76)	**3.55** (2.71-4.13)
12-hr	**0.982** (0.859-1.14)	**1.24** (1.08-1.44)	**1.57** (1.37-1.82)	**1.83** (1.58-2.12)	**2.18** (1.87-2.52)	**2.45** (2.07-2.82)	**2.73** (2.27-3.14)	**3.01** (2.47-3.47)	**3.39** (2.71-3.92)	**3.68** (2.90-4.29)
24-hr	**1.17** (1.04-1.32)	**1.49** (1.32-1.68)	**1.93** (1.71-2.18)	**2.28** (2.02-2.57)	**2.76** (2.43-3.11)	**3.14** (2.74-3.53)	**3.54** (3.07-3.98)	**3.95** (3.40-4.45)	**4.52** (3.85-5.09)	**4.97** (4.19-5.61)
2-day	**1.26** (1.13-1.43)	**1.62** (1.44-1.83)	**2.12** (1.89-2.40)	**2.53** (2.24-2.85)	**3.09** (2.72-3.48)	**3.54** (3.10-3.99)	**4.02** (3.50-4.53)	**4.51** (3.90-5.09)	**5.20** (4.44-5.88)	**5.76** (4.87-6.53)
3-day	**1.34** (1.19-1.51)	**1.71** (1.52-1.94)	**2.25** (2.00-2.54)	**2.69** (2.38-3.03)	**3.30** (2.90-3.72)	**3.80** (3.32-4.27)	**4.32** (3.75-4.86)	**4.87** (4.19-5.48)	**5.64** (4.80-6.36)	**6.27** (5.28-7.08)
4-day	**1.41** (1.25-1.60)	**1.81** (1.60-2.04)	**2.38** (2.11-2.69)	**2.85** (2.52-3.21)	**3.51** (3.08-3.95)	**4.05** (3.53-4.55)	**4.62** (4.00-5.19)	**5.22** (4.48-5.88)	**6.08** (5.15-6.84)	**6.78** (5.68-7.64)
7-day	**1.57** (1.39-1.78)	**2.00** (1.78-2.27)	**2.65** (2.34-2.99)	**3.17** (2.80-3.58)	**3.91** (3.43-4.40)	**4.50** (3.93-5.06)	**5.13** (4.44-5.78)	**5.80** (4.98-6.54)	**6.75** (5.72-7.61)	**7.51** (6.30-8.49)
10-day	**1.70** (1.51-1.92)	**2.18** (1.94-2.46)	**2.88** (2.55-3.24)	**3.44** (3.04-3.87)	**4.23** (3.71-4.74)	**4.86** (4.24-5.44)	**5.53** (4.80-6.20)	**6.24** (5.37-7.00)	**7.22** (6.14-8.11)	**8.02** (6.75-9.02)
20-day	**2.10** (1.87-2.35)	**2.70** (2.40-3.02)	**3.56** (3.17-3.98)	**4.21** (3.74-4.71)	**5.09** (4.50-5.69)	**5.77** (5.08-6.45)	**6.46** (5.66-7.23)	**7.16** (6.24-8.02)	**8.10** (7.00-9.10)	**8.83** (7.57-9.92)
30-day	**2.45** (2.17-2.75)	**3.15** (2.80-3.53)	**4.15** (3.68-4.65)	**4.91** (4.35-5.49)	**5.93** (5.23-6.63)	**6.72** (5.90-7.50)	**7.53** (6.58-8.40)	**8.35** (7.26-9.31)	**9.45** (8.15-10.6)	**10.3** (8.82-11.5)
45-day	**2.83** (2.53-3.17)	**3.65** (3.26-4.09)	**4.81** (4.29-5.38)	**5.66** (5.04-6.34)	**6.80** (6.03-7.60)	**7.65** (6.76-8.55)	**8.51** (7.49-9.52)	**9.37** (8.21-10.5)	**10.5** (9.14-11.8)	**11.4** (9.82-12.8)
60-day	**3.13** (2.81-3.50)	**4.05** (3.62-4.52)	**5.32** (4.76-5.94)	**6.25** (5.58-6.97)	**7.46** (6.64-8.31)	**8.35** (7.41-9.31)	**9.25** (8.17-10.3)	**10.1** (8.91-11.3)	**11.3** (9.86-12.6)	**12.1** (10.6-13.6)

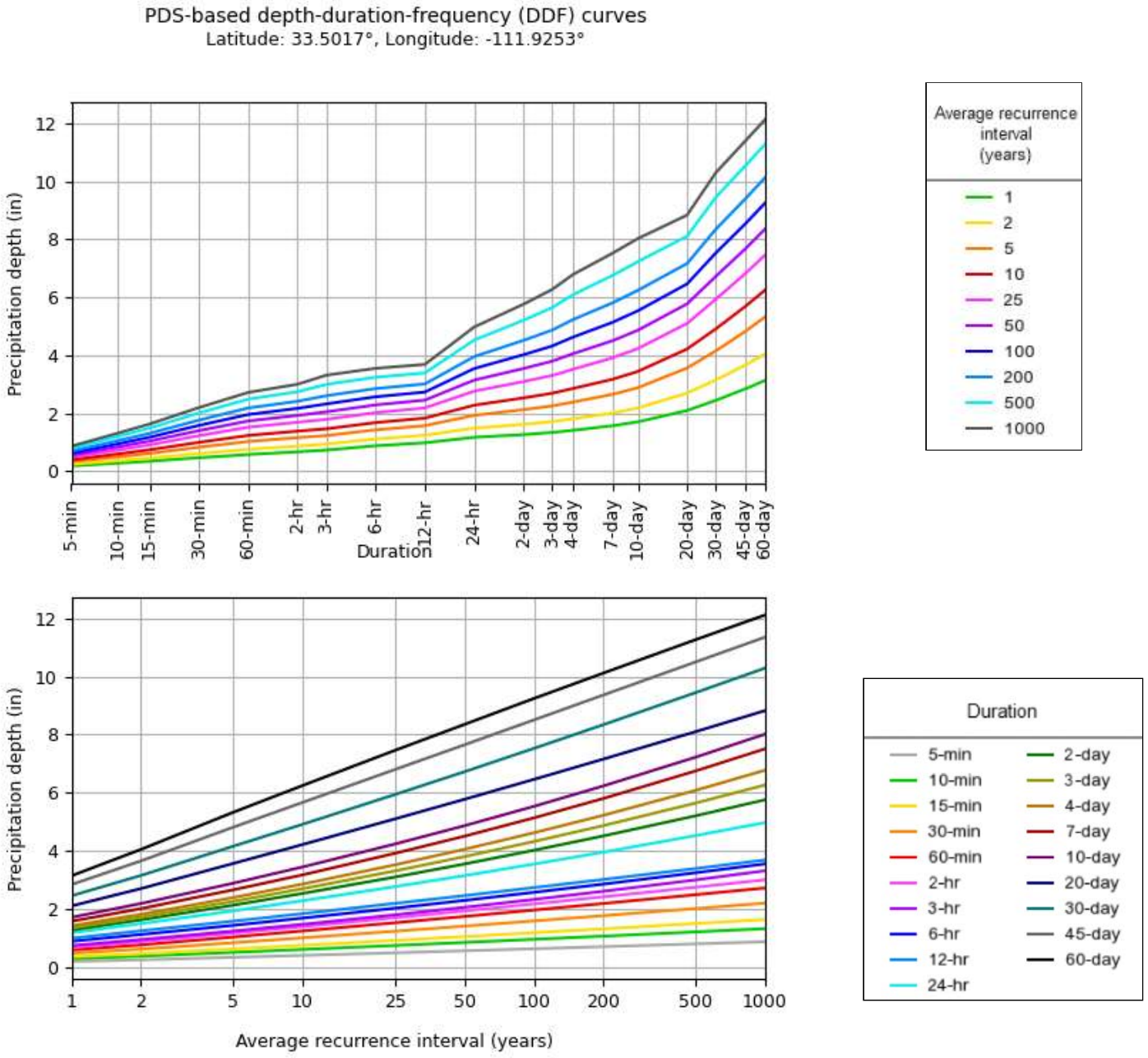
[1] Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS).

Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values.

Please refer to NOAA Atlas 14 document for more information.

Back to Top

PF graphical



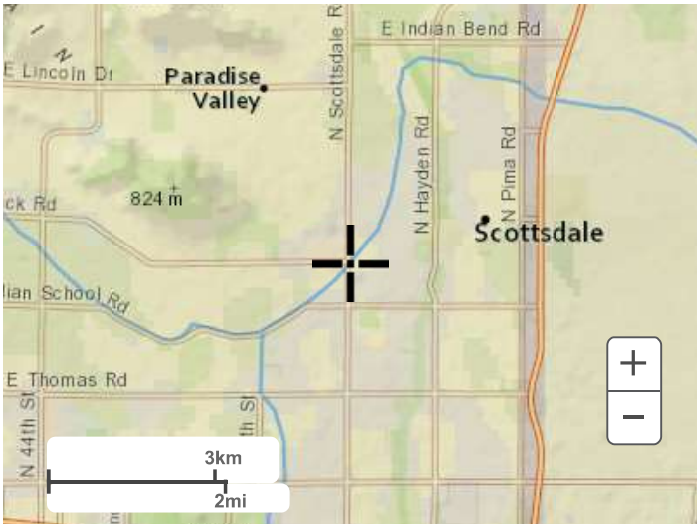
NOAA Atlas 14, Volume 1, Version 5

Created (GMT): Wed Jun 14 18:33:38 2023

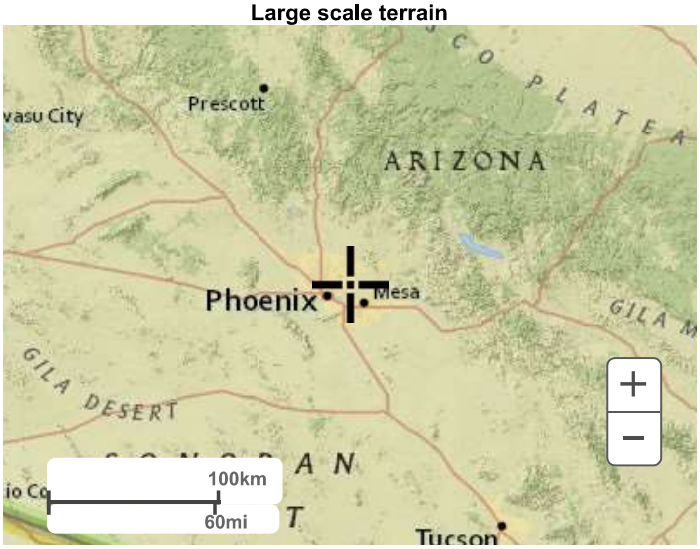
Back to Top

Maps & aerials

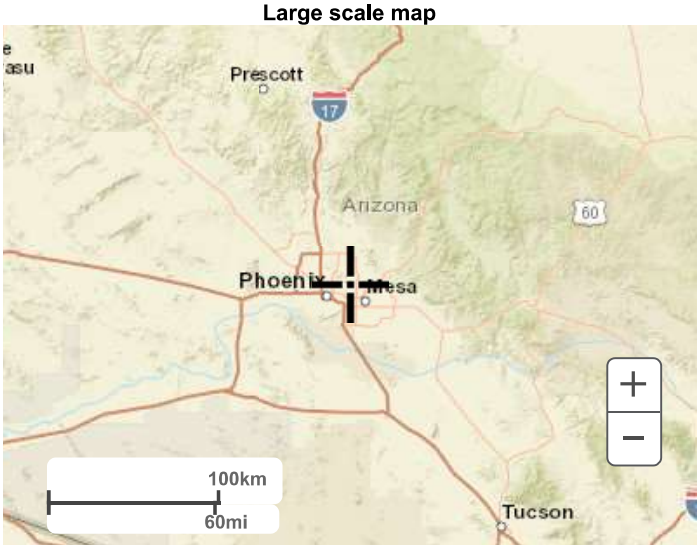
Small scale terrain



Large scale terrain



Large scale map



Large scale aerial

APPENDIX II

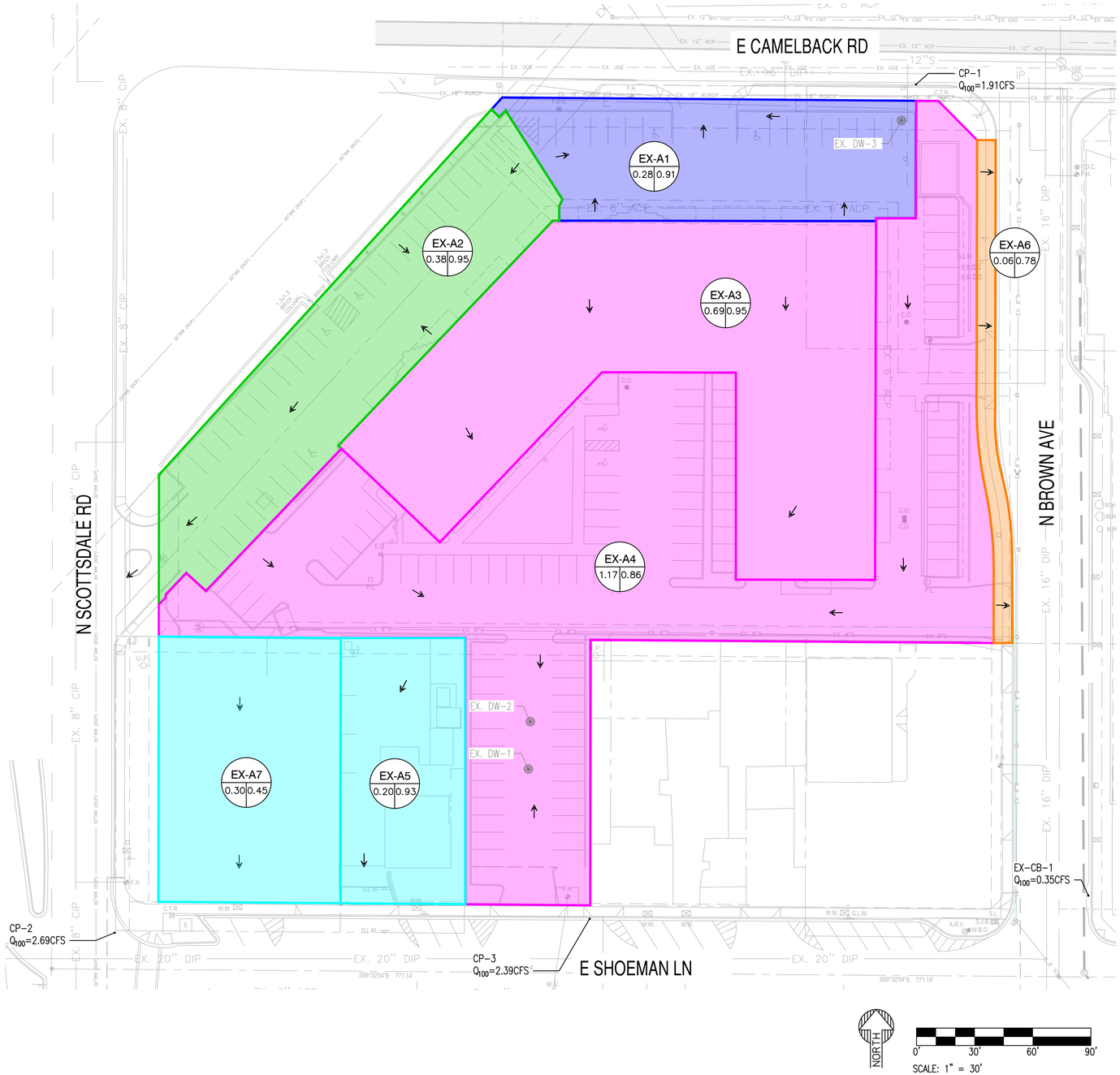
Calculations

CITY CENTER

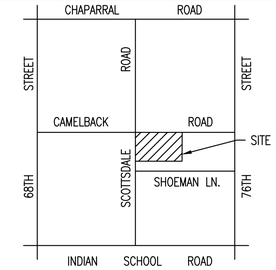
EXISTING CONDITIONS DRAINAGE AREA MAP

7201 E. CAMELBACK ROAD, SCOTTSDALE, AZ 85251

A PORTION OF THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



VICINITY MAP

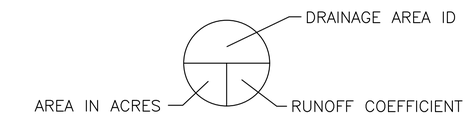


VICINITY MAP
N23 T2N R4E
NTS

EXISTING SITE DISCHARGES									
	TOTAL AREA	Cwt	Intensity 10 yr	Q 10	Intensity 100 yr	Q 100	Control Point	Total flows Q10	Total flows Q100
	(ac)	(-)	(in/hr)	(cfs)	(in/hr)	(cfs)	CP#	(cfs)	(cfs)
	3.08	0.86	4.72	-	7.46	-	-	12.51	19.78
EX-A1	0.28	0.91	4.72	1.21	7.46	1.91	CP-1	1.21	1.91
EX-A2	0.38	0.95	4.72	1.70	7.46	2.69	CP-2	1.70	2.69
EX-A3	0.69	0.95	4.72	3.09	7.46	4.89	ON-SITE RETENTION	7.87	12.44
EX-A4	1.17	0.86	4.72	4.77	7.46	7.55			
EX-A5	0.20	0.93	4.72	0.87	7.46	1.38	CP-3	1.51	2.39
EX-A7	0.30	0.45	4.72	0.64	7.46	1.01			
EX-A6	0.06	0.78	4.72	0.22	7.46	0.35	EX-CB-1	0.22	0.35

LEGEND

- DRAINAGE AREAS DRAINING TO ONSITE DRYWELLS
- DRAINAGE AREAS DRAINING TO CAMELBACK ROAD
- DRAINAGE AREAS DRAINING TO SCOTTSDALE ROAD
- DRAINAGE AREAS DRAINING TO SHOEMAN LANE
- DRAINAGE AREAS DRAINING TO BROWN AVENUE



DRAINAGE AREA KEY

PRELIMINARY
NOT FOR CONSTRUCTION

SEG SUSTAINABILITY ENGINEERING GROUP
5240 N. 16TH STREET SUITE 105, PHOENIX, ARIZONA 85016
WWW.AZSEG.COM TEL. 480.588.7226 FAX. 480.256.3534

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Blue Stake, Inc. 811 or local one call
(excluding dept. of transportation)
ARIZONA811
Call 811 or visit Arizona811.com

PROJECT: CITY CENTER RESIDENTIAL
LOCATION: 7201 E. CAMELBACK ROAD, SCOTTSDALE, AZ, 85251.

DRAWN	MC	06/22/2023
DESIGNED	MC	06/22/2023
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FINAL QC		
PROJ. MGR.	AF	06/22/2023

DATE: 06/22/2023
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JOB NO.: 221117

SHEET TITLE: EXISTING CONDITIONS DRAINAGE AREA MAP

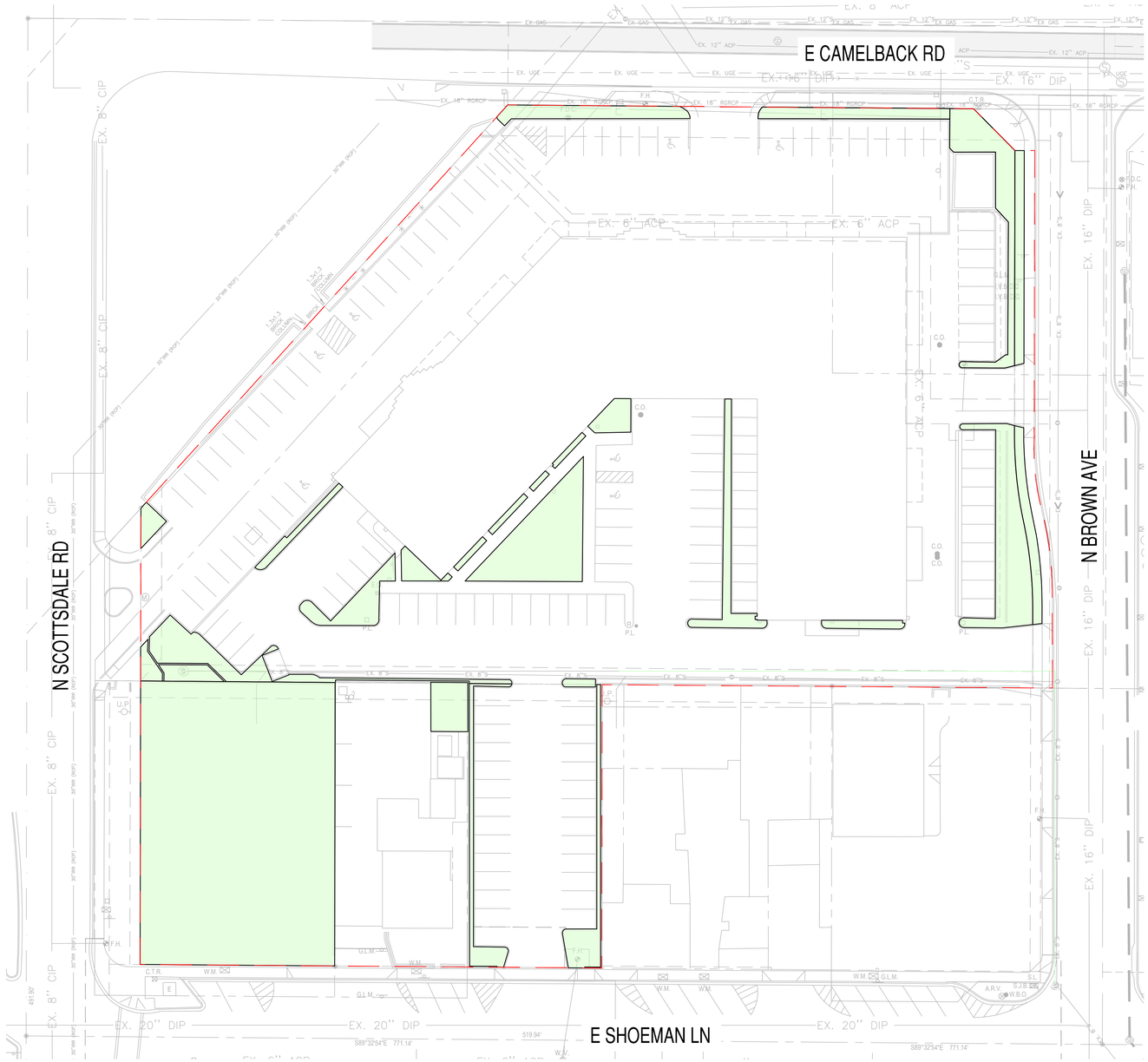
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SHEET NO.: EX-DAM

CITY CENTER

EXISTING CONDITIONS CWT

7201 E. CAMELBACK ROAD, SCOTTSDALE, AZ 85251

A PORTION OF THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



DISTURBED AREA

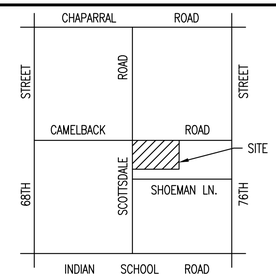
BUILDING/PAVED SURFACE =	110,206.3 SF (2.53 AC)	@ CWT=0.95
NATURAL DESERT/LANDSCAPE =	24,047 SF (0.55 AC)	@ CWT=0.45
TOTAL DISTURBED AREA =	134,253 SF (3.08 AC)	@ CWT=0.86

NORTH

0' 30' 60' 90'

SCALE: 1" = 30'

VICINITY MAP



VICINITY MAP
N23 T2N R4E
NTS

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PROJECT
CITY CENTER RESIDENTIAL

LOCATION
7201 E. CAMELBACK ROAD,
SCOTTSDALE, AZ, 85251.

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221117

SHEET TITLE:
EXISTING CONDITIONS CWT

PAGE NO.:
1 OF 1

SHEET NO.:
EX-CWT

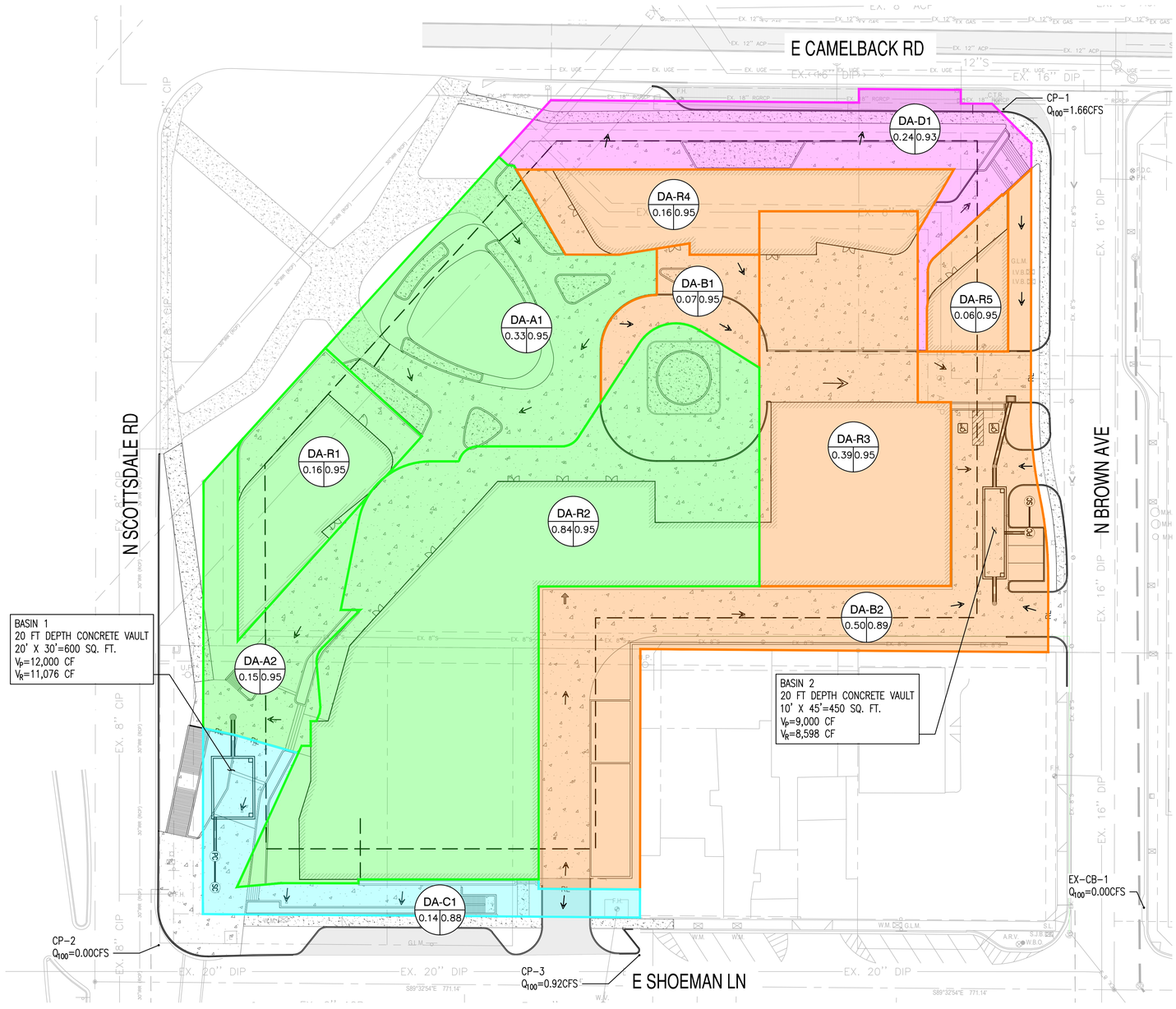
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CITY CENTER

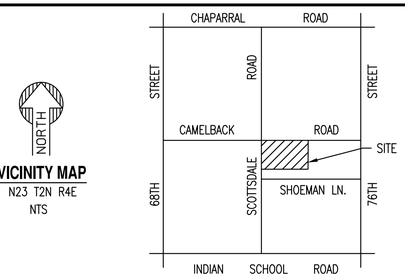
PROPOSED CONDITIONS DRAINAGE AREA MAP

7201 E. CAMELBACK ROAD, SCOTTSDALE, AZ 85251

A PORTION OF THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



VICINITY MAP



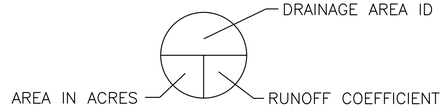
PROPOSED SITE DISCHARGES

	TOTAL AREA	Cwt	Intensity 10 yr	Q 10	Intensity 100 yr	Q 100	Control Point	Total flows Q10	Total flows Q100
	(ac)	(-)	(in/hr)	(cfs)	(in/hr)	(cfs)	CP#	(cfs)	(cfs)
	3.04	0.93	4.72	-	7.46	-	-	13.42	21.21
DA-A1	0.33	0.95	4.72	1.48	7.46	2.34	BASIN 1	6.64	10.49
DA-A2	0.15	0.95	4.72	0.67	7.46	1.06			
DA-R1	0.16	0.95	4.72	0.72	7.46	1.13			
DA-R2	0.84	0.95	4.72	3.77	7.46	5.95			
DA-B1	0.07	0.95	4.72	0.31	7.46	0.50	BASIN 2	5.15	8.14
DA-B2	0.50	0.89	4.72	2.10	7.46	3.32			
DA-R3	0.39	0.95	4.72	1.75	7.46	2.76			
DA-R4	0.16	0.95	4.72	0.72	7.46	1.13			
DA-R5	0.06	0.95	4.72	0.27	7.46	0.43			
DA-C1	0.14	0.88	4.72	0.58	7.46	0.92	CP-3	0.58	0.92
DA-D1	0.24	0.93	4.72	1.05	7.46	1.66	CP-1	1.05	1.66

	Q10 (cfs)			Q100 (cfs)			*Ultimate flows to public storm drain system* Q10 (cfs)		Q100 (cfs)	
Outfall	Existing	Proposed	Δ	Existing	Proposed	Δ	Existing	Proposed	Existing	Proposed
CP-1	1.21	1.05	-0.16	1.91	1.66	-0.25	4.64	1.63	7.34	2.58
CP-2	1.70	0.00	-1.70	2.69	0.00	-2.69				
CP-3	1.51	0.58	-0.93	2.39	0.92	-1.47				
EX-CB-1	0.22	0.00	-0.22	0.35	0.00	-0.35				

LEGEND

- DRAINAGE AREAS RETAINING ON BASIN 1
- DRAINAGE AREAS RETAINING ON BASIN 2
- DRAINAGE AREAS DRAINING TO E SHOEMAN LINE
- DRAINAGE AREAS DRAINING TO E CAMELBACK ROAD



DRAINAGE AREA KEY

NORTH

0' 30' 60' 90'

SCALE: 1" = 30'

PRELIMINARY NOT FOR CONSTRUCTION

SUSTAINABILITY ENGINEERING GROUP
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SHEET TITLE: **PROPOSED CONDITIONS DRAINAGE AREA MAP**

PAGE NO.: 1 OF 1

SHEET NO.: **P-DAM**

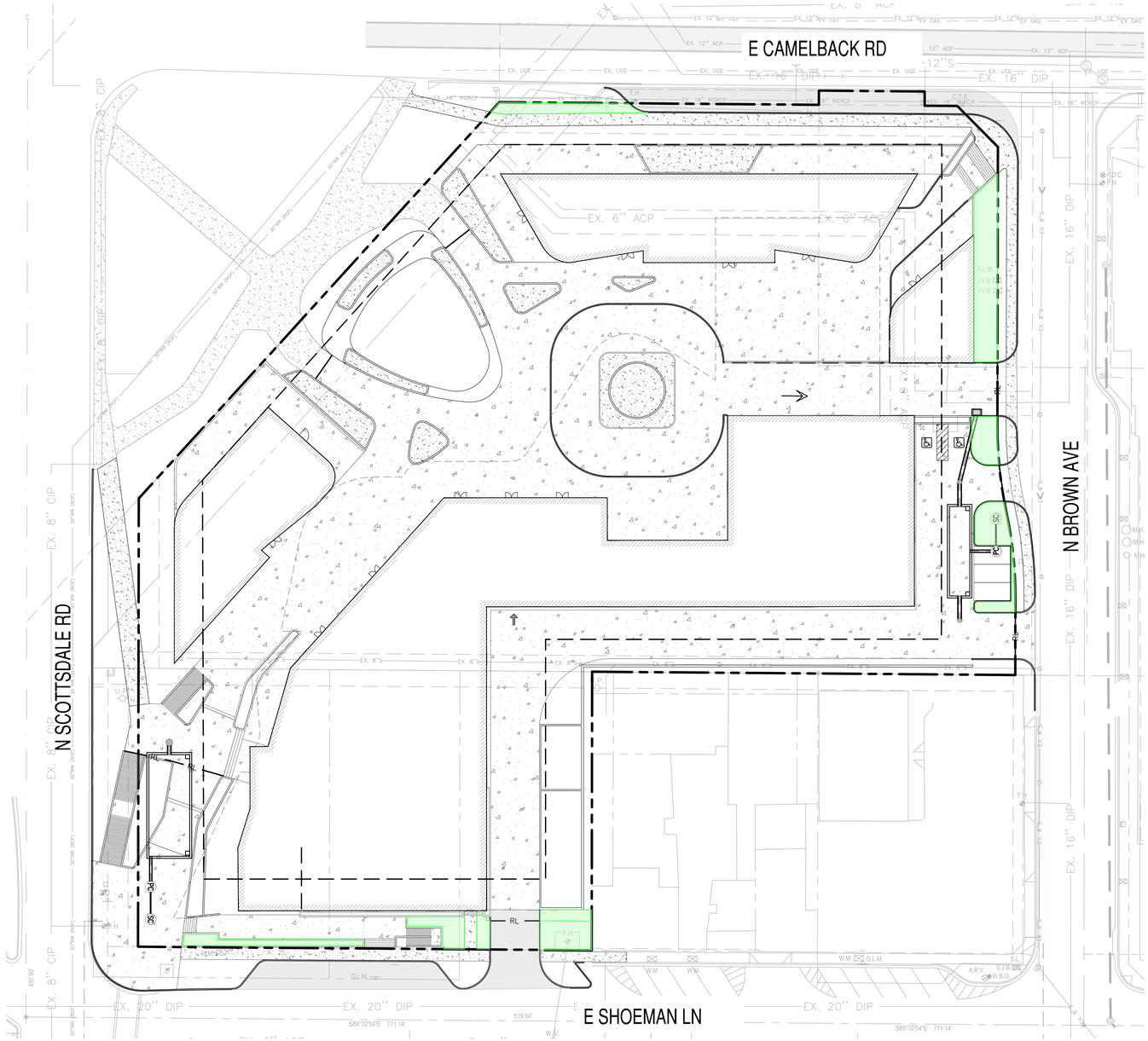
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PROPOSED CONDITIONS C_{WT}

7201 E. CAMELBACK ROAD, SCOTTSDALE, AZ 85251

A PORTION OF THE NORTHWEST QUARTER OF SECTION 23, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



WEIGHTED RUNOFF COEFFICIENT CALCULATIONS (Cwt)

EXISTING OVERALL SITE C_w				
	BUILDING/PAVED AREA	DESERT LANDSCAPE	TOTAL AREA	Cwt
C-VALUE	0.95	0.45	**3.08**	**0.86**
AREA (ac)	2.53	0.55		
EX-A1	0.26	0.02	0.28	0.91
EX-A2	0.38	0.00	0.38	0.95
EX-A3	0.69	0.00	0.69	0.95
EX-A4	0.97	0.20	1.17	0.86
EX-A5	0.19	0.01	0.20	0.93
EX-A6	0.04	0.02	0.06	0.78
EX-A7	0.00	0.30	0.30	0.45

WEIGHTED RUNOFF COEFFICIENT CALCULATIONS (Cwt)

PROPOSED OVERALL SITE C_w				
	BUILDING/PAVED AREA	DESERT LANDSCAPE	TOTAL AREA	Cwt
C-VALUE	0.95	0.45	**3.04**	**0.93**
AREA (ac)	2.96	0.07		
DA-A1	0.33	0.00	0.33	0.95
DA-A2	0.15	0.00	0.15	0.95
DA-B1	0.07	0.00	0.07	0.95
DA-B2	0.45	0.04	0.50	0.89
DA-C1	0.12	0.02	0.14	0.88
DA-D1	0.23	0.01	0.24	0.93
DA-R1	0.16	0.00	0.16	0.95
DA-R2	0.84	0.00	0.84	0.95
DA-R3	0.39	0.00	0.39	0.95
DA-R4	0.16	0.00	0.16	0.95
DA-R5	0.06	0.00	0.06	0.95

APPENDIX III

Grading & Drainage Plans

CIVIL ENGINEER
SUSTAINABILITY ENGINEERING GROUP
5240 N, 16TH STREET, SUITE 105
PHOENIX, ARIZONA 85016
PHONE: 480-237-2507
ATTN. ALI FAKIH

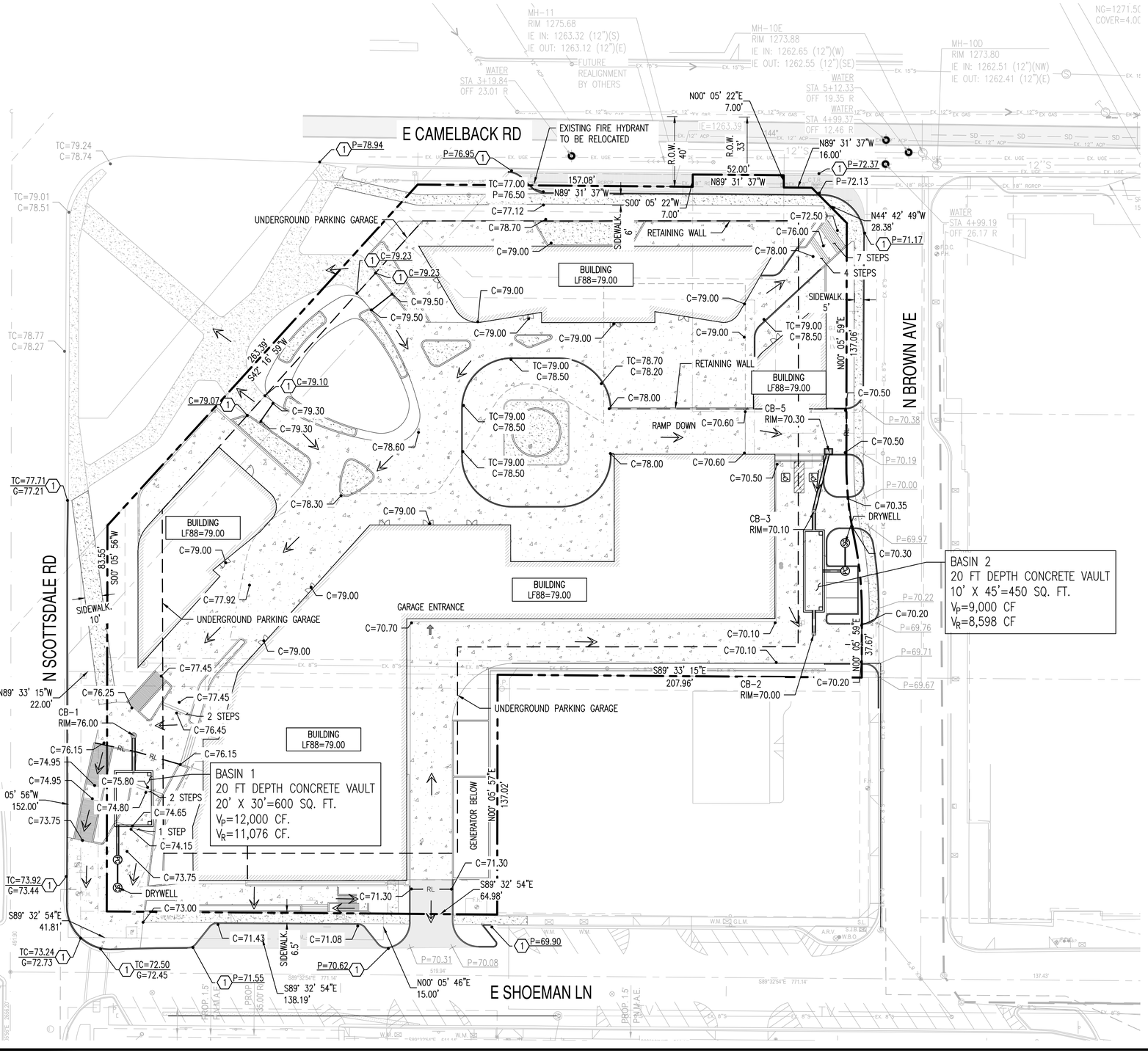
CLIENT:
SMITH GROUP
455 N., 3RD STREET, SUITE 250
PHOENIX, AZ 85004
602-265-2200

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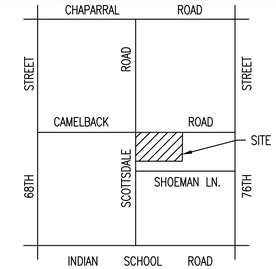
PRELIMINARY GRADING CONCEPT PLAN

7201 E. CAMELBACK ROAD, SCOTTSDALE, AZ 85251

A PORTION OF THE SOUTHWEST QUARTER OF SECTION 12, TOWNSHIP 2 NORTH, RANGE 4 EAST OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA.



VICINITY MAP



VICINITY MAP
S12 T2N R4E
NTS

PARCEL INFORMATION:

APN:A:	173-41-015A, 173-41-016B, 173-41-017A, 173-41-021A, 173-41-006A,
APN:B:	173-41-005 AND 173-41-004.
ZONING:	C-2-DO/C-3-DO
LOT SIZE:	3.16 ACRES (137,836 SF)
FLOOD ZONE:	ZONE X (0.2 % ANNUAL FLOOD HAZARD)

EXISTING LEGEND

PROPERTY LINE

TC=XX.XX P=XX.XX — EXISTING GRADES

PROPOSED LEGEND

TC=XX.XX G=XX.XX — TOP GUTTER ELEVATION. TC (TOP OF CURB) = G+0.5'

P=XX.XX — PAVEMENT ELEVATION

C=XX.XX — CONCRETE ELEVATION

FG=XX.XX — FINISH GROUND

RIDGE LINE

FLOW ARROW

NORTH

0' 30' 60' 90'

SCALE: 1" = 30'

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PROJECT
CITY CENTER RESIDENTIAL

LOCATION
7201 E. CAMELBACK ROAD, SCOTTSDALE, AZ, 85251.

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SHEET TITLE: **GRADING CONCEPT PLAN**

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