

**JSA CIVIL**  
Engineering | Planning | Management

**Crash Champions**

APN 501-44-993  
Autoshow Drive  
Surprise, Arizona

Wastewater Report

**PREPARED FOR**

Crash Champions  
601 Oakmont Lane, Suite 400  
Westmont, IL 60559

**PREPARED BY**

**JSA CIVIL**  
Engineering | Planning | Management

111 TUMWATER BLVD SE, SUITE B203  
TUMWATER, WA 98501  
CONTACT: CHARLIE SEVERS, PE  
PHONE: 360|515|9600

**SURPRISE APPROVAL**

THIS REPORT HAS BEEN REVIEWED FOR COMPLIANCE WITH CITY REQUIREMENTS PRIOR TO ISSUANCE OF PERMITS. THE CITY NEITHER ACCEPTS NOR ASSUMES ANY LIABILITY FOR ERRORS OR OMISSIONS. THIS COMPLIANCE APPROVAL SHALL NOT PREVENT THE CITY ENGINEER FROM REQUIRING CORRECTIONS OF ERRORS OR OMISSIONS IN REPORTS FOUND TO BE IN VIOLATION OF LAWS OR ORDINANCES.

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CITY OF SURPRISE ENGINEER

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DATE

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The technical material and data contained in this document were prepared under the supervision and direction of the undersigned, whose seal, as a professional engineer licensed to practice as such, is affixed below.



*Daniel Phillips*

March 10, 2025

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Prepared by Daniel Phillips

Date

*Charlie Severs*

March 10, 2025

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Reviewed by Charlie Severs

Date

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Appendix 1 - Topographic Survey

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## Introduction

Crash Champions is proposing to a new commercial development on a 3.52 acre parcel, APN 501-44-993, on the south side of Autoshow Drive in the City of Surprise. The project is located in the Prasada PAD, Prasada Gateway Village 3 (PGV-3).

## Project Description

### Project Name and Address

The project site is located on the south side of Autoshow Drive and the address is not yet assigned. The parcel is APN 501-44-993, and is Lot 1C of the AEO Powersports subdivision.

### Purpose

Crash Champions proposes to construct a ±22,000 square foot building that will house an autobody repair facility. A detached ±1,900 square foot covered car detailing and handwash station is proposed on the site also. The development proposes to connect a 6-inch sewer service to an existing 8-inch PVC sewer line located north of the centerline of Autoshow Drive.

### Location and Topography

The site is within a portion of the southwest quarter of Section 13, Township 3 North, Range 2 West, Gila and Salt River Meridian, City of Surprise, Maricopa County Arizona. See Figure 1 for a vicinity map. The site is undeveloped and is historically farm field. To the north and east of the site there is commercial development. To the west and south of the site remains undeveloped farm fields. The land slopes from northwest to southeast gently at slopes of less than 1%. An existing ditch runs from north to south on the east side of the site, discharging to the parcel to the south.



Figure 1: Vicinity Map

## Existing Conditions

The subject parcel is not known to have a sewer stub extended to it from the existing 8-inch PVC line that is located north of the centerline of Autoshow Drive. The existing 8-inch sewer line flows to the east, connecting to the existing 12-inch sewer line located in Autoshow Avenue. The existing 8-inch sewer line is shown in the topographic survey, see Appendix 1.

## Projected System Flows

The projected system flows are calculated from criteria in the City of Surprise Integrated Wastewater Master Plan Water Resources and the City of Surprise Integrated Water master Plan Water Infrastructure, and are summarized in the City of Surprise Wastewater Master Plan Preparation Guide. Per Table 1 of the Wastewater Master Plan Preparation Guide for a commercial development the wastewater flow is 1,300 gpd/acre. Per Table 2 the wastewater peaking factor for pipe less than 12 inches is 4. The project parcel is 3.52 acres.

## Wastewater Generation Calculations

It is assumed that for a commercial development that the wastewater discharge will occur over an eight-hour workday. The flows are adjusted from gpd to cfs assuming that they occur over eight rather than twenty-four hours.

The design flow is calculated for the 3.52 acre parcel:

$$Q_{\text{design}} = 3.52 \text{ acres} \times 1,300 \text{ gpd/acre} = 4,576 \text{ gpd} = 0.02 \text{ cfs (based on eight-hour day)}$$

The peak flow is calculated using a peaking factor of 4:

$$Q_{\text{peak}} = 4 \times 4,576 \text{ gpd} = 18,304 \text{ gpd} = 0.08 \text{ cfs (based on an eight-hour day)}$$

The project is calculated to add 4,576 gpd to the City's sanitary sewer system. The peak flow rate is calculated to be 18,304 gpd.

## Wastewater Collection System

The proposed wastewater collection system plans are enclosed in Appendix 2. The tie-in to the existing system is by a 6-inch tap into the existing 8-inch sewer line.

A 6-inch sewer service is run on to the site. The flattest slope of the 6-inch line is designed at 3.50%.

The capacity of the 6-inch sewer line is calculated using Manning's equation. Per the City of Surprise Engineering Development Standards, the n value to be used in Manning's equation is 0.013.

$$Q_{\text{capacity}} = (1.49/n) \times (\text{Flow Area}) \times (\text{Hydraulic Radius})^{2/3} \times (\text{Slope})^{1/2}$$

The capacity is calculated with the pipe flowing at a d/D of 0.8.

$$Q_{\text{capacity}} = 0.99 \text{ cfs}$$

$Q_{\text{capacity}}$  of 0.99 cfs <  $Q_{\text{peak}}$  of 0.08 cfs therefore 6-inch SDR35 PVC pipe at 3.5% slope has sufficient capacity

Per the City of Surprise Engineering Design Standards, the velocity in the pipe when flowing full (d/D = 0.8) must be between 2 fps and 9 fps.

$$\text{Velocity} = Q/A$$

Where A is the cross-sectional area of the flow at  $d/D = 0.8$ .

$$\text{Velocity} = 6.04 \text{ ft/sec}$$

The full-flow velocity of in the pipe is between 2 fps and 9 fps, therefore the flow has an acceptable velocity.

The project includes a car detail and handwash station. The station is under a canopy. The drainage from this station is collected in trench drains and conveyed to a 1,000-gallon oil-water separator. The oil-water separator discharges to sanitary sewer.

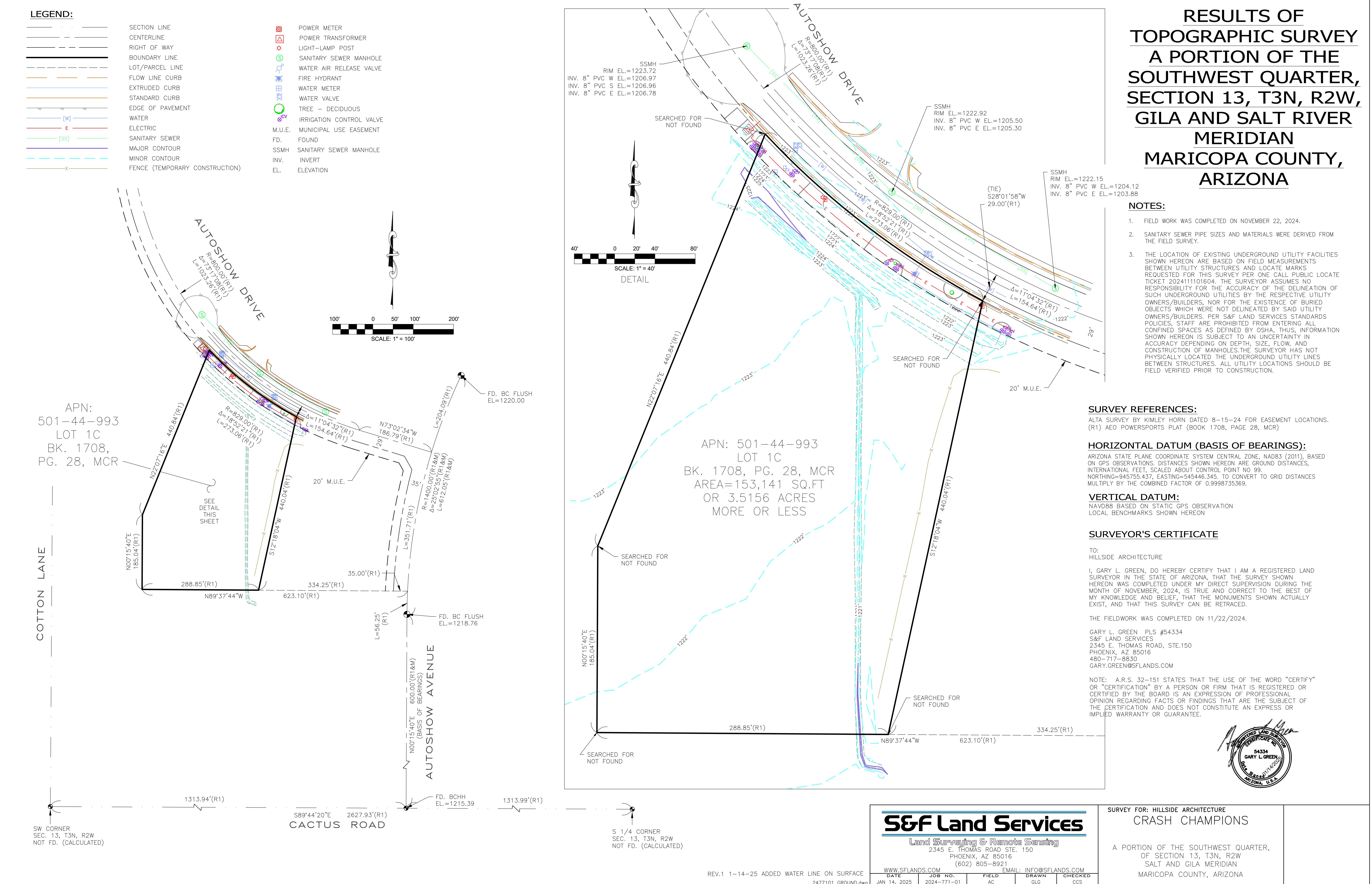
## **Summary and Conclusions**

The proposed project has been designed in conformance with the City of Surprise Engineering Development Standards. The existing 8-inch sanitary sewer line in Autoshow Drive is sufficiently sized to handle the expected sewer discharges from the project. The project's sewer service has sufficient capacity and slope to maintain velocities when flowing full between 2 fps and 9 fps.

**-End of Report-**



**RESULTS OF  
TOPOGRAPHIC SURVEY  
A PORTION OF THE  
SOUTHWEST QUARTER,  
SECTION 13, T3N, R2W,  
GILA AND SALT RIVER  
MERIDIAN  
MARICOPA COUNTY,  
ARIZONA**



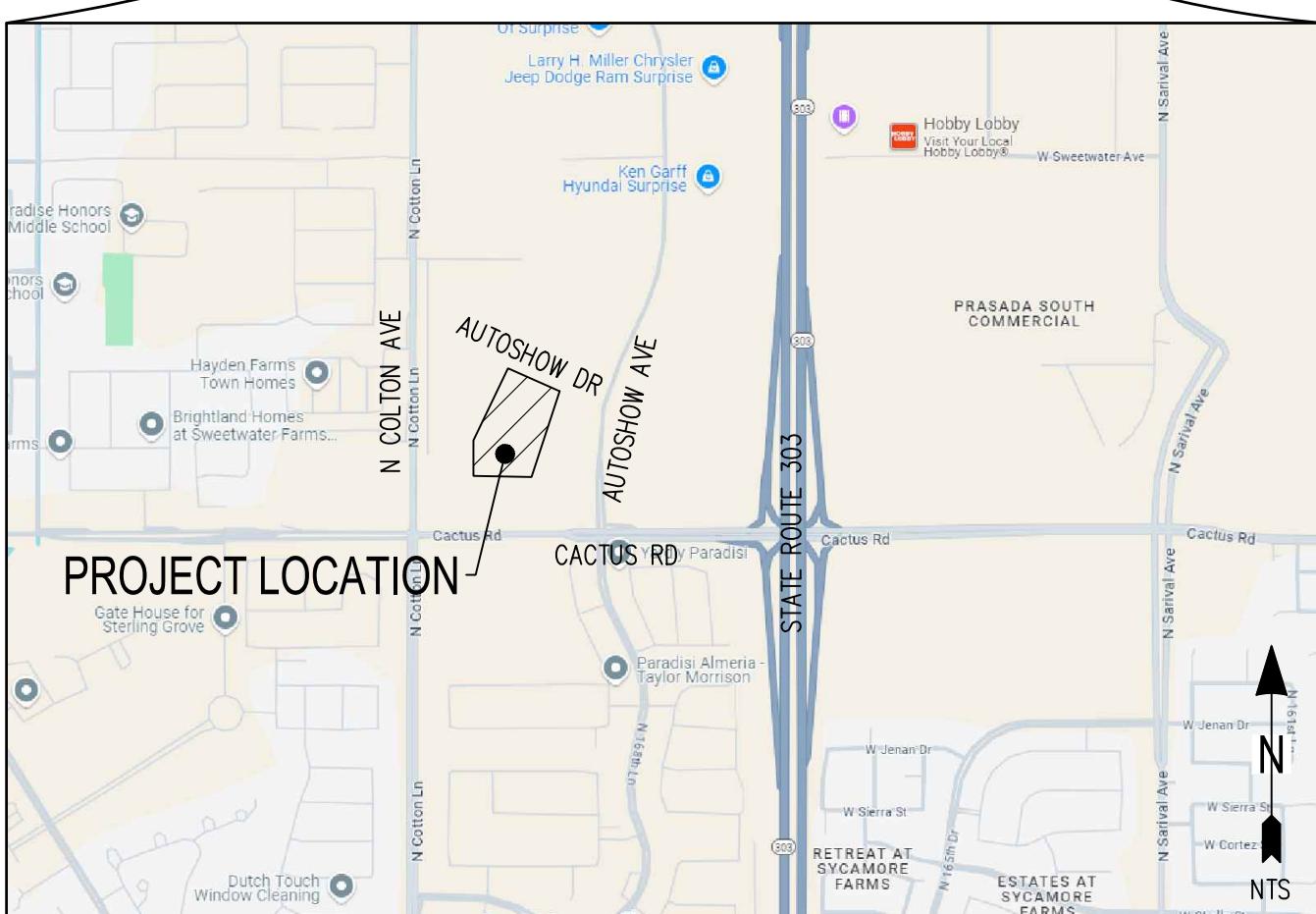
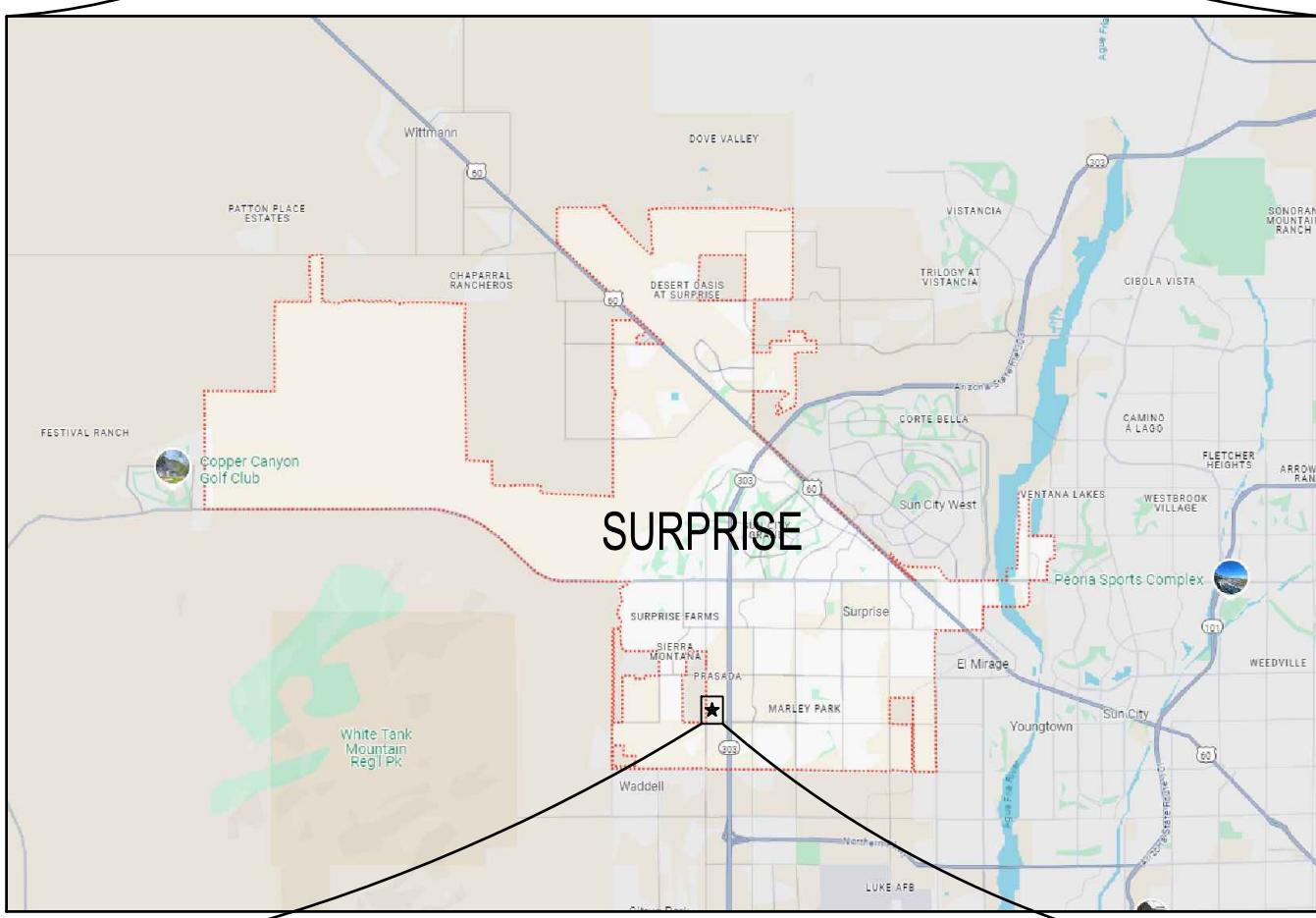
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**Appendix 2**  
Sanitary Sewer Plans

# CRASH CHAMPIONS

## CIVIL CONSTRUCTION DOCUMENTS

### SURPRISE, ARIZONA

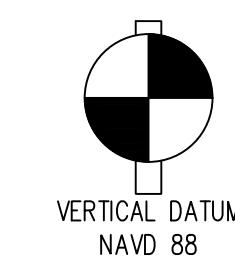


Rev. 10, 2025 11:59:12pm - User: CreaDahm  
N:2 - PROJECT121-HILLSIDE ARCHITECTURE.V21.044 CRASH CHAMPIONS SURPRISE, AZ,ACAD,V21.044 CV-01.DWG



#### CALL BEFORE YOU DIG

The contractor shall be fully responsible for the location and protection of all existing utilities. The contractor shall verify all utility locations prior to construction by calling the underground locate line at 811 a minimum of 48 hours prior to any excavation.



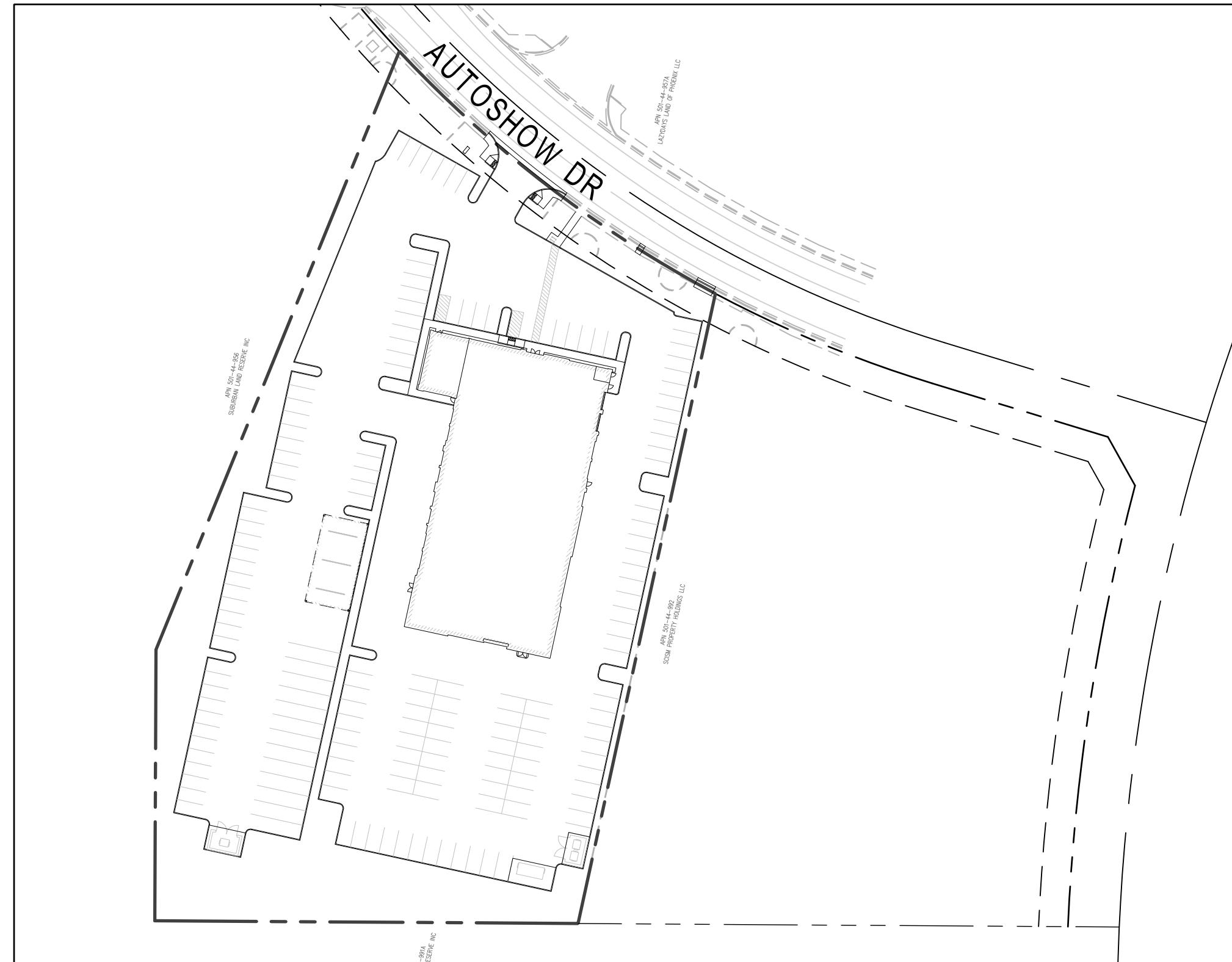
#### WATER/SEWER "AS-BUILT" CERTIFICATION

I HEREBY CERTIFY THAT THE "AS-BUILT" MEASUREMENTS AS SHOWN HEREIN WERE MADE UNDER MY SUPERVISION OR AS NOTED, AND ARE CORRECT TO THE BEST OF MY KNOWLEDGE AFTER DUE REVIEW. ADDITIONALLY, I HEREBY CERTIFY THAT ALL MAINS AND SERVICES HAVE BEEN INSTALLED WITHIN THE LIMITS OF EASEMENTS DEDICATED TO EPCOR WATER ARIZONA INC., OR INSIDE DEDICATED STREET RIGHT-OF-WAY OR PUBLIC UTILITY EASEMENT

THIS SET OF PLANS HAS BEEN REVIEWED FOR COMPLIANCE WITH CITY REQUIREMENTS PRIOR TO ISSUANCE OF PERMITS. THE CITY NEITHER ACCEPTS NOR ASSUMES ANY LIABILITY FOR ERRORS OR OMISSIONS. THE COMPLIANCE APPROVAL SHALL NOT PREVENT THE CITY ENGINEER FROM REQUIRING CORRECTIONS OF ERRORS OR OMISSIONS IN PLANS FOUND TO BE IN VIOLATION OF LAWS OR ORDINANCES

CITY OF SURPRISE ENGINEER DATE

OVERALL SITE PLAN  
1'=80'



#### SITE INFORMATION

ADDRESS: 303 AUTOMOTIVE DR  
SURPRISE, ARIZONA  
PARCEL: 501-44-993  
ACRES: ±3.52  
ZONING: PRASADA PAD  
PRASADA GATEWAY VILLAGE 3 (PGV-S)

#### LEGAL DESCRIPTION

LOT 1X, AEO POWERSPORTS, ACCORDING TO BOOK 1708 OF MAPS, PAGE 28, RECORDS OF MARICOPA COUNTY, ARIZONA

EXCEPT ALL MINERALS, COAL CARBONS, HYDROCARBONS, OIL, GAS, CHEMICAL ELEMENTS AND COMPOUNDS WHETHER IN SOIL, LIQUID OR GASEOUS FORM, ADD ALL STEAM AND OTHER FORMS OF THERMAL ENERGY ON, IN, OR UNDER THE LAND, AS RESERVED IN DEED RECORDED IN RECORDING NO. 20071019342, RECORDS OF MARICOPA COUNTY

#### HORIZONTAL DATUM

ARIZONA STATE PLANE COORDINATE SYSTEM CENTRAL ZONE NAD83 (2011), SEE TOPOGRAPHIC SURVEY

#### VERTICAL DATUM

NAVD88, SEE TOPOGRAPHIC SURVEY

#### BENCHMARKS

SEE TOPOGRAPHIC SURVEY

#### FEMA FLOOD ZONE

ZONE X  
MAP NUMBER: 0413C1660L  
EFFECTIVE DATE: OCTOBER 16, 2013

SHEET INDEX	
SHEET	TITLE
CV-01	COVER SHEET
GN-01	GENERAL NOTES & ABBREVIATIONS
GN-02	GENERAL NOTES
SV-01	TOPOGRAPHIC SURVEY
EC-01	EROSION CONTROL PLAN
EC-02	EROSION CONTROL NOTES & DETAILS
SP-01	SITE & PAVING PLAN
SP-02	HORIZONTAL CONTROL PLAN
SP-03	SITE & PAVING DETAILS
SP-04	SITE & PAVING DETAILS
SP-05	PUBLIC SAFETY SITE PLAN
CG-01	GRADING PLAN
CG-02	DETAILED GRADING PLAN
CG-03	GRADING DETAILS
UT-01	UTILITY PLAN
SD-01	STORMWATER PLAN
SD-02	STORMWATER DETAILS
SD-03	STORMWATER DETAILS
SD-04	STORMWATER DETAILS
WT-01	WATER PLAN
WT-02	WATER DETAILS
WT-03	WATER DETAILS
WT-04	WATER DETAILS
SS-01	SEWER PLAN
SS-02	SEWER DETAILS

REVISIONS

PROJECT NO.  
121.044  
DRAWN  
C. DAHM  
CHECKED  
D. PHILLIPS  
SUBMITTED DATES

JSA CIVIL  
Engineering | Planning | Management  
111 TUMWATER BLVD SE, SUITE B203  
TUMWATER, WA 98512

03/10/2025  
Revised Professional Engineer (C.P.E.)  
C.P.E. SEVER  
Date Signed: 03/10/2025  
Arizona, U.S.A.

CRASH CHAMPIONS  
COMMERCIAL DEVELOPMENT PROJECT  
303 AUTOSHOW DRIVE  
SURPRISE, ARIZONA

HillSide  
architectural

SHEET TITLE  
COVER SHEET  
SHEET  
CV-01  
FSXX-XXXX

#### ADEQ NPDES GENERAL CONSTRUCTION PERMIT & SWPPP NOTE

A NOTICE OF INTENT (NOI) TO DISCHARGE STORM WATER ASSOCIATED WITH CONSTRUCTION ACTIVITIES UNDER THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY'S 2020 CONSTRUCTION GENERAL PERMIT (CGP) SHALL BE SUBMITTED FOR AND SECURED BY THE CONTRACTOR PRIOR TO ANY CONSTRUCTION ACTIVITIES. A PROJECT SPECIFIC STORMWATER POLLUTION PREVENTION PLAN (SWPPP) SHALL BE PREPARED BY THE CONTRACTOR AND INCLUDED WITH THE NOI APPLICATION. THE CONTRACTOR IS REQUIRED TO PROVIDE A QUALIFIED EMPLOYEE(S) MEETING THE REQUIREMENTS OF THE CGP. THE CONTRACTOR SHALL NOTIFY ARIZONA DEQ TO ALL CHANGES/REVISIONS TO THE SWPPP THAT ARE COMPLETED BY THE CONTRACTOR. A COPY OF COVERAGE UNDER THE CGP AND SWPPP SHALL BE SUBMITTED TO THE CITY OF SURPRISE PRIOR TO START OF CONSTRUCTION ACTIVITIES BY THE CONTRACTOR. THE CONTRACTOR IS REQUIRED TO PREPARE AND SUBMIT ALL REQUIRED REPORTS TO THE DEQ AND SUBMIT FOR THE NOTICE OF TERMINATION (NOT) ONCE THE SITE IS FULLY STABILIZED.

#### DEWATERING NOTE

THE CONTRACTOR SHALL UTILIZE APPROPRIATE DEWATERING SYSTEMS AND TECHNIQUES TO MAINTAIN THE EXCAVATED AREA SUFFICIENTLY DRY FROM GROUNDWATER AND/OR SURFACE RUNOFF SO AS NOT TO ADVERSELY AFFECT CONSTRUCTION PROCEDURES OR CAUSE EXCESSIVE DISTURBANCE OF UNDERLYING NATURAL GROUND. THE CONTRACTOR SHALL REPAIR ANY DAMAGE RESULTING FROM THE FAILURE OF THE DEWATERING OPERATIONS OR FROM A FAILURE TO MAINTAIN ALL THE AREAS OF WORK IN A SUITABLE DRY CONDITION. UNLESS OTHERWISE SPECIFIED, CONTINUE DEWATERING UNINTERRUPTED UNTIL THE STRUCTURES, PIPES, AND APPURTENANCES TO BE BUILT HAVE BEEN PROPERLY INSTALLED, BACKFILLED, AND COMPACTED, WHERE SUBGRADE MATERIALS ARE UNABLE TO MEET THE SUBGRADE DENSITY REQUIREMENTS DUE TO IMPROPER DEWATERING TECHNIQUES, REMOVE AND REPLACE THE MATERIALS AS DIRECTED BY THE ENGINEER.

#### TRAFFIC CONTROL NOTE

THE CONTRACTOR SHALL PROVIDE ALL FLAGGERS, SIGNS, AND OTHER TRAFFIC CONTROL DEVICES AS NECESSARY TO COMPLETE THE WORK. THE CONTRACTOR SHALL ERECT AND MAINTAIN ALL CONSTRUCTION SIGNS, WARNING SIGNS, DETOUR SIGNS, AND OTHER TRAFFIC CONTROL DEVICES NECESSARY TO WARN AND PROTECT THE PUBLIC AT ALL TIMES FROM INJURY OR DAMAGE AS A RESULT OF THE CONTRACTOR'S OPERATIONS THAT MAY OCCUR IN HIGHWAYS, ROADS, OR STREETS. NO WORK SHALL BE DONE ON OR ADJACENT TO THE ROADWAY UNTIL ALL NECESSARY SIGNS AND TRAFFIC CONTROL DEVICES ARE IN-PLACE. THE CONTRACTOR SHALL NOT CLOSE DOWN THROUGH TRAFFIC ON CITY/COUNTY/STATE ROADS. ACCESS FOR BOTH VEHICULAR AND PEDESTRIAN TRAFFIC SHALL BE MAINTAINED AT ALL TIMES, EXCEPT WHERE THE CONTRACTOR OBTAINS PERMISSION TO TEMPORARILY CLOSE A SIDEWALK. THE CONTRACTOR SHALL SUBMIT A TRAFFIC CONTROL PLAN TO THE CITY OF SURPRISE AND EPCOR FOR REVIEW AND APPROVAL PRIOR TO STARTING ANY WORK IN THE RIGHT-OF-WAY.

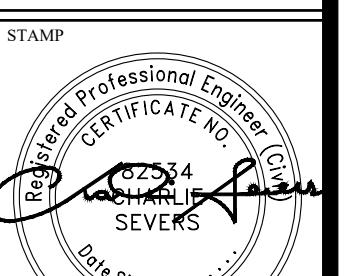


<b>GENERAL ENGINEERING NOTES:</b>					<b>GENERAL ENGINEERING NOTES (CONTINUED):</b>					<b>GENERAL TEMPORARY TRAFFIC CONTROL NOTES:</b>					REVISIONS
<p>1. ALL CONSTRUCTION MUST CONFORM TO MARICOPA ASSOCIATION OF GOVERNMENT (MAG) SPECIFICATIONS AND DETAILS AND LATEST REVISIONS UNLESS OTHERWISE STATED ON PLANS.</p> <p>2. THE ENGINEER WILL NOT BE RESPONSIBLE FOR CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, OR PROCEDURES OR FOR SAFETY PRECAUTIONS OR PROGRAMS UTILIZED IN CONNECTION WITH THE WORK, AND THEY WILL NOT BE RESPONSIBLE FOR THE CONTRACTOR'S FAILURE TO CARRY OUT THE WORK IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.</p> <p>3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR IDENTIFYING ALL OVERHEAD AND UNDERGROUND UTILITY LOCATIONS WHERE CONSTRUCTION OCCURS. SPECIAL CARE SHALL BE TAKEN TO ENSURE THAT ALL UTILITIES ARE AVOIDED. UTILITY LOCATIONS SHOWN ON THE PLANS ARE APPROXIMATE AND NOT FOR CONSTRUCTION PURPOSES. ANY EXISTING UTILITIES SHALL BE REPAVED AND OR REPLACED AT THE CONTRACTOR'S EXPENSE. THE CONTRACTOR SHALL COMPLY WITH ALL CURRENT ARIZONA UNDERGROUND FACILITIES LAWS (ARIZONA REVISED STATUTES TITLE 40, CHAPTER 2, ARTICLE 6.3, SECTION 40-360.21-32). CALL ARIZONA 811 FOR FIELD LOCATION BY DIAL 811.</p> <p>4. THE CITY OF SURPRISE ENGINEERING SERVICES OF PUBLIC WORKS SHALL BE NOTIFIED FORTY-EIGHT (48) HOURS PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION WORK AT 623-222-6150.</p> <p>5. THE ENGINEER AND APPLICABLE AGENCY MUST APPROVE, PRIOR TO CONSTRUCTION, ANY ALTERATION OR VARIATION FROM THESE PLANS. ANY VARIATION FROM THESE PLANS SHALL BE PROPOSED AND RESUBMITTED FOR REVIEW AND APPROVAL.</p> <p>6. THE CONTRACTOR SHALL PROTECT AND MAINTAIN ALL EXISTING UTILITIES ON THE SITE. ANY DAMAGE TO EXISTING UTILITIES, WHETHER SHOWN OR NOT ON THE DRAWING, SHALL BE REPAVED/REPLACED AT THE CONTRACTOR'S EXPENSE. EXISTING SURFACE FEATURES AND FENCING SHALL BE REPLACED IN KIND.</p> <p>7. ANY INSPECTION BY THE CITY, COUNTY, OR THE ENGINEER, SHALL NOT IN ANY WAY RELIEVE THE CONTRACTOR FROM ANY OBLIGATION TO PERFORM THE WORK IN STRICT COMPLIANCE WITH THE APPLICABLE CODES AND AGENCY REQUIREMENTS.</p> <p>8. THE CONTRACTOR IS TO LOCATE ALL EXISTING LANDSCAPING, LANDSCAPING IRRIGATION LINES, PROPERTY MONUMENTS, FENCING OR SURFACE FEATURES PRIOR TO CONSTRUCTION. ANYTHING DISTURBED DURING CONSTRUCTION SHALL BE REPLACED IN KIND AT THE CONTRACTOR'S EXPENSE.</p> <p>9. NOTHING CONTAINED IN THE CONTRACT DOCUMENTS SHALL CREATE, NOR SHALL BE CONSTRUED TO CREATE, ANY CONTRACTUAL RELATIONSHIP BETWEEN THE ENGINEER AND THE CONTRACTOR OR ANY SUBCONTRACTOR.</p> <p>10. ALL CONSTRUCTION WATER USED WITHIN THE CITY OF SURPRISE WATER SERVICE AREA REQUIRES APPROVAL BY THE CITY OF SURPRISE PUBLIC WORKS DEPARTMENT AND MAY BE SUBJECT TO VOLUME AND TIME RESTRICTIONS. PLEASE SEE THE CITY OF SURPRISE CONSTRUCTION WATER GUIDELINES FOR ADDITIONAL INFORMATION. THE GUIDELINES CAN BE OBTAINED FROM THE PUBLIC WORKS DEPARTMENT AT 623-222-7000.</p> <p>11. TRAFFIC CONTROL SHALL BE MAINTAINED IN ACCORDANCE WITH MAG SPECIFICATION 401, THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES, AND THE "TEMPORARY WORK ZONE TRAFFIC MANAGEMENT POLICY" (LATEST EDITION).</p> <p>12. PRIOR TO FINAL APPROVAL AND ACCEPTANCE OF THE WORK, THE DEVELOPER/CONTRACTOR WILL BE REQUIRED TO CLEAN AND REPAIR ADJACENT (OFF-PROJECT) ROADWAYS USED OR DAMAGED DURING THE COURSE OF CONSTRUCTION.</p>					<p>13. EMERGENCY VEHICLE ACCESS (E.V.A.) MUST BE PROVIDED BY THE DEVELOPER/CONTRACTOR THROUGHOUT THE PROJECT SITE. E.V.A. ROADS AND SIGNAGE SHALL BE MAINTAINED BY THE DEVELOPER/CONTRACTOR AT ALL TIMES. SIGNAGE SHALL BE POSTED AT THE POINT OF ENTRY TO THE SITE AND AT ALL LOCATIONS WHERE A CHANGE IN DIRECTION OCCURS.</p> <p>14. THE PLANS SHALL COMPLY WITH THE AMERICANS WITH DISABILITIES ACT'S ACCESSIBILITY GUIDELINES, AS PUBLISHED IN THE FEDERAL REGISTER ON SEPTEMBER 15, 2010.</p>					<p>1. TEMPORARY TRAFFIC CONTROL SHALL BE PLACED AND MAINTAINED BY A COMPANY CERTIFIED BY THE CITY OF SURPRISE FOR TEMPORARY TRAFFIC CONTROL. ALL TEMPORARY TRAFFIC CONTROL SHALL BE PLACED AND MAINTAINED IN ACCORDANCE WITH THE MOST CURRENT REVISION OF THE CITY OF SURPRISE TEMPORARY WORK ZONE TRAFFIC MANAGEMENT POLICY OR AS DIRECTED BY THE CITY TRAFFIC ENGINEER OR DESIGNEE.</p> <p>2. WHERE LANES ARE RESTRICTED, RESTRICTION OF THE LANES SHALL BE ACCOMPLISHED BY USING REFLECTIVE VERTICAL PANELS. CONES SHALL NOT BE CONSIDERED ACCEPTABLE DEVICES FOR TRAFFIC DELINATION ON ARTERIAL OR COLLECTOR STREETS.</p> <p>3. ALL TRAFFIC CONTROL SIGNS SHALL BE VIP DIAMOND GRADE SHEETING (TYPE IX) OR APPROVED EQUAL WHEN IN USE DURING NIGHTTIME HOURS.</p> <p>4. ADJUSTMENTS TO THE DETAILS OF THESE TRAFFIC CONTROL PLANS AND REQUIREMENTS MAY BE NECESSARY DUE TO CONSTRUCTION ACTIVITIES. ALL ADJUSTMENTS SHALL BE APPROVED BY THE CITY TRAFFIC ENGINEER OR DESIGNEE PRIOR TO IMPLEMENTATION.</p> <p>5. THE ROADWAY SURFACE SHALL BE SWEEPED, AND CLEANED BY AIR-JET BLOWING, IMMEDIATELY PRIOR TO PLACEMENT OF TEMPORARY MARKINGS.</p> <p>6. WHEN TRAFFIC CONTROL DEVICES ARE NOT IN USE, THEY SHALL BE MOVED AT LEAST THIRTY (30) FEET FROM THE EDGE OF TRAVEL WAY AND TURNED AWAY SO THE LEGENDS ARE NOT VISIBLE TO THE TRAVELING MOTORISTS. WHERE A THIRTY (30) FOOT DISTANCE CANNOT BE ACHIEVED, THE DEVICES SHALL BE MOVED AWAY AS FAR AS POSSIBLE WITHOUT INTERFERING WITH THE SIDEWALK, DRIVEWAYS OR OTHER FACILITIES. NO TRAFFIC CONTROL DEVICES SHALL BE LEFT IN THE MEDIAN.</p> <p>7. SPEED LIMIT REDUCTION SIGNING IS SUBJECT TO REVIEW AND CHANGE BY THE CITY TRAFFIC ENGINEER OR DESIGNEE AS DICTATED BY FIELD CONDITIONS.</p>					
DATE REVISED: 1/2022  <b>GENERAL ENGINEERING NOTES</b>			DETAIL NO: 2-04 SHEET 1 OF 2		DATE REVISED: 1/2022  <b>GENERAL ENGINEERING NOTES</b>			DETAIL NO: 2-04 SHEET 2 OF 2		DATE REVISED: 1/2022  <b>GENERAL TEMPORARY TRAFFIC CONTROL NOTES</b>			DETAIL NO: 2-12		
<b>GENERAL GRADING NOTES:</b> <p>1. CONTRACTOR TO FOLLOW RECOMMENDATIONS LISTED IN THE PROJECT SPECIFIC GEOTECHNICAL REPORT. SHOULD ANY CONFLICTS ARISE BETWEEN THE SOILS INVESTIGATION REPORT AND THESE GRADING PLANS, THE CIVIL ENGINEER SHALL BE CONTACTED FOR CLARIFICATION.</p> <p>2. THE ENGINEER MAKES NO REPRESENTATION OR GUARANTEE REGARDING EARTHWORK QUANTITIES OR THAT THE EARTHWORK FOR THIS PROJECT WILL BALANCE DUE TO UNFORESEEN FIELD CONDITIONS.</p> <p>3. THE ENGINEER WILL PERFORM FIELD SURVEYS FOR PAD ELEVATION CERTIFICATIONS, UPON NOTIFICATION BY THE GRADING CONTRACTOR, THAT THE PADS ARE COMPLETE AND READY FOR CERTIFICATION. IT IS UNDERSTOOD THAT THE CERTIFICATION PROVIDES ONLY A REPRESENTATIVE ELEVATION OF THE AVERAGE GRADE OF EACH LOT, BUILDINGS, OR UNIT PAD, AND SHALL NOT BE CONSTRUED TO INCLUDE YARD AND STREET SUBGRADE CERTIFICATION OR CERTIFICATION THAT THE ENTIRE PAD IS LEVEL. THAT IT WAS CONSTRUCTED IN THE DESIGNED LOCATION OR WAS GRADED TO THE CROSS-SECTION SET FORTH ON THE PLANS OR AS DESIGNATED IN THE SOILS REPORT.</p> <p>4. AN APPROVED GRADING AND DRAINAGE PLAN MUST BE ON THE JOB SITE AT ALL TIMES. DEVIATIONS FROM THIS PLAN MUST BE PRECEDED BY AN APPROVED PLAN REVISION.</p> <p>5. ALL DRAINAGE FACILITIES SUCH AS SWALES, INTERCEPTOR DITCHES, PIPES, PROTECTIVE BERMS, BARRIER WALLS, CONCRETE CHANNELS, OR OTHER MEASURES DESIGNED TO PROTECT BUILDINGS FROM STORM RUNOFF MUST BE CONSTRUCTED PRIOR TO CONSTRUCTION OF ANY BUILDINGS.</p> <p>6. A GRADING PERMIT IS REQUIRED. BEFORE A GRADING PERMIT IS ISSUED BY THE CITY OF SURPRISE ENGINEERING SERVICES, THE CONTRACTOR MUST FIRST OBTAIN A DUST CONTROL PERMIT FROM MARICOPA COUNTY ENVIRONMENTAL SERVICES-AIR QUALITY DIVISION.</p> <p>7. HAUL PERMITS, WHEN REQUIRED, MUST BE OBTAINED PRIOR TO OR CONCURRENTLY WITH THE GRADING AND DRAINAGE PERMIT.</p> <p>8. A SEPARATE PERMIT IS NECESSARY FOR ANY OFFSITE CONSTRUCTION.</p> <p>9. CONTRACTOR SHALL PROVIDE LEVEL BOTTOM IN ALL RETENTION BASINS AT ELEVATIONS AS SHOWN ON THE PLANS. SIDE SLOPES IN ALL RETENTION BASINS SHALL NOT EXCEED 4:1 UNLESS NOTED OTHERWISE ON THE PLANS.</p> <p>10. DRYWELLs, WHEN REQUIRED, MUST BE DRILLED A MINIMUM OF TEN (10) FEET INTO PERMEABLE POROUS STRATA OR PERCOLATION TESTS WILL BE REQUIRED. THE CIVIL INSPECTOR MUST BE PRESENT BEFORE BACKFILL OR WELL PIPES ARE PLACED WITHIN ANY DRYWELLs.</p> <p>THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR REGISTERING THE DRYWELLs SHOWN ON THE PLAN WITH THE ARIZONA DEPARTMENT OF ENVIRONMENTAL QUALITY (ADEQ).</p> <p>11. THE OWNER/DEVELOPER SHALL BE RESPONSIBLE FOR MAINTENANCE OF DRYWELLs SHOWN ON THE PLAN.</p> <p>12. ACCESS BARRIERS/TRASH RACKS ARE REQUIRED ON THE EXPOSED ENDS OF ALL STORM DRAINS EIGHTEEN (18) INCHES IN DIAMETER AND GREATER. SEE DETAILS 5-04A, 5-04B, AND 5-04C. REFER TO MAG DETAILS 502-1 AND 502-2 FOR PIPES LESS THAN THIRTY (30) INCHES IN DIAMETER.</p> <p>13. SOIL COMPACTION TEST RESULTS MUST BE SUBMITTED TO THE CITY OF SURPRISE ENGINEERING SERVICES FOR BUILDING PADS THAT HAVE ONE (1) FOOT OR MORE OF FILL MATERIAL INDICATED.</p>					<b>GENERAL GRADING NOTES (CONTINUED):</b> <p>14. A PAD CERTIFICATION LETTER FOR EACH PHASE OR PARCEL MUST BE SUBMITTED TO THE CITY OF SURPRISE ENGINEERING SERVICES BY THE DEVELOPER STATING THAT EACH PAD HAS BEEN BUILT IN ACCORDANCE WITH THE SOILS INVESTIGATIVE REPORT AND CITY OF SURPRISE REQUIREMENTS.</p> <p>15. APPROVAL OF THESE PLANS SHALL NOT PREVENT THE CITY FROM REQUIRING THE CORRECTION OF ERRORS IN THE PLANS WHERE SUCH ERRORS ARE SUBSEQUENTLY FOUND TO BE IN VIOLATION OF ANY LAW OR ORDINANCE.</p> <p>16. ALL CONSTRUCTION SITES WITH DISTurbed AREAS OF ONE (1) ACRE OR GREATER SHALL HAVE A STORM WATER POLLUTION PREVENTION PLAN (SWPPP) AND ALL ASSOCIATED DOCUMENTS (SEE ENGINEERING AND PERMITTING APPLICATION PACKET).</p> <p><b>CAUTION REGARDING STORM DRAIN PIPES:</b> CONTRACTOR IS RESPONSIBLE FOR PROTECTING THE PIPE FROM DAMAGE DURING THE CONSTRUCTION STAGE. THE COVER ON THE DRAINAGE PIPE IS DESIGNED FOR FINAL GRADE; THEREFORE, EXTRA CARE MUST BE EXERCISED DURING THE CONSTRUCTION PHASE TO MAINTAIN COVER OVER PIPES.</p> <p><b>NOTE REGARDING CMU AND RETAINING WALLS:</b> THE CITY OF SURPRISE REQUIRES ALL WALLS BE APPROVED BY THE COMMUNITY DEVELOPMENT DEPARTMENT (623-222-3000). BUILDING PERMITS AND INSPECTIONS ARE REQUIRED PER THE INTERNATIONAL BUILDING CODE.</p>										
DATE REVISED: 1/2022  <b>GENERAL GRADING NOTES</b>			DETAIL NO: 2-05 SHEET 1 OF 2		DATE REVISED: 1/2022  <b>GENERAL GRADING NOTES</b>			DETAIL NO: 2-05 SHEET 2 OF 2							
															
SHEET TITLE <b>GENERAL NOTES</b>															
SHEET <b>GN-02</b>															
FSXX-XXXX															

REVISIONS

PROJECT NO.  
121044  
DRAWN  
C. DAHM  
CHECKED  
D. PHILLIPS  
SUBMITTAL DATES  
OTB DATE  
-

**JSA CIVIL**  
Engineering | Planning | Management  
111 TUMWATER BLVD SE, SUITE B203  
TUMWATER, WA 98512

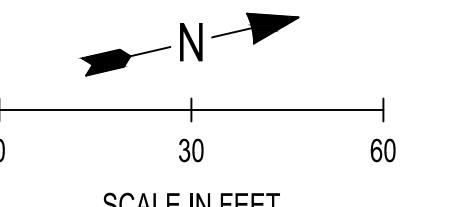


03/10/2025

CRASH CHAMPIONS  
COMMERCIAL DEVELOPMENT PROJECT  
303 AUTOSHOW DRIVE  
SURPRISE, ARIZONA

**HillSide**  
architectureINC

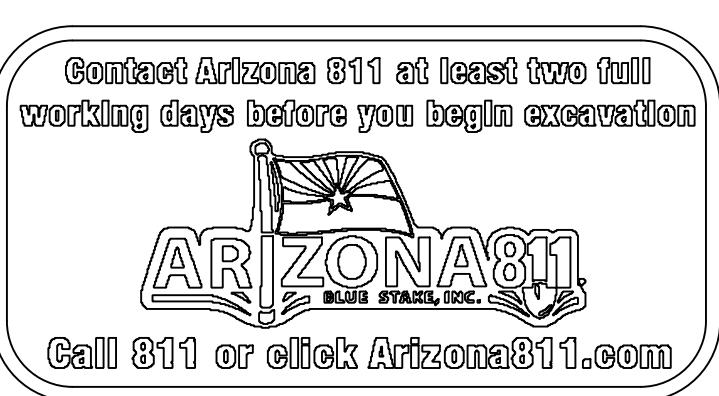
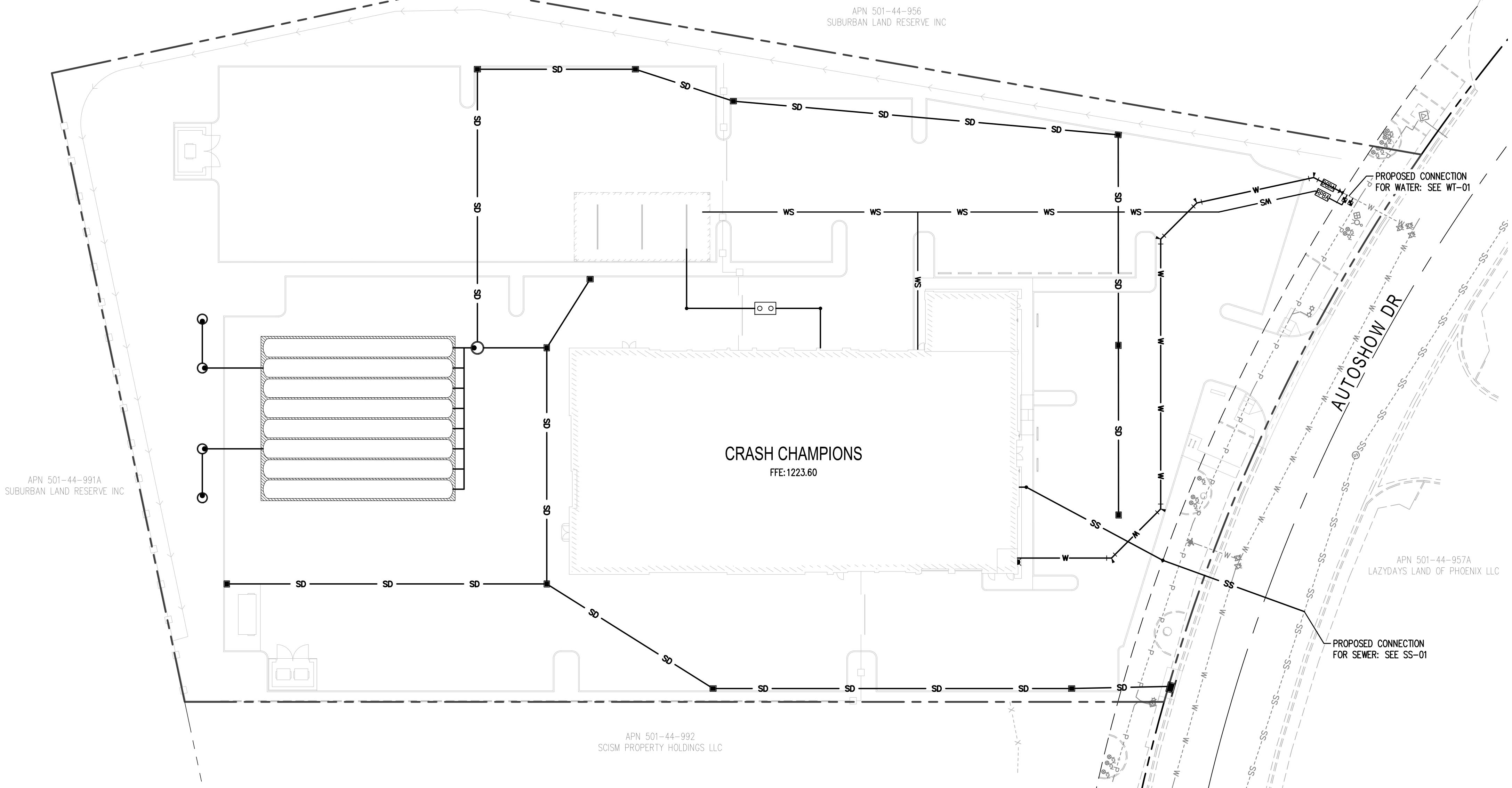
SHEET TITLE  
UTILITY PLAN  
SHEET  
UT-01  
FSXX-XXXX



SCALE IN FEET

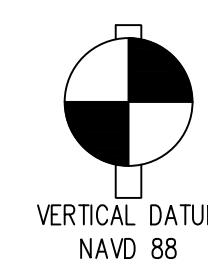
## LEGEND

- PROPERTY LINE
- ==== EXISTING CURB & GUTTER
- - - - EXISTING WATER LINE
- - - - EXISTING POWER LINE
- - - - EXISTING SEWER LINE
- CV EXISTING IRRIGATION CONTROL VALVE
- \* EXISTING FIRE HYDRANT
- 田 EXISTING WATER METER
- ◎ EXISTING MANHOLE
- EXISTING LUMINAIRE
- △ EXISTING TRANSFORMER
- ||||| PROPOSED BUILDING
- CCCC CEMENT CONCRETE BARRIER CURB
- SD STORM LINE
- W WATER LINE
- WS WATER SERVICE LINE
- SS SEWER LINE

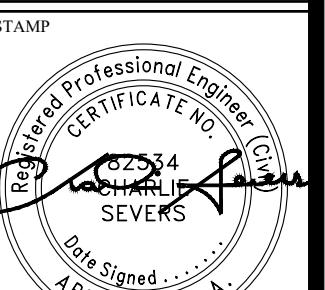


## CALL BEFORE YOU DIG

The contractor shall be fully responsible for the location and protection of all existing utilities. The contractor shall verify all utility locations prior to construction by calling the underground locate line at 811 a minimum of 48 hours prior to any excavation.

VERTICAL DATUM  
NAVD 88

REVISIONS	
PROJECT NO.	121.044
DRAWN	C. DAHM
CHECKED	D. PHILLIPS
SUBMITTAL DATES	
OTD DATE	-



STAMP



03/10/2025

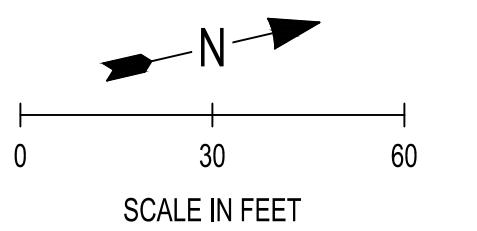
CRASH CHAMPIONS  
COMMERCIAL DEVELOPMENT PROJECT  
303 AUTOSHOW DRIVE  
SURPRISE, ARIZONA

HillSide  
architecture inc

SHEET TITLE  
SEWER PLAN

SHEET  
SS-01

FSXX-XXXX



#### LEGEND

- PROPERTY LINE
- EXISTING CURB & GUTTER
- EXISTING SEWER LINE
- EXISTING SEWER MANHOLE
- PROPOSED BUILDING
- CEMENT CONCRETE BARRIER CURB
- STORM LINE
- WATER LINE
- WATER SERVICE LINE
- ASTM D3034 SDR35 PVC SEWER LINE  
PER MAG STANDARD SPECIFICATION SECTION 745  
UNLESS OTHERWISE NOTED
- SANITARY SEWER CLEANOUT  
PER MAG DETAIL NO. 441: SEE SS-02

#### GENERAL NOTES

1. THE PIPE BEDDING AND BACKFILL FOR SEWER LINE CONSTRUCTION SHALL CONFORM TO MAG SPECIFICATIONS 601 AND 615, EXCEPT AS MODIFIED BELOW.
- A. ALL SEWER LINES INSTALLED WITHIN THE CITY OF SURPRISE SHALL BE BEDDED FROM THE BOTTOM OF THE EXCAVATION TO ONE FOOT ABOVE THE PIPE WITH 100% ABC MATERIAL, AS OUTLINED IN MAG SPECIFICATION 702. THE INITIAL BEDDING UNDER THE PIPE IS REQUIRED FOR ALL PIPES WITH A DIAMETER OF EIGHT INCHES OR LARGER AND IN ALL CASES WHERE ROCKS LARGER THAN 1½ INCHES IN DIAMETER ARE ENCOUNTERED ALONG THE TRENCH BOTTOM.
2. MARKER BALLS SHALL BE GREEN AND INSTALLED AT ALL SEWER LINE FITTINGS AND EVERY 100 FEET IF THE DISTANCE BETWEEN FITTINGS IS GREATER THAN 100 FEET.
3. ALL LINES SHALL BE MARKED WITH MARKING TAPE LOCATED ONE FOOT ABOVE THE TOP OF THE PIPE. MARKING TAPE FOR WASTEWATER LINES SHALL BE GREEN AND LABELED "CAUTION: SANITARY SEWER LINE" OR APPROVED EQUAL.
4. ALL MARKER BALLS AND MARKING TAPE SHALL BE INSTALLED PER CITY OF SURPRISE STANDARD DETAIL 7-03: SEE SS-02

