CITY OF SURPRISE
Planning and Zoning Commission
16000 N. Civic Center Plaza
Surprise, AZ 85374
Thursday, May 21, 2026 @ 6:00 PM
COUNCIL CHAMBERS

A. Call To Order
B. Roll Call
C. Pledge of Allegiance
D. Current Events and Reports
E. Staff Reports
F. Planning and Zoning Commission Agenda:

CONSENT AGENDA:

Approval of the consent agenda may be by one motion and a passing vote by the Commission. There will be no separate discussion on these items unless a Commissioner requests such. The requested item for discussion will be removed from the consent agenda and considered in its normal sequence on the agenda.

1.	Internal	Consideration and action to approve or disapprove the May 7, 2026, Planning and Zoning Commission Meeting Minutes.	Community Development

REGULAR AGENDA ITEM - PUBLIC HEARING:

2.	District 1	Consideration and action regarding a Conditional Use Permit with Site Plan for 'vehicle service: minor repair' use for a Brake Masters facility on a site generally located on the southwest corner of 163rd Avenue and Pat Tillman Boulevard. Case #FS25-1012.	Aslesha Basnet Community Development

REGULAR AGENDA ITEM - NON-PUBLIC HEARING:

3.	Citywide	Presentation and discussion pertaining to a proposed Zoning Text Amendment ("ZTA") to the Surprise Land Development Ordinances ("LDO") to establish a new Battery (B) overlay zone related to Battery Energy Storage Systems ("BESS"). Case FS23-1041.	Chris Sexton Community Development

G. Call To The Public

INSTRUCTIONS:
In order to address the Commission, you will need to fill out a Public Comment Form available at the entrance, and turn it in to the Secretary **before** the meeting begins.

You may also fill out the Public Comment Form online. If submitting the online form it must be received at least **one hour before** the meeting start time.

In accordance with A.R.S. 38-431.01(I) - During this time members of the public may address the Commission only on issues within the jurisdiction of the Commission. At the conclusion of the open call, Commissioners may respond to criticism, may ask staff to review the matter or may ask that the matter be put on a future agenda.

Commissioners may not discuss or respond to matters raised during the call to the public that are not specifically identified on the agenda.

Each speaker shall be limited to three (3) minutes per item. If several speakers desire to speak

regarding a single topic, the Chair may limit the number of speakers or the time given to each group. A maximum time of 30 minutes will be given per topic. However, an equal amount of time will be given to each side of an issue.

Council Chamber doors will be open at least 30 minutes prior to the start of the meeting.

H. Other Business and Future Agenda Items

I. Executive Session

Pursuant to A.R.S. § 38-431.03

A. On a public majority vote of the members constituting a quorum, a public body may hold an executive session but only for the following purposes:

2. Discussion or consideration of records exempt by law from public inspection, including the receipt and discussion of information or testimony that is specifically required to be maintained as confidential by state or federal law.

3. Discussion or consultation for legal advice with the attorney or attorneys of the public body.

4. Discussion or consultation with the attorneys of the public body in order to consider its position and instruct its attorneys regarding the public body's position regarding contracts that are the subject of negotiations, in pending or contemplated litigation or in settlement discussions conducted in order to avoid or resolve litigation.

7. Discussions or consultations with designated representatives of the public body in order to consider its position and instruct its representatives regarding negotiations for the purchase, sale or lease of real property.

J. Adjournment

KRISTI PASSARELLI, CITY CLERK

POSTED: Thursday, May 14, 2026 @3:00 PM

SPECIAL NOTE: PERSONS WITH SPECIAL ACCESSIBILITY NEEDS, INCLUDING LARGE PRINT MATERIALS OR INTERPRETER, SHOULD CONTACT THE CITY CLERK'S OFFICE @ 623.222.1200 OR CLERK@SURPRISEAZ.GOV, BY NO LATER THAN 24 HOURS IN ADVANCE OF THE REGULAR SCHEDULED MEETING TIME.

CITY OF SURPRISE
Planning and Zoning Commission

Council Meeting Date: May 21, 2026 Contact Person:
Submitting Department: Community Development District: Internal
Staff Recommendations:

Consent: Yes Regular: No Public Hearing: No Report/Discussion: No

Agenda Wording:
Consideration and action to approve or disapprove the May 7, 2026, Planning and Zoning Commission Meeting Minutes.

Motion:

Background:

Objective Analysis:

Policy Compliant:

Financial Impact:

Budget Impact:
FTE Impact:

ATTACHMENTS:
1. 5-7-2026 MINS

CITY OF SURPRISE
PLANNING AND ZONING COMMISSION

MEETING MINUTES

May 7, 2026 / 6:00 PM

COUNCIL CHAMBERS
16000 North Civic Center Plaza
Surprise, AZ 85374

CALL TO ORDER.

Chair Chapman called the Planning and Zoning Commission Meeting to order at 6:00 p.m. at Surprise City Hall, 16000 North Civic Center Plaza, Surprise, Arizona 85374, on May 7, 2026.

A. ROLL CALL
B. In attendance were Commissioner Kevin Perry, Commissioner Jared Holland, Commissioner Jay Leonard, Chair Ken Chapman, Vice Chair Anthony Spata, Commissioner Lisa Everett, and Commissioner Dennis Bash.

   STAFF PRESENT:
   Bianca Cortez, Assistant City Attorney; Jeffrey Murray, City Attorney; Lloyd Abrams, Assistant City Manager and Director of Community Development; Mindy Davis, Assistant Director of Community Development; Trever Fleetham, Interim Assistant Director of Community Development; Leslie Carnie, Planner II; Jani Wertin, Planner II; Sara Camarillo, Administrative Specialist, Sr. and Michelle Espie, Administrative Specialist.

   COUNCIL MEMBERS PRESENT:
   - None

C. PLEDGE OF ALLEGIANCE

D. CURRENT EVENTS REPORT
   - None

E. STAFF REPORT
   - None

CONSENT AGENDA:

Item 1 - Consideration and action to approve or disapprove the April 23, 2026, Planning and Zoning Commission Meeting Minutes.

Commissioner Leonard made a motion to approve the April 23, 2026, Planning and Zoning Commission Regular Meeting Minutes. Commissioner Bash seconded the motion. Motion passed with 7 votes in favor.

REGULAR AGENDA ITEM – PUBLIC HEARING:

Item 2 - Consideration and action regarding a Conditional Use Permit (CUP) with Site Plan for a Chipotle restaurant with drive-through facility on a site generally located on the southwest corner of 163rd Avenue and Pat Tillman Boulevard. Case #FS25-0682.

Leslie Carnie, Planner II, presented item 2 to the Commission.

Chair Chapman opened the public hearing.

- None

Hearing no further requests, Chair Chapman closed the public hearing.

The Commission discussed the following:

- None

Commissioner Holland moved to approve the Conditional Use Permit with Site Plan for a Chipotle restaurant with drive-through facility, Case# FS25-0682, subject to stipulations ‘a’ through ‘e’ as outlined in the Staff Report. Commissioner Leonard seconded the motion. Motion passed with 7 votes in favor.

Item 3 - Consideration and action regarding a Conditional Use Permit (CUP) with Site Plan for a Farmer Boys restaurant with drive-through facility on a site generally located on the southwest corner of 163rd Avenue and Pat Tillman Boulevard. Case #FS25-0457.

Leslie Carnie, Planner II, presented item 3 to the Commission.

Chair Chapman opened the public hearing.

- None

Hearing no further requests, Chair Chapman closed the public hearing.

The Commission discussed the following:

- None

Commissioner Perry moved to approve the Conditional Use Permit with Site Plan for a Farmer Boys restaurant with drive-through facility, Case# FS25-0457, subject to stipulations ‘a’ through ‘e’ as outlined in the Staff Report. Commissioner Bash seconded the motion. Motion passed with 7 votes in favor. Due to a technical error, votes were recast. Minutes reflect correct vote.

Item 4 - Consideration and action pertaining to a Rezone of approximately 10.7 acres from Rural Residential (RR) to Community Commercial (C-2) for property generally located at the southeast corner of 163rd Avenue and Dynamite Boulevard. Case FS24-1442.

Leslie Carnie, Planner II, presented item 4 to the Commission.

Chair Chapman opened the public hearing.

- None

Hearing no further requests, Chair Chapman closed the public hearing.

The Commission discussed the following:

- Concerns of future uses of C-2 zone
- Timeframe of development of church and commercial
- Capping height of buildings
- Sustaining facility while preserving character of surrounding area
- Uniformity Clause
- Portion of land unable to be developed

Adam Baugh, applicant, presented additional information to the Commission.

Mark Hendricks, executive pastor/COO of Pure Heart, presented additional information to the Commission.

Commissioner Bash moved to recommend approval of the Rezone for Pure Heart Church, Case FS24-1442, subject to stipulations ‘a’ and ‘b’ as outlined in the Staff Report. Commissioner Everett seconded the motion. Motion passed with 6 votes in favor. Commissioner Perry voted against the item.

REGULAR AGENDA ITEM – NON-PUBLIC HEARING:

Item 5 – Presentation and discussion pertaining to a Zoning Text Amendment (ZTA) to the Surprise Land Development Ordinances (LDO) to establish a new residential zoning district, Desert Rural (DR). Case FS25-0039.

Jani Wertin, Planner II and Trever Fleetham, Interim Assistant Director of Community Development, presented item 4 to the Commission**.**

The Commission discussed the following:

- Capping individual square footage
- Comparing ratio of lot size versus structure size
- Concerns of CUP requests in future
- Clarification of livestock classifications
- Request for visuals and representatives to share more information
- Concerns of future residents living near livestock

Chair Chapman called upon a member of the public to speak.

Kimberly Virostiks, resident of Surprise, presented additional information to the Commission.

CALL TO THE PUBLIC:

Chair Chapman opened the call to the public to discuss any items not listed on the agenda.

- Alex Christ, Surprise, AZ – Expressed concerns of behaviors at prior city council meetings as well as stating appreciation for commission. He also shared news articles focusing on growth of Surprise.

Chair Chapman closed the call to the public.

OTHER BUSINESS AND FUTURE AGENDA ITEMS:

- Commissioner Bash requested a summary of the process and legal standings of data centers within the city.

ADJOURNMENT:

Hearing no further business, Chair Chapman called for a motion to adjourn. Commissioner Perry made a motion to adjourn. Commissioner Holland seconded the motion. All voted in favor.

Meeting adjourned at 7:45 pm.

_____
Ken Chapman
Planning and Zoning Commission Chair

The foregoing instrument is a full, true, and correct copy of the original document on file in the office of the City Clerk, City of Surprise, Arizona.

ATTEST BY: _____
Sara Camarillo, Secretary

DATE: _____

CITY OF SURPRISE
Planning and Zoning Commission

Council Meeting Date: May 21, 2026 Contact Person: Aslesha Basnet
Submitting Department: Community Development District: District 1
Staff Recommendations:

Consent: No Regular: No Public Hearing: Yes Report/Discussion: No

Agenda Wording:
Consideration and action regarding a Conditional Use Permit with Site Plan for 'vehicle service: minor repair' use for a Brake Masters facility on a site generally located on the southwest corner of 163rd Avenue and Pat Tillman Boulevard. Case #FS25-1012.

Motion:
I move to **approve** the Conditional Use Permit with Site Plan for vehicle service: minor repair use for a Brake Masters facility, Case# FS25-1012, subject to stipulations 'a' through 'e' as outlined in the Staff Report.
I move to **deny** the Conditional Use Permit with Site Plan for vehicle service: minor repair use for a Brake Masters facility, Case# FS25-1012, because [*insert reason*].

Background:
Jim Egan with Heights Properties, LLP, requests a Conditional Use Permit with Site Plan to allow for a 'vehicle service: minor repair' use for a new Brake Masters facility on a vacant 0.728-acre parcel generally located on the southwest corner of 163rd Avenue and Pat Tillman Boulevard within the Asante Planned Area Development (PAD).

Objective Analysis:

Policy Compliant:

Financial Impact:
While this item does not have an immediate or direct financial impact, ongoing development activity in the City will inevitably have a future financial impact as additional resources are needed to provide City services.

Budget Impact:
FTE Impact:

ATTACHMENTS:

1. 00 - FS25-1012 Brake Masters Asante Trails CUP with Site Plan - Staff Report
2. 01 - FS25-1012 Brake Masters Asante Trails CUP with Site Plan - Vicinity Map
3. 02 - FS25-1012 Brake Masters Asante Trails CUP with Site Plan - Zoning Map
4. 03 - FS25-1012 Brake Masters Asante Trails CUP with Site Plan - Site Plan
5. 04 - FS25-1012 Brake Masters Asante Trails CUP with Site Plan - Landscape Plan
6. 05 - FS25-1012 Brake Masters Asante Trails CUP with Site Plan - Elevations
7. 06 - FS25-1012 Brake Masters Asante Trails CUP with Site Plan - Citizen Participation Report
8. 07 - FS25-1012 Brake Masters Asante Trails CUP with Site Plan - Affidavit of Posting
9. 08 - FS25-1012 Brake Masters Asante Trails CUP with Site Plan - Noise Study
10. FS25-1012 Brake Masters Asante Trails CUP with Site Plan - PZ PowerPoint

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16000 N. Civic Center Plaza | Surprise, AZ 85374 | Ph 623-222-3000 | Fax 623-222-3002

Conditional Use Permit
Report to the Planning and Zoning Commission

Case:	FS25-1012
Project Name:	Brake Masters Asante Trails
Council District:	1 - Acacia
Meeting Date:	May 21, 2026
Planner:	Aslesha Basnet, Planner I
Owner:	Simon CRE Asante, LLC
Applicant:	Jim Egan with Heights Properties, LLP
Request:	Conditional Use Permit (CUP) with Site Plan for a 'vehicle service: minor repair' facility
Site Location:	Generally located at the southwest corner of 163rd Avenue and Pat Tillman Boulevard
Site Size:	0.728 gross acres (approx.)
General Plan Conformance:	The proposal is consistent with the Surprise General Plan 2040
Support/Opposition:	Refer to the attached Citizen Participation Report
Staff Recommendation:	If the Commission approves the subject CUP with Site Plan, case FS25-1012, Staff recommends the Commission approve subject to stipulations 'a' through 'e'.

FINDINGS:

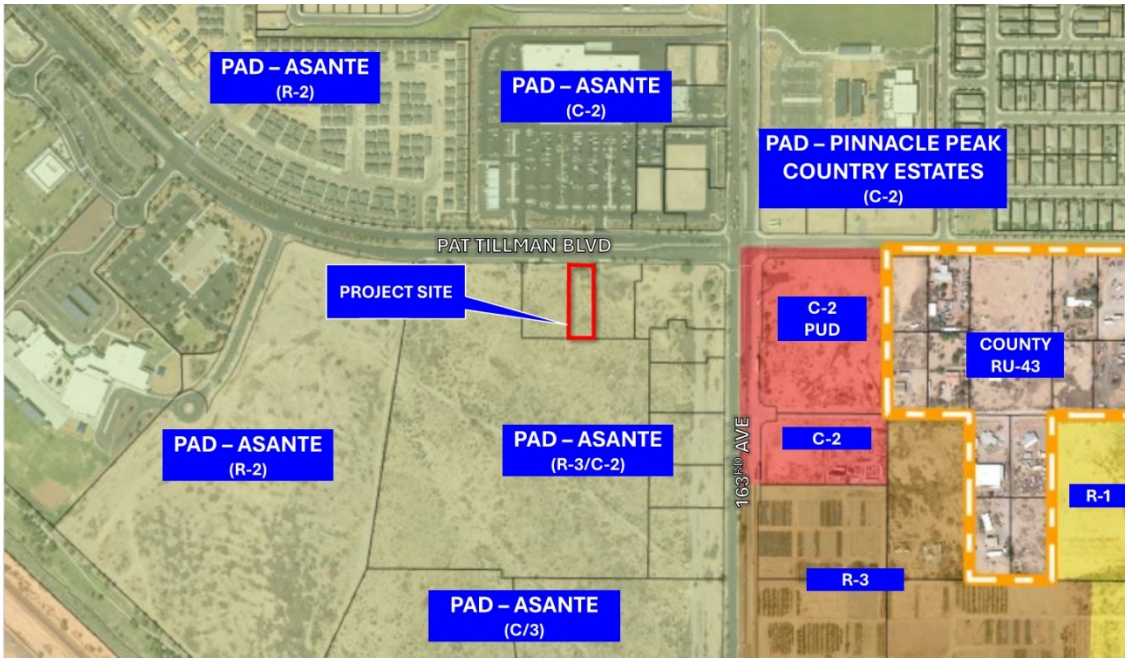
- The proposed CUP with Site Plan is consistent with the Asante PAD.
- The proposed CUP with Site Plan is consistent with the applicable City of Surprise regulations.
- The reviewing agencies have indicated no objections to the request.

PROJECT DESCRIPTION:

Jim Egan with Heights Properties, LLP requests a Conditional Use Permit with Site Plan to allow for a 'vehicle service: minor repair' facility on a vacant 0.728-acre parcel generally located on the southwest corner of 163rd Avenue and Pat Tillman Boulevard within the Asante Planned Area Development (PAD).

EXISTING ZONING:

The following map depicts the existing zoning of the subject site and its surroundings.



PAD – ASANTE (R-2)	PAD – ASANTE (C-2)	PAD – ASANTE (C-2)
PAD – ASANTE (C-2)	**PAD – ASANTE (C-2)**	PAD – ASANTE (C-2)
PAD – ASANTE (R-2)	PAD – ASANTE (R-2)	PAD – ASANTE (C-2)

BACKGROUND:

November 3, 1988: The **subject** parcel was annexed into the City by Ordinance #88-24.

November 24, 2004: The Mayor and Council approved the Asante Planned Area Development under case PAD04-124, Ordinance #04-41

August 15, 2023: The Mayor and Council approved a Major PAD Amendment to the Asante PAD to change the land use designation for the subject property under case FS22-0517, Ordinance #2023-03

January 15, 2025: A Master Site Plan for the Asante Trails commercial development, on subject property, was approved administratively under case FS24-0522

September 04, 2025: A Comprehensive Sign Program was approved by City Council for the Asante Trails development under case FS24-1519

September 09, 2025: The applicant met with staff to discuss the subject proposal during a regularly scheduled Concept Review Meeting under case CR25-0826.

February 24, 2026: The applicant held a neighborhood outreach meeting at Asante Public Library. A summary of this meeting is included in the Citizen Participation Report attached to the staff report.

CITIZEN PARTICIPATION MEETING:

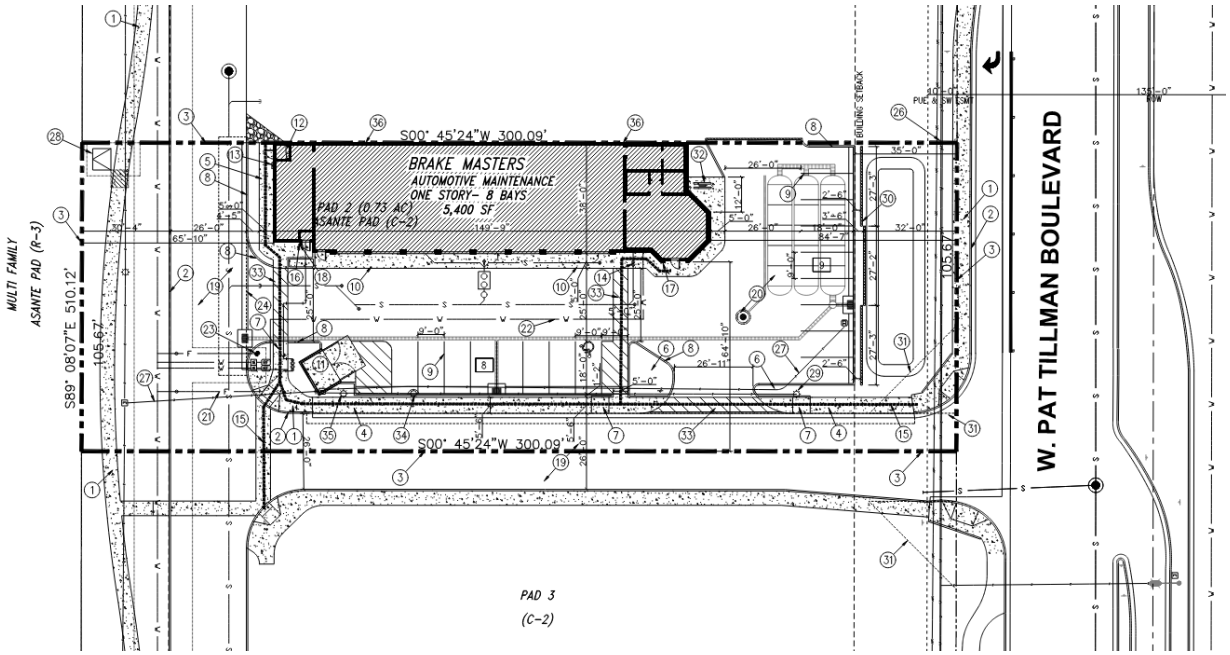
The applicant held a Citizen Participation Meeting for the subject project at the Asante Public Library on February 24, 2026. Three (3) members of the general public were present during the meeting. The proposed development was discussed and questions were answered. Staff has not received any items of opposition or support. The Outreach meeting, along with the subject Planning & Zoning Commission hearing, were advertised in accordance with state and local requirements. The Outreach Summary is included as an attachment to this report.

ANALYSIS AND DISCUSSION:

The subject request involves a 5,400 square foot Brake Masters on an approximately 0.728-acre vacant pad located on the southwest corner of 163rd Avenue and Pat Tillman Boulevard with the Asante Planned Area Development (PAD). The subject site has an underlying land use designation of C-2 Commercial within the Asante PAD.

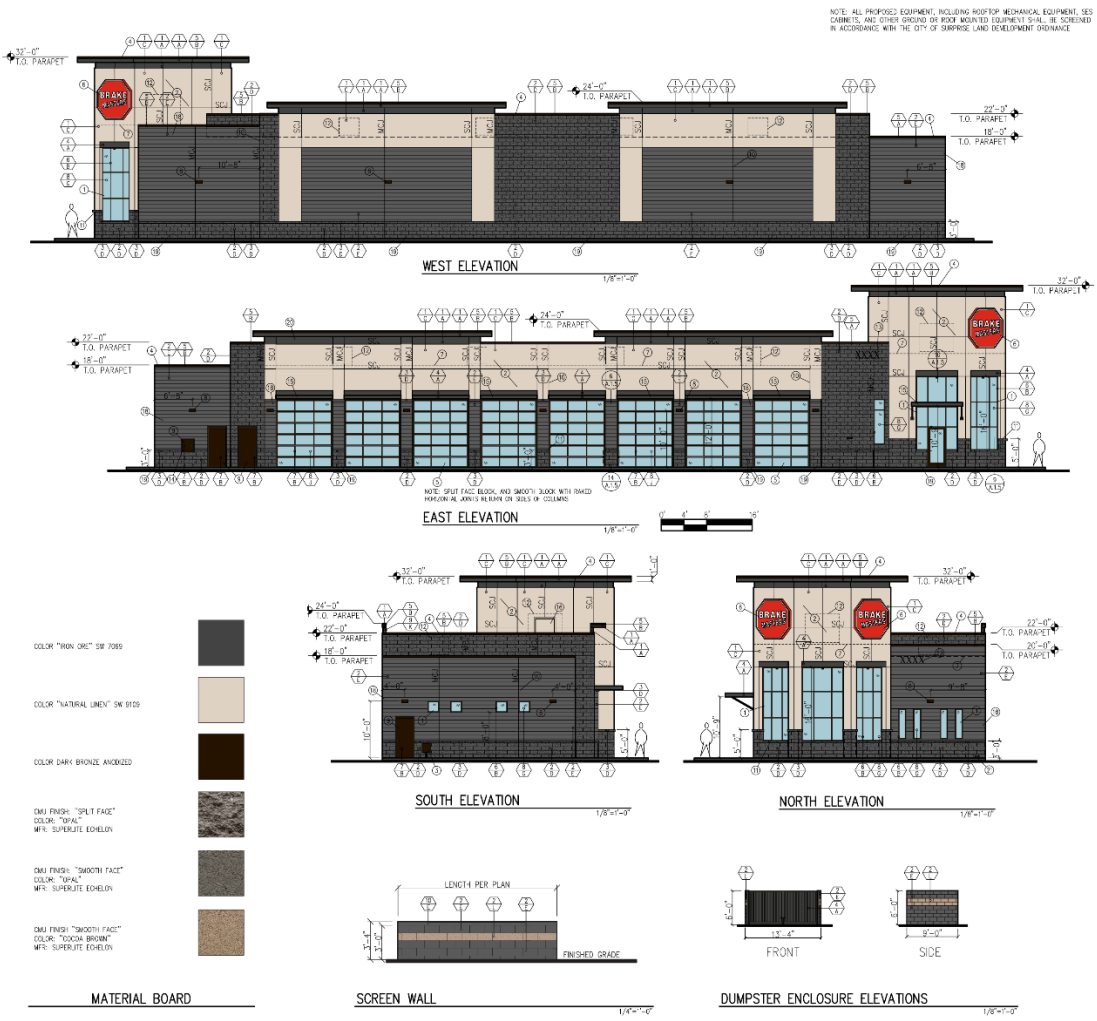
Access to the overall Asante Trails Commerce center, via 163rd Avenue, is provided by two (2) three-quarter access driveways. Access to the commerce center via Pat Tillman Boulevard is taken from one (1) full access and one (1) three quarter access driveway. Full access to the subject pad is taken from internal drive aisles.

The Land Development Ordinance (LDO) states that a ‘vehicle service: minor repair’ use shall have one (1) parking space per 500 sf GFA (Gross Floor Area), including service bays, wash tunnels, and retail areas. Therefore, eleven (11) parking spaces are required and eighteen (18) parking spaces are being provided.



The site landscaping is designed to complement the approved right-of-way landscaping for the Asante Trails Master Site Plan. Plantings are consistent with both the Asante PAD and Asante Trails Master Landscape Plan plant palettes. Additionally, the proposed landscape meets the LDO requirements and utilizes drought tolerant, low water use plants.

The proposed modern architecture for the Brake Masters will be consistent with the Brake Masters branding while incorporating elements from the approved Asante Trails Master Plan and Materials List. The stucco cladding, CMU Block, steel awning, and neutral color palette are cohesive with the existing and approved buildings within the Asante Trails Commerce Center.



In addition to the requirements set forth in the LDO and PAD, staff also requested a noise impact study, which the applicant provided. The noise study focused on noise levels created by the operational automobile repair transmitted to the surrounding residential and commercial areas. Best practice limits were assessed based on ANSI S12.9 Parts 4 and 5, which is a national standard for quantifying annoyance caused by sound and is consistent with the nighttime criteria in Section 34-105 of the Code prohibiting 'discomfort or annoyance to any reasonable person of normal sensitivities.' Part 5 of the standard recommends a maximum day-night level of 60dBA for multiunit housing areas. The noise study from the applicant concluded the following:

"Sound levels were found be in the normally acceptable range according to ANSI S12.9 Part 5. This meets the subjective requirements in the Surprise Code of Ordinances.

For comparison to the existing background noise level, the Surprise noise code does not include any provisions for assessment of impulsive sound, The unadjusted LAeq for the reference brake shop was 7.1 dBA less than the ANSI S12.9 adjusted LAeq. This places the projected equivalent-continuous sound pressure level near the south property line of the proposed brake shop below 48 dBA and below the measured 52 to 54 dBA background noise levels."

EVALUATIVE CRITERIA

The granting of a Conditional Use Permit requires compliance with the regulations and evaluative criteria as specified in the applicable code, in this case the LDO. LDO Sec. 102.6.3 (D) provides general approval criteria for CUP approvals and 106-10.51 (B) of the LDO sets forth the use specific standards for Vehicle Service (Minor Repair) that fall under the LDO's jurisdiction. The requirements are as follows:

Section 102-6.3D

A. *Location and character of the use shall not burden or conflict with the established uses of surrounding area. Commercial uses in residential zoning districts must have direct access or access through another commercial property to an arterial right-of-way;*

   Commentary: The proposed use location and design are consistent with the service and retail uses provided to the local area. The design of the customer greeting area screens the service area from street view.

B. *The proposed use shall not impair the integrity or character of the community nor shall it be detrimental to the public health, safety or general welfare of the city;*

   Commentary: The proposed use will not be detrimental to public health, safety or welfare, and will enhance the service amenities and convenience of the user experience.

C. *The proposed use shall conform to the goals and policies of the General Plan;*

   Commentary: The proposed use is consistent with and does not contradict the Commercial Uses recommended by the General Plan Land Use Map or its policies.

D. *The proposed use shall conform to the goals and policies of any specific district or plans for the area;*

   Commentary: The Property is zoned C-2, which allows retail, office, and service activities to satisfy community needs, with an emphasis on shopping centers and clustered development.

E. *The proposed use shall conform to any applicable Use Specific Standards outlined in **Article 10, Chapter 106** of this Ordinance*

Commentary: The proposed use conforms with the applicable use section.

F. *The proposed use shall conform to the development standards of the zoning district and shall take into account the following factors:*

1. *Site and building design;*

   Commentary: Site and building design are consistent with design standards for automotive maintenance uses in a C-2 zone and development standards for the Asante Trails Development Plan.

2. *Sensitivity to existing natural features;*

   Commentary: Not applicable. There are no natural features.

3. *Volume or character of traffic;*

   Commentary: The proposed use is on private property and will not affect traffic in the public rights-of-way. A traffic study specifically prepared for the use indicated that onsite traffic characteristics will be unaffected.

4. *Circulation patterns;*

   Commentary: The proposed use is on private property and will not affect circulation patterns in the public rights-of-way. A traffic study specifically prepared for the use indicated that onsite traffic characteristics will be unaffected.

5. *Connectivity;*

   Commentary: The proposed use is clear of the drive aisles and the connectivity to other surrounding retailers should be unaffected. The entrance to the service areas have neem placed in a location farthest from the drive aisles and parking spaces of the surrounding buildings, and the service areas will not create any issues.

6. *Parking and loading;*

   Commentary: The proposed development has more parking than required. The building and site plan definitively show the design does not create no conflicts between customers and delivery vehicles.

7. *Screening and buffering of uses*

Commentary: The building will screen the service area because the customer greeting area is positioned to screen the service area stalls.

8. *Landscaping;*

   Commentary: Parking lot landscaping will be unaffected by this conditional use.

9. *Exterior lighting;*

   Commentary: There will be no change to the exterior parking lighting. Pole lights will be located for ease of use and safety.

10. *Signage*;

    Commentary: The building will include individual signage for the user, but the applicant understands that sign permits and approval will be under separate permit.

11. *Stormwater retention and drainage;*

    Commentary: The use will create no change to the water retention or drainage.

12. *Damage or nuisance arising from noise, smoke, odor, dust, vibration, or illumination;*

    Commentary: The use has no detrimental impacts due to noise, smoke, odor, dust, vibration, or illumination.

13. *A demonstrated need for such use.*

    Commentary: An automotive maintenance use is an accepted and expected amenity for many patrons of commercial centers and a common commercial service.

G. *The proposed use shall have adequate ingress and egress to property and proposed structures, pedestrian and vehicular circulation with particular reference to emergency service access;*

   Commentary: Building ingress and egress remains unaffected, as does pedestrian circulation. The proposed use is on private popery and will not affect circulation patterns in the public rights-of-way. A traffic study specifically prepared for this project indicates that onsite circulation patterns will be unaffected. Emergency services will have adequate passage through the parking lot's drive aisles.

H. *Adequate utilities, access roads, drainage sanitation; and/or*

Commentary: The proposed use will not affect utilities, access roads, or drainage and sanitation.

I. *Necessary facilities will be provided and the use of municipal services.*

Commentary: The proposed development will be private and not contribute to the overburdening of municipal services.

Section 106-10.51 B

A. *If an installation is offered, the service shall be restricted to installation of minor parts only, including batteries, windshield wipers, hoses, fuses, lights, radios, tires and similar minor elements, but excluding engine, transmission and differential service, or similar installation.*

Commentary: All services performed are routine maintenance and minor repairs. No major auto work such as engine replacements, etc. No pain or body work will be performed.

B. *All repair and service work shall be performed within a completely enclosed building with the exception of gasoline sales.*

Commentary: All repair and service work is being proposed within a completely enclosed building.

C. *Service bays shall not face public rights-of-way and shall be designed to minimize the noise and visual intrusion into adjoining properties.*

Commentary: The service bays are faced away from the public rights-of-way.

D. *No new stock, or used or discarded automotive parts or equipment shall be located or stored in any open area outside of the enclosed building.*

Commentary: No new stock, or used or discarded automotive parts or equipment are being stored outside.

E. *No dismantling, remanufacturing or rebuilding shall be permitted.*

Commentary: Dismantling, remanufacturing or rebuilding is not being proposed. All services performed are routine maintenance and minor repairs.

F. *All vehicles waiting for repair shall be screened from view through the use of a landscape screen such as berms and dense landscaping.*

Commentary: Dense landscaping is being proposed for screening.

G. *Outdoor storage and displays are prohibited.*

Commentary: Outdoor storage and displays are not being proposed with the project.

The CUP application has been reviewed against the standards listed above. Staff finds that this CUP application conforms to the requirements set under the Surprise Municipal Code.

UTILITY AND SERVICES TABLE:

Water:	City of Surprise
Wastewater:	City of Surprise
Schools:	Dysart Unified District

CONFORMANCE WITH ADOPTED PLANS:

Surprise General Plan 2040: The project location is within the Neighborhood Character Area of the General Plan 2040 in a proposed commerce center located on the southwest corner of 163rd Avenue and Pat Tillman Boulevard. The Neighborhood Character Area supports commercial developments near residential neighborhoods that utilize well connected street and trail networks to encourage pedestrian and bicycle travel between uses and minimize the need for motor vehicle trips. The proposed development adheres to the General Plan Development Guidelines common to al Community Commercial Types.

REVIEWING AGENCIES:

In addition to the standard city reviewing agencies, Luke Air Force Base, and the Maricopa Water District were included in the routing of this request. None of the reviewing agencies indicated any concerns over the request.

SUMMARY:

The proposed Conditional Use Permit with Site Plan meets the requirements of the Surprise General Plan 2040, Asante PAD, Surprise Municipal Code, and all applicable zoning codes.

Recommendation:

Based on the findings noted above, if the Commission wishes to **approve** the subject Conditional Use Permit with Site Plan, case FS25-1012, staff recommends the Commission approve subject to stipulations ‘a’ through ‘**e**’ as outlined below:

a. Development and use of the site shall be consistent with the Site Plan entitled “Brake Masters” consisting of 4 sheets, prepared by kbp architecture, llc and stamp received January 30, 2026.

b. Landscaping of the site shall be consistent with the Landscape Plan entitled “Brake Masters” Consisting of 8 sheets, prepared by Design Ethic Landscape Architecture and stamp received January 28, 2026.

c. Building façade of the site shall be consistent with the Architectural Elevations entitled “Brake Masters” consisting of 2 sheets, prepared by kbp architecture, and stamped received January 30, 2026.

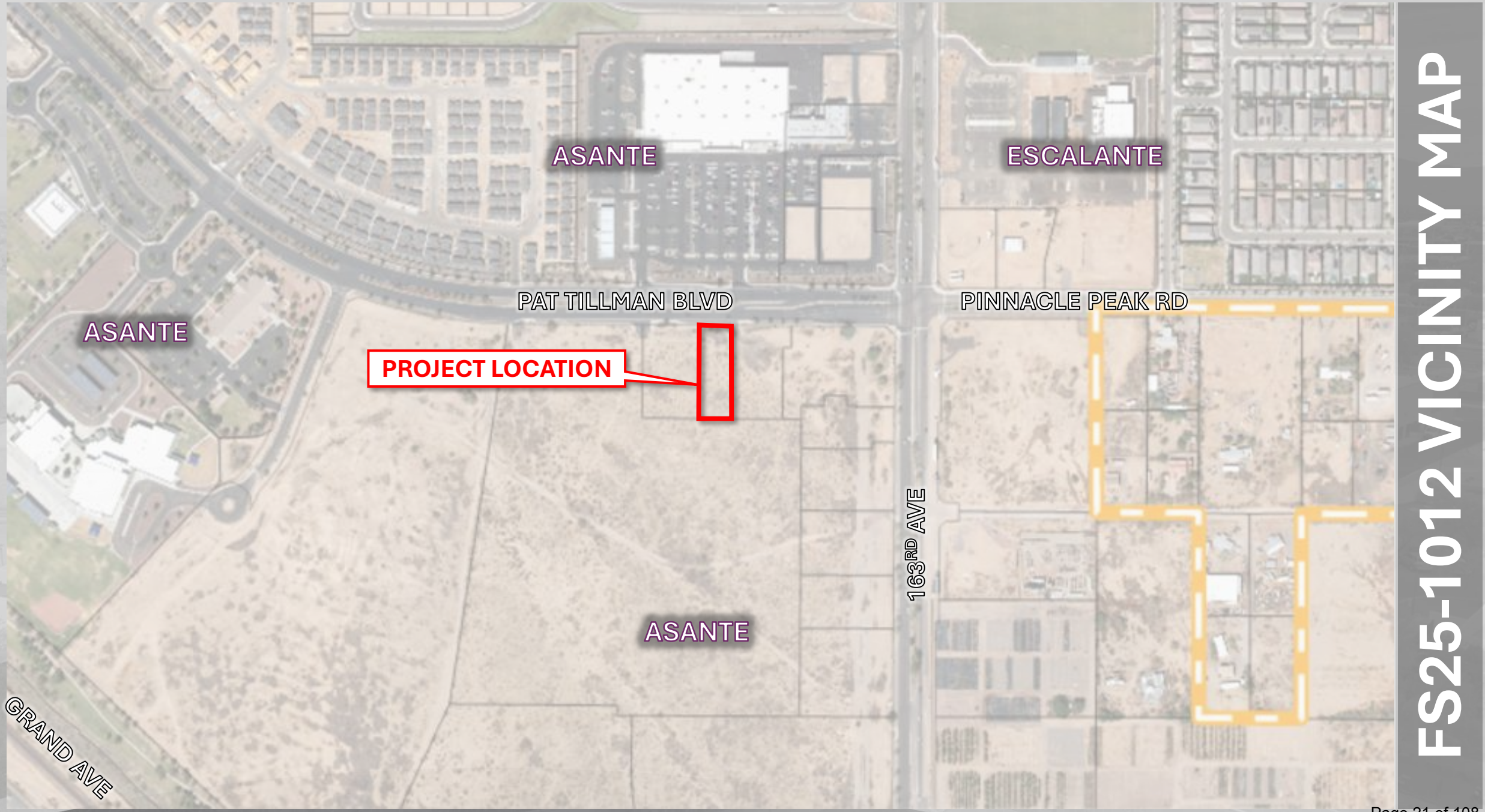
d. The applicant shall obtain a building permit for the subject facility within one (1) year of the effective date of approval of this Site Plan. If the applicant does not obtain said building permit within the specified time, this Site Plan shall be deemed null and void.

e. Non-compliance with the stipulations of approval of this case will be treated as a violation in accordance with the applicable provisions of the Surprise Municipal Code.

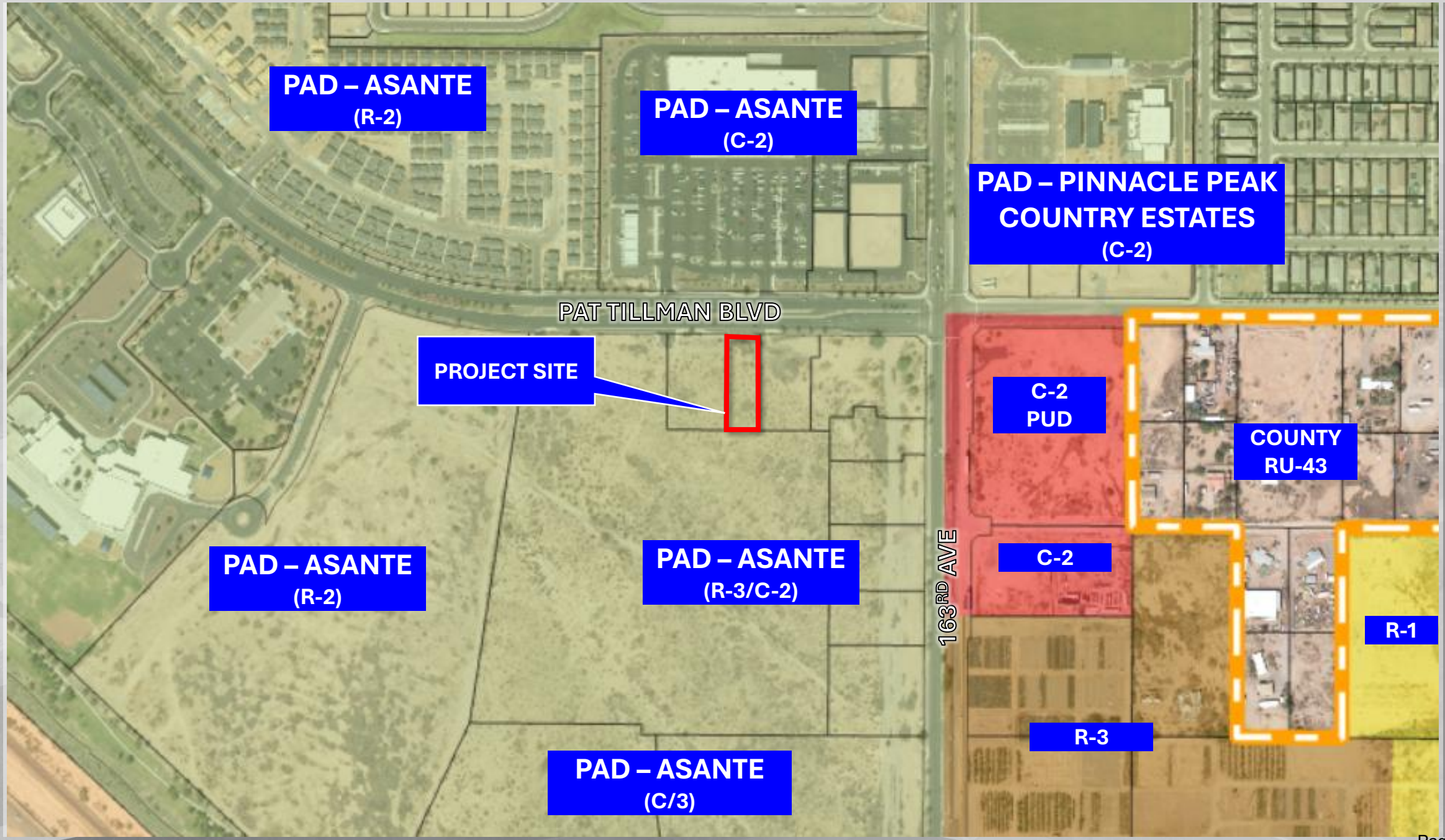
However, should the Commission wish to **deny** the request, the Commission should make its own findings and base its decision on those alternative findings.

Attachments:

01 Vicinity Map
02 Zoning Map
03 Site Plan
04 Landscape Plan
05 Elevations
06 Citizen Outreach Report - REDACTED
07 Affidavit of Site Posting
08 Noise Study
PPT



FS25-1012 VICINITY MAP



FS25-1012 ZONING MAP

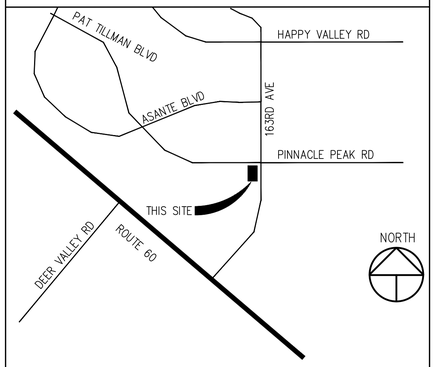
BRAKE MASTERS

New Development

AUTO MAINTENANCE

16397 W. PAT TILLMAN BLVD. SURPRISE, AZ

VICINITY MAP



PROJECT SUMMARY

OWNER INFO	HEIGHTS PROPERTIES JIM EGAN, 520-631-9000 jim@heightspropertiesllp.com
PROJECT DESCRIPTION	NEW 5,400 SF AUTOMOTIVE MAINTENANCE
PROJECT ADDRESS	16397 W. PAT TILLMAN BLVD. SURPRISE, AZ 85387
APN	503-76-988
ZONING	PAD (C-2)
PROPOSED USE	AUTOMOTIVE MAINTENANCE MINOR
OCCUPANCY TYPE	S-1 AUTOMOTIVE MAINTENANCE
CONSTRUCTION TYPE	IIB
SETBACKS	
SOUTH	MIN. 30 FT, ACTUAL 65 FT
NORTH (STREET)	MIN. 35 FT, ACTUAL 84 FT
EAST/WEST	NONE
LOT AREA	31,712 SF (0.73 ACRES)
LOT COVERAGE	5,400 SF / 31,712 SF = 17%
IMPERVIOUS AREA	25,088 SF (0.57 AC) / 31,712 SF = 79%
LANDSCAPE AREA	4,273 SF (0.98 AC) / 31,712 SF = 13%
BUILDING AREA	5,400 SF
BUILDING HEIGHT	BUILDING 24 FT, TOWER 32 FT (40 FT ALLOWED)
PARKING	1:500 SF GFA 5,400 SF / 500 = 11 SPACES REQ'D PARKING REQUIRED: 11 SPACES PARKING PROVIDED: 18 SPACES (INCLUDES 1 H.C.)
BICYCLE PARKING	1 PER 20 VEHICLE SPACES 1 REQUIRED, 2 PROVIDED
TRASH ENCLOSURE	1 REQUIRED, 1 PROVIDED

CR25-0826
FS25-1012

kbp architecture, llc
dba
kbp design - build
11635 E. Tanque Verde Rd.
Tucson, Arizona 85749

Kevin B. Petrick, RA, AIA, ROC
520.982.2019
email: kbpetrick@cox.net

Arizona Architect Registrant # 34273
Arizona Contractor KB-1 ROC 285911

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Design & Construction Services combined in one company since 1999.

REGISTERED ARCHITECT
CERTIFICATE NO.
34273
KEVIN B. PETRICK
Date Signed 1-30-26
ARIZONA, U.S.A.

EXPIRES 12-31-26

Project:

BRAKE MASTERS
New Development
at
Asante Trails
Pat Tillman & 163rd Ave
Surprise, AZ 85387

△ drawing issue log:

Delta	Date	Description

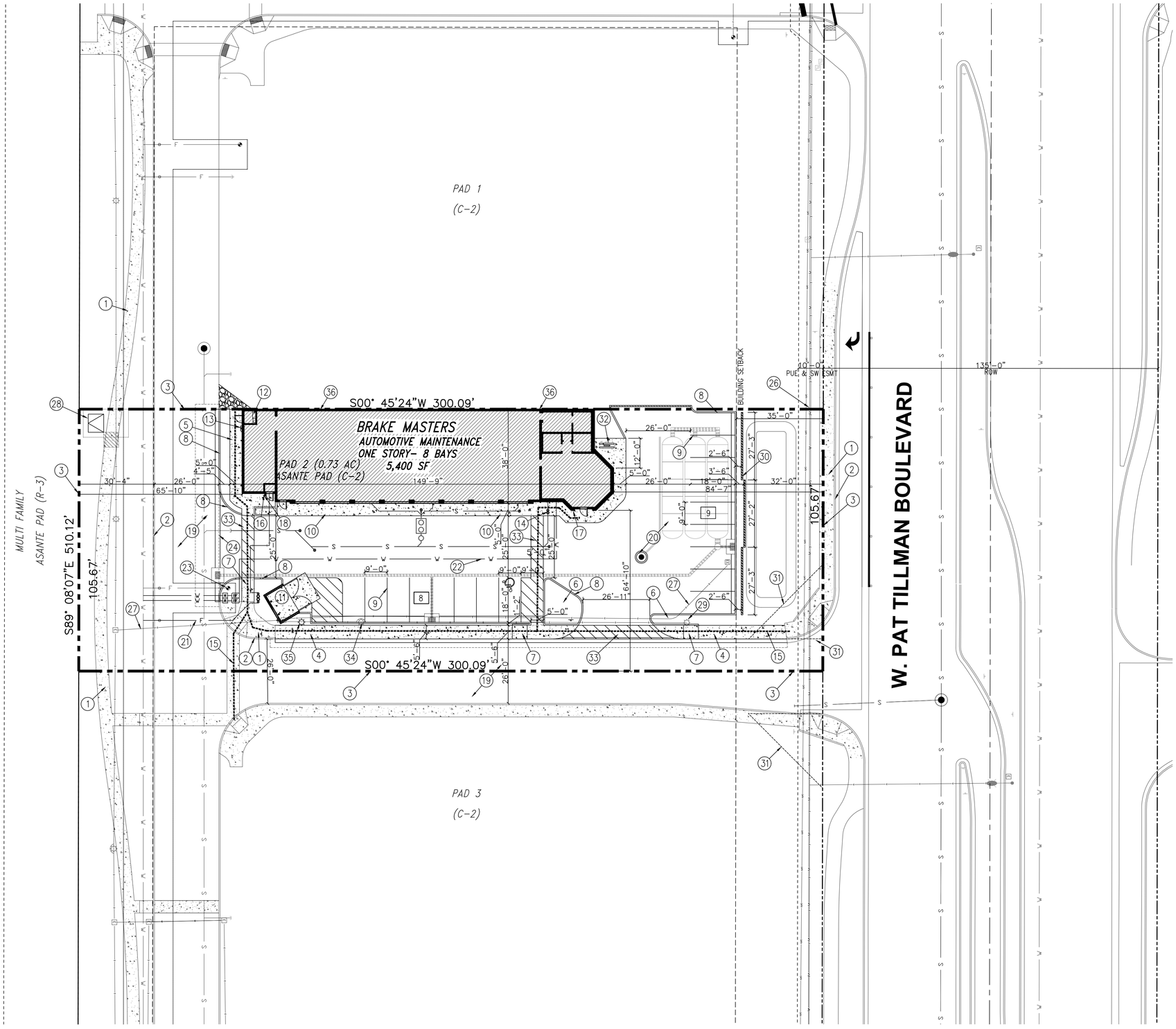
kbp project no: **2755**

date: **January 30, 2026**

sheet title: **ARCHITECTURAL SITE PLAN COVER SHEET**

sheet number: **AS.1.0**

BRAKE MASTERS - PAT TILLMAN BLVD & 163RD AVE - SURPRISE, AZ 85387



KEYNOTES

1. EXISTING CONCRETE SIDEWALK
2. EXISTING CONCRETE CURB
3. EXISTING PROPERTY LINE
4. NEW GRAY CONCRETE SIDEWALK, SEE CIVIL PLANS
5. NEW BLACK CONCRETE SIDEWALK, SEE CIVIL PLANS
6. NEW LANDSCAPE AREA, SEE LANDSCAPE PLANS
7. NEW GRAY CONCRETE ADA RAMP, SEE CIVIL PLANS
8. NEW GRAY CONCRETE CURB, SEE CIVIL PLANS
9. NEW PARKING LOT STRIPING
10. NEW BLACK CONCRETE AT SERVICE BAY ENTRANCE, FLUSH WITH PAVING
11. NEW DUMPSTER ENCLOSURE
12. NEW BUILDING ELECTRICAL SES, SEE ELECTRICAL PLANS
13. NEW BUILDING PHONE SERVICE LOCATION, SEE ELECTRICAL PLANS
14. NEW BUILDING SEWER AND CLEAN OUT, SEE CIVIL AND PLUMBING PLANS
15. ACCESSIBLE ROUTE
16. NEW FDC, SEE PLUMBING
17. FIRE DEPARTMENT KEY LOCK BOX, WITH BUILDING KEY
18. FIRE DEPARTMENT KEY LOCK BOX, WITH FIRE RISER KEY
19. EXISTING ASPHALT
20. NEW CONCRETE PAVING, SEE CIVIL
21. FIRE LINE, SEE CIVIL
22. WATER LINE, SEE CIVIL
23. EXISTING FIRE HYDRANT
24. EXISTING CONCRETE CURB TO BE REMOVED
25. EXISTING CONCRETE SIDEWALK TO BE REMOVED
26. EXISTING GAS LINE, NO GAS THIS PROJECT
27. EXISTING ELECTRICAL
28. NEW PAD MOUNTED ELECTRICAL TRANSFORMER, FINAL LOCATION AND SCREENING TO BE DETERMINED AT BUILDING PERMIT
29. EXISTING LIGHT POLE
30. NEW PARKING SCREEN WALL, SEE DETAIL ON SHEET A.3.0
31. 30' X 30' SVT
32. BICYCLE PARKING
33. PEDESTRIAN CROSSINGS ARE TO MATCH THE APPROVED PEDESTRIAN CROSSINGS FOR THE ASANTE TRAILS DEVELOPMENT. SEE DETAIL 5 ON SHEET AS.3.0. TYPICAL AT ALL PEDESTRIAN CROSSINGS.
34. REMOVE EXISTING LIGHT POLE AND RELOCATE
35. RELOCATED LIGHT POLE LOCATION
36. 8" CMU WALL, 2-HOUR FIRE RATED

ARCHITECTURAL SITE PLAN
SCALE 1"=20'-0"

NORTH
20' 0' 10' 20'

CR25-0826
FS25-1012

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Surprise, AZ 85387

These drawings are project specific and have been developed for the client's use for this project; they may not be reused or duplicated for any other property/project without the written consent of the Architect.

drawing issue log:

Delta	Date	Description

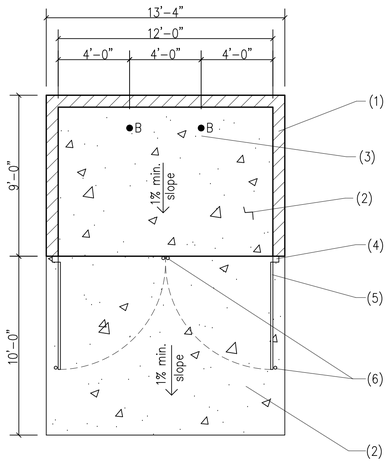
kbp project no: **2755**

date: **January 30, 2026**

sheet title: **ARCHITECTURAL SITE PLAN**

sheet number: **AS.2.0**

BRAKE MASTERS - PAT TILLMAN BLVD & 163RD AVE - SURPRISE, AZ 85387



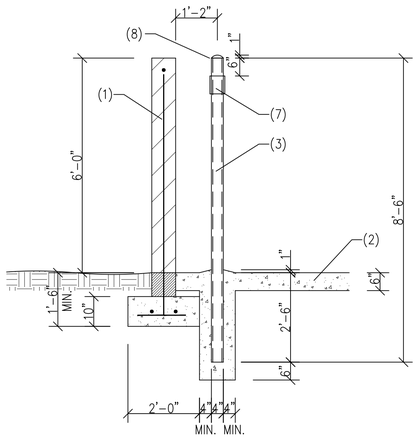
KEYNOTES:

(1) MASONRY WALL, 8x8x16 CMU WITH #4 VERTS @ 8" O.C., #4 IN HORIZONTAL BOND BEAM AT TOP OF WALL, HORIZONTAL DURA WALL @ 16" O.C., WITH 2'-0" WIDE x 12" THICK, 3,000 PSI CONCRETE FOOTING WITH (2) #4 CONT., BOTTOM OF FOOTING 18" MINIMUM BELOW ADJACENT GRADE OR PAVING.
(2) 6" CONCRETE SLAB, 3,000 PSI WITH #4 REBARS AT 12" O.C. EACH WAY
(3) 4" DIA. x 8.5' SCH. 40 GLAVINIZED PIPE BOLLARD FILLED WITH CONCRETE, 30" CONCRETE EMBED. (B=BOLLARD) WITH 12" DIAMETER x 3' DEEP, 3,000 PSI CONCRETE FOOTING.
(4) 4"x4"x1/4" SQ TUBING, ANCHORED INTO CMU AT 12" O.C., HINGED & WELDED TO GATE. MIN 2FT EMBEDMENT INTO CONCRETE FOOTING
(5) 4"x2"x3/16" TUBE STEEL FRAME HINGED GATES WITH 20 GA 'B' DECK PANELS WITH POSITIVE LOCKING AND "BAYONET" ANCHORS
(6) 1" DIAMETER x 6" LONG GALVANIZED PIPE FLUSH WITH CONCRETE FOR GATE DROP PINS

(7) 6" REFLECTIVE ENGINEER'S TAPE (3M HIGH DENSITY YELLOW PRESSURE SENSITIVE TAPE OR APPROVED EQUIVALENT)

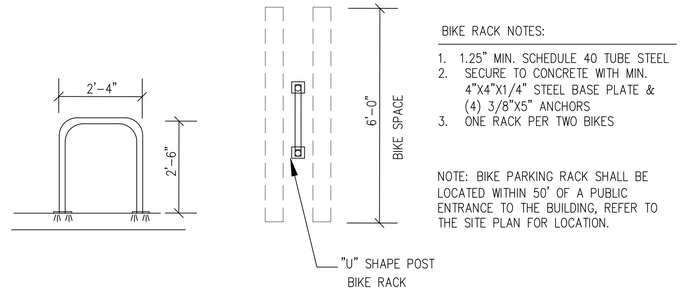
(8) FILL WITH CONCRETE AND CROWN TOP

NOTE: ALL METAL COMPONENTS TO BE PRIMED AND PAINTED, INCLUDING BUT NOT LIMITED TO GATES, POSTS, BOLLARDS AND GRIND WELDS SMOOTH.



1 TRASH DUMPSTER ENCLOSURE

NTS



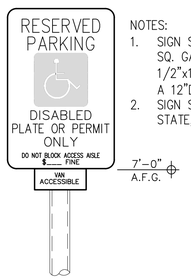
BIKE RACK NOTES:

1. 1.25" MIN. SCHEDULE 40 TUBE STEEL
2. SECURE TO CONCRETE WITH MIN. 4"X4"X1/4" STEEL BASE PLATE & (4) 3/8"X5" ANCHORS
3. ONE RACK PER TWO BIKES

NOTE: BIKE PARKING RACK SHALL BE LOCATED WITHIN 50' OF A PUBLIC ENTRANCE TO THE BUILDING, REFER TO THE SITE PLAN FOR LOCATION.

2 SHORT TERM BIKE PARKING

NTS



NOTES:
1. SIGN SHALL BE MOUNTED ON A 2" SQ. GALV. STEEL POST INTO A 2 1/2"x12" STEEL PIPE SLEEVE INTO A 12"DIA. x 2'-0" DEEP CONC. FTG.
2. SIGN SHALL MEET ALL LOCAL & STATE, & FEDERAL REQUIREMENTS.

3 HANDICAP SIGN DETAIL

NTS

WHERE REQUIRED BY THE FIRE CODE OFFICIAL, FOLLOWING APPROVED FIRE LANE NO PARKING SIGN SHALL BE POSTED WITH RED CURB MARKINGS. FIRE LANE SIGNS SHALL BE POSTED AT 75 FOOT INTERVALS, STARTING 15 FEET AWAY FROM CORNER OR START OF FIRE LANE. WHITE LETTERING "NO PARKING–FIRE LANE" SHALL BE STENCILED ON THE RED CURB, CENTERED BETWEEN THE SIGNS.

FIRE LANE

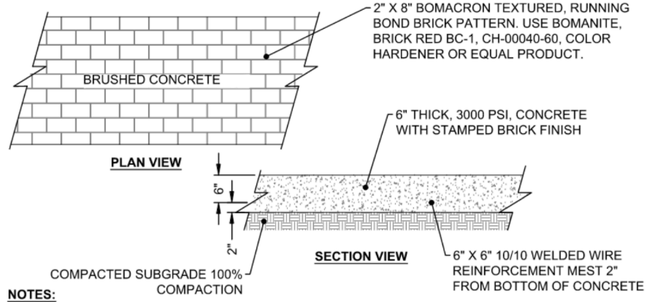
CITY OF SURPRISE

MUNICIPAL CODE

SEC 54-89 (a) (14)

4 FIRE LANE

NTS



NOTES:

1. PROVIDE CONTROL JOINTS SPACED EVERY 10 FEET ON CENTER.
2. PROVIDE EXPANSION JOINTS AT ALL RIGID OBJECTS

5 PEDESTRIAN CROSSING

NTS

kbp architecture, llc
dba
kbp design - build
11635 E. Tanque Verde Rd.
Tucson, Arizona 85749

Kevin B. Petrick, RA, AIA, ROC
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REGISTERED ARCHITECT
CERTIFICATE NO.
34273
KEVIN B. PETRICK
Date Signed 2-13-26
ARIZONA, U.S.A.

EXPIRES 12-31-26

Project:

BRAKE MASTERS®

BRAKE MASTERS
New Development
at
Asante Trails
16397 W. Pat Tillman Blvd.
Surprise, AZ 85387

drawing issue log:

Delta	Date	Description

kbp project no: **2755**

date: **January 30, 2026**

sheet title: **ARCHITECTURAL SITE DETAILS**

sheet number: **AS.3.0**

BRAKE MASTERS - PAT TILLMAN BLVD & 163RD AVE - SURPRISE, AZ 85387

MASTER SITE PLAN FOR
ASANTE TRAILS - LOT 2

SWC PAT TILLMAN BOULEVARD AND 163RD AVENUE SURPRISE, ARIZONA

A PORTION NORTHEAST QUARTER OF SECTION 13, TOWNSHIP 4 NORTH, RANGE 2 WEST OF THE GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA

CIVIL ENGINEER

RICK
2401 WEST PEORIA AVENUE, #130
PHOENIX, ARIZONA 85029

CONTACT: JEFF HUNT, PE
PHONE: (602)-957-3350

DEVELOPER / APPLICANT

HEIGHTS PROPERTIES, LLP
6179 EAST BROADWAY BOULEVARD
TUSCON, ARIZONA 85711

CONTACT: JAMES EGAN
PHONE: (520)-631-9000

SITE DATA

JURISDICTION: SURPRISE, ARIZONA
APN #: 503-76-981
GROSS AREA: 15.44 AC
NET AREA: 12.13 AC

LANDSCAPE ARCHITECT

DESIGN ETHIC
7525 EAST 6TH AVENUE
SCOTTSDALE, ARIZONA 85251

CONTACT: BRANDON T. PAUL
PHONE: (480)-225-7077
EMAIL: BPAUL@DESIGNETHIC.NET

BENCHMARK

CITY OF SURPRISE POINT PT40
2 INCH BRASS DISK WITH RAISED DATUM POINT. CAST: CITY OF SURPRISE BENCHMARK. LOCATED ON TOP OF CURB A BACK OF SIDEWALK ON THE NORTH SIDE OF PAT TILLMAN BLVD. APPROX. 500 FT. WEST OF 163RD AVE. NAVD88 ELEVATION 1361.76

BASIS OF BEARING

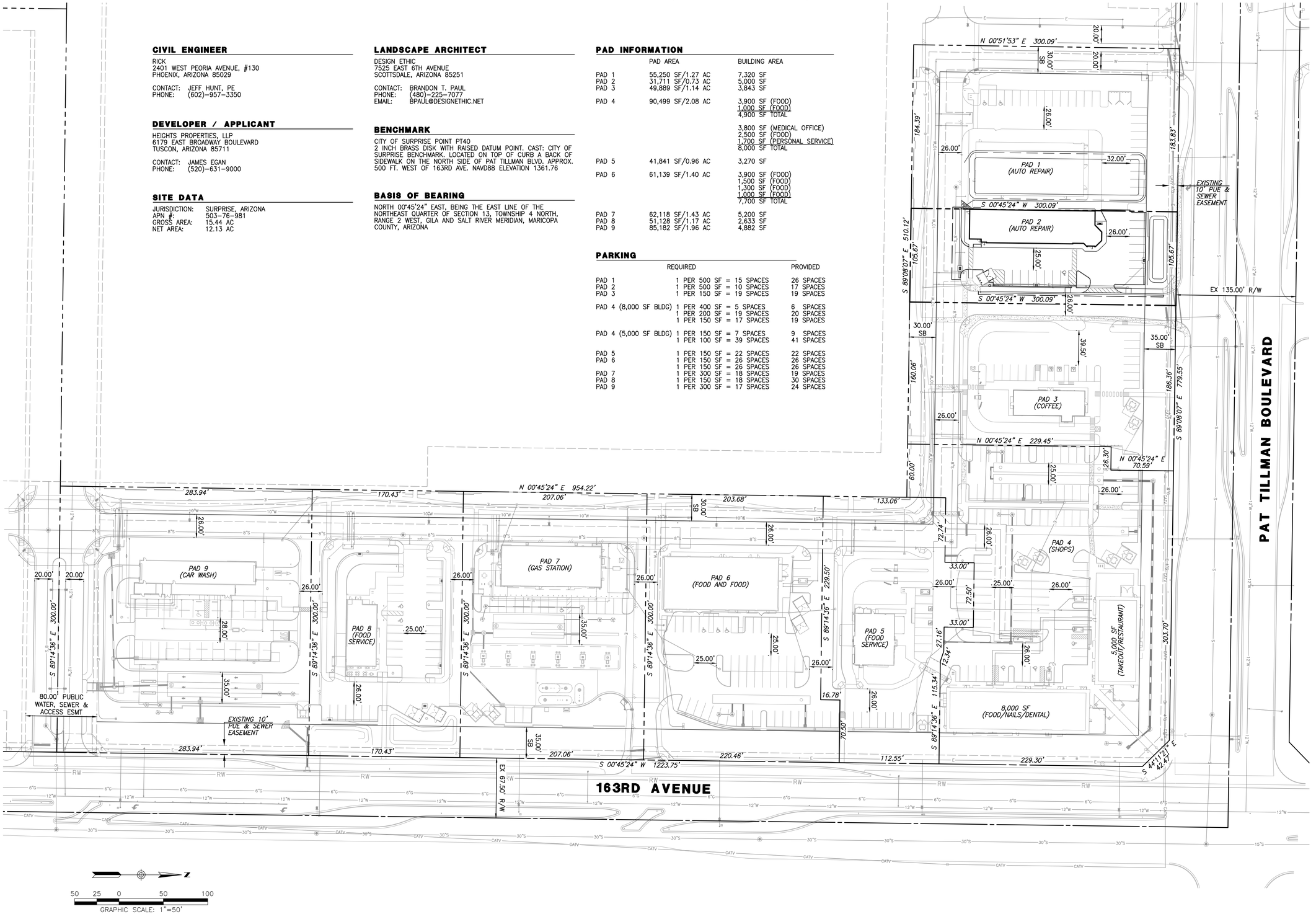
NORTH 00°45'24" EAST, BEING THE EAST LINE OF THE NORTHEAST QUARTER OF SECTION 13, TOWNSHIP 4 NORTH, RANGE 2 WEST, GILA AND SALT RIVER MERIDIAN, MARICOPA COUNTY, ARIZONA

PAD INFORMATION

	PAD AREA	BUILDING AREA
PAD 1	55,250 SF/1.27 AC	7,320 SF
PAD 2	31,711 SF/0.73 AC	5,000 SF
PAD 3	49,889 SF/1.14 AC	3,843 SF
PAD 4	90,499 SF/2.08 AC	3,900 SF (FOOD) 1,000 SF (FOOD) 4,900 SF TOTAL 3,800 SF (MEDICAL OFFICE) 2,500 SF (FOOD) 1,700 SF (PERSONAL SERVICE) 8,000 SF TOTAL
PAD 5	41,841 SF/0.96 AC	3,270 SF
PAD 6	61,139 SF/1.40 AC	3,900 SF (FOOD) 1,500 SF (FOOD) 1,300 SF (FOOD) 1,000 SF (FOOD) 7,700 SF TOTAL
PAD 7	62,118 SF/1.43 AC	5,200 SF
PAD 8	51,128 SF/1.17 AC	2,633 SF
PAD 9	85,182 SF/1.96 AC	4,882 SF

PARKING

	REQUIRED	PROVIDED
PAD 1	1 PER 500 SF = 15 SPACES	26 SPACES
PAD 2	1 PER 500 SF = 10 SPACES	17 SPACES
PAD 3	1 PER 150 SF = 19 SPACES	19 SPACES
PAD 4 (8,000 SF BLDG)	1 PER 400 SF = 5 SPACES 1 PER 200 SF = 19 SPACES 1 PER 150 SF = 17 SPACES	6 SPACES 20 SPACES 19 SPACES
PAD 4 (5,000 SF BLDG)	1 PER 150 SF = 7 SPACES 1 PER 100 SF = 39 SPACES	9 SPACES 41 SPACES
PAD 5	1 PER 150 SF = 22 SPACES	22 SPACES
PAD 6	1 PER 150 SF = 26 SPACES 1 PER 150 SF = 26 SPACES	26 SPACES 26 SPACES
PAD 7	1 PER 300 SF = 18 SPACES	19 SPACES
PAD 8	1 PER 150 SF = 18 SPACES	30 SPACES
PAD 9	1 PER 300 SF = 17 SPACES	24 SPACES



NO.	BY	DATE	REVISION

SEAL: Registered Professional Engineer (Civil) CERTIFICATE NO. 53640 JEFFREY P. HUNT ARIZONA U.S.A. 12.31.2025

RICK
602-957-3350
rickengineering.com
2401 W PEORIA AVE, SUITE 120
PHOENIX, AZ 85029
SAN DIEGO ORANGE RIVERSIDE SACRAMENTO SAN LUIS OBISPO
SANTA CLARITA PHOENIX TUCSON LAS VEGAS DENVER

PROJECT NO:	7474	DRAWN/DESIGNED BY:	CN
DATE:	02/02/2026	CHECKED BY:	JH

MASTER SITE PLAN PREPARED FOR:
ASANTE TRAILS - LOT 2
SWC PAT TILLMAN BOULEVARD & 163RD AVENUE
SURPRISE, ARIZONA 85387
CITY OF SURPRISE

MASTER SITE PLAN

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811 Call 811 or click Arizona811.com

DRAWING NO.
SP1
SHEET NO. 1 OF 1

FS25-1012

BRAKE MASTERS - 163rd AVENUE & PAT TILLMAN BLVD

project consultants

owner:

BRAKES PLUS
1880 SOUTHPARK DRIVE
BIRMINGHAM, AL 35244
CONTACT: ASHLEY BERNATSKI
PHONE: 205.943.5770
EMAIL: ashley.bernatski@expressoil.com

civil engineering:

RICK ENGINEERING
2401 W. PEORIA AVENUE, #130
PHOENIX, AZ 85029
PROJECT CONTACT: JEFF HUNT
PHONE: 623.282.2498
EMAIL: jhunt@rickengineering.com

landscape architecture:

DESIGN ETHIC, LLC
7525 EAST 6th AVENUE
SCOTTSDALE, ARIZONA 85251
CONTACT: BRANDON PAUL
PHONE: 480.225.7077
EMAIL: bpaul@designethic.net

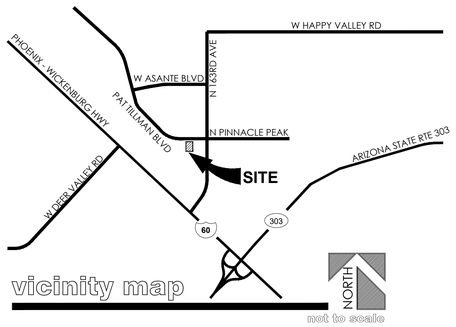
site data:

PROPOSED ZONING:	C-2
NET SITE AREA (IN SCOPE):	0.728 AC / 31,712 SF
ON SITE LANDSCAPE (IN SCOPE):	3,778 SF

sheet index

landscape data table

SITE AREA	31,712 SF	0.728 AC
ROW AREA	-	-
LANDSCAPE AREA		
ON-SITE LANDSCAPE AREA	3,778 SF	0.063 AC
OFF-SITE LANDSCAPE AREA	-	-
TOTAL	3,778 SF	0.063 AC
OPEN SPACE		
REQUIRED	-	-
PROVIDED	3,778 SF	0.063 AC
ACTIVE	-	-
PASSIVE	3,778 SF	0.063 AC
TURF AREA		
ON-SITE		
ARTIFICIAL	-	-
LIVE	-	-
OFF-SITE		
ARTIFICIAL	-	-
LIVE	-	-
INORGANIC GROUND COVER		
ON-SITE	3,778 SF	0.063 AC
DECOMPOSED GRANITE, 3/4", 2-IN DEPTH		
OFF-SITE	-	-
DECOMPOSED GRANITE, 3/4", 2-IN DEPTH		



vicinity map
not to scale

planting notes (not approved by city)

1. THE SUB-CONTRACTOR SHALL MARK AND CONFIRM LOCATIONS OF UNDERGROUND UTILITIES PRIOR TO EXCAVATION. CONFLICTS SHALL BE REPORTED TO THE LANDSCAPE ARCHITECT FOR RESOLUTION.
2. PLANT MATERIALS SPECIFIED SHALL BE SUBJECT TO HAND SELECTION BY THE LANDSCAPE ARCHITECT AT THE NURSERY.
3. FINISH GRADE OR TOP OF D.G. (WHICHEVER IS HIGHER) SHALL BE 1-1/2" BELOW ADJACENT CONCRETE OR OTHER PAVED SURFACES.
4. LANDSCAPE CONTRACTOR IS RESPONSIBLE FOR ALL PLANTS SHOWN ON PLANTING PLAN. THE LANDSCAPE CONTRACTOR SHALL BE RESPONSIBLE FOR ACCURATE PLANT COUNTS. IF ANY DISCREPANCIES SHOULD ARISE WITH REGARDS TO PLANT QUANTITIES THE LANDSCAPE CONTRACTOR SHALL NOTIFY THE LANDSCAPE ARCHITECT WITHIN A PERIOD OF 48 HOUR FOR DISCUSSION.
5. CONTRACTOR TO STAKE ALL TREE, PALM, AND SHRUB LOCATIONS FOR LANDSCAPE ARCHITECT'S APPROVAL PRIOR TO PLANTING.
6. LANDSCAPE ARCHITECT WILL NOT BE RESPONSIBLE FOR LOCATION AND PLACEMENT OF TREES AND PALMS UNLESS THE LOCATION WAS APPROVED BY LANDSCAPE ARCHITECT.
7. ALL TREE AND PALM CANOPIES MUST BE A MINIMUM OF 3'-5' FROM ANY BUILDING WALLS OR BUILDING WINDOWS WHEN THE PLANT REACHES IT'S MATURE SIZE.
8. ALL PLANT MATERIALS SHALL BE SIZED ACCORDING TO THE ARIZONA NURSERY ASSOCIATION STANDARDS. PLANT MATERIAL SIZES NOT ESTABLISHED PER A.N.A. STANDARDS SHALL BE SIZED ACCORDING TO THE AMERICAN ASSOCIATION OF NURSERYMEN STANDARDS.
9. ALL NEWLY INSTALLED TREES ARE TO BE STAKED IN PLACE PER THE LANDSCAPE ARCHITECT'S DETAILS FOUND WITHIN THE PLAN SET OR WITHIN THE LANDSCAPE ARCHITECT'S DETAIL AND SPECIFICATION BOOKLET DEVELOPED FOR THE PROJECT.
10. ACID ETCH IMPERVIOUS SOILS AS REQUIRED AT PROPOSED TREE LOCATIONS TO ENSURE PLANT HEALTH AND VITALITY.
11. SUB-CONTRACTOR TO TREAT ALL D.G. AREAS WITHIN THE LIMITS OF CONSTRUCTION WITH ONE FINAL APPLICATION OF AN APPROVED PRE-EMERGENT HERBICIDE AT THE TIME OF ACCEPTANCE BY THE OWNER.
12. CACTI SHALL RECEIVE NO SUPPLEMENTAL IRRIGATION UNLESS OTHERWISE NOTED OR IDENTIFIED WITHIN THE LANDSCAPE ARCHITECT'S IRRIGATION DRAWINGS.
13. NO PLANT SUBSTITUTIONS, TYPE, OR QUANTITY DEVIATIONS FROM THE APPROVED LANDSCAPE OR IRRIGATION PLANS WITHOUT PERMISSION FROM THE LANDSCAPE ARCHITECT.
14. ALL R.O.W. PLANT MATERIAL TO BE IN COMPLIANCE WITH THE ARIZONA DEPARTMENT OF WATER RESOURCES LOW WATER USE PLANT LIST.
15. EXISTING TREES AND SHRUBS IN R.O.W. TO REMAIN OR BE RELOCATED BY CONTRACTOR. ANY PLANT MATERIAL DAMAGED OR DESTROYED WILL BE REPLACED IN KIND BY THE CONTRACTOR.
16. ALL LANDSCAPE AREAS SHALL RECEIVE 2" D.G. UNLESS NOTED. COLOR TO BE SELECTED BY OWNER UNLESS NOTED. ALL D.G. SAMPLES SHALL BE SUBMITTED TO THE LANDSCAPE ARCHITECT FOR APPROVAL.
17. ROUGH GRADING TO WITHIN +0.10 FOOT, INCLUDING ALL BERMS AND/OR SWALES AND RETENTION AREAS WILL BE PROVIDED BY BUILDER / DEVELOPER OR THE OWNER'S AGENT PRIOR TO PLANT INSTALLATION.
18. ANY DISCREPANCIES FOUND BETWEEN PLANS, SPECIFICATIONS, AND SITE SHALL BE BROUGHT TO THE ATTENTION OF THE LANDSCAPE ARCHITECT FOR RESOLUTION.
19. THE LANDSCAPE ARCHITECT HAS THE OPTION TO REJECT ANY PLANT MATERIALS DEEMED UNACCEPTABLE UPON DELIVERY TO SITE.
20. FINAL BUILDING PERMIT CANNOT BE OBTAINED UNTIL BONDING ON APPROVED ASSURANCES IS PROVIDED FOR LANDSCAPING WITHIN THE RIGHT-OF-WAY.
21. ACKNOWLEDGE REQUIREMENT OF COUNTY DUST CONTROL PERMIT AND LANDSCAPE PERMIT FOR ALL LANDSCAPE WORK WITHIN THE PROJECT ON RESIDENTIAL, COMMERCIAL, AND INDUSTRIAL SUBDIVISIONS.
22. ALL ON-SITE SIDEWALKS SHALL HAVE A MAXIMUM SLOPE OF 1:20 WITH THE MAXIMUM CROSS SLOPE OF 1:50. ALL CURBS MUST PROVIDE ACCESSIBLE RAMPS PURSUANT TO THE AMERICAN WITH DISABILITIES ACT (ADA) STANDARDS.
23. TREES, SHRUBS, VINES, GROUNDCOVER, AND TURF WHICH HAVE TO BE REPLACED UNDER TERMS OF THE GUARANTEE, SHALL BE GUARANTEED FOR AN ADDITIONAL SIXTY (60) DAYS FROM THE DATE OF REPLACEMENT.
24. ALL POOLS, SIGNS AND MONUMENT WALLS REQUIRE A SEPARATE BUILDING APPROVAL AND PERMITS.
25. THE CONTRACTOR SHALL PROVIDE ALL REQUIRED SHOP DRAWINGS TO THE LANDSCAPE ARCHITECT FOR REVIEW AND APPROVAL PRIOR TO THE BEGINNING OF CONSTRUCTION. REQUIRED SHOP DRAWINGS MAY INCLUDE BUT ARE NOT LIMITED TO WALLS, COLUMNS, ENTRY GATES, POOL FENCE AND/OR WATER FEATURES. SHOULD A DISPUTE ARISE WITH ANY DESIGN ELEMENT REQUIRING SHOP DRAWINGS, THE LANDSCAPE ARCHITECT SHALL ONLY ASSUME RESPONSIBILITY IF THE SHOP DRAWINGS IN QUESTION HAVE BEEN REVIEWED AND APPROVED BY THE LANDSCAPE ARCHITECT.
26. THERE ARE EXISTING OVERHEAD POWER LINES ON THIS PROJECT

ALL TREES WITHIN THE SIGHT TRIANGLE AND DISTANCE AREAS SHALL BE MAINTAINED TO A MINIMUM CANOPY CLEARANCE OF 7'-0".

27. THERE ARE NO EXISTING TREES ON SITE.
28. THERE IS NO FIRE LINE BACK FLOW PREVENTER ON THIS SITE.

irrigation notes (not approved by city)

1. IRRIGATION DESIGN SHALL COMPLY WITH THE INTENT OF THE CITY OF SURPRISE WATER CONSERVATION, LANDSCAPING AND WATER WASTE ORDINANCE.
2. CONTRACTOR TO CONTACT THE LOCAL UNDERGROUND UTILITY SERVICES FOR UTILITY LOCATION AND IDENTIFICATION.
3. STAKE ALL UTILITIES, INCLUDING SEWER AND DRAINAGE PRIOR TO ANY EXCAVATION. CONFLICTS SHALL BE REPORTED TO THE ARCHITECT/LANDSCAPE ARCHITECT FOR RESOLUTION.
4. PERFORM EXCAVATION IN THE VICINITY OF UNDERGROUND UTILITIES WITH CARE AND IF NECESSARY, BY HAND. THE CONTRACTOR BEARS FULL RESPONSIBILITY FOR THIS WORK AND DISRUPTION OR DAMAGE TO UTILITIES SHALL BE REPAIRED IMMEDIATELY AT NO EXPENSE TO THE OWNER.
5. REFER TO CIVIL ENGINEER'S UTILITY AND PRECISE GRADING PLANS FOR UTILITY LOCATION AND FINAL GRADING. IF ACTUAL SITE CONDITIONS VARY FROM WHAT IS SHOWN ON THE PLANS, CONTACT THE ARCHITECT FOR DIRECTION AS TO HOW TO PROCEED. VERIFY LOCATIONS OF PERTINENT SITE IMPROVEMENTS INSTALLED UNDER OTHER SECTIONS. IF ANY PART OF THIS PLAN CANNOT BE FOLLOWED DUE TO SITE CONDITIONS, CONTACT ARCHITECT FOR INSTRUCTIONS PRIOR TO COMMENCING WORK.
6. THE DESIGN OF THE IRRIGATION SYSTEM SHALL BE THE RESPONSIBILITY OF OF THE CONTRACTOR PER THE PROJECT SPECIFICATIONS. THE CONTRACTOR SHALL SUBMIT IRRIGATION AS-BUILT DESIGN DRAWINGS AND ASSOCIATED DOCUMENTATION TO THE ARCHITECT FOR APPROVAL PRIOR TO INSTALLATION. THE IRRIGATION SYSTEM SHALL BE RUN WITH A FULLY AUTOMATED IRRIGATION CONTROLLER. RUN TIME SHALL BE ADJUSTED ACCORDING TO SEASON, LOCATION AND PLANT PERFORMANCE. DRIP EMITTERS SHALL BE USED FOR ALL PLANT MATERIAL EXCEPT SOD AND POSSIBLY PERENNIAL GROUNDCOVERS. THESE AREAS SHALL BE IRRIGATED WITH SPRAY EMITTERS APPROPRIATELY DESIGNED TO AVOID OVERSPRAY ONTO IMPERMEABLE SURFACES AND ADJACENT PAVING.
7. IRRIGATION EQUIPMENT NOT OTHERWISE DETAILED OR SPECIFIED SHALL BE INSTALLED PER MANUFACTURER'S RECOMMENDATIONS AND SPECIFICATIONS.
8. IF THERE ARE ANY DISCREPANCIES WITH VALVE SIZES, METER SIZES, MAINLINE SIZES, WATER PRESSURE, COVERAGE, CONTROLLER SIZES, OBSTRUCTIONS, GRADE DIFFERENCES OR LAYOUT - THE CONTRACTOR IS TO NOTIFY THE LANDSCAPE ARCHITECT WITHIN ONE BUSINESS DAY TO DISCUSS AND ADDRESS THE ISSUE(S).
9. DEPTH OF BURY OF THE MAINLINE SHALL BE A MINIMUM OF 18". DEPTH OF BURY ON LATERAL PIPING SHALL BE A MINIMUM OF 12". THE MAIN LINE AND LATERAL LINES SHALL BE SCHEDULE 40 PVC SOLVENT WELD PIPE WITH INTEGRAL SOLVENT WELD BELLS. CURVED TRENCHES AND BENDING OF PIPE TO AVOID FITTINGS WILL NOT BE ACCEPTED.
10. FOR METERS THAT OPERATE MORE GALLONS PER MINUTE (G.P.M.) THAN THE METER'S CAPACITY, CONTRACTOR SHALL PROGRAM THE CONTROLLER TO OPERATE VALVES TO THE MAXIMUM METER CAPACITY. A METER MAY NEED TO HAVE SEVERAL RUN TIMES TO OPERATE ALL VALVES ASSOCIATED WITH THE METER.
11. POINT OF CONNECTION: A CONNECTION TO POTABLE WATER FOR IRRIGATION PURPOSES WILL BE MADE ON THE PROPERTY, SEE UTILITY PLANS FOR EXACT LOCATION OF METER. VALVE BOXES AND EQUIPMENT SHALL BE SHIELDED FROM VIEW. CONTRACTOR TO VERIFY WATER PRESSURE AT WATER METER PRIOR TO START OF WORK. A BOOSTER PUMP MAY BE REQUIRED IF THE PRESSURE IS TOO LOW.
12. BACKFLOW PREVENTER TO BE VERIFIED IN FIELD BY LANDSCAPE ARCHITECT OR OWNER PRIOR TO INSTALLATION.
13. ELECTRICAL POWER/PEDESTAL(S) LOCATIONS TO BE PROVIDED BY OTHERS. FINAL LOCATION OF CONTROLLER TO BE STAKED AND APPROVED BY LANDSCAPE ARCHITECT OR OWNER PRIOR TO INSTALLATION.
14. ALL 24 VOLT WIRING FROM CONTROLLER TO ELECTRIC VALVES SHALL BE MINIMUM 14 GAUGE SOLID COPPER DIRECT BURIAL WIRE.
15. PER ARIZONA HOUSE BILL 2256, A BLUE 18 GAUGE TRACER WIRE SHALL BE INSTALLED WITH 2" AND LARGER MAINLINES. 6" INCHES OF WHICH SHALL BE COILED INSIDE THE CONTROLLER.
16. MAINLINE AND LATERAL PIPING IS SCHEMATIC. LOCATE ALL MAINLINES AND EQUIPMENT OUTSIDE OF THE PUBLIC R.O.W. AND P.U.E. BUT WITHIN THE LANDSCAPE AREAS. CONTRACTOR TO ADJUST AS NECESSARY IN FIELD.
17. ALL MAINLINES, LATERAL LINES AND WIRING UNDER PAVEMENT TO BE IN SEPARATE SCHEDULE 80 PVC SLEEVES. PVC SCHEDULE SLEEVES SHALL BE A MINIMUM INSIDE DIAMETER OF 2 TIMES THE IRRIGATION LINE DIAMETER. VALVE WIRING SHALL BE WITHIN SEPARATE ADJACENT SLEEVE.
18. THE CONTRACTOR SHALL PROVIDE IN-LINE AND/OR SPRINKLER CHECK VALVES AS REQUIRED THROUGHOUT THE IRRIGATION SYSTEM LOCATED WITHIN A SLOPED AREAS TO PREVENT LOW IRRIGATION HEAD DRAINAGE.
19. PROVIDE SEPARATE VALVES FOR TREES AND SHRUBS. ALL DRIP ZONE PVC SHALL BE A MINIMUM 3/4" CLASS 200.
20. ALL PIPING IS TO BE FLUSHED FOR A PERIOD OF 10 MINUTES PRIOR TO THE INSTALLATION OF EMITTERS. CONTRACTOR SHALL BE RESPONSIBLE FOR NECESSARY FLUSHING OF SYSTEM DUE TO CLOGGING FOR THE DURATION OF THE LANDSCAPE MAINTENANCE PER SPECIFICATIONS.
21. MAXIMUM LENGTH OF MICROTUBING ON DRIP ZONE TO BE 5'. WITH 6" MIN. EXPOSED AT THE EMITTER END.
22. CONTRACTOR TO GUARANTEE 100% IRRIGATION COVERAGE FOR ALL LAWN AREAS. CONTRACTOR TO NOTIFY LANDSCAPE ARCHITECT OF ANY LAWN AREAS WITHOUT FULL COVERAGE.
23. IRRIGATION HEADS SHALL BE SET PERPENDICULAR TO FINISH GRADE UNLESS OTHERWISE SPECIFIED.

city of surprise general notes

1. ALL LANDSCAPING SHALL BE IN ACCORDANCE WITH THE DEPARTMENT OF WATER RESOURCES' WATER CONSERVATION GUIDELINES. PLANT MATERIAL SHALL BE SELECTED FROM THE APPROVED DWR PLANT LIST.
2. NO LANDSCAPED AREAS SHALL BE USED FOR THE PARKING OF VEHICLES OR THE STORAGE OR DISPLAY OF MATERIALS, SUPPLIES OR MERCHANDISE.
3. ALL LANDSCAPING MATERIALS AND EQUIPMENT AS PROVIDED FOR ON THE APPROVED FINAL LANDSCAPE PLAN FOR ANY RESIDENTIAL, COMMERCIAL, OR INDUSTRIAL DEVELOPMENT, OR IN THE CASE OF PHASED DEVELOPMENT, FOR THE PARTICULAR PHASE, SHALL BE INSTALLED PRIOR TO THE ISSUANCE OF ANY OCCUPANCY PERMIT, UNLESS A FINANCIAL GUARANTEE IN THE AMOUNT OF ONE HUNDRED FIFTY PERCENT OF THE COST OF THE MATERIALS AND LABOR IS SUBMITTED TO THE CITY. FINANCIAL GUARANTEES SHALL BE OF THE TYPES AND FORMS AS PROVIDED IN CHAPTER 16.24 OF THE CITY CODE. IN THE EVENT THAT A CASH DEPOSIT IS MADE FOR THE PURPOSE OF A FINANCIAL GUARANTEE, NO INTEREST SHALL BE PAID BY THE CITY UNLESS SPECIFIC ARRANGEMENTS ARE MADE FOR SUCH INTEREST TO BE PAID, PRIOR TO CITY ACCEPTANCE OF THE DEPOSIT. (ORD. 97-16 S 22, 1997; ORD. 86-6S8-803, 1986)
4. TREE ROOT BARRIERS ARE REQUIRED PER CITY OF SURPRISE ENGINEERING DEVELOPMENT STANDARDS DETAIL 8-14 WHEN TREES ARE WITHIN THREE FEET OF SIDEWALKS, CURBS, PAVEMENT OR WALLS.
5. THE LANDSCAPE AND IRRIGATION DESIGN WILL COMPLY WITH CITY OF SURPRISE EDS PER CHAPTER 8.
6. ALL LANDSCAPING SHALL BE LOCATED A MINIMUM OF FIVE FEET FROM ANY FIRE HYDRANT, WATER METER, OR VAULT.
7. SIGHT DISTANCE REQUIREMENTS ON ARTERIALS AND COLLECTORS WILL ADHERE TO SURPRISE DETAIL 4-01. SIGHT VISIBILITY WITHIN THE OBSTRUCTED VIEW EASEMENT AREA AND IN FRONT OF STOP SIGNS MUST MEET OR EXCEED REQUIREMENTS IN SURPRISE DETAILS 4-01 AND 4-02. TREES, SHRUBS, AND OTHER LANDSCAPING ARE PERMITTED WITHIN THE SIGHT VISIBILITY TRIANGLE PROVIDED LIMBS, LEAVES, NEEDLES OR OTHER FOLIAGE ARE KEPT BELOW 30 INCHES OR ABOVE 84 INCHES, PER SURPRISE EDS DETAIL 4-01.
8. PLANT MATERIAL SHALL NOT BE SEVERELY PRUNED BUT MAINTAINED BASED ON THE SPECIFIC PLANT SPECIES SUCH THAT THE NATURAL GROWTH PATTERN, FLOWERING CYCLE, AND CHARACTERISTIC FORM ARE NOT SIGNIFICANTLY ALTERED. REFER TO THE ARIZONA LANDSCAPE CONTRACTORS ASSOCIATION (ALCA) FOR BEST PRACTICES. (SEC 107-2.2.H).
9. THE IRRIGATION SYSTEM SHALL BE REGULARLY TESTED AND SHALL BE REPAIRED OR REPLACED AS NECESSARY TO PREVENT EXCESS WATER SUPPLY TO THE PLANTED AREAS, RUNOFF ONTO CURBS AND PAVEMENT, CLOGGED EMITTERS, AND FLOODING OF LOW-LYING AREAS.
10. ALL IRRIGATION SYSTEMS WILL BE INSTALLED WITH PURPLE PIPE.

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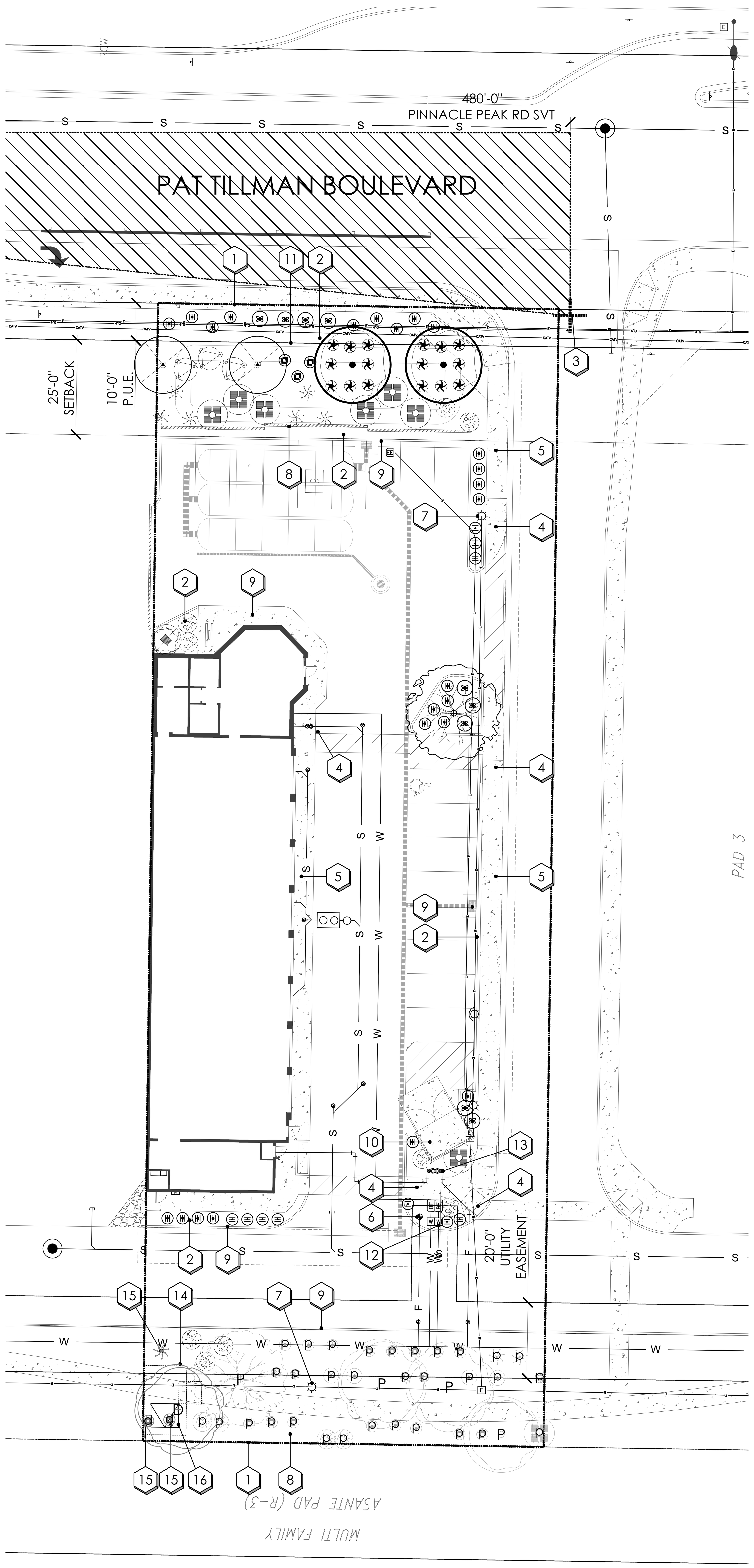
BRAKE MASTERS
163rd AVENUE &
PINNACLE PEAK ROAD
SURPRISE, AZ
COVER SHEET & NOTES

PROJECT:
SHEET TITLE:

JOB NO:	25-065
DATE:	01.28.2026
DRAWN BY:	B. PAUL
SUBMITTED:	-
REVISED:	

SHEET
L0.01



plant legend

	botanical name / common name	emitters	size	qty	comments
trees					
	PARKINSONIA X. 'DESERT MUSEUM' DESERT MUSEUM	(5 @ 1.0 GPH)	24" BOX	2	5.0H., 3.0W., 1.0CAL. STAKE IN PLACE
	ULMUS PARVIFOLIA EVERGREEN ELM	(6 @ 2.0 GPH)	24" BOX	1	7.0H., 3.0W., 1.0CAL. STAKE IN PLACE
	VITEX AGNUS-CASTUS 'ALBA' ALBA OR ROSEA CAHSTE TREE	(6 @ 2.0 GPH)	24" BOX	2	5.0H., 3.0W., 1.0CAL. STAKE IN PLACE
shrubs					
	DODONAEA VISCOSA HOPSEED BUSH	(1 @ 1.0 GPH)	5 GAL.	1	
	EREMOPHILA HYGROPHANA 'BLUE BELLS' EMU	(1 @ 1.0 GPH)	5 GAL.	3	
	TECOMA X 'SIERRA APRICOT' SIERRA APRICOT ESPERANZA	(1 @ 1.0 GPH)	5 GAL.	7	
accents					
	ALOE BARBADENSIS ALOE VERA		5 GAL.	16	
	AGAVE VILMORINIANA OCTOPUS AGAVE		5 GAL.	3	
	HESPERALOE FUNIFERA GIANT HESPERALOE		5 GAL.	6	
	MUHLENBERGIA LINDHEIMERI AUTUMN GLOW		5 GAL.	6	
groundcover					
	LANTANA 'NEW GOLD' NEW GOLD LANTANA		1 GAL.	24	
	CALLISTEMON 'LITTLE JOHN' DWARF CALLISTEMON		1 GAL.	9	
	LANTANA MONTEVIDENSIS PURPLE LANTANA		1 GAL.	10	
inerts					
	1/2" SCREENED DECOMPOSED GRANITE APACHE GOLD ROCK PROS		1/2" SCREENED	3,756 S.F.	2" MINIMUM IN ALL PLANTERS

off-site plant legend - seperate permit

	botanical name / common name	qty
trees		
P	PARKINSONIA X. 'DESERT MUSEUM' DESERT MUSEUM	1
P	ULMUS PARVIFOLIA EVERGREEN ELM	1
P	QUERCUS VIRGINIANA SOUTHERN LIVE OAK	3
shrubs		
p	EREMOPHILA HYGROPHANA 'BLUE BELLS' EMU	12
p	TECOMA X 'SIERRA APRICOT' SIERRA APRICOT ESPERANZA	1
accents		
p	PEDILANTHUS MACROCARPUS SLIPPER PLANT	3
p	HESPERALOE FUNIFERA GIANT HESPERALOE	3
p	MUHLENBERGIA LINDHEIMERI AUTUMN GLOW	4
groundcover		
p	LANTANA 'NEW GOLD' NEW GOLD LANTANA	6
p	CALLISTEMON 'LITTLE JOHN' DWARF CALLISTEMON	4

planting key notes

1. PROPERTY LINE / RIGHT OF WAY LINE.
2. DECOMPOSED GRANITE IN ALL PLANTING AREAS.
3. SIGHT VISIBILITY TRIANGLE. MAXIMUM MATURE PLANT MATERIAL HEIGHT IN THE SIGHT VISIBILITY TRIANGLES IS 24 INCHES.
4. ACCESSIBLE RAMP. SEE CIVIL ENG. PLANS.
5. CONCRETE SIDEWALK. SEE CIVIL ENG. PLANS.
6. FIRE HYDRANT - 3'-0" CLEAR OF ALL PLANT MATERIAL.
7. SITE LIGHTING. SEE ARCH. PLANS.
8. SCREEN WALL. SEE ARCH. PLANS.
9. CURB. SEE CIVIL ENG. PLANS.
10. TRASH ENCLOSURE. SEE ARCH. SITE PLAN.
11. P.U.E. SEE CIVIL ENG. PLANS.
12. LANDSCAPE WATER METER.
13. FIRE LINE BACKFLOW PREVENTOR - SCREEN MAINTAIN 3' ACCESS & CLEARANCE PER MAG STANDARD DETAIL 362.
14. DEMO EXISTING TREE TO ACCOMMODATE FUTURE TRANSFORMER.
15. DEMO EXISTING SHRUBS TO ACCOMMODATE FUTURE TRANSFORMER.
16. PROPOSED TRANSFORMER LOCATION. MAINTAIN 2' ACCESS & CLEARANCE AROUND ALL EDGES. ALLOW FOR 12' CLEAR OPERATIONAL AREA IMMEDIATELY IN FRONT OF TRANSFORMER.

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NORTH

0' 20' 40' 60'

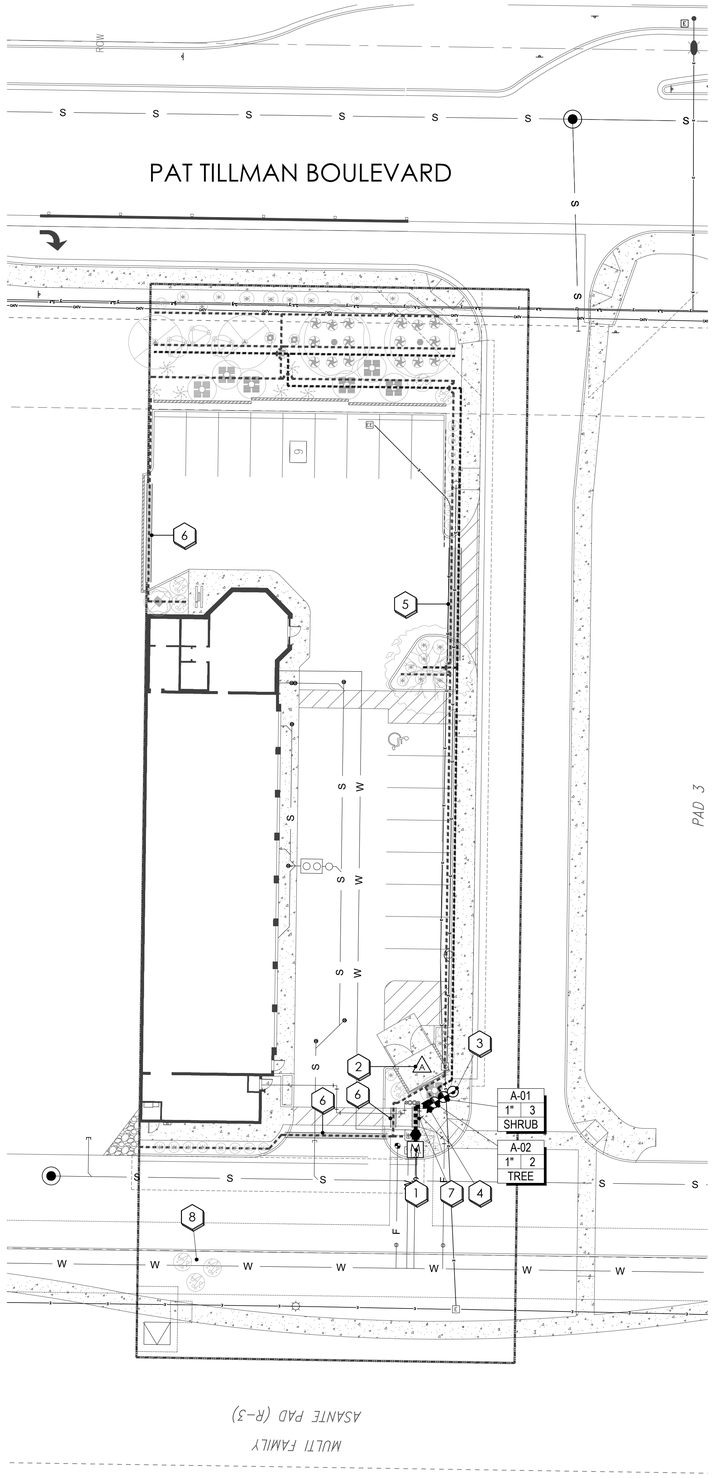
SCALE: 1" = 20'-0"

PROJECT:
BRAKE MASTERS
163rd AVENUE & PINNACLE PEAK ROAD
SURPRISE, AZ

SHEET TITLE:
PLANTING PLAN

JOB NO:	25-065
DATE:	03.10.2026
DRAWN BY:	B. PAUL
SUBMITTED:	-
REVISED:	

SHEET
L2.01
2 of 7



irrigation key notes

1. 1.0" WATER METER & BACKFLOW PREVENTER CONTRACTOR TO PROVIDE CAGE
2. WALL MOUNTED CONTROLLER LOCATED IN VANDAL PROOF WALL MOUNTED STAINLESS STEEL ENCLOSURE
3. QUICK COUPLING VALVE
4. ISOLATION VALVE
5. (2) 2" SLEEVES
6. (1) 2" SLEEVES
7. (1) 3" SLEEVES
8. IRRIGATE NEW SHRUBS WITH EXISTING SYSTEM

irrigation materials schedule

NOTES: THIS IRRIGATION SYSTEM TO USE THE FOLLOWING EQUIPMENT OR APPROVED EQUAL. REFER TO IRRIGATION DETAILS, NOTES AND SCHEDULES FOR ADDITIONAL INFORMATION. N/S DENOTES SYMBOL NOT SHOWN ON PLANS FOR CLARITY.

- M — 1" WATER METER: BY OTHERS, COORDINATE INSTALLATION WITH OWNER'S AUTHORIZED REPRESENTATIVE AND CONFIRM LOCATION OF METER. SIZE AS INDICATED.
- ⬢ — 1" BACKFLOW PREVENTION UNIT: FEBCO LF825YA REDUCED PRESSURE BACKFLOW PREVENTION ASSEMBLY. SIZE AS INDICATED. ASSEMBLY TO BE PLACED IN A GUARDSHACK (L5.02). SIZE TO MATCH WATER METER.
- A — CONTROLLER AND RAIN SWITCH: HUNTER HCC -0800-SS - (8) STATION CONTROLLER IN METAL WALL MOUNT STAINLESS STEEL ENCLOSURE WITH HUNTER RAIN CLICK SENSOR. MINIMUM NUMBER OF (8) STATIONS AND MOUNTING PER PLAN. X = CONTROLLER ID. FINAL LOCATION TO BE DETERMINED IN FIELD BY OWNER AND LANDSCAPE CONTRACTOR PRIOR TO INSTALLATION. ELECTRICAL POWER SOURCE BY OTHERS.
- ⧓ — ISOLATION VALVE: NIBCO 4660 SERIES PVC BALL VALVE, LINE SIZE.
- ⊖ — QUICK COUPLING VALVE: HUNTER HQ-44 -LRC -AW , WITH LOCKING COVER AND LK COVER KEY.
- ◔ — REMOTE CONTROL VALVE WITH PRESSURE REGULATOR: HUNTER ICZ-101-25 SERIES, SELF-FLUSHING ELECTRIC REMOTE CONTROL VALVE AND 25 PSI PRESSURE REGULATOR. SIZE AS INDICATED. INSTALL ONE ISOLATION VALVE PER TAP (TWO CONTROL VALVES MAX.) UPSTREAM FROM THE CONTROL VALVES.
- N/S — FLUSH CAP: PVC END CAP.
- N/S — DRIP EMITTER, TREE: BOWSMITH ML220 SERIES, MULTI-PORT 2 G.P.H DRIP EMITTER.
- N/S — DRIP EMITTER, SHRUB: BOWSMITH SL210 SERIES, SINGLE-PORT 1 G.P.H. DRIP EMITTER.

1" MAINLINE PIPE
3/4" LATERAL LINE, SHRUB
3/4" LATERAL LINE, TREE

VALVE DESIGNATOR:
A-01 — CONTROLLER AND STATION
1" — VALVE SIZE
2 — GALLONS PER MINUTE
TREE — VALVE TYPE

PVC SLEEVE: SCHEDULE 40 PVC SLEEVE. SIZE PER SLEEVING SCHEDULE AND/OR IRRIGATION PLANS.

N/S — DISTRIBUTION TUBING (SPAGHETTI): 0.25" X 0.17" NOMINAL, WITH DISCO BPS-187 BUG PLUG STAKES AND/OR DISCO BP-187 BUG PLUGS.

sleeving schedule

ALL SLEEVING SHALL BE SCHEDULE 80 PVC AND INSTALLED WITH A MIN. OFFSET AT ALL JOINTS TO PERMIT EASY INSTALLATION AND REMOVAL OF THE IRRIGATION LINES. MAINLINE PIPE, LATERAL PIPE, AND CONTROL WIRE SHALL BE PLACED IN SEPARATE SLEEVES. EXTEND ALL SLEEVES AT LEAST 12" BEYOND THE EDGES OF THE PAVEMENT AND "MARK" LOCATION BY DRIVING A 12" REBAR STAKE NEAR THE END OF EACH SLEEVE (TOP OF REBAR STAKE SHALL BE A MIN. OF 6" BELOW FINISH GRADE). SIZE OF SLEEVES SHALL BE AS FOLLOWS:

PIPE SIZE	SLEEVE SIZE
1/2" TO 3/4"	2" MINIMUM
1" TO 1-1/2"	3" MINIMUM
2"	4" MINIMUM

PIPE SIZE	SLEEVE SIZE
2-1/2" TO 3"	6" MINIMUM
4"	8" MINIMUM
6"	12" MINIMUM

pipe sizing schedule

ALL WATER SERVICES TO BE TYPE K COPPER. MAINLINE LESS THAN 3" SHALL BE A MINIMUM SCHEDULE 40 SOLVENT WELD. ALL MAINLINE PIPE 3" AND LARGER SHALL BE A MINIMUM CLASS 200 RING TYPE PIPE WITH DUCTILE IRON FITTINGS AND THRUST BLOCKING. ALL 1/2" LATERAL PIPE SHALL BE A MINIMUM CLASS 315 SOLVENT WELD. ALL LATERAL PIPE 3/4" AND ABOVE SHALL BE A MINIMUM CLASS 200 SOLVENT WELD. THE FOLLOWING PIPE SIZES ARE THE MINIMUM SIZES ALLOWED, PIPE SIZES SHOWN ON THE PLANS MAY BE LARGER TO COMPENSATE FOR HYDRAULIC LOSSES. SIZE ALL LATERAL PIPE TO MAINTAIN A MAXIMUM 10% PRESSURE DROP FROM THE VALVE TO THE MOST DISTANT POINT(S). ALL PVC FITTINGS SHALL BE SCHEDULE 80.

TYPE K COPPER		SCHEDULE 40		CLASS 200 & 315	
FLOW (GPM)	PIPE SIZE	FLOW (GPM)	PIPE SIZE	FLOW (GPM)	PIPE SIZE
0 - 3	1/2"	0 - 4	1/2"	0 - 6	1/2"
4 - 5	5/8"	5 - 8	3/4"	7 - 10	3/4"
6	3/4"	9 - 13	1"	11 - 17	1"
7 - 12	1"	14 - 23	1-1/4"	18 - 27	1-1/4"
13 - 18	1-1/4"	24 - 31	1-1/2"	28 - 35	1-1/2"
19 - 26	1-1/2"	32 - 52	2"	36 - 56	2"

emitter notes

1. INSTALL BOWSMITH #ML200 SERIES MULTI-PORT & #SL200 SERIES SINGLE-PORT EMITTERS PER EMITTER SCHEDULE. DO NOT SUBSTITUTE SINGLE EMITTERS FOR MULTI PORT EMITTERS.
2. INSTALL ALL EMITTERS UP SLOPE FROM PLANT MATERIAL.
3. INSTALL EMITTERS A MAXIMUM OF 8" FROM SHRUB PIT LOCATIONS AND 24" FROM TREE PIT LOCATIONS.
4. USE RIGID 3/4" CLASS 200 PVC AS EMITTER LATERALS THROUGHOUT AS SHOWN PER PLANS. USE RIGID 1/2" SCHEDULE 40 PVC AS DISTRIBUTION LATERALS THROUGHOUT AS REQUIRED. 1/2" DISTRIBUTION LATERALS ARE NOT SHOWN ON PLANS- SEE EMITTER DETAILS FOR DIRECTIONS OF USE.
5. INSTALL FLUSH VALVE END CAPS AT ENDS OF LATERAL PIPES AS SHOWN PER PLANS. INSTALL ALL FLUSH VALVE END CAPS IN A MINIMUM 9" ROUND, LOCKING VALVE BOX.
6. INSTALL ALL EQUIPMENT AS PER MANUFACTURERS' INSTRUCTIONS AND SPECIFICATIONS AND PROVIDE 100% WATER COVERAGE TO ALL TREES, SHRUBS, ACCENTS, AND GROUND COVERS.
7. IRRIGATION CONTRACTOR SHALL ENSURE EACH PLANT RECEIVES ADEQUATE WATER COVERAGE TO SUSTAIN A HEALTHY CONDITION.
8. EMITTER QUANTITIES SHOWN IN 'IRRIGATION SUMMARY' ARE ESTIMATED. CONTRACTOR TO VERIFY.

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REGISTERED LANDSCAPE ARCHITECT
CERTIFICATE NO. 57946
STEVE BRANDON PAUL
ARIZONA, U.S.A.
Expires 03/31/26

NORTH

0' 20' 40' 60'

SCALE: 1" = 20'-0"

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BRAKE MASTERS
163rd AVENUE & PINNACLE PEAK ROAD
SURPRISE, AZ

IRRIGATION PLAN

PROJECT:

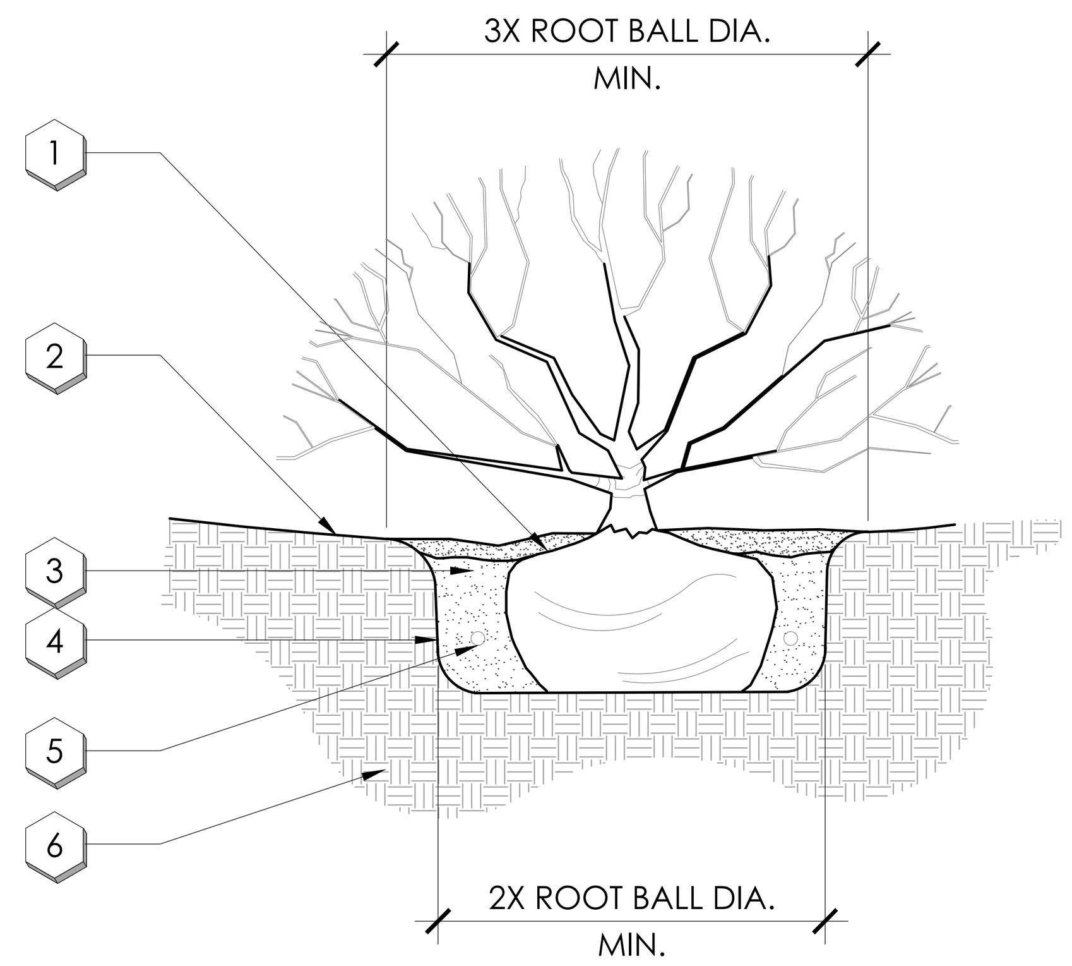
SHEET TITLE:

JOB NO:	25-065
DATE:	03.10.2026
DRAWN BY:	B. PAUL
SUBMITTED:	-
REVISED:	

SHEET
L3.01
3 of 7
FS25-1012

KEYNOTES:

1. TOP OF ROOT BALL AND WELL TO BE 2" BELOW SAUCER
2. FINISH GRADE MULCH PER SPECS.
3. BACKFILL W/ SPECIFIED SOIL MIX. WATER & TAMP TO REMOVE AIR POCKETS REFER TO SPECS.
4. SCARIFY SIDES OF PLANTING HOLE TO PREVENT GLAZING
5. FERTILIZER TABS PER SPECS. PLACE 6" BELOW FINISH GRADE.
6. SUBSOIL

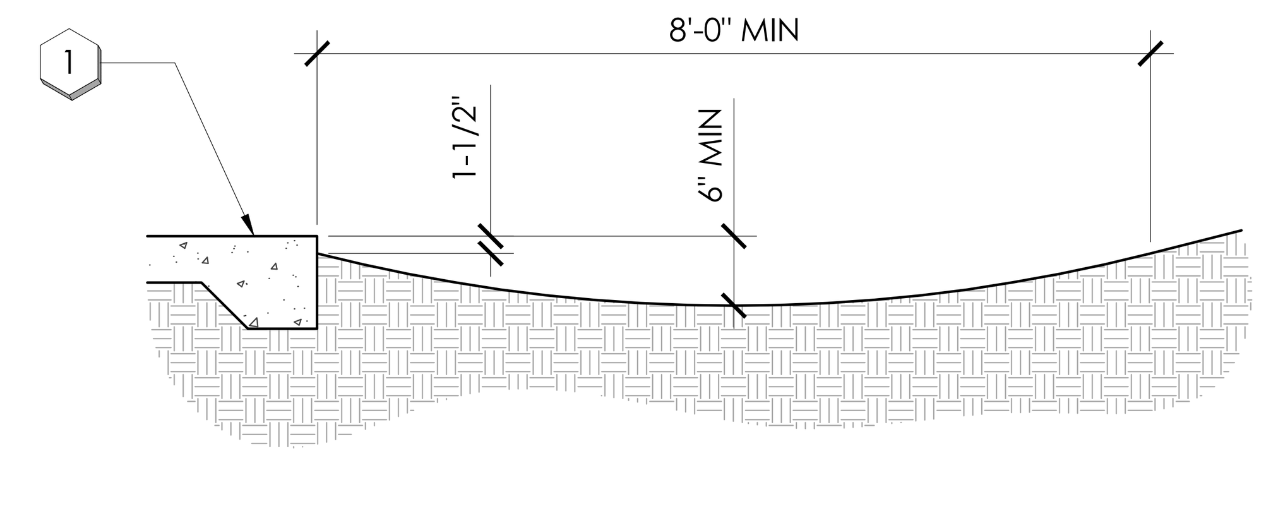


A SHRUB PLANTING

NOT TO SCALE

KEYNOTES:

1. EDGE OF CONCRETE



NOTES:
1. SWALE ADJACENT TO CONCRETE CURB OR SIDEWALK FOR LANDSCAPE IRRIGATION WATER CONTROL.

B SWALE

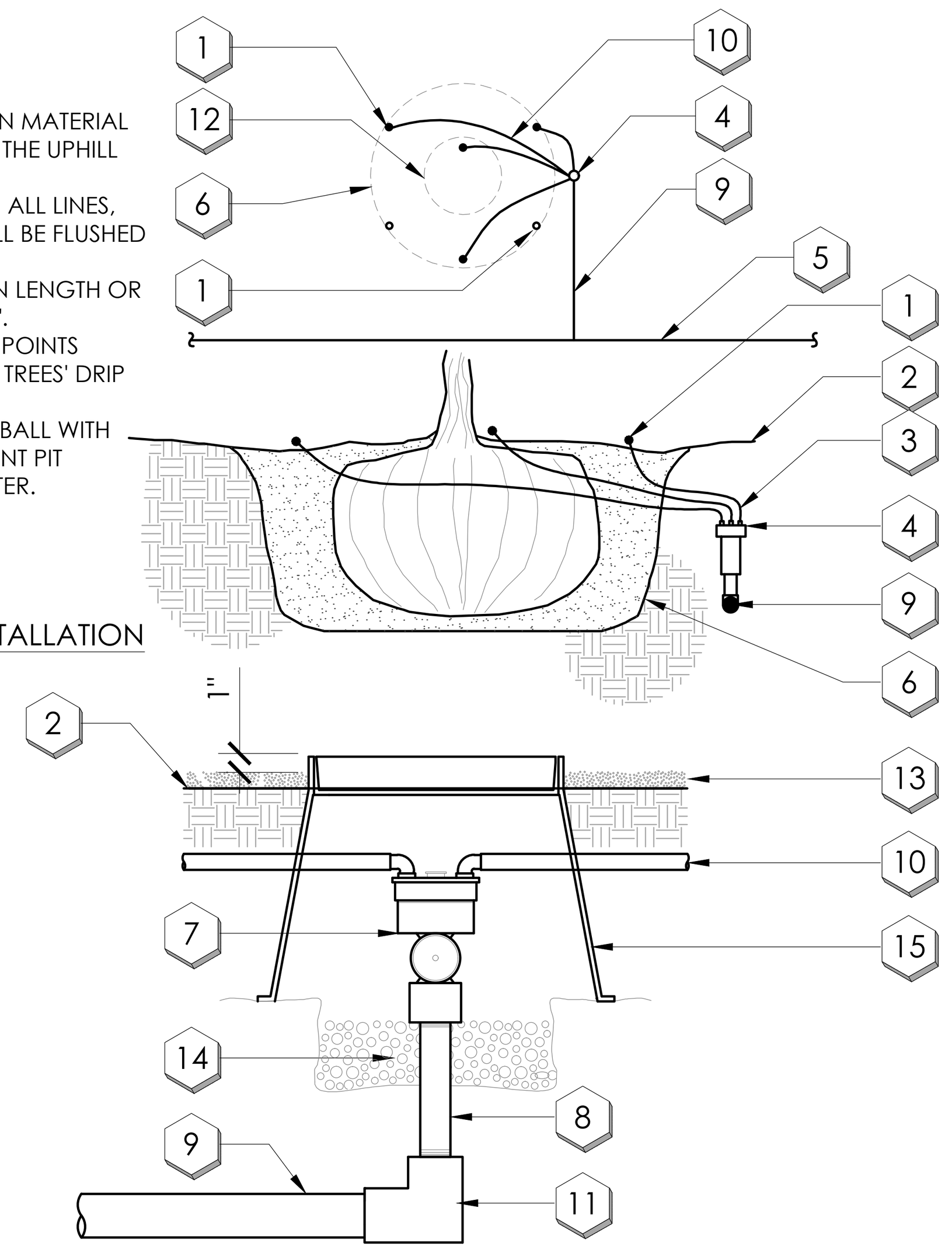
NOT TO SCALE

KEYNOTES:

1. EMISSION POINT WITH BUG PLUG
2. FINISH GRADE
3. MICROTUBING
4. DRIP EMITTER
5. PVC LATERAL
6. PLANT PIT
7. MULTI-PORT DRIP EMITTER
8. 1/2" SCH. 80 PVC NIPPLE
9. DISTRIBUTION LATERAL LINE (NOT SHOWN ON PLANS)
10. 0.160x0.220 MICROTUBING
11. SxT PVC FITTING
12. PLANT BALL
13. 2" DECOMPOSED GRANITE TOP DRESSING
14. 6" LAYER OF PEA GRAVEL
15. EMITTER ACCESS BOX (TAN COLOR)
16. FUTURE EMISSION POINT

NOTES:
1. INSTALL EMITTERS PER IRRIGATION MATERIAL SCHEDULE. PLACE EMITTERS ON THE UPHILL SIDE OF THE PLANT MATERIAL.
2. PRIOR TO EMITTER INSTALLATION ALL LINES, INCLUDING MICROTUBING SHALL BE FLUSHED A MIN. OF 10 MINUTES.
3. MICROTUBING NOT EXCEED 5' IN LENGTH OR BE EXPOSED NOT MORE THAN 6".
4. SPACE EMITTERS AND EMISSION POINTS EVENLY AROUND PERIMETER OF TREES' DRIP ZONE.
5. ONE EMISSION POINT TO PLANT BALL WITH ADDITIONAL POINTS WITHIN PLANT PIT PERIMETER- 36" FROM TREE CENTER.

TREE INSTALLATION



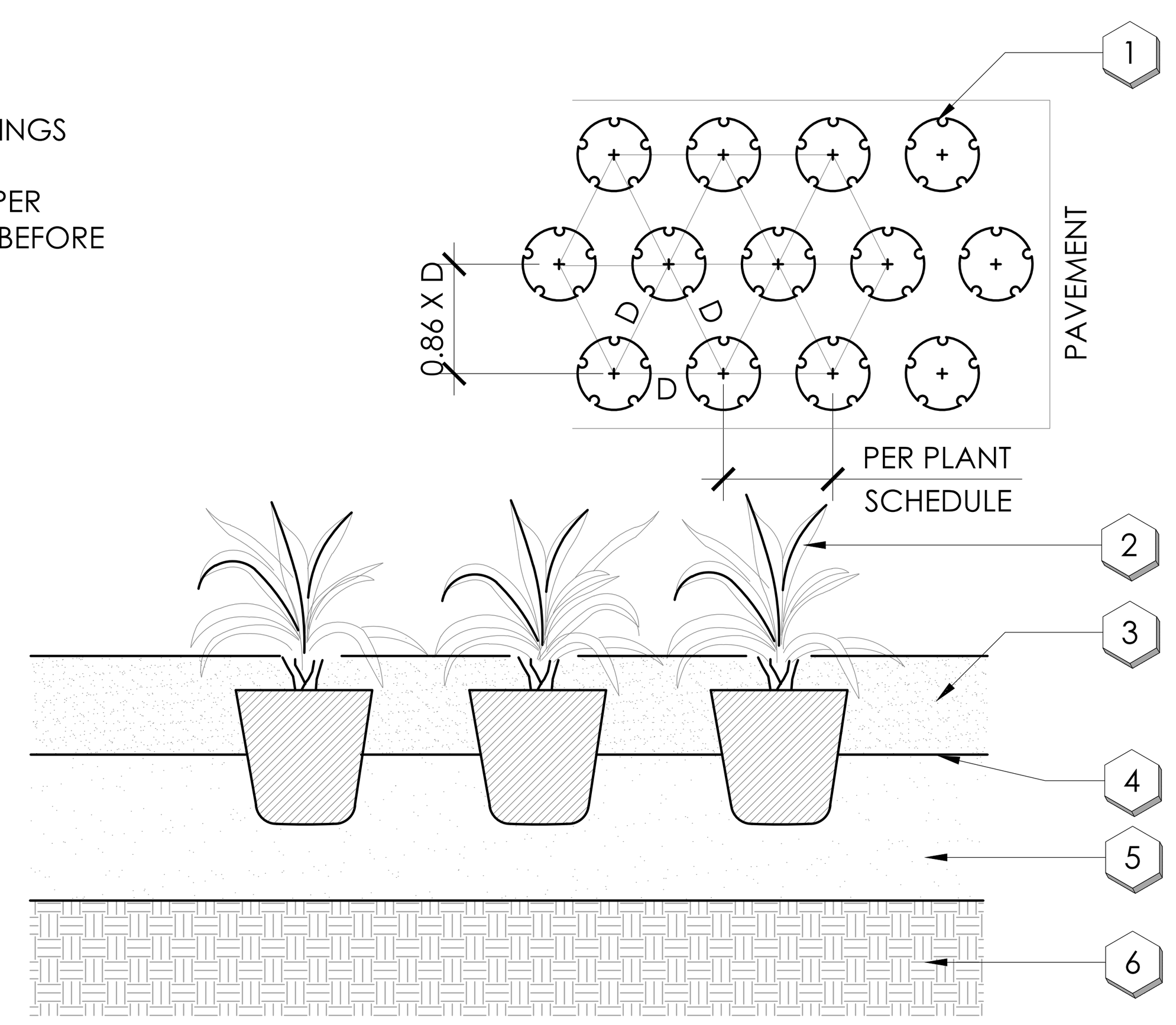
C MULTI-PORT EMITTER

NOT TO SCALE

KEYNOTES:

1. ATYPICAL SPACING AT END ROW
2. PLANTS / SPACING AS PER DRAWINGS
3. MULCH LAYER, DEPTH & TYPE AS PER DRAWINGS AND SPECS; INSTALL BEFORE PLANTING
4. FINISH GRADE
5. PREPARE BED AS PER DRAWINGS OR SPECS
6. UNDISTURBED SUBGRADE

NOTES:
1. TILL 2" OF POTTING OR PLANTING SOIL OR APPROVED EQUAL TO A DEPTH OF 6"
2. D = ON CENTER DIMENSION

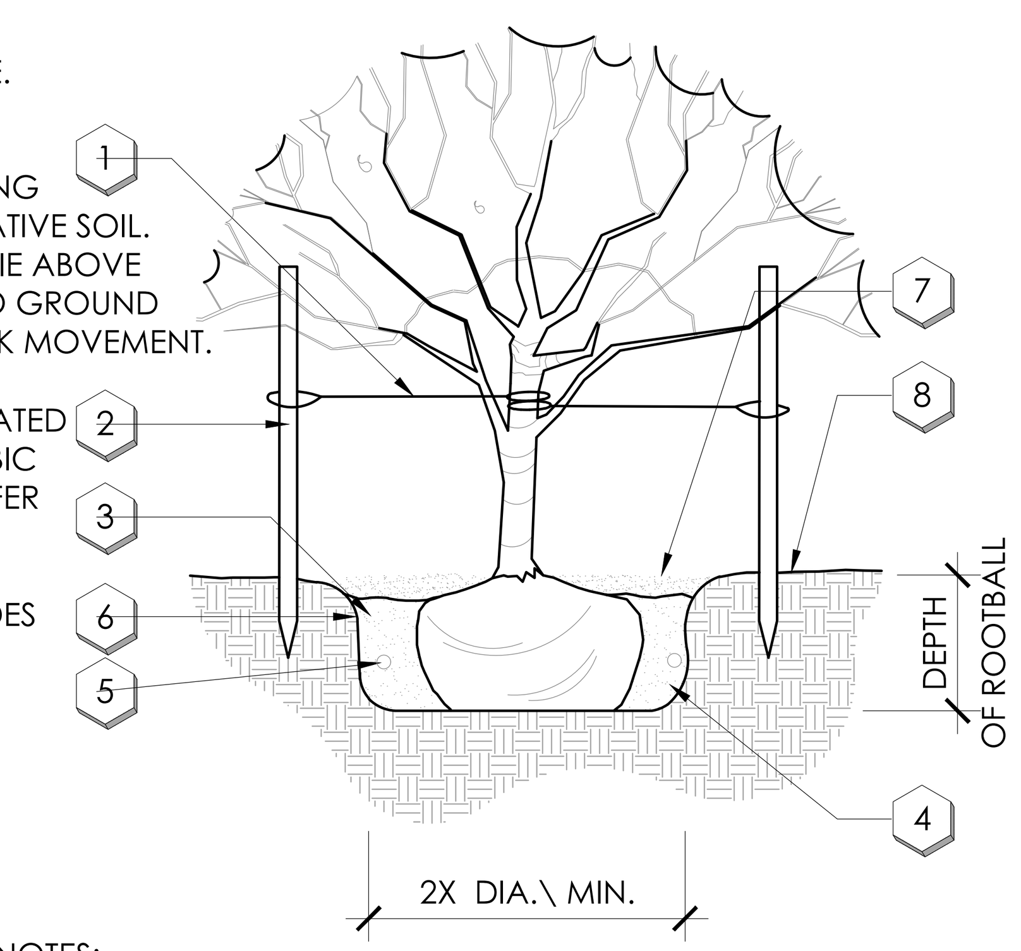


D GROUNDCOVER PLANTING

NOT TO SCALE

KEYNOTES

1. TREE TIES SHALL BE 12 GAUGE GALVANIZED ZINC COATED WIRE ENCASED N 1" DIA. RUBBER HOSE. INSTALL ABOVE MAIN BRANCHING STRUCTURE.
2. (2) HARDWOOD TREE STAKES (LENGTH AS REQ'D. SET STAKES VERTICALLY TO AVOID PENETRATING BALLS OR ROOT MASSES. STAKES ARE TO BE SET IN NATIVE SOIL. PLACE TREE TIES FOR MAXIMUM SUPPORT WITH TOP TIE ABOVE SCAFFOLD BRANCHES AND SECOND TIE MIDWAY YO GROUND LEVEL. AVOID RIGID RESTRAINT TO ALLOW FOR TRUNK MOVEMENT.
3. BACKFILL: 1 PART ORGANIC MULCH 2 PARTS EXCAVATED SOIL. 4 LBS. OF GYPSUM & 1 LBS. OF SULFUR PER CUBIC YARD. WATER & TAMP TO REMOVE AIR POCKETS. REFER SPECS.
4. PLANT PITS SHALL BE DUG TO PRODUCE VERTICAL SIDES AND FLAT NON - COMPACTED BUT FIRM BOTTOMS. THE WIDTH OF THE ROOTBALL
5. FERTILIZER TABS PER SPECS. PLACE 6" BELOW FINISH GRADE.
6. SCARIFY SIDES OF PLANTING HOLE TO PREVENT GLAZING
7. SOIL GRADE
8. FINISH GRADE. MULCH PER SPECS.



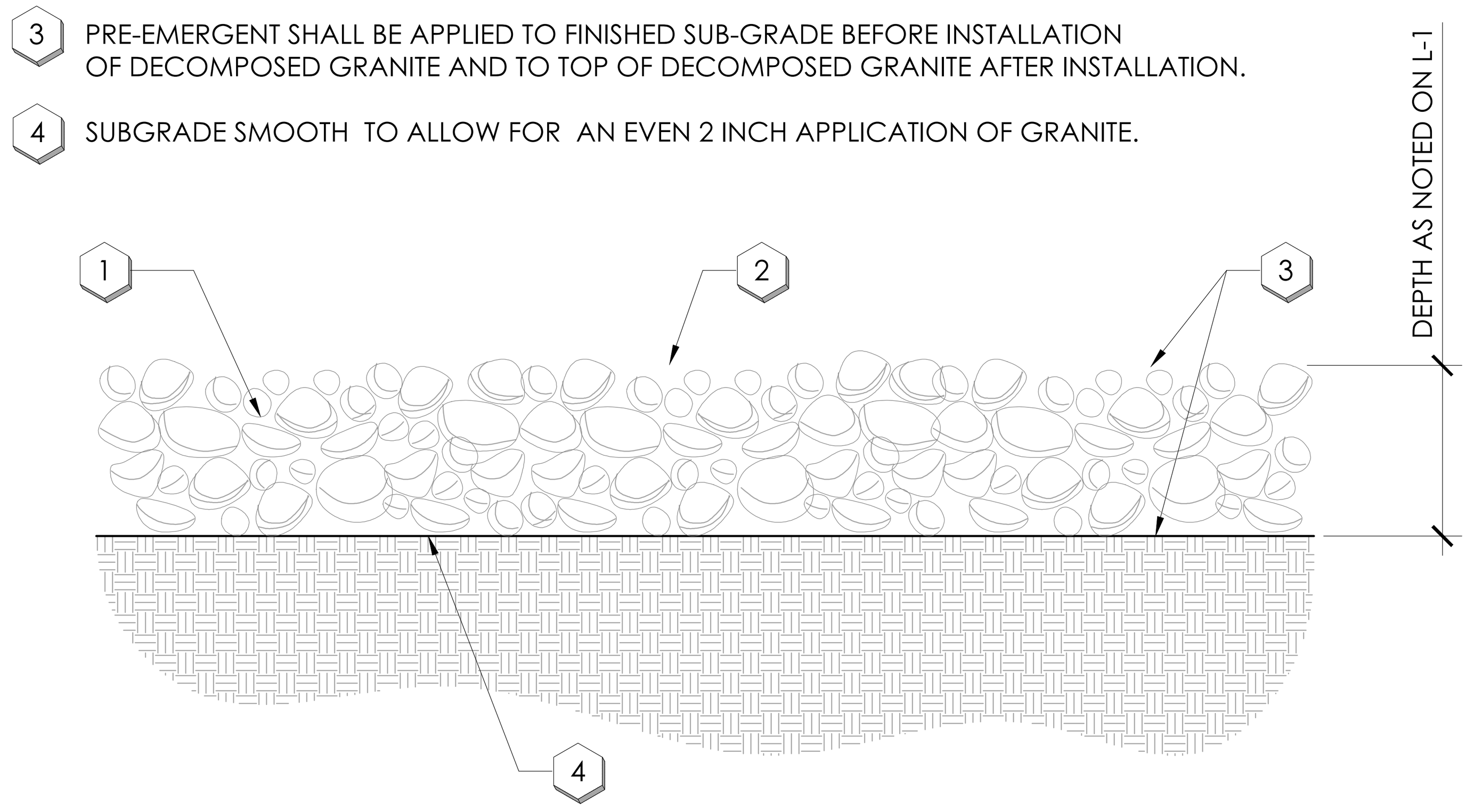
NOTES:
1. 8" HIGH ARBOR GUARD TO BE PLACED AROUND TRUNK OF TREES LOCATED IN TURF AREAS.
2. THE CROWN OF ROOT BALL SHALL BE AT GRADE WHEN PLATING IS COMPLETE.
3. SCARIFY SIDE OF ROOT BALL PRIOR TO PLANTING.
4. WIRE SHALL NOT TOUCH OR RUB ADJACENT TRUNKS OR BRANCHES.

E TREE PLANTING

NOT TO SCALE

KEYNOTES:

1. DECOMPOSED GRANITE: SEE SHEET COVER SHEET FOR SIZE, COLOR, & QUANTITY.
2. FINAL APPLICATION OF WEED CONTROL UPON COMPLETION OF GRANITE INSTALLATION. GRANITE INSTALLATION TO BE RAKED SMOOTH.
3. PRE-EMERGENT SHALL BE APPLIED TO FINISHED SUB-GRADE BEFORE INSTALLATION OF DECOMPOSED GRANITE AND TO TOP OF DECOMPOSED GRANITE AFTER INSTALLATION.
4. SUBGRADE SMOOTH TO ALLOW FOR AN EVEN 2 INCH APPLICATION OF GRANITE.

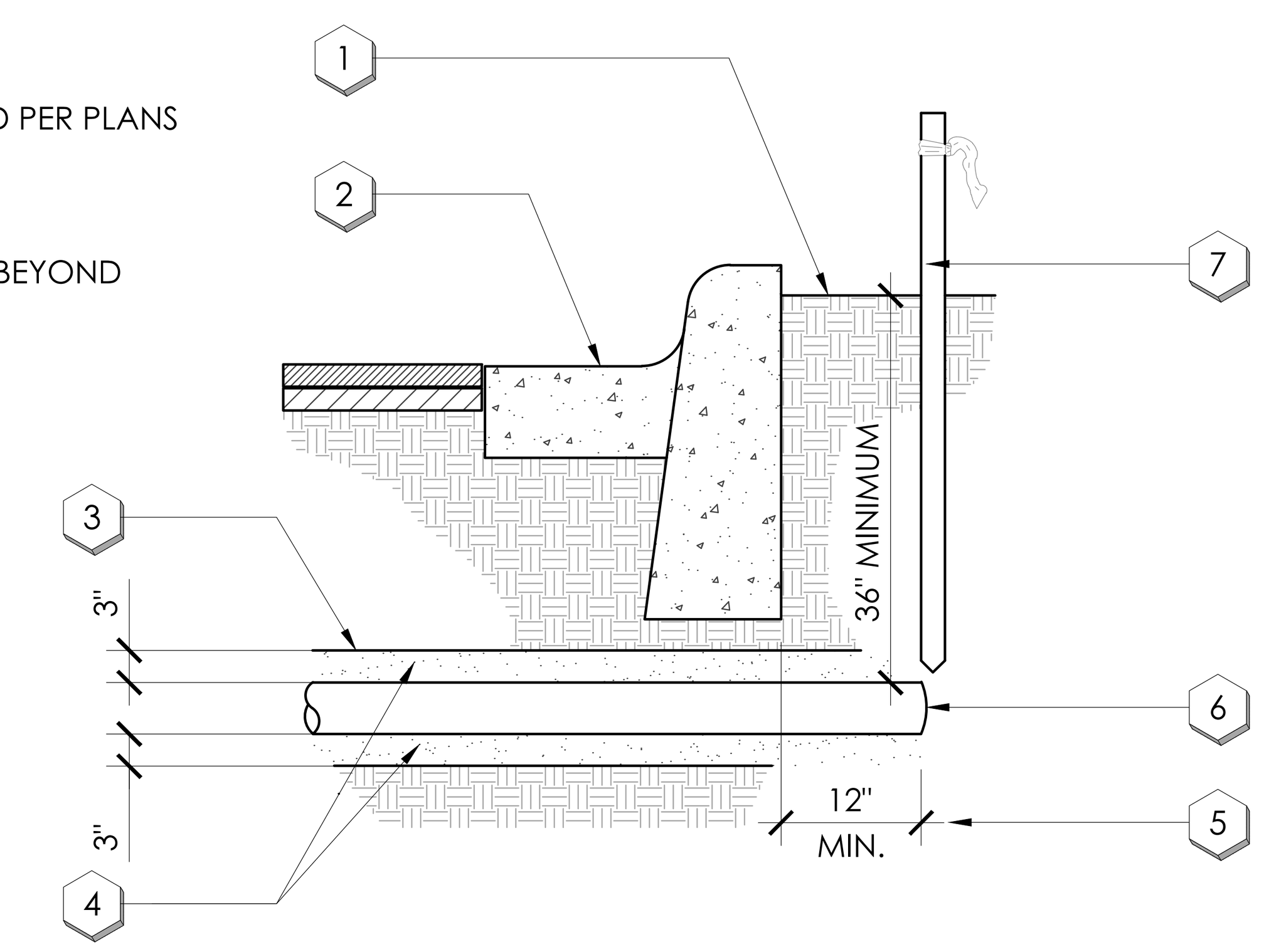


F DECOMPOSED GRANITE

NOT TO SCALE

KEYNOTES:

1. FINISH GRADE BEYOND PAVEMENT EDGE
2. CURB & GUTTER
3. SLEEVE PIPE- DWV SCH 40 PVC SIZED PER PLANS
4. BEDDING SAND
5. EXTEND SLEEVE ENDS 12" MINIMUM BEYOND ALL HARDSCAPE EDGES
6. SEAL SLEEVE ENDS WITH TAPE AND STAKE END LOCATIONS
7. 2" x 4" x 48" STAKE W/ ORANGE RIBBON (TYP.)



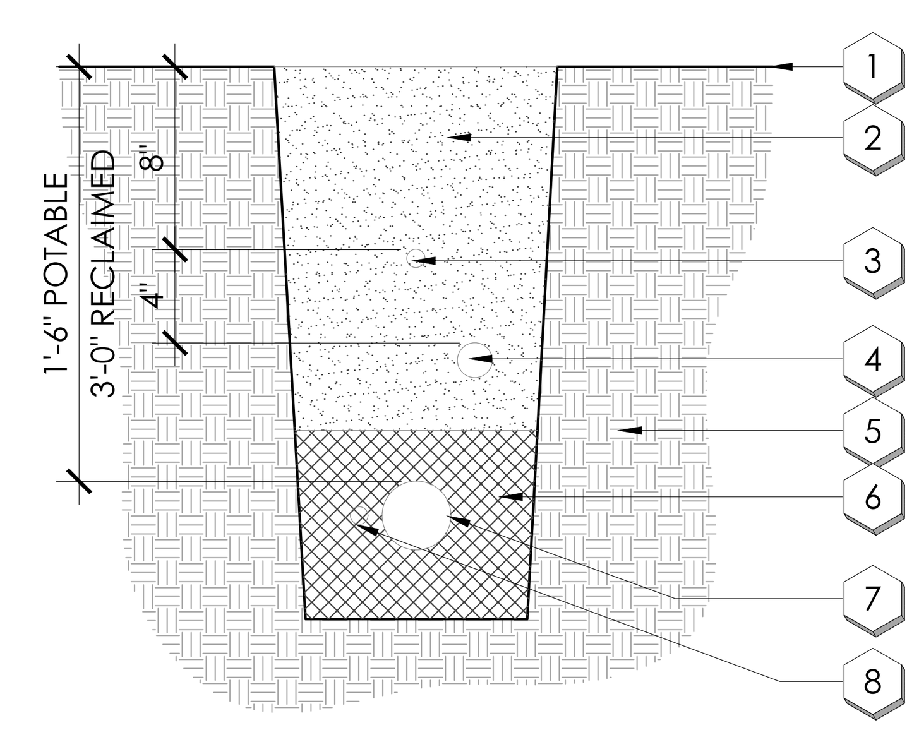
NOTES:
1. BACKFILL TRENCH WITH 3" OF BEDDING SAND UNDER SLEEVE AND 3" ABOVE SLEEVE. SAND SHALL NOT HAVE ANY ROCKS LARGER THAN 1/4" IN DIAMETER

G TYPICAL SLEEVING

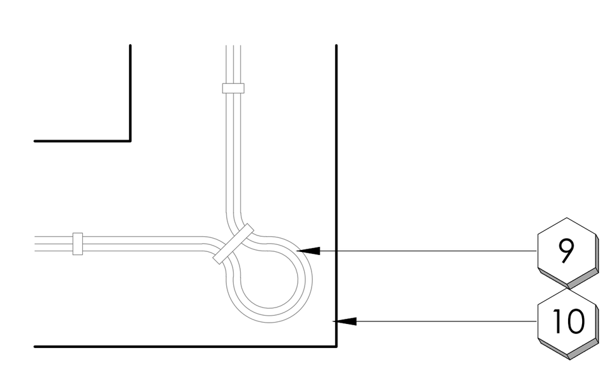
NOT TO SCALE

KEYNOTES:

1. FINISH GRADE
2. BACKFILL, CLEAN AND ROCK FREE
3. DRIP TUBING
4. LATERAL LINE
5. NATIVE SOIL
6. BEDDING PER SPECS
7. MAINLINE PIPE
8. CONTROL VALVE WIRING, TAPED AT 10'-0" INTERVALS
9. TIE A LOOSE 24" LOOP IN ALL WIRING AT CHANGES OF DIRECTION GREATER THAN 30° UNTIE ALL LOOPS AFTER ALL CONNECTIONS HAVE BEEN MADE
10. TRENCH

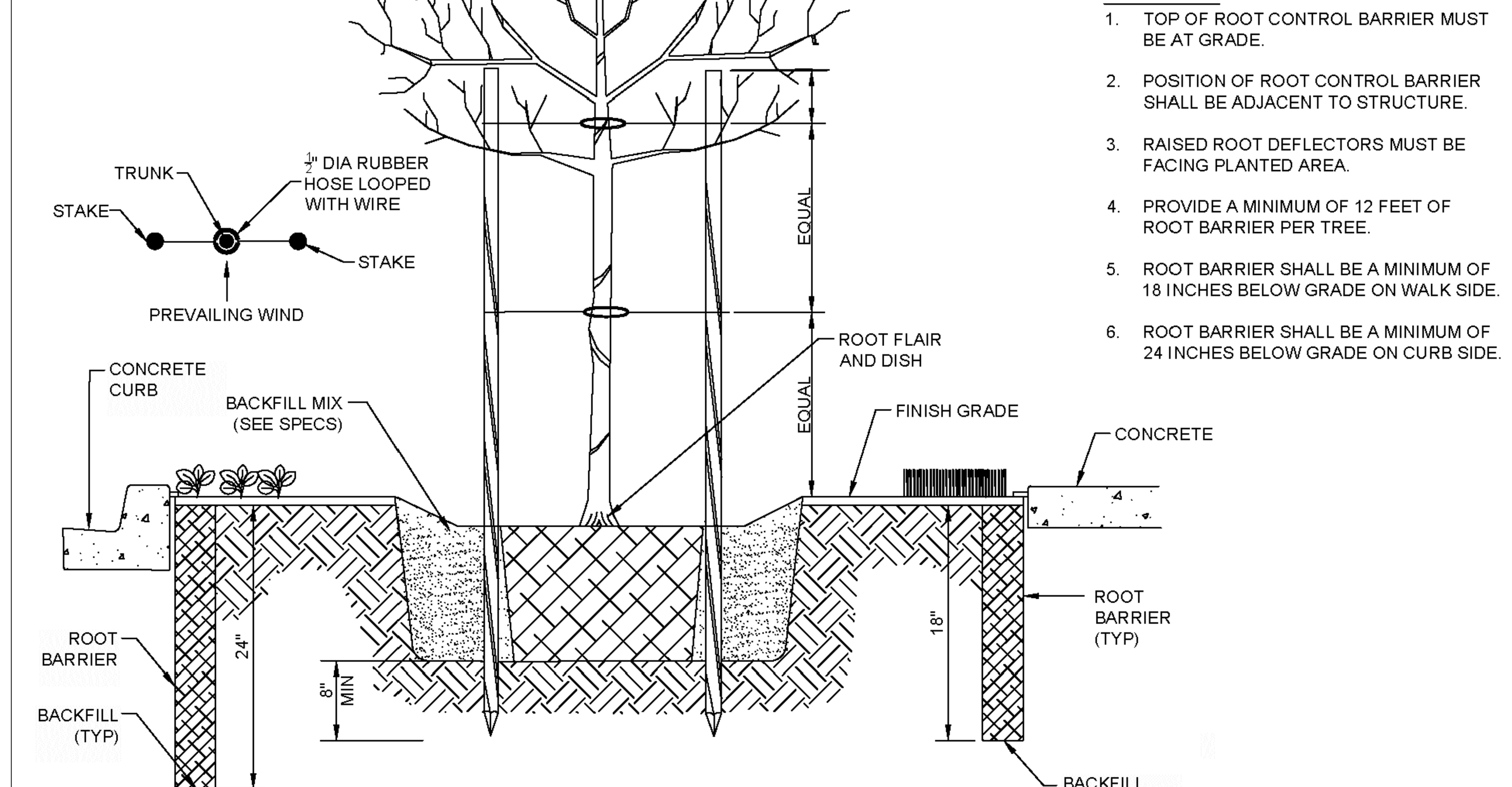


NOTES:
1. PLACE POTABLE AND RECLAIMED IRRIGATION LINES IN SEPARATE TRENCHES.
2. PLACE ALL PIPE IN LANDSCAPE AREAS WITHIN SPECIFIED CONSTRUCTION LIMITS.
3. ALL WIRING TO BE INSTALLED PER LOCAL CODE.
4. ALL PLASTIC PIPING TO BE SNAKED IN TRENCHES.
5. ALL TRENCHES TO BE THOROUGHLY COMPACTED TO MATCH ADJACENT DENSITIES.
6. MAINTAIN 4" MIN. HORIZONTAL CLEARANCE BETWEEN PIPES AND/OR WIRING.



H TRENCHING

NOT TO SCALE



NOTES:
1. TOP OF ROOT CONTROL BARRIER MUST BE AT GRADE.
2. POSITION OF ROOT CONTROL BARRIER SHALL BE ADJACENT TO STRUCTURE.
3. RAISED ROOT DEFLECTORS MUST BE FACING PLANTED AREA.
4. PROVIDE A MINIMUM OF 12 FEET OF ROOT BARRIER PER TREE.
5. ROOT BARRIER SHALL BE A MINIMUM OF 18 INCHES BELOW GRADE ON WALK SIDE.
6. ROOT BARRIER SHALL BE A MINIMUM OF 24 INCHES BELOW GRADE ON CURB SIDE.

DATE REVISED: 8/2016 APPROVED FOR DISTRIBUTION (SIGNATURE ON FILE)	SURPRISE ARIZONA	ROOT BARRIER	DETAIL NO: 8-14

DESIGN ETHIC
LANDSCAPE ARCHITECTURE
FORGING NEW ENVIRONMENTS
7525 EAST 6TH AVENUE SCOTTSDALE, ARIZONA 85251
480.225.7077

REGISTERED LANDSCAPE ARCHITECT
CERTIFICATE NO. 81546
BRANDON T. PAUL
ARIZONA, U.S.A.

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

PROJECT:
BRAKE MASTERS
163rd AVENUE & PINNACLE PEAK ROAD
SURPRISE, AZ

SHEET TITLE:
PLANTING & IRRIGATION DETAILS

JOB NO:	25-065
DATE:	09.24.2025
DRAWN BY:	B. PAUL
SUBMITTED:	-
REVISED:	

SHEET
L7.01
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FS__-____

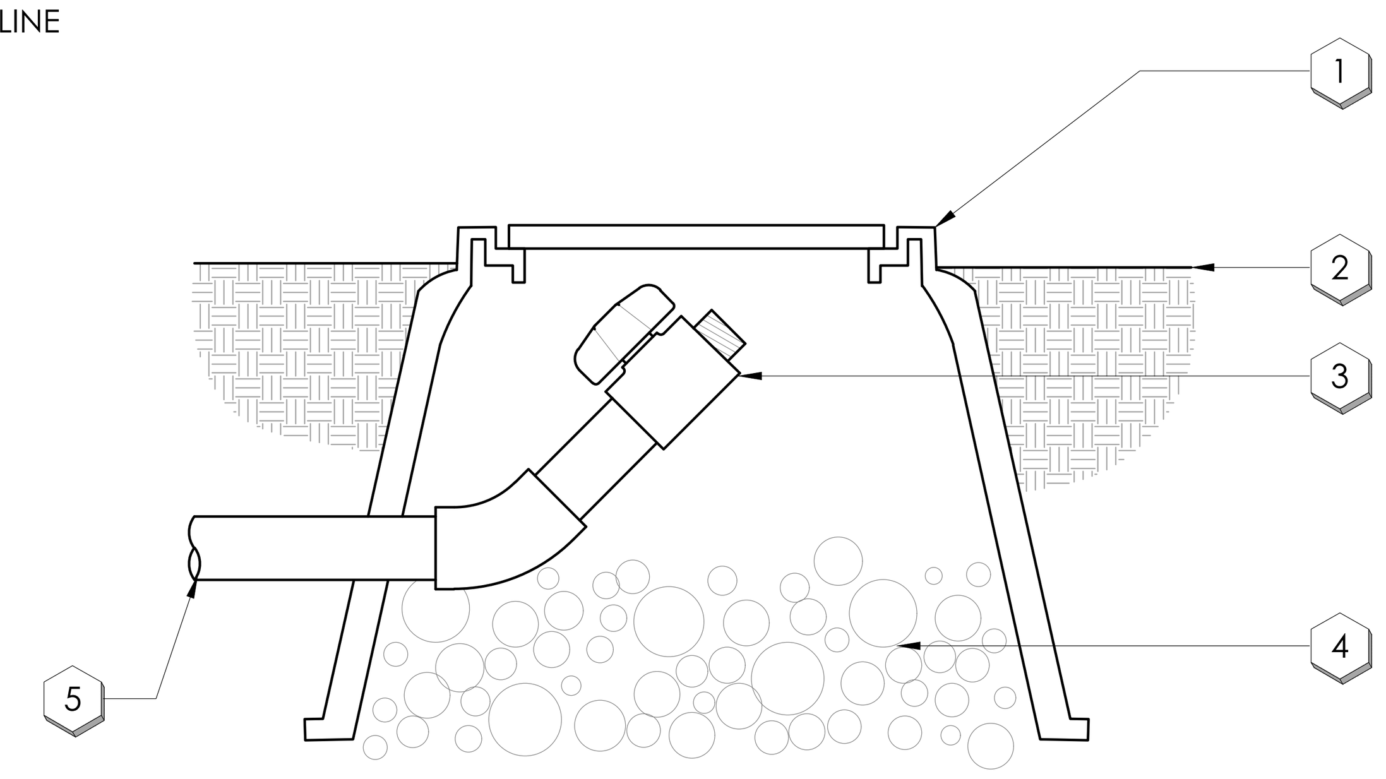
TREES			
TEMPERATURE	1ST YEAR	2-5 YEARS	AFTER 5 YEARS
OVER 108 DEGREES	EVERY 2 DAYS	EVERY 10 DAYS	EVERY 3 WEEKS
OVER 100 DEGREES	ONCE A WEEK	EVERY 10 DAYS	GRADUALLY EXTEND INTERVALS TO EVERY 4 WEEKS
90-100 DEGREES	EVERY 10 DAYS	EVERY 2 WEEKS	GRADUALLY EXTEND INTERVALS TO EVERY 6 WEEKS
75-90 DEGREES	EVERY 2 WEEKS	EVERY 3 WEEKS	WATER IF NO RAINFALL FOR 60 DAYS
BELOW 75 DEGREES	EVERY 30 DAYS	EVERY 30 DAYS	WATER IF NO RAINFALL FOR 60 DAYS
SHRUBS			
TEMPERATURE	1ST YEAR	2-5 YEARS	AFTER 5 YEARS
OVER 108 DEGREES	EVERY DAY	EVERY 3 DAYS	EVERY WEEK
OVER 100 DEGREES	ONCE A WEEK	EVERY 10 DAYS	EVERY 2 WEEKS
90-100 DEGREES	EVERY 10 DAYS	EVERY 2 WEEKS	EVERY 3 WEEKS
75-90 DEGREES	EVERY 2 WEEKS	EVERY 3 WEEKS	EVERY 4 - 5 WEEKS
BELOW 75 DEGREES	EVERY 30 DAYS	EVERY 30 DAYS	EVERY 4 - 5 WEEKS

NOTES:
1. SMALL PLANTS IN 1 GALLON CONTAINERS NEED TO BE WATERED TWICE A WEEK.
2. THE WATERING CHART IS PROVIDED AS A GUIDE ONLY AND MUST BE ADJUSTED FOR SPECIFIC TEMPERATURE AND ENVIRONMENTAL CONDITIONS. IT IS THE OWNER'S RESPONSIBILITY TO MAINTAIN ALL PLANT MATERIALS IN A THRIVING, HEALTHY CONDITIONS.

I WATERING SCHEDULE

NOT TO SCALE

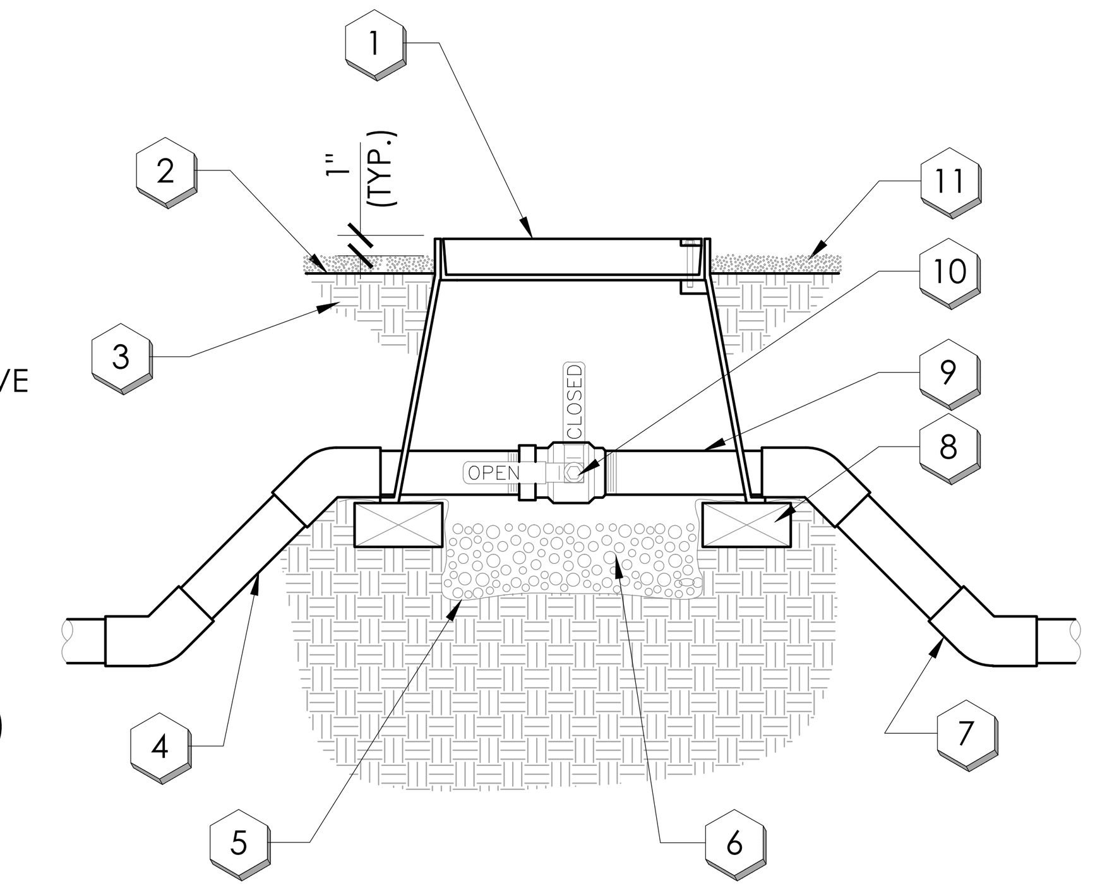
KEYNOTES:
1. BOLT DOWN LOCKING VALVE BOX
2. FINISH GRADE
3. BALL VALVE WITH FEMALE HOSE THREADS, LINE SIZE
4. 6" LAYER OF PEA GRAVEL
5. LATERAL LINE



J LATERAL LINE FLUSH VALVE

NOT TO SCALE

KEYNOTES:
1. 10" x 10 1/4" x 13" VALVE BOX WITH LOCKING T-COVER
2. FINISH GRADE
3. SUBGRADE
4. SCH 40 PVC MAINLINE
5. GEOTEXTILE FABRIC
6. 8" LAYER OF 3#4" CRUSHED AGGREGATE WITH 1" MIN.CLEARANCE TO BOTTOM OF VALVE
7. 2" x 4" x 48" STAKE W/ ORANGE RIBBON (TYP.)
8. SCH 80 PVC 45° ELL (TYPICAL (1 OF 4))
9. BRICK PAVER (TYPICAL (1 OF 4))
10. 10" SCH 80 PVC TOE NIPPLE (TYPICAL (1 OF 2))
11. BRONZE FULL PORT BALL VALVE WITH STAINLESS STEEL HANDLE
12. 2" DECOMPOSED GRANITE TOP DRESSING

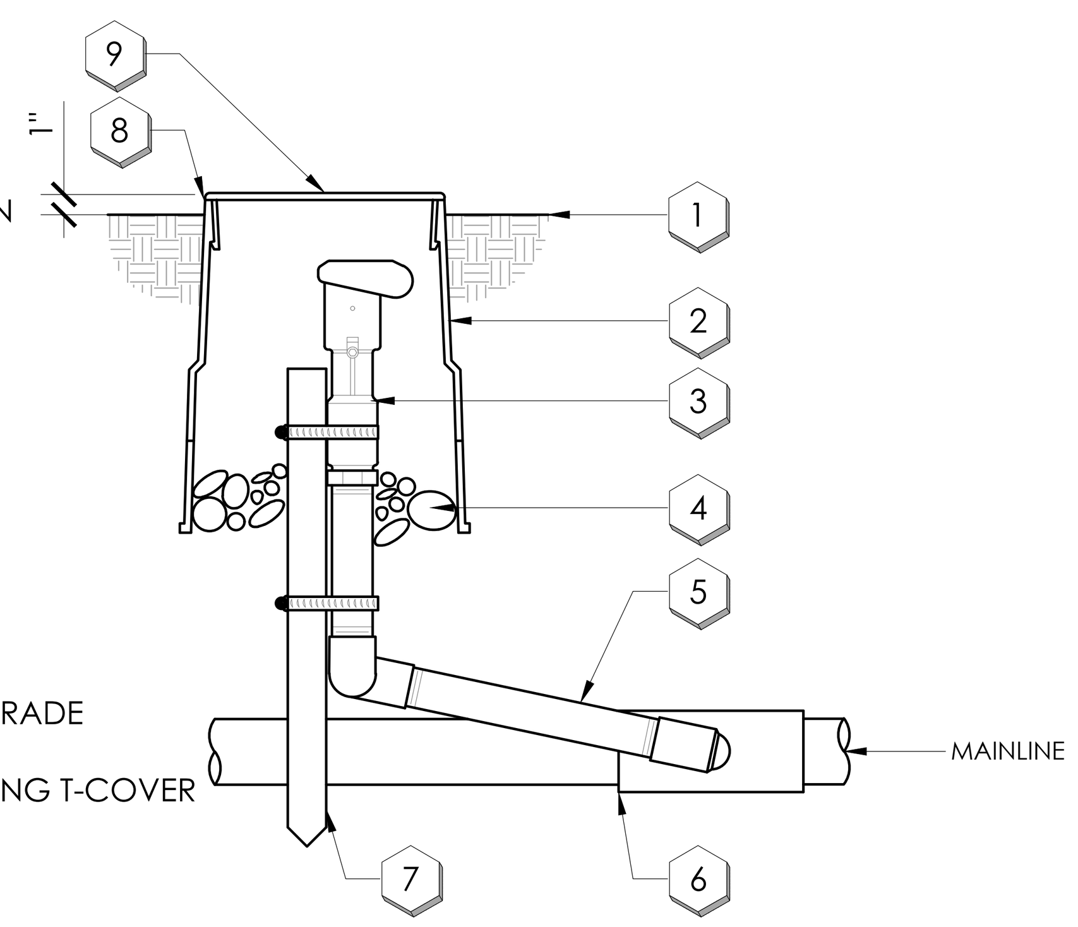


NOTES:
1. NOMINAL SIZE OF BALL VALVE TO MATCH NOMINAL MAINLINE SIZE.
2. VALVE BOX TO INCLUDE STAINLESS STEEL BOLT AND WASHER.
3. EMBOSS COVER WITH "B.V." IN 1-INCH HIGH STENCIL LETTERS USING STYLUS TIP TORCH.
4. VALVE BOX SHALL BE PURPLE FOR USE WITH RECLAIMED WATER.

K BALL VALVE ASSEMBLY

NOT TO SCALE

KEYNOTES:
1. FINISH GRADE
2. BOLT DOWN LOCKING VALVE BOX
3. QUICK-COUPLING VALVE, PER IRRIGATION MATERIAL SCHEDULE
4. 6" LAYER OF PEA GRAVEL
5. LASCO SWING JOINT
6. TEE OR ELL AS REQUIRED
7. 1" X 30" GALVANIZED ANGLE IRON WITH STAINLESS STEEL GEAR CLAMPS OR EQUIVALENT SUPPORT SYSTEM
8. INSTALL VALVE BOX 1" ABOVE FINISHED GRADE
9. 10" x 10 1/4" x 13" VALVE BOX WITH LOCKING T-COVER

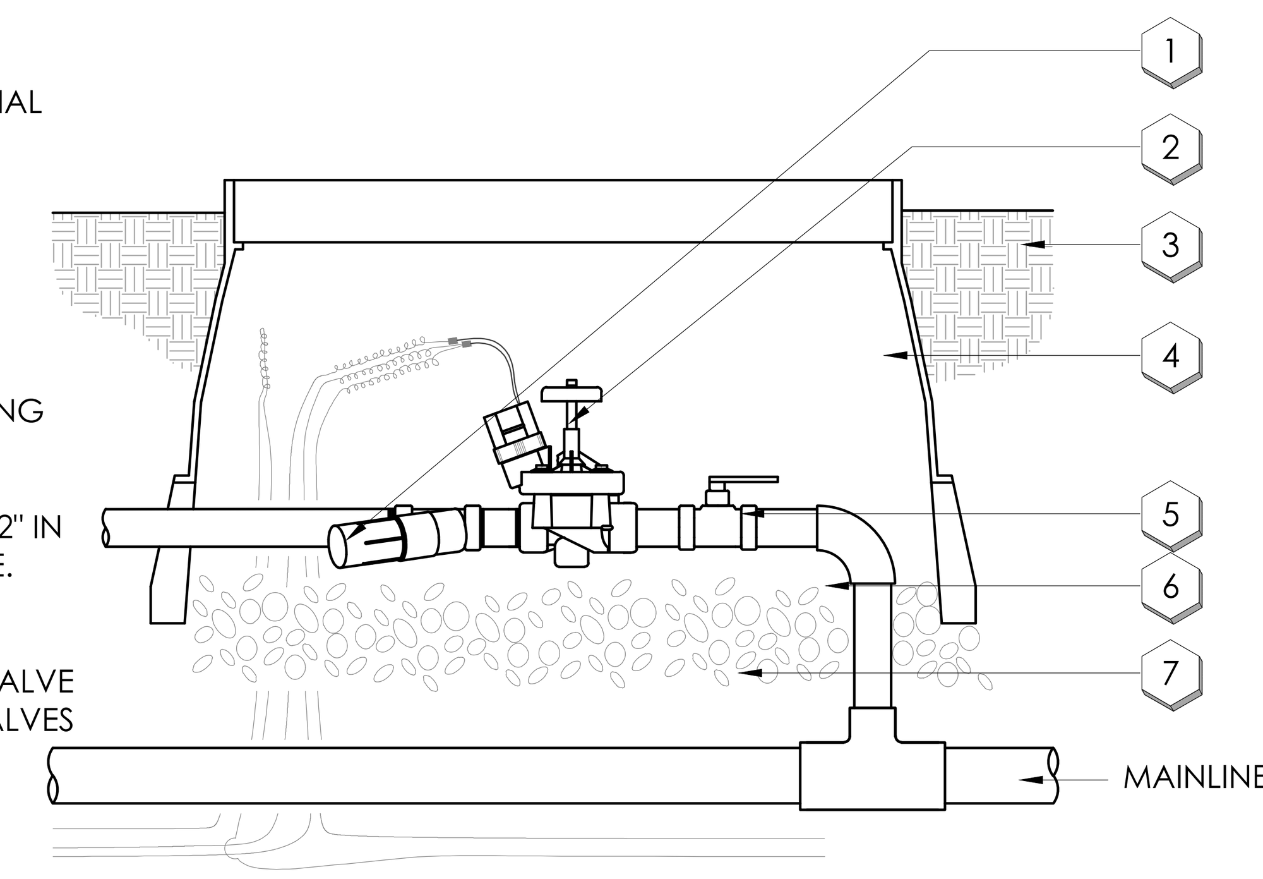


NOTES:
1. FURNISH FITTINGS AND PIPING NOMINALLY SIZED IDENTICAL TO NOMINAL QUICK COUPLING VALVE INLET SIZE.

L QUICK COUPLING VALVE

NOT TO SCALE

KEYNOTES:
1. WYE STRAINER AND PRESSURE REGULATOR, PER IRRIGATION MATERIAL SCHEDULE
2. ELECTRIC REMOTE CONTROL VALVE, MODEL AND SIZE PER PLANS.
3. FINISH GRADE
4. PLASTIC VALVE BOX, WITH W/ LOCKING BOLT COVER SIZE AS REQUIRED TO ACCESS ALL EQUIPMENT. SET TOP OF VALVE BOX ABOVE FINISH GRADE 1/2" IN TURF AND 1" DECOMPOSED GRANITE.
5. ISOLATION VALVE, PER IRRIGATION MATERIAL SCHEDULE. INSTALL ONE VALVE PER TAP (TWO REMOTE CONTROL VALVES MAX. PER TAP).
6. SCH. 80 FITTING AS REQUIRED
7. 6" LAYER OF PEA GRAVEL

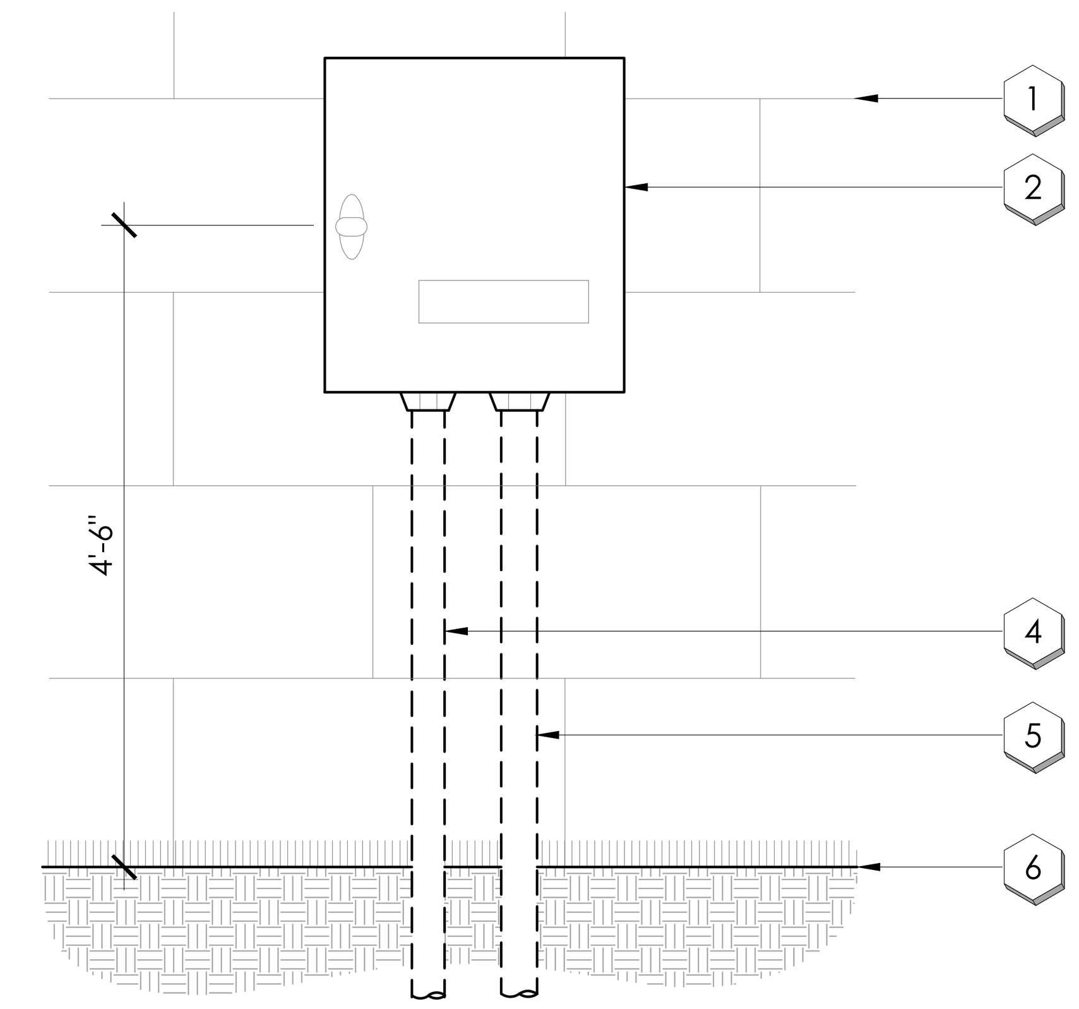


NOTES:
1. USE DRY-TYPE WATERPROOF CONNECTORS.
2. PROVIDE EXPANSION COILS AT EACH WIRE CONNECTION IN VALVE BOX. WRAP WIRE AROUND 1/2" PIPE 15 TIMES.
3. MAINTAIN 6" BETWEEN VALVE AND TOP OF BOX.
4. EMBOSS COVER WITH 1/2" NUMBERS WHICH CORRESPOND TO VALVE NUMBERS AT IRRIGATION CONTROLLER.

M DRIP REMOTE CONTROL VALVE

NOT TO SCALE

KEYNOTES:
1. WALL, REFER TO PLANS FOR CONSTRUCTION TYPE
2. IRRIGATION CONTROLLER, PER IRRIGATION MATERIAL SCHEDULE
3. JUNCTION BOX W/ ENCLOSED MINI ON-OFF SWITCH FOR 120-VOLT WIRING & COVER PLATE
4. ELECTRICAL CONDUIT 120-VOLT WIRING PER ALL CODES. CONECEAL WWITHIN EXTERIOR WALL CAVITY.
5. CONCEAL PVC CONDUIT FOR CONTROL VALVE WIRING WITHIN EXTERIOR WALL CAVITY. PAINT ANY EXPOSED ELECTRICAL CONDUITS CONNECTED TO WALL MOUNTED IRRIGATION CONTROLLER TO MATCH PREDOMINANT COLOR OF WALL/BUILDING
6. FINISH GRADE



NOTES:
1. MOUNT CONTROLLER TO WALL WITH APPROPRIATE HARDWARE.
2. PAINT CONDUIT TO MATCH BUILDING

N WALL MOUNTED CONTROLLER

NOT TO SCALE

DESIGN ETHIC
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PROJECT:
BRAKE MASTERS
163rd AVENUE &
PINNACLE PEAK ROAD
SURPRISE, AZ

SHEET TITLE:
PLANTING & IRRIGATION DETAILS

JOB NO:	25-065
DATE:	09.24.2025
DRAWN BY:	B. PAUL
SUBMITTED:	-
REVISED:	

SHEET
L7.02
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FS__-____

planting specifications

PART 1 GENERAL

DESCRIPTION
A. Work Included: Provide all labor, materials, equipment and services as necessary to complete all Landscaping work as shown on the Drawings and as specified herein.
B. Related work described elsewhere:
 1. Coordinate with Grading, Drainage, and Paving Drawings.

CODES, RULES, AND SAFETY ORDERS
A. All work and materials to be in full accordance with the latest rules and regulations of Safety Orders of Division of Industrial Safety; the International Building Code, and other applicable laws and regulations, including all City codes. Nothing in these Specifications is to be construed to permit Work not conforming to these codes. Should the Contract Documents be at variance with the aforementioned rules and regulations, notify Landscape Architect and get instructions before proceeding with the Work affected.

GUARANTEE
A. Plant Guarantee: Warrant all new transplanted plant material to remain alive and be in a healthy, vigorous condition throughout the Contract and 90-day Landscape guarantee period shall have a new guarantee period of 90 days beginning with the time of replacement. If landscape installation as specified herein is not completed prior to September 1, the plant guarantee and landscape maintenance period shall be extended to May 1 of the following year.
B. Replacement of Plants: All plants that are dead or, as determined by the Landscape Architect or Owner's Representative, are in an unhealthy or damaged condition are to be replaced. The cost of such replacement(s) is at Contractor's expense.
C. Conditions of Plant Guarantee: Warranty shall not include damage or loss of trees, shrubs, and ground covers caused by floods, fires, freezing rains, lightning storms or winter kill caused by extreme cold and severe winter conditions not typical of planting area. All damage caused from acts of negligence from Contractor's operations and maintenance shall be repaired and replaced at Contractor's expense.

COORDINATION AND RESPONSIBILITY
A. Utilities: Before commencing work on the site, become thoroughly acquainted with layout of all underground utilities and structures over the entire site. All requisite repairs to damage caused by Work of this Section shall be at the Contractor's expense.
B. Coordinate and cooperate with other Contractors working on the site for successful completion of the project, including irrigation work to insure successful integration with the landscaping
C. Finish rough grades. Finish grades will take the forms shown on the grading and drainage plans. Coordinate Work of this Section with other work relating to Grading and Drainage. See Landscape Details for finish design grades adjacent to curbs and sidewalks.

INSPECTIONS
A. Periodic Inspection: During the course of construction the Landscape Architect may visit the site and inspect work in progress.
B. Scheduled Inspections: The Contractor must notify the Landscape Architect for inspection at the following periods:
 1. Prior to planting trees, shrubs, and ground covers to inspect plant material delivered to site and inspect plant pits and backfill mixture. It shall be the responsibility of the Contractor to have all plant material at site, backfill mixture stockpiled, and all tree pits excavated prior to Landscape Architect visiting site.
 2. At completion of all work In accordance with Contract Documents.

SUBSTITUTIONS
A. Plant Substitution: Plants of kinds other than those indicated on the plant list will be considered by the Landscape Architect upon submission of proof that any plant is not procurable in the region. Replacement plant will be approved on the grounds that it resembles the plant specified in regards to appearance, ultimate height, shape, habit of growth, general soil, and other requirements. In no case shall the average cost and value of the substituted plants be more than the cost and value of the plants indicated. All substitutions must be submitted in writing no more than seven (7) days after the notice to proceed and approval of the substitution must be acknowledged by the Landscape Architect in writing before approval is granted.

PART 2 PRODUCTS

PLANT MATERIALS
A. Conform to requirements of Plant Schedule on Drawings. Caliper, spread, and height, as specified in the Plant Schedule on Drawings will take precedence over the container size. Container size is given as a minimum rootball size only.
B. Quality: Sound, healthy, vigorous, free from plant disease, insects, pests, or their eggs and noxious weeds. Container stock shall be well established and free of excessive rootbound conditions.
C. Inspection of Plant Materials required by City, County, State, or Federal authorities shall be the responsibility of the Contractor. Secure permits or certificates prior to delivery of plants to site.
D. Acceptance or relocation of plant material will be determined by the City, Owner, or the Owner's Representative on the project site. Plants are subject to inspection and approval or rejection at any time before or during progress of work for size, variety, condition, latent defects and injuries. Rejected plants shall be removed from the project site immediately.

TREE STAKES AND WIRE TIES FOR TREE STAKING AND GUYING
A. Tree Stakes: Two inch diameter new lodgepole pine treated with copper nepthenate or approved equal. Length or stake as required for maximum support of tree.
B. Wire & Rubber Ties: #12 gauge annealed, galvanized steel inserted through new or used 1/2 inch green rubber garden hose. Staking procedure subject to approval.

SOIL AMENDMENTS
A. Fertilizer tablets for plant pits: Best (21 gram) with a guaranteed analysis of 20% Nitrogen, 10% available Phosphoric Acid, 5% Potash, 2% combined Calcium, 1.5% Sulfur, .36% Iron, .43% Zinc, and .18% Manganese.
B. All plants with the exception of Ground covers in flats and turf areas to receive Agriform (20-10-5) plant tabs at the following rates:
 - 1 gallon 1 - 21 gram tablets
 - 5 gallons 2 - 21 gram tablets
 - 15 gallons 4 - 21 gram tablets
 - 24" box 6 - 21 gram tablets
 - 36" box & Palm Trees 8 - 21 gram tablets
C. Set tablets 3" below finished grade and space evenly around plant's perimeter.
D. Ammonium Phosphate: (16-20-0) with a guaranteed analysis of 16% Nitrogen, 20% available Phosphoric Acid.
E. Plant backfill Mix: Planting backfill shall be a thoroughly blended mixture of soil and soil amendments in the following mixtures:
 - Mulch 1/3 c.y.
 - Topsoil 2/3 c.y.

APPROVED TOPSOIL
A. Topsoil content: 20-45% Silt, 14-20% Clay, and 30-60% sand with a minimum of 5% organic material (natural or added). The pH shall not be lower than 6.0 nor higher than 7.8. Soluble Salts shall not exceed 1200 ppm.
B. Topsoil quality: Screened, fertile, friable soil from well drained arable land and free from nutgrass, refuse, roots, heavy clay, noxious weeds and any material toxic to plant growth. Provide the Landscape Architect with a soil analysis by an independent testing laboratory for verification prior to having topsoil delivered to site. Soil analysis shall be at the expense of the Contractor.

MATERIALS USED FOR TOP DRESSING OF SHRUBS AND GROUNDCOVER PLANTERS
A. Decomposed granite: Refer to plans for color and size. Contractor shall provide samples to Landscape Architect for approval. Decomposed granite shall consist of granular fragments of quartz and feldspar. The material shall remain stable when saturated in water. All material shall be from a single production source.

WEED CONTROL CHEMICALS
A. The Applicator of all Weed Control Materials shall be licensed by the State of Arizona as a pest control operator and a pest control advisor in addition to holding any subcontractor licenses that are required.

B. Prior to the installation of any weed control materials, the pest control advisor shall submit to the Landscape Architect a list of the weed control materials, and quantities per acre intended for use in controlling the weed types prevalent and expected on the site. Pest control advisor shall furnish data to demonstrate the compatibility of the weed control materials and methods with the intended planting varieties.

C. Weed control shall eliminate all nut grass, Johnson grass, burr clover, spurge and other invasive weeds common to the area. No material or method shall affect the landscape planting or hydrosprig germination and establishment. Materials and methods must conform to Federal, State and Local Regulations.

D. Weed control shall be applied to all planting areas with adequate time to meet manufacturer's recommendations. If after application, weeds reappear prior to planting, re-applications will be provided per manufacturer's recommendations. If weeds reappear after planting, additional weed control will be applied in a manner not to damage or retard the growth of plant material. Any plant material damaged or killed during this process or as a result of the application of weed control material, shall be replaced at no cost to the Owner.
 1. Selective contact systemic herbicides: Compatible with existing plant material to remain and having no residual. Use in quantities and strengths recommended by manufacturer.'
 2. Pre-emergent herbicides: Use pre-emergent herbicide(s) compatible with newly planted materials in quantities and strengths recommended by manufacturer. Use only approved weed control materials and a licensed applicator.

PART 3 EXECUTION

SITE PREPARATION
A. Protection: Take care in performing Work of this Section to avoid conditions which will create hazards. Post signs or barriers as required.
B. Prior to Planting Operations: All top growth of grass, weeds, and other unwanted plant material shall be removed from all areas to be planted. Contractor shall spray all existing grass and weeds with specified contact systemic herbicide a minimum of two times per manufacturer's instructions. Do not spray plant material to remain. Protect as required.

FINISH GRADING
A. Coordinate with Rough Grading. Provide and place additional specified topsoil as required to facilitate drainage patterns.
B. Direct surface drainage in manner indicated on Grading and Drainage Drawings by molding surface to facilitate natural run-off of water. Fill low spots and pockets with topsoil and grade to drain properly.
C. Rototill or spade the area to a depth of 4 to 6 inches. Eliminate drainage problems by sloping soil slope away from foundations, etc.
D. Incorporate organic matter (humus, redwood, sand, etc.) gypsum, lime and fertilizer as recommended by an approved soils report to a depth of 3 to 4 inches.
E. Rake and smooth the soil, removing the rocks, roots and large clods. Roll the area lightly with a lawn roller 1/3 full of water, leaving the grade 1 inch below finish grade of paving.
F. Prior to planting, the irrigation system shall be tested and fully functional.
G. Sod shall be harvested within 24 hours prior to delivery and planted within three days after harvest.
H. Install sod immediately upon delivery. In hot weather, protect unlaid sod by placing stacks in shade, covering with moist burlap sacking and keeping moist.
I. Begin installing sod along the longest straight line, such as a driveway or sidewalk. Butt and push edges and ends against each other tightly, without stretching. Avoid gaps or overlaps. Stagger the joints in adjacent rows using a large sharp knife to trim corners, etc. Avoid leaving small strips at outer edges as they will not retain moisture. On slopes, lay the turf pieces horizontally across the slope. On 2:1 slopes or greater, stake sod to hold in place with 1/2" X 1" X 12" pegs at two-foot spacings. To avoid causing indentations or air pockets, avoid walking or kneeling on the turf while it is being installed or just after watering.
J. After installing the turf, roll the entire area to improve turf-to-soil contact and remove air pockets.
K. Begin watering within 30 minutes of installation.
L. Stolons shall be harvested within 24 hours prior to delivery and planted within three days after harvest.
M. Install stolons immediately upon delivery. In hot weather, protect unplanted stolons by placing them in shade, covering with moist burlap sacking and sprinkling.

PLANT MATERIALS
A. Examination: Before proceeding with work, check and verify dimensions and quantities. Report variations between Drawings and Site to Landscape Architect before proceeding with work. All planting indicated on Drawings is required unless otherwise indicated.
B. Protection: Take care and preparation in Work to avoid conditions which will create hazards. Post signs or barriers as required. Provide adequate means for protection from damage through excessive erosion, flooding, heavy rains, etc. Replace or repair damaged areas as required at no cost to Owner.
C. Installation: Do not plant trees, shrubs, and ground covers until major construction operations are completed, soil preparation is complete, and irrigation system is in full operation.
 1. Layout individual tree locations and areas of multiple shrub and groundcover plantings. Stake locations and secure acceptance from Landscape Architect before planting. Make minor adjustments as requested.
 2. Excavate plant pits to minimum dimensions detailed on Drawings.
 3. Remove plant from container and place immediately in plant hole over compacted backfill mix. Place trees, shrubs, and ground covers in holes to conform to planting details on drawings.
 4. Backfill with homogeneous mixture of specified backfill. Add fertilizer tablets in plant pits in quantities specified.
 5. Settle by firming and watering to bring ball down to proper level as shown on Drawings. Do not use muddy soil for backfilling. Make adjustments in positions of plants as directed.
 6. Thoroughly water plants immediately after planting.

TREE STAKING, BRACING, AND GUYING
A. Support for Trees: In planting trees 36 - inch box and smaller, include placement of tree stakes in plant pits outside of plant rootball. Drive stakes into undisturbed soil a minimum of 18 inches before backfilling so tree roots are not damaged.
 1. Backfill with homogeneous mixture of specified backfill. Add fertilizer tablets in plant pits in quantities specified.
 2. Settle by firming and watering to bring ball down to proper level as shown on Details. Do not use muddy soil for backfilling. Make adjustments in positions of plants as directed.
 3. Thoroughly water plants immediately after planting.
B. Lodgepole stakes shall be installed in a vertical position with tops of stakes at the same level.
C. Wire Ties: Tie tree to stakes as detailed on Drawings. Install double strand of galvanized wire through section of rubber hose. Length of hose shall be long enough to protect tree trunk from wire. Secure wire to stake by stapling and remove excess wire ends.

TOP DRESSING OF PLANTERS
A. Rake and grade smooth subgrade removing all rocks larger than 1/4 inch in diameter and deleterious material.
B. Apply specified pre-emergent herbicide to subgrade in accordance with manufacturer's recommendations.
C. Place decomposed granite to a 2-inch depth and rake to a neat finish appearance. Finish grade of granite to be 1-1/2 inch below top of walks, concrete headers, and paving.

FINISH APPEARANCE
A. Clean Up and Repair: Clean all sidewalks, walls, and planting areas of debris, soil and chemical stains, and waste materials.
B. Finish Appearance: Prior to final acceptance of landscaping by Owner, all new and transplanted plant material shall be in a healthy state of growth, planter areas weed free, trees have been staked as detailed, and all landscaping, headers, and planter top dressing have been installed as required per Contract documents.

LANDSCAPE MAINTENANCE
A. General: Contractor will be responsible for the health and growth of all new and transplanted landscaping for 90 days from preliminary acceptance of landscape work by Owner or Owner's Representative.
B. Replace landscaping that is dead or appears dead as directed by Landscape Architect. Make replacements within 10 days of notification.
C. Provide written instructions on maintenance requirements.
D. Submit instructions to Landscape Architect for forwarding to Owner's Custodian.
E. Trees, Shrubs, and Plants
 1. Maintain by pruning, cultivating, and weeding as required for health growth.
 2. Restore planting basins.

DESIGN ETHIC
LANDSCAPE ARCHITECTURE
FORGING NEW ENVIRONMENTS
7525 EAST 6TH AVENUE SCOTTSDALE, ARIZONA 85251
480.225.7077

REGISTERED LANDSCAPE ARCHITECT
CERTIFICATE NO. 61546
BRANDON T. PAUL
ARIZONA, U.S.A.
Expires 03/31/28

Contact Arizona 811 at least two full working days before you begin excavation
ARIZONA811
Call 811 or click Arizona811.com

PROJECT:
BRAKE MASTERS
163rd AVENUE & PINNACLE PEAK ROAD
SURPRISE, AZ

SHEET TITLE:
PLANTING SPECIFICATIONS

JOB NO: 25-065
DATE: 09.24.2025
DRAWN BY: B. PAUL
SUBMITTED: -
REVISED:

SHEET
L8.01
6 of 7
FS__-____

irrigation specifications

PART 1 GENERAL

GENERAL SYSTEM DESCRIPTION
- A. Work Included: Furnish and install new irrigation system as described in Contract Documents complete with accessories necessary for proper function.

INTENT OF CONTRACT DOCUMENTS
- A. It is the intention of this Specification to accomplish the work of installing a new irrigation system to operate in an efficient and satisfactory manner. The Specification can only indicate the intent of the work to be performed rather than a detailed description of the performance of the work. It shall be the responsibility of the Contractor to install said materials and equipment in such a manner that they shall operate efficiently and evenly and support optimum plant growth and health.
- B. The Landscape Architect and/or their Consultant shall be the sole judge of the true intent of the Drawings and Specifications and of the quality of all materials furnished in performance of the contract.
- C. In the event of any discrepancies between the Drawings and the Specification, the final decision as to which shall be made by the Landscape Architect and/or his consultant. The Contractor will be compelled to act on this decision as directed. In the event the installation is contradictory to the direction of the Landscape Architect, the installation shall be rectified by the Contractor at no additional cost. Any such discrepancies shall be immediately brought to the attention of the Landscape Architect by the Contractor.
- D. Make use of all data in all of the Contract Documents including manufacturer's catalogs and verify the information on-site prior to bidding on this work and also at the time of installation.

QUALITY ASSURANCE
- A. Regulatory requirements: Work and materials shall be in accordance with latest rules and regulations, and other applicable state, county or local laws. Nothing in Contract Documents is to be construed to permit work not conforming to these codes.

PRODUCT STORAGE
- A. During construction, store and protect materials from damage and prolonged exposure to sunlight.

WARRANTY
- A. One Year: Shall include filling and repairing depressions and replacing plantings due to settlement of irrigation trenches.

PERMITS AND REGULATIONS
- A. The Contractor shall give all notices and pay all fees necessary for completion of work under this contract, and shall obtain and pay for all permits and licenses over all or any part of the work as drawn and specified.

EXAMINATION OF SITE
- A. The Contractor shall be held to have examined the project sites and to have compared it with the drawings and specifications, to have carefully examined all of the Contract Documents and to have satisfied himself as to the conditions under which the work is to be performed before entering into a Contract for this work. No allowance shall subsequently be made on behalf of the Contractor on account of an error, negligence or failure to acquaint himself with the conditions of the sites, existing utility locations and easements, or of the streets or roads approaching the site. Submit any questions in writing prior to commencement of the job.

SAFEGUARDS
- A. The Contractor shall maintain sufficient safeguards, such as railing, temporary walks, lights, barricades, etc., against the occurrence of accidents, injuries or damage to any person or property resulting from the work, and shall alone be responsible for the same if such occurs.

PROTECTION OF WORK AND PROPERTY
- A. The Contractor shall continuously maintain adequate protection of all work and materials from damage, destruction, or loss, and shall protect the Owner's property from damage arising in connection with this Contract. He shall make good any such damage, destruction, loss, or injury. He shall adequately protect adjacent property as provided by law and the Contract Documents.
- B. Prior to excavation for irrigation piping or equipment, Contractor shall contact Bluestake (602-263-1100) for location of underground utility lines and take proper precautions to avoid damage to such improvements. In the event of a conflict between such lines and irrigation piping or equipment locations, Contractor shall notify the Landscape Architect who will arrange for the relocation of one or the other. The Contractor assumes responsibility for making repairs for damages resulting from work as herein specified.

PART 2 PRODUCTS

MATERIALS
- A. Materials equipment, apparatus and appliances used throughout the systems shall be new and pristine perfect condition.
- B. Equipment or materials installed or furnished without the prior approval of the Landscape Architect will be rejected and such materials removed from the site at no cost to the Owner or Landscape Architect

PIPE, PIPE FITTINGS, AND CONNECTIONS FOR IRRIGATION SYSTEM:
- A. All pipe shall be free of blisters, internal striations, cracks, or any defects or imperfections. Pipe shall be continuously and permanently marked with Dimension Ration No., Manufacturer's name, size, schedule, or pressure class, type, and working pressure, material code designation, seal of the testing agency that verified the suitability of the pipe material (NSF). Pipe size schedule shown on Drawings is a minimum. Larger sizes may be substituted without additional cost to Owner or Landscape Architect.
  1. Plastic Pipe:
     - Sleeves: Schedule 80 PVC (polyvinyl chloride) Solvent Weld Pipe complying with ASTM Designation D-1785, latest edition.
     - Pressure Lines: Schedule 40 PVC (polyvinyl chloride) Solvent Weld Pipe complying with ASTM Designation D-1785, latest edition.
     - Non-Pressure Lines: Pressure Class 200 PVC SDR21, PVC-1120, Type 1, Grade 1, complying with ASTM designation D-2241 PVC SDR-PR Pipe Specification.
  2. Plastic Pipe Fittings:
     - Threaded Type: Schedule 80, Type 1, Grade 1, 1. Polyvinyl Chloride (PVC) per ASTM D1784, D2464, and D2467, uniformly gray in color, manufactured by Spears or approved equal.
     - Slip socket Type: Schedule 40, Type 1, Grade 1, Polyvinyl Chloride (PVC) per ASTM D-2466 and D-1784 uniformly white in color. Manufactured by Spears or approved equal. (Note: Use epoxy coated steel fitting for rubber ring and gasketed mainline.)
  3. Copper Pipe:
     - Copper pipe shall be Type "K" in accordance with. ASTM B88. Copper pipe shall be jointed with the appropriate solder type wrought copper pressure fittings for 2 1/2 inch and smaller sizes.

PIPE CONNECTION MATERIALS
- A. Joint compound for threaded connections: Teflon tape, or approved equal UL listed.
- B. Adhesive solvents and primer for all classes and schedules of PVC: Slow drying solvent cement shall be used whenever ambient air temperature is 90 degrees F. or higher. P-70 purple primer and slow-set solvent cement as manufactured by Industrial Polychemical Service, Gardena, California.
- C. Solvent for Slip-Fit flex vinyl hose and fittings: Shall be P-70 primer and #795 solvent cement as manufactured by Industrial Polychemical Service, Gardena, California.
- D. All cans of solvents and primers shall have labels intact and shall be stamped with the date of manufacture. No cans dated over two years old will be permitted.

AUTOMATIC CONTROLLERS
- A. Make and Models as shown on Drawings. Contractor to provide 110V Power to controllers on a dedicated circuit. Submit shop drawing of electrical schematic to Landscape Architect prior to installing controller.
- B. Control Valves: Shall be of size and type indicated on Drawings.
- C. Control wire shall be UF-UL listed, color coded copper conductor direct burial size No. 14 AWS. Tape control wire to side of main line every 10 feet. Where control wire leaves main or lateral line, enclose it in Class 200 PVC conduit. Use waterproof wire connectors at splices and locate all splices within valve boxes.

PRESSURE REDUCING VALVES, Y-STRAINERS, AND FLUSH VALVES
- A. Make and Models as shown on Drawings.

VALVE BOXES
- A. Rectangular or round heavy duty plastic valve boxes with green, tan or purple bolt-down lid or approved equal. Valve boxes shall be large enough for easy removal or maintenance of valves. Minimum size for rectangular boxes shall have top dimensions of 13 inches x 20 inches x 12 inches deep. Valve box tops to be factory marked with the work "Irrigation". Provide and install Manufacturer's valve box extensions as required to enclose valves and equipment.

BACKFILL MATERIALS
- A. Irrigation Pipe Trench Backfill
  1. 2 - inch cover and bedding for pressure irrigation mainline and all Non-Pressure Laterals: Screened soil having no rock or debris larger than 1/4 inch.
  2. Other Backfill Materials: Clean native soil with no rock or debris larger than 1/2 inch.
- B. Pea gravel (for use around drains and valves)
  1. 1/2 inch maximum round, water worn, washed rock.

PART 3 EXECUTION

GENERAL
- A. Contractor shall obtain all information pertaining to locations of all existing and proposed utilities, lines, and appurtenances prior to irrigation installation.
- B. Contractor shall be responsible for making connections to existing piping, valves, conduit, and appurtenances not in his contract utilizing proper adaptation tools and procedures. Water line shut downs/trenching at mains are Contractor's responsibility. No change orders for connections or installation are warranted.

LAYOUT AND VERIFICATION
- A. Locations and drawings are diagrammatic and approximate only. Actual work shall be changed and adjusted to meet existing conditions and obtain complete water coverage. All fittings that are necessary for proper connections such as swing joints, offsets, and reducing bushings are not shown but shall be installed as directed.
- B. Minor changes in locations of irrigation equipment and piping from locations shown on drawings shall be made to avoid utilities, structures, etc. at the Contractor's expense.
- C. The Contractor shall be held responsible for relocation of any items without first obtaining the Landscape Architect's approval. The Contractor shall remove and relocate such items at his expense if so directed by the Landscape Architect.
- D. Before starting work on irrigation system, carefully check all grades to determine that work may safely proceed, keeping within the specified minimum depths. The Contractor shall be aware of the fact that the Drawings are based on horizontal dimensions. Actual measurements taken along the slope of a bank will differ from those shown on the Drawings.

TRENCHING AND BACKFILLING
- A. Over-excavate trenches 2 inches and bring back to indicated depth by filling with backfill material specified in this Section. Lay pipe on bedding material providing a firm, uniform bearing. Unless otherwise specified, the minimum depth of cover over pipelines and conduits shall be as follows:
  1. Reclaimed Water Pressure Mainline: 36 inches minimum.
  2. Pressure Mainline: 18 inches minimum.
  3. Non-Pressure Lateral lines servicing Emitters: 12 inches minimum.
  5. Sleeves under Paving: 10 inches minimum below sub-base.
- B. Do not cover pressure main, non-pressure lateral sprinkler pipe, or fittings until Landscape Architect has inspected and approved systems. Balance of trench backfill material shall be as specified. Compact backfill soil using recommended mechanical compaction equipment to densities as follows:
  Under pavement: 95%.
  In landscaped areas: 90%.

SLEEVING
- A. Sleeve all water lines and control wires under walks and paving. Size sleeve two pipe sizes larger than pipe to be sleeved and extend sleeves 6 inches minimum beyond walk or pavement edge.

INSTALLING PLASTIC SOLVENT WELD PIPE
- A. Install plastic pipe in a manner to provide for expansion and contraction as recommended by Manufacturer. Cut plastic pipe square and remove burrs at cut ends prior to installation so unobstructed flow will result.
  1. Do not make solvent weld joints if ambient temperature is below 40 degrees F.
  2. Clean mating pipe and fitting with clean, dry cloth and apply one coat of P-70 primer to each.
  3. Apply uniform coat of specified solvent to outside pipe.
  4. Apply solvent to inside fitting in a similar manner.
  5. Reapply a light coat of solvent to pipe and quickly insert into fitting.
  6. Give pipe or fitting a quarter turn to insure even distribution of solvent and make sure pipe is inserted to full depth of socket.
  7. Hold in position for 15 seconds minimum or long enough to secure joint.
  8. Wipe off solvent appearing at outer shoulder of fitting to PVC pipe.
  9. Allow Joints to set at least 24 hours before applying pressure
  10. Tape threaded connections with Teflon tape as per manufacturer's written recommendations.

METAL PIPE
- A. All threaded pipe connections shall be made using Teflon tape applied to male threads only. (Note: Do not tape Acme threads on swing joints.)
- B. Metal to non-metallic connections: couplings connecting metal to non-metallic items shall be of the same material as the metallic item or as shown on respective detail.
- C. When connection is plastic to metal, PVC male adapters complete the connection. Joints shall be made with two wraps of Teflon tape and hand-tightened plus one turn with a strap wrench.
- D. Conduit Installation: Metallic Conduit shall be used and assembled as per Manufacturer's written specifications and per local codes where wiring is routed above grade.
- E. Stub conduit into control cabinetry as indicated by manufacturer.

PIPE CLOSING AND FLUSHING
- A. Pipe closing: Openings in piping system are to be capped and plugged, leaving caps and plugs in place until removal is necessary for completion of installation. Prevent dirt and debris from entering pipe and equipment at all times.
- B. Flushing: All pipes and tubing are to be thoroughly flushed out before installing valve caps, or sprinkler heads. After flushing, proceed to install aforementioned equipment, and center load the lines. Joints, fittings, and connections are to remain visible.

PURGING
- A. Immediately prior to hydrostatic testing, all irrigation lines shall be thoroughly purged of all entrapped air.
- B. Mainline piping system may be tested in sections. Lateral systems shall be tested valve by valve.
- C. Adjust zone control valves and install temporary caps in order to force water to be discharged from a single outlet.
- D. Introduce water into lines to be tested at full operating pressure head. Observe water flow at end discharge point until determination is made that all air and residual debris have been expelled from the line.

HYDROSTATIC PRESSURE TESTING
- A. While the necessary piping system components are exposed, and under the direct observation of the Landscape Architect, all piping is to be subjected to a hydrostatic testing.
  1. Contractor is to supply all testing equipment including caps, valves, pumps, tanks, and gauges.
  2. Calibration of pressure gauges shall be such that accurate determination of potential pressure loss can be ascertained.
  3. Pressure gauges are required at a minimum of two locations on the section of piping being tested.
- B. Piping shall be tested as follows:
  1. Test supply lines of 150 psi for a minimum of four (4) hours with an allowable loss of 5 psi.
  2. Test lateral lines at 76 psi for a minimum of one (1) hour with an allowable loss of 5 psi.
  3. Test Drip Emitter lines at 40 psi for a minimum of one (1) hour with an allowable loss of 3 psi.
- C. Remedy any failures and retest until the system meets the requirements. During the tests, regardless of the amount of leakage, all detectable leaks are to be stopped and all defects corrected.
- D. Materials and installation procedure used for making corrections are to be the same as specified herein.

INSTALLATION OF DRIP IRRIGATION
- A. Entire drip irrigation system shall be installed per details on drawings.
- B. Do not install emitters until flushing, purging, and pressure testing of system is completed.

CONTROL VALVES AND CONTROLLER
- A. Install controllers, control wires, and valves as detailed on Drawings and in accordance with manufacturer's written recommendations and according to electrical codes. Install only one remote control valve box positioned over valve so that all parts of valve can be reached for service. Install pea gravel sump as detailed on drawings. Valve box shall be reasonably free from dirt and debris. Clearance between the highest part of the valve and the bottom of valve box and/or the valve box knock-outs shall be a minimum 2 inches (the box must not rest on piping)

FIELD QUALITY CONTROL
- A. Test pressure and lateral lines and make certain there are no leaks before backfilling. Notify Landscape Architect prior to testing.

MAINTENANCE
- A. Provide the following services during the maintenance period:
  1. On a daily basis, check complete operation of the irrigation system. Adjust equipment to obtain maximum efficiency.
  2. During the last two weeks of the maintenance period, provide equipment familiarization and instruction on the total operation of the system to the grounds maintenance personnel who will assume responsibility for system operation.

DESIGN ETHIC
LANDSCAPE ARCHITECTURE
FORGING NEW ENVIRONMENTS
7525 EAST 6TH AVENUE SCOTTSDALE, ARIZONA 85251
480.225.7077

REGISTERED LANDSCAPE ARCHITECT
CERTIFICATE NO. 61546
BRANDON T. PAUL
ARIZONA, U.S.A.

PROJECT:
BRAKE MASTERS
163rd AVENUE &
PINNACLE PEAK ROAD
SURPRISE, AZ

SHEET TITLE:
IRRIGATION SPECIFICATIONS

JOB NO:	25-065
DATE:	09.24.2025
DRAWN BY:	B. PAUL
SUBMITTED:	-
REVISED:	

SHEET
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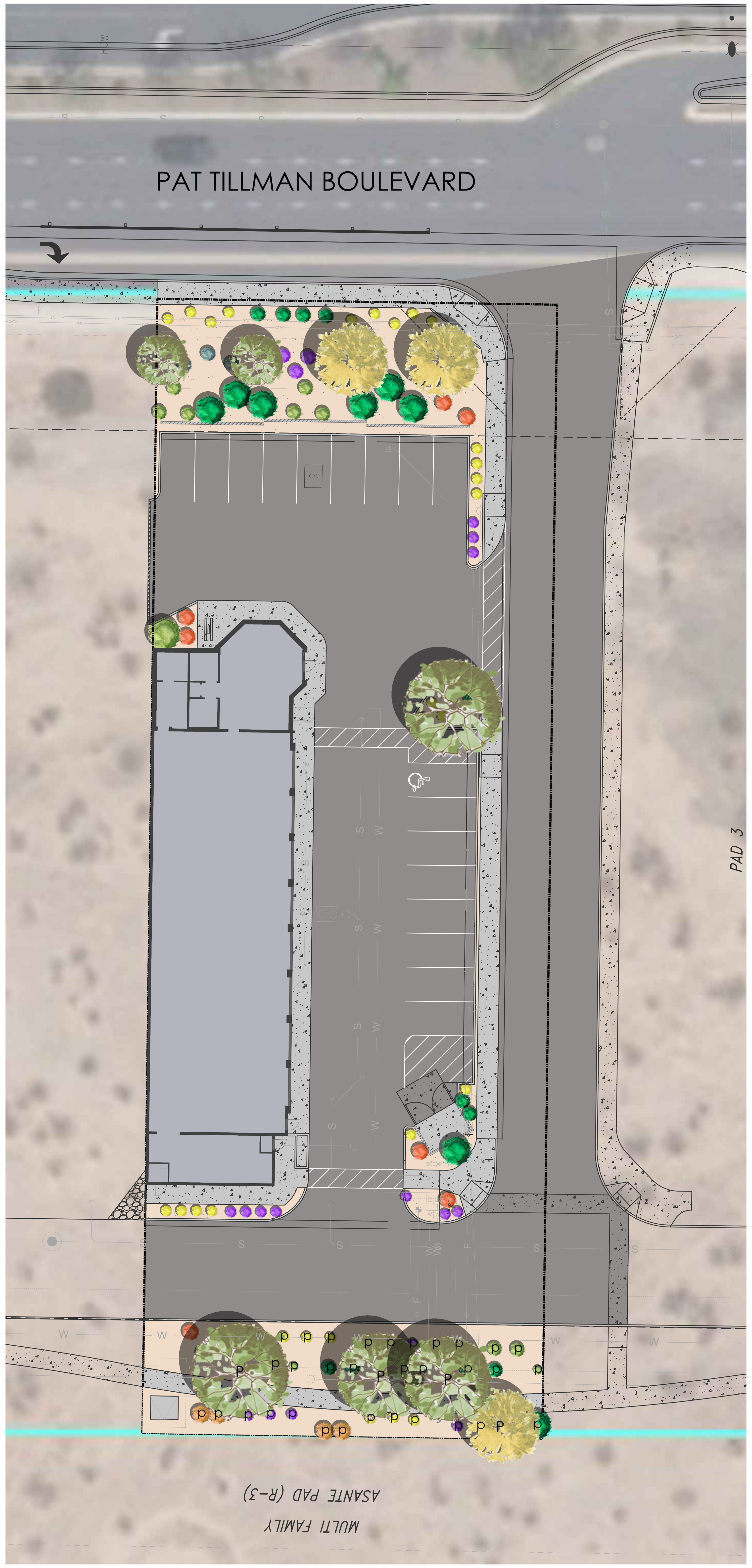


plant legend

	botanical name common name	emitters	size	qty	comments
trees					
	PARKINSONIA X. 'DESERT MUSEUM' DESERT MUSEUM	(5 @ 1.0 GPH)	24" BOX	2	5.0H., 3.0W., 1.0CAL. STAKE IN PLACE
	ULMUS PARVIFOLIA EVERGREEN ELM	(6 @ 2.0 GPH)	24" BOX	1	7.0H., 3.0W., 1.0CAL. STAKE IN PLACE
	VITEX AGNUS-CASTUS 'ALBA' ALBA OR ROSEA CAHSTE TREE	(6 @ 2.0 GPH)	24" BOX	2	5.0H., 3.0W., 1.0CAL. STAKE IN PLACE
shrubs					
	DODONAEA VISCOSA HOPSEED BUSH	(1 @ 1.0 GPH)	5 GAL.	1	
	EREMOPHILA HYGROPHANA 'BLUE BELLS' EMU	(1 @ 1.0 GPH)	5 GAL.	3	
	TECOMA X 'SIERRA APRICOT' SIERRA APRICOT ESPERANZA	(1 @ 1.0 GPH)	5 GAL.	7	
accents					
	ALOE BARBADENSIS ALOE VERA		5 GAL.	16	
	AGAVE VILMORINIANA OCTOPUS AGAVE		5 GAL.	3	
	HESPERALOE FUNIFERA GIANT HESPERALOE		5 GAL.	6	
	MUHLENBERGIA LINDHEIMERI AUTUMN GLOW		5 GAL.	6	
groundcover					
	LANTANA 'NEW GOLD' NEW GOLD LANTANA		1 GAL.	24	
	CALLISTEMON 'LITTLE JOHN' DWARF CALLISTEMON		1 GAL.	9	
	LANTANA MONTEVIDENSIS PURPLE LANTANA		1 GAL.	10	
inerts					
	1/2" SCREENED DECOMPOSED GRANITE APACHE GOLD ROCK PROS		1/2" SCREENED	3,778 S.F.	2" MINIMUM IN ALL PLANTERS

DESIGN ETHIC
LANDSCAPE ARCHITECTURE
FORGING NEW ENVIRONMENTS
7525 EAST 6TH AVENUE SCOTTSDALE, ARIZONA 85251
480.225.7077

PROJECT:
BRAKE MASTERS
163rd AVENUE &
PINNACLE PEAK ROAD
SURPRISE, AZ

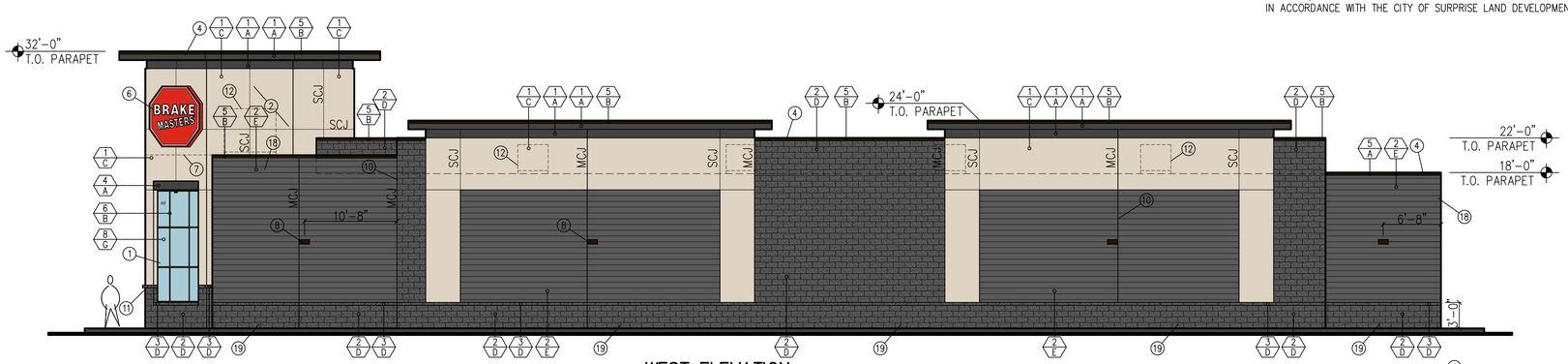
SHEET TITLE:
RENDERING PLAN

JOB NO: 25-065
DATE: 03.10.2025
DRAWN BY: B. PAUL
SUBMITTED: -
REVISED:

SHEET
L1.01
1 of 1

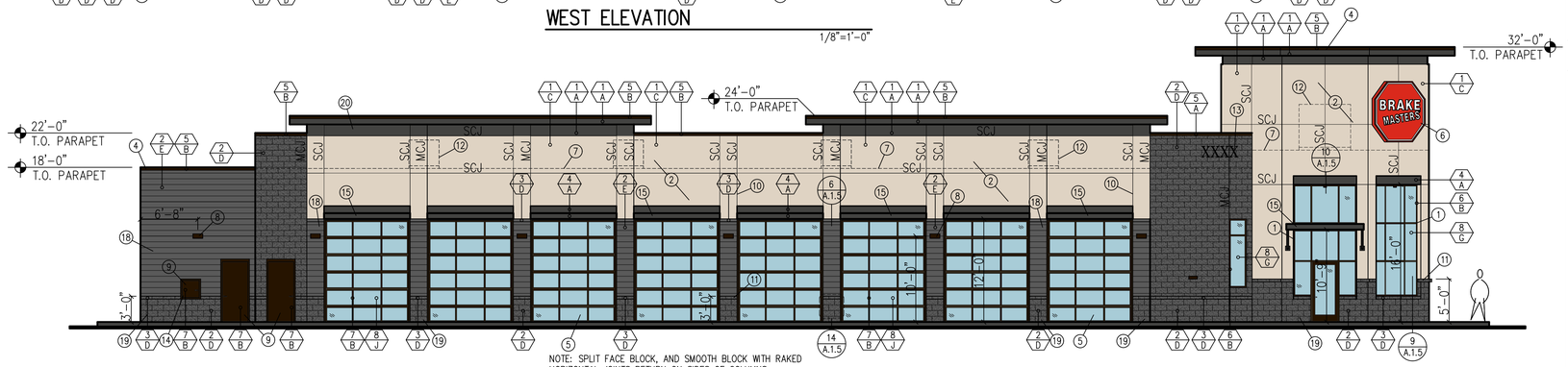
FS25-1012

NOTE: ALL PROPOSED EQUIPMENT, INCLUDING ROOFTOP MECHANICAL EQUIPMENT, SES CABINETS, AND OTHER GROUND OR ROOF MOUNTED EQUIPMENT SHALL BE SCREENED IN ACCORDANCE WITH THE CITY OF SURPRISE LAND DEVELOPMENT ORDINANCE



WEST ELEVATION

1/8"=1'-0"

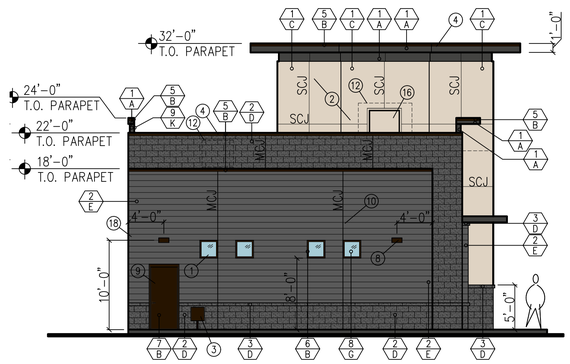


NOTE: SPLIT FACE BLOCK, AND SMOOTH BLOCK WITH RAKED HORIZONTAL JOINTS RETURN ON SIDES OF COLUMNS

EAST ELEVATION

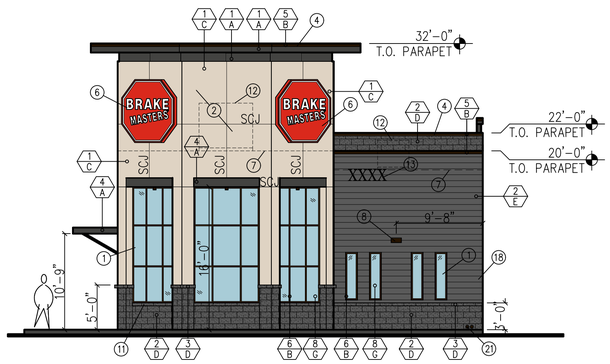
1/8"=1'-0"

0' 4' 8' 16'



SOUTH ELEVATION

1/8"=1'-0"



NORTH ELEVATION

1/8"=1'-0"

COLOR "IRON ORE" SW 7069

COLOR "NATURAL LINEN" SW 9109

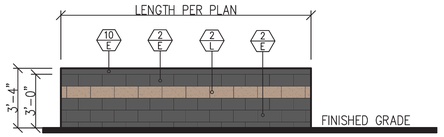
COLOR DARK BRONZE ANODIZED

CMU FINISH: "SPLIT FACE"
COLOR: "OPAL"
MFR: SUPERLITE ECHELON

CMU FINISH: "SMOOTH FACE"
COLOR: "OPAL"
MFR: SUPERLITE ECHELON

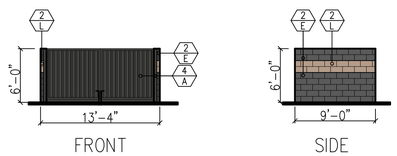
CMU FINISH "SMOOTH FACE"
COLOR: "COCOA BROWN"
MFR: SUPERLITE ECHELON

MATERIAL BOARD



SCREEN WALL

1/4"=1'-0"



DUMPSTER ENCLOSURE ELEVATIONS

1/8"=1'-0"

GENERAL NOTES

1. ALUMINUM-GLASS STOREFRONT:

A. STOREFRONT ALUMINUMM FRAMES:
-2"X4 ½" ALUMINUM. FRAMES, THERMAL BREAK
-COLOR PER FINISH SCHEDULE

B. GLAZING:
-SOLARBAN 70, OLD CASTLE MFR., 1" INSULATED PANELS
-¼" TINTED BRONZE EXTERIOR GLASS
-¼" LOW E INTERIOR GLASS
-½" AIR SPACE
-U VALUE = 0.50 OR BETTER
-SHGC VALUE = 0.25

2. PLASTER-STUCCO SYSTEM:

OVER CMU WALLS: (DRYVIT PER ICC-ES EVALUATION REPORT ESR-1232 DATED JANUARY 2015 AS APPLICABLE)
A. BROWN COAT: MIN. ⅜" THICK CEMENT PLASTER
B. SEALER COAT: DRYVIT COLOR TINTED PRIMER
C. FINISH COAT: DRYVIT SYNTHETIC COLOR MIN. ⅛" THICK, "SAND PEBBLE FINE" FINISH TEXTURE
(INSTALL PER MANUFACTURER'S RECOMMENDATIONS, SPECS & ESR-1232)

3. ALUMINUM OVERHEAD SECTIONAL DOORS:
CONTRACTOR TO CONTACT CHRIS REMICK, NATIONAL ACCOUNT MANAGER AT CLOPAY CORPORATION FOR PRICING. CREMICK@CLOPAY.COM 614-306-9968

KEYNOTES

1. ALUMINUM FRAME WINDOW
2. INTEGRAL COLOR SYNTHETIC DRYVIT FINISH SYSTEM, SEE 5/A.1.5
3. PHONE SERVICE CABINET, PAINT TO MATCH BUILDING
4. PARAPET WALL COPING CAP
5. ALUMINUM OVERHEAD SECTIONAL GARAGE DOOR WITH TEMPERED GLASS PANELS
6. EXTERIOR SIGNAGE, UNDER SEPARATE PERMIT, BY OWNER.
7. LINE OF ROOF BEHIND PARAPET
8. LIGHT FIXTURE, REFER TO ELECTRICAL
9. HOLLOW METAL DOOR, PAINT
10. MASONRY AND/OR STUCCO CONTROL JOINT
11. MASONRY CAP BLOCK WITH PROJECTION
12. MECHANICAL EQUIPMENT SHOWN DASHED BEHIND PARAPET
13. BUILDING ADDRESS NUMBERS, SIZE AND ILLUMINATION AS REQUIRED BY LOCAL ADDRESSING STANDARDS AND FIRE CODE
14. METAL ACCESS DOOR FOR OIL ROOM, PER DOOR SCHEDULE
15. METAL CANOPY
16. OPENING IN PARAPET WALL FOR ACCESS TO TOWER ROOF AREA
17. STUCCO POP OUT
18. RAKED HORIZONTAL JOINTS, SEE DETAIL 12/A.1.5, AND FINISH LEGEND
19. SPLIT FACE BLOCK, SEE FINISH LEGEND, AND DETAIL 14/A.1.5
20. NOT USED
21. ROOF DRAIN TERMINATION, SEE CIVIL AND PLUMBING

FINISH LEGEND

MATERIAL / FINISH

MATERIALS

1 – INTEGRAL COLOR STUCCO
2 – INTEGRAL COLOR CMU, 8X8X16
3 – INTEGRAL COLOR CMU, 12X4X16
4 – STEEL COMPONENTS (EPOXY PAINT – DEVTHANE 379 & DEVRAN 224HS)
5 – PREFINISHED METAL TRIM
6 – ALUMINUM FRAMES
7 – METAL DOORS/FRAMES
8 – GLAZING
9 – BLOCK FILL & PAINT EXPOSED CMU BACKSIDE/ROOF OF PARAPET ONLY
10 – INTEGRAL COLOR CMU, 8X4X16

FINISH/COLORS

A – COLOR "IRON ORE" SW 7069
B – COLOR DARK BRONZE ANODIZED
C – COLOR "NATURAL LINEN" SW 9109
D – CMU FINISH: "SPLIT FACE" COLOR: "OPAL" MFR: SUPERLITE ECHELON
E – CMU FINISH: "SMOOTH FACE" COLOR: "OPAL" MFR: SUPERLITE ECHELON
F – NOT USED
G – 1" INSULATED LOW E GLASS SOLAR BAN 70 – OLD CASTLE
H – NOT USED
J – 1/8" CLEAR TEMPERED GLASS
K – PAINT TO MATCH ADJACENT MATERIAL FINISH COLOR
L – CMU FINISH: "SMOOTH FACE" COLOR: "COCOA BROWN" MFR: SUPERLITE ECHELON

kbp

kbp architecture, llc
dba
kbp design - build
11635 E. Tanque Verde Rd.
Tucson, Arizona 85749

Kevin B. Petrick, RA, AIA, ROC
520.982.2019
email: kbpetrick@cox.net

Arizona Architect Registrant # 34273
Arizona Contractor KB-1 ROC 285911

design ■ planning ■ construction
Architects, Engineers, Contractors

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EXPIRES 12-31-26

Project:

BRAKE MASTERS
New Development
at
Asante Trails
Pat Tillman & 163rd Ave
Surprise, AZ 85387

drawing issue log:

Delta	Date	Description

kbp project no: **2755**

date: **January 30, 2026**

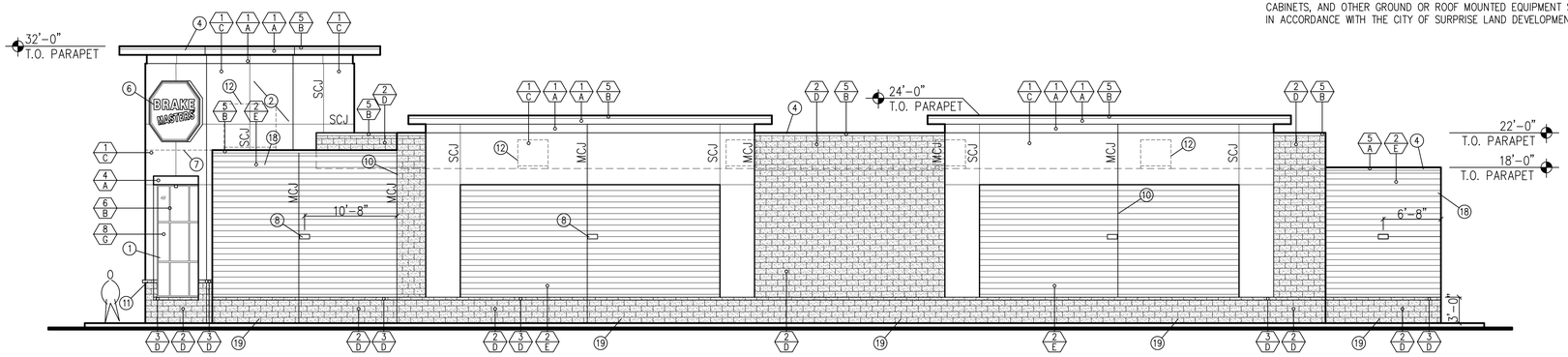
sheet title: **COLORED EXTERIOR ELEVATIONS**

sheet number: **A.3.1**

BRAKE MASTERS - PAT TILLMAN BLVD & 163RD AVE - SURPRISE, AZ 85387

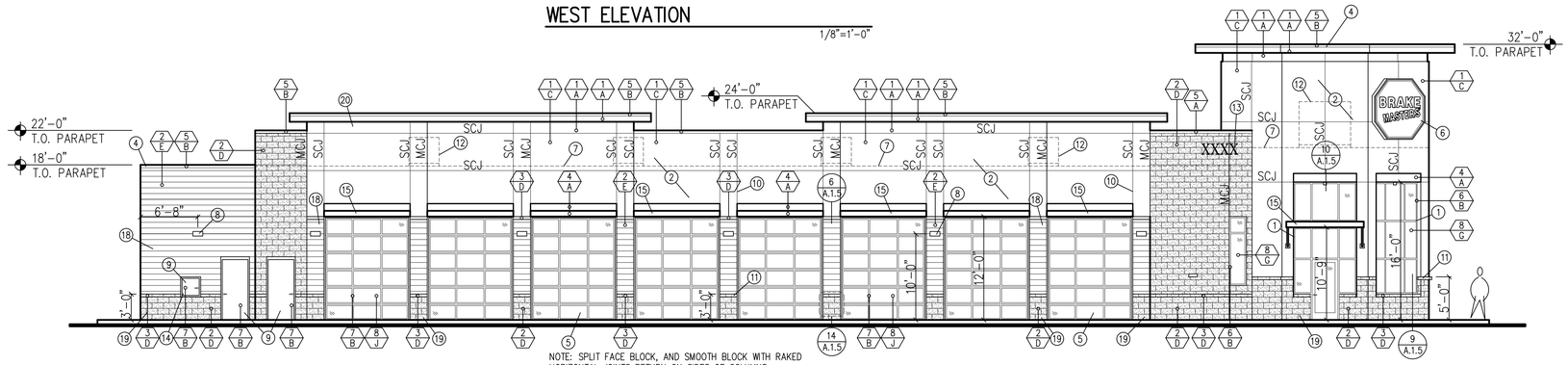
FS25-1012

NOTE: ALL PROPOSED EQUIPMENT, INCLUDING ROOFTOP MECHANICAL EQUIPMENT, SES CABINETS, AND OTHER GROUND OR ROOF MOUNTED EQUIPMENT SHALL BE SCREENED IN ACCORDANCE WITH THE CITY OF SURPRISE LAND DEVELOPMENT ORDINANCE



WEST ELEVATION

1/8"=1'-0"

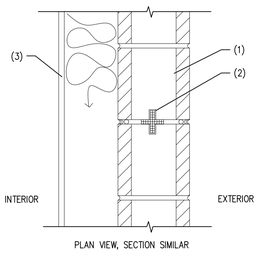


NOTE: SPLIT FACE BLOCK, AND SMOOTH BLOCK WITH RAKED HORIZONTAL JOINTS RETURN ON SIDES OF COLUMNS

EAST ELEVATION

1/8"=1'-0"

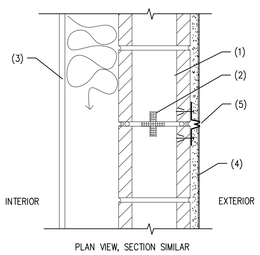
0' 4' 8' 16'



PLAN VIEW, SECTION SIMILAR

1 MASONRY CONTROL JOINT

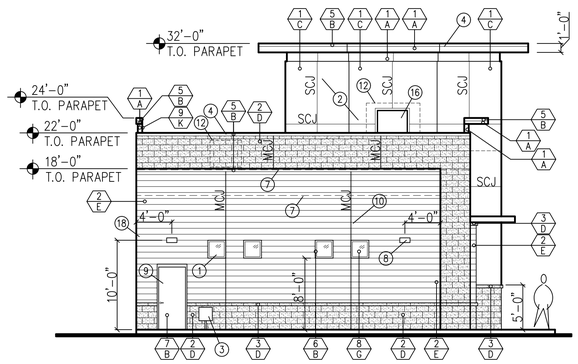
MCJ = MASONRY CONTROL JOINT — 1 1/2" = 1'-0"



PLAN VIEW, SECTION SIMILAR

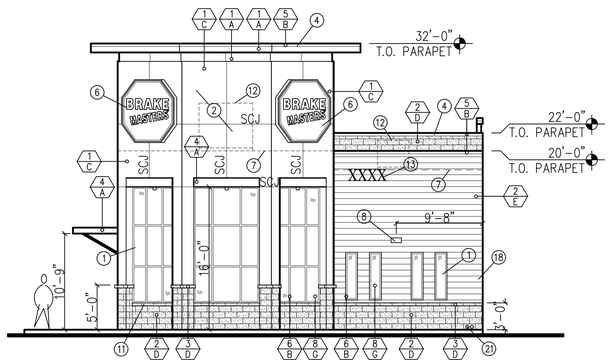
2 PLASTER MCJ & SCJ

MCJ = MASONRY CONTROL JOINT — 1 1/2" = 1'-0"
SCJ = STUCCO CONTROL JOINT



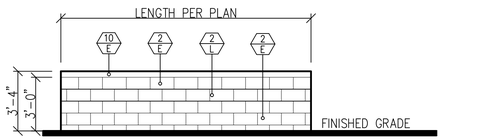
SOUTH ELEVATION

1/8"=1'-0"



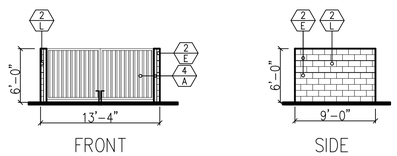
NORTH ELEVATION

1/8"=1'-0"



SCREEN WALL

1/4"=1'-0"



DUMPSTER ENCLOSURE ELEVATIONS

1/8"=1'-0"

GENERAL NOTES

1. ALUMINUM-GLASS STOREFRONT:

A. STOREFRONT ALUMINUMM FRAMES:
- 2"X4 ½" ALUMINUM. FRAMES, THERMAL BREAK
- COLOR PER FINISH SCHEDULE

B. GLAZING:
- SOLARBAN 70, OLD CASTLE MFR., 1" INSULATED PANELS
- ¼" TINTED BRONZE EXTERIOR GLASS
- ¼" LOW E INTERIOR GLASS
- ½" AIR SPACE
- U VALUE = 0.50 OR BETTER
- SHGC VALUE = 0.25

2. PLASTER-STUCCO SYSTEM:

OVER CMU WALLS: (DRYVIT PER ICC-ES EVALUATION REPORT ESR-1232 DATED JANUARY 2015 AS APPLICABLE)
A. BROWN COAT: MIN. ⅜" THICK CEMENT PLASTER
B. SEALER COAT: DRYVIT COLOR TINTED PRIMER
C. FINISH COAT: DRYVIT SYNTHETIC COLOR MIN. ⅛" THICK, "SAND PEBBLE FINE" FINISH TEXTURE
(INSTALL PER MANUFACTURER'S RECOMMENDATIONS, SPECS & ESR-1232)

3. ALUMINUM OVERHEAD SECTIONAL DOORS:
CONTRACTOR TO CONTACT CHRIS REMICK, NATIONAL ACCOUNT MANAGER AT CLOPAY CORPORATION FOR PRICING. CREMICK@CLOPAY.COM 614-306-9968

KEYNOTES

1. ALUMINUM FRAME WINDOW
2. INTEGRAL COLOR SYNTHETIC DRYVIT FINISH SYSTEM, SEE 5/A.1.5
3. PHONE SERVICE CABINET, PAINT TO MATCH BUILDING
4. PARAPET WALL COPING CAP
5. ALUMINUM OVERHEAD SECTIONAL GARAGE DOOR WITH TEMPERED GLASS PANELS
6. EXTERIOR SIGNAGE, UNDER SEPARATE PERMIT, BY OWNER.
7. LINE OF ROOF BEHIND PARAPET
8. LIGHT FIXTURE, REFER TO ELECTRICAL
9. HOLLOW METAL DOOR, PAINT
10. MASONRY AND/OR STUCCO CONTROL JOINT
11. MASONRY CAP BLOCK WITH PROJECTION
12. MECHANICAL EQUIPMENT SHOWN DASHED BEHIND PARAPET
13. BUILDING ADDRESS NUMBERS, SIZE AND ILLUMINATION AS REQUIRED BY LOCAL ADDRESSING STANDARDS AND FIRE CODE
14. METAL ACCESS DOOR FOR OIL ROOM, PER DOOR SCHEDULE
15. METAL CANOPY
16. OPENING IN PARAPET WALL FOR ACCESS TO TOWER ROOF AREA
17. STUCCO POP OUT
18. RAKED HORIZONTAL JOINTS, SEE DETAIL 12/A.1.5, AND FINISH LEGEND
19. SPLIT FACE BLOCK, SEE FINISH LEGEND, AND DETAIL 14/A.1.5
20. NOT USED
21. ROOF DRAIN TERMINATION, SEE CIVIL AND PLUMBING

FINISH LEGEND

MATERIAL / FINISH

MATERIALS	FINISH/COLORS
1 INTEGRAL COLOR STUCCO	A COLOR "IRON ORE" SW 7069
2 INTEGRAL COLOR CMU, 8X8X16	B COLOR DARK BRONZE ANODIZED
3 INTEGRAL COLOR CMU, 12X4X16	C COLOR "NATURAL LINEN" SW 9109
4 STEEL COMPONENTS (EPOXY PAINT - DEVTHANE 379 & DEVRAN 224HS)	D CMU FINISH: "SPLIT FACE" COLOR: "OPAL" MFR: SUPERLITE ECHELON
5 PREFINISHED METAL TRIM	E CMU FINISH: "SMOOTH FACE" COLOR: "OPAL" MFR: SUPERLITE ECHELON
6 ALUMINUM FRAMES	F NOT USED
7 METAL DOORS/FRAMES	G 1" INSULATED LOW E GLASS SOLAR BAN 70 - OLD CASTLE
8 GLAZING	H NOT USED
9 BLOCK FILL & PAINT EXPOSED CMU BACKSIDE/ROOF OF PARAPET ONLY	J 1/8" CLEAR TEMPERED GLASS
10 INTEGRAL COLOR CMU, 8X4X16	K PAINT TO MATCH ADJACENT MATERIAL FINISH COLOR
	L CMU FINISH: "SMOOTH FACE" COLOR: "COCOA BROWN" MFR: SUPERLITE ECHELON

kbp architecture, llc
dba
kbp design - build
11635 E. Tanque Verde Rd.
Tucson, Arizona 85749

Kevin B. Petrick, RA, AIA, ROC
520.982.2019
email: kbpetrick@cox.net

Arizona Architect Registrant # 34273
Arizona Contractor KB-1 ROC 285911

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REGISTERED ARCHITECT — CERTIFICATE NO. 34273 — KEVIN B. PETRICK — Date Signed 1-30-26 — ARIZONA, U.S.A.

EXPIRES 12-31-26

Project:

BRAKE MASTERS
New Development
at
Asante Trails
Pat Tillman & 163rd Ave
Surprise, AZ 85387

drawing issue log:

Delta	Date	Description

kbp project no: **2755**

date: **January 30, 2026**

sheet title: **EXTERIOR ELEVATIONS**

sheet number: **A.3.0**

BRAKE MASTERS - PAT TILLMAN BLVD & 163RD AVE - SURPRISE, AZ 85387

FS25-1012

kbp architecture

design ■ planning ■ construction mgmt.

Participation Report

Date: 2/25/2026

kbp project: 2755

Project: Brake Masters – Asante Trails
16397 W. Pat Tillman Blvd.
Surprise, AZ 85387

Subject: Public Outreach Meeting – Participation Report **FS25-1012**

On Tuesday 2/24/2026 at 6:00pm Brake Masters held a public outreach meeting at the Asante Library to discuss the details of the Brake Masters project and address any concerns from public comment.

The public was notified of the meeting in the following ways.

1. City of Surprise had meeting notice published in local newspaper
2. City of Surprise sent mailers to surrounding residents with meeting notice
3. Applicant posted 2 large “notice of public hearing” signs per City of Surprise requirements. Photos and notarized affidavits of the posting were sent to the City of Surprise.

Attached to the end of this document is the sign in sheet from the meeting.

There was no public interest or comment about the Brake Masters project.

The few people that did come to the meeting were inquiring about broader master development plans for the area, and expressed concern about excessive fast-food restaurants in the area and the desire for an Aldi’s grocer.

Cody Petrick
Project Manager
KBP Design-Build
520-369-8894
codypetrick@cox.net

HEIGHTS PROPERTIES LLP

February 24, 2026

RE: FS25-1012

NEIGHBORHOOD MEETING REGISTRATION

Purpose of Meeting: Introduction of plans to construct a Brake Masters at Asante Trails

Name	Address	Signature
Stan Franch	[redacted]	
Connie Warren	[redacted]	
Bob Warren	[redacted]	
Kevin Peterson	ICBF	
Cody Arthur		
Jim Egan	Heights	

Meeting ended 6:20 pm

Trevor Sleetham from City / Surprise Asante

SURPRISE
ARIZONA

COMMUNITY DEVELOPMENT
CITY OF SURPRISE
16000 N. CIVIC CENTER PLAZA
SURPRISE, AZ 85374
T. 623·222·3000

AFFIDAVIT OF SIGN POSTING

Case Number: FS25-1012

Project Name: Site Plan For Brake Masters

Project Location: Pattilman Rd

Date Posted: 4-2-2026

In order to assist in providing adequate notice to interested parties, the applicant for any type of public hearing shall erect two (2) signs providing notice of the date, time, and place of the scheduled hearing(s). These signs must be erected not less than fifteen (15) calendar days prior to the date of the first hearing. The signs shall also include the description of the request as contained on the formal development application. The size and format of this sign shall meet requirements established by the city (see example).

Such notice shall be clearly legible and placed at a prominent location on the site, generally adjacent and perpendicular to the public right-of-way. It shall be the responsibility of the applicant to erect and to maintain the sign on the subject property, as well as the information on the sign, until final disposition of the case.

I confirm that the site has been posted as required, for the case noted above. **Photographs of the site posting, and any subsequent changes/updates made to the sign, have also been submitted.**

Owner / Application Signature — Date: 4-3-2026

This instrument was acknowledged before me this 03 day of April,

20 26 by Osama Al Salihi

Osama Alsalihi
Notary Public
Maricopa County, Arizona
My Comm. Expires 01-26-29
Commission No. 579747

Notary Public

My Commission Expires: 01/26/2029

NOTICE OF PUBLIC HEARING

CITY OF SURPRISE

IN-PERSON NEIGHBORHOOD MEETING

DATE: February 24, 2026
TIME: 6:00 pm
LOCATION: Asante Library - 16755 W Verde Solana Dr.
Surprise, AZ 85381 - 623-222-2940

PLANNING & ZONING

DATE: May 21, 2026
TIME: 6:00 pm
LOCATION: Surprise City Hall
16000 N Civic Center Plaza
Surprise, AZ

CITY COUNCIL

DATE: _____
TIME: _____
LOCATION: _____

CASE NUMBER: FS25-1012. Conditional Use Permit (CUP) with Site Plan for Brake Masters.
A request for a Conditional Use Permit (CUP) with Site Plan for an automotive maintenance to allow for the development of Brake Masters.

FOR MORE INFORMATION, CALL:

623-222-3011
Surpriseaz.gov


NOTICE OF PUBLIC HEARING
CITY OF SURPRISE
IN-PERSON NEIGHBORHOOD MEETING
DATE: February 24, 2026
TIME: 6:00 pm
LOCATION: Asante Library - 16755 W Verde Solana Dr.
Surprise, AZ 85381 - 623-222-2940
PLANNING & ZONING
DATE: May 21, 2026
TIME: 6:00 pm
LOCATION: Surprise City Hall
16000 N Civic Center Plaza
Surprise, AZ
CITY COUNCIL
DATE:
TIME:
LOCATION:
PROJECT LOCATION
CASE NUMBER: FS25-1012. Conditional Use Permit (CUP) with Site Plan for Brake Masters.
A request for a Conditional Use Permit (CUP) with Site Plan for an automotive maintenance to allow for the development of Brake Masters.
FOR MORE INFORMATION, CALL:
623-222-3011
Surpriseaz.gov

Spendiarian & Willis Acoustics & Noise Control LLC
The Form and Function of Sound
(520) 623-6003 AcousticalNoise.com 4335 N Alvernon Way, Tucson, AZ 85718

Noise Impact Assessment of Proposed Brake Masters

Pat Tillman Blvd and 163rd Ave

Prepared for

Brake Masters

Project Manager
Jim Egan, Director of Real Estate

Lance Willis, PhD

R. 1, March 10, 2026

Table of Contents

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1. Summary

This study assesses the noise impact expected near a new proposed Brake Masters shop at Pat Tillman Boulevard and 163rd Avenue in Surprise, Arizona. The assessment is based on a comparison to a similar facility at 7855 East Speedway Boulevard in Tucson, Arizona. An ANSI S12.9 analysis of noise-induced annoyance for sound emitted from the garage bays was performed for the surrounding land uses. Sound levels were found be in the normally acceptable range according to ANSI S12.9 Part 5 and to meet the requirements of the Surprise Code of Ordinances.

1.1 Revision History

- R.1 March 10, 2026
  - Add background noise measurement at proposed shop site
- R.0 February 6, 2026
  - Original release

2. Site Summary

2.1 Proposed Site Location

The proposed brake shop (Figure 2.1) is located on Pat Tillman Boulevard near 163rd Avenue in Surprise, Arizona. The site is currently zoned for commercial use. Adjacent properties also include multiunit housing to the south and commercial retail to the north.

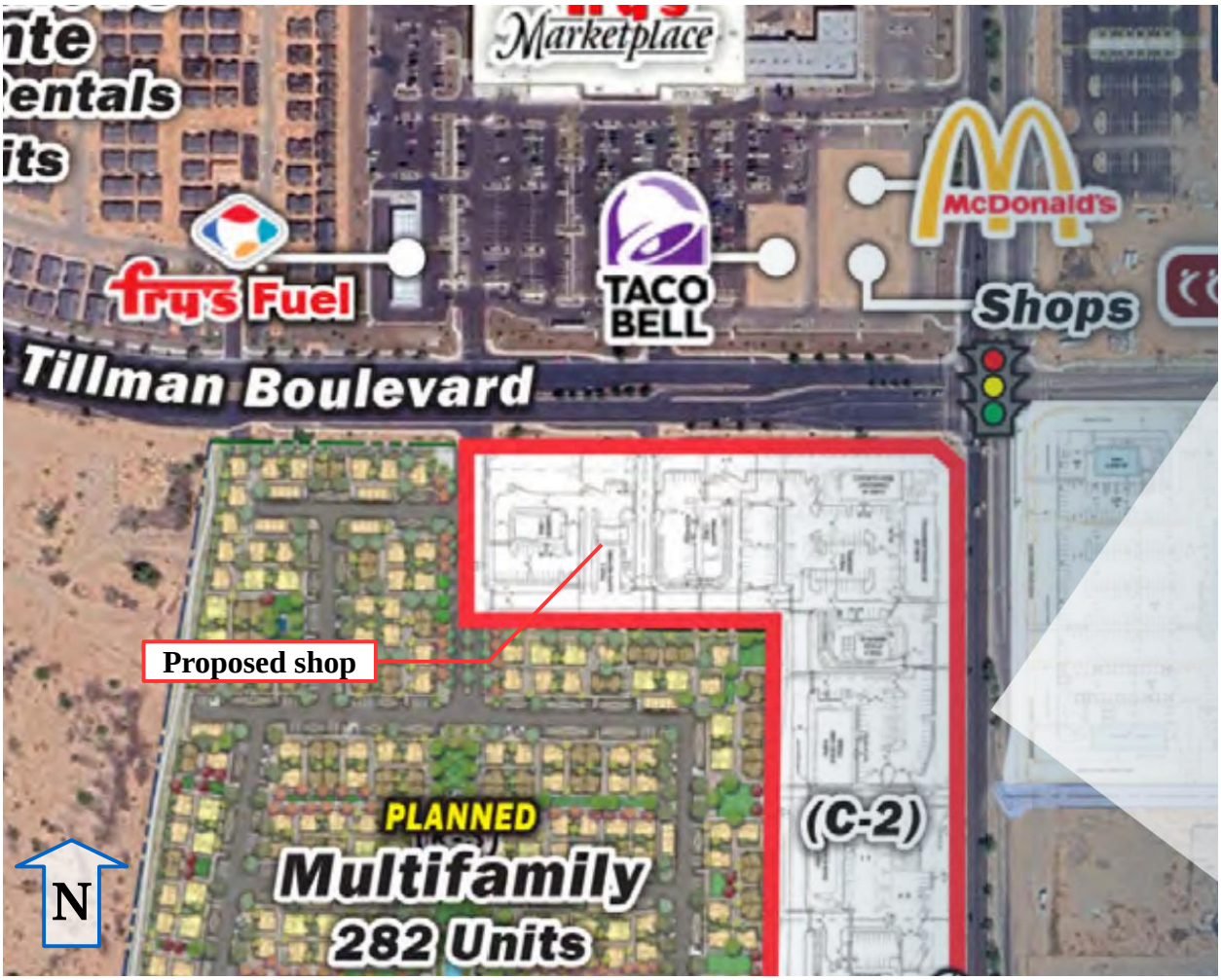

Figure 2.1. Proposed Brake Shop Site

2.2 Building Layout

The site plan (Figure 2.2) is for an eight bay shop with bay doors facing east.

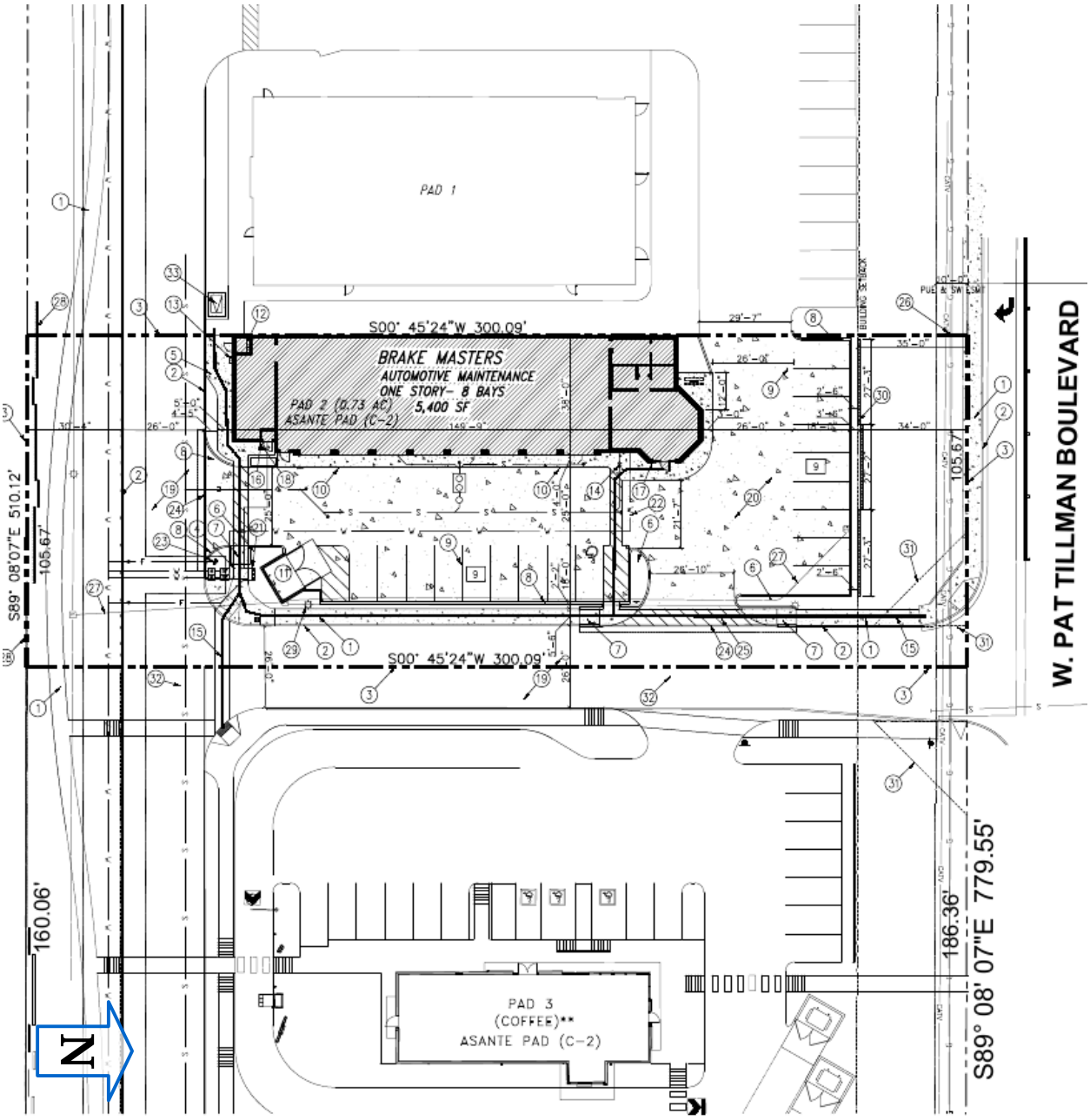

Figure 2.2. Site Plan

3. Acoustical Measurements at an Active Brake Shop

3.1 Test Description

3.1.1 Purpose

Acoustical measurements were performed at an active Brake Masters shop at 7855 East Speedway Boulevard in Tucson, Arizona. Sound events from this data set will be used to assess the expected noise impact on properties surrounding the proposed brake shop site.

3.1.2 Measurements and Equipment

Sound pressure data was logged with an NTi XL2 Type I integrating sound level meter. Simultaneous, calibrated audio recordings were also made for further analysis of intermittent sounds from the shop. The microphone height was 52 inches. A 3 inch diameter wind screen was placed over the microphone.

Meteorological observations were made on site during the time of the acoustical measurements using a Kestrel 4500 weather station. Temperature, humidity, wind, and pressure data were logged every 20 seconds. This data is displayed in the Appendix.

3.2 Tucson Brake Masters Store #208

3.2.1 Measurement Locations

The measurement locations for the sound level meter (SLM) are shown in Figure 4.1 for the reference site in Tucson.

Figure 3.1. Measurement Locations at Comparison Site in Tucson

3.2.2 Meteorological Conditions

Meteorological conditions were clear with light winds. See the Appendix for complete meteorological data.

The shop at Speedway Boulevard and Pantano Road consisted of eight bays facing east toward the El Potosino restaurant. The restaurant has a drive-through with a kiosk on the northwest corner of the building. The kiosk loudspeaker had no noticeable effect on the measurement. All of the service bay doors at the shop remained in an open position during testing. Measurements were performed the morning of March 4, 2021.

3.2.3 Parking Lot Measurement

51 feet from east wall of the Brake Masters shop. 47 feet from restaurant facade. 185 feet from centerline of Speedway Boulevard, Intervening ground was asphalt.

Figure 3.2. Sound Level Meter at Tucson Shop

The sound level meter was set up in the parking lot. Cars were periodically moved in and out of the parking spaces in front of the shop. The primary sound sources were traffic on Speedway Boulevard, traffic in the parking lot, and work in the Brake Masters shop. Sound from Pantano Road was effectively shielded by the restaurant and the adjacent retail building to the east.

Figure 3.3. Sound Level Meter at Tucson Shop Looking East

Figure 3.4 shows the one second equivalent-continuous sound pressure level (LAeq) over the time of the measurement. There was a steady background of traffic noise between 50 and 65 dBA. This was interrupted by an occasional loud vehicle on the roadways and sounds from the Brake Masters shop. The latter were primarily the sounds of impact wrenches and other air tools.

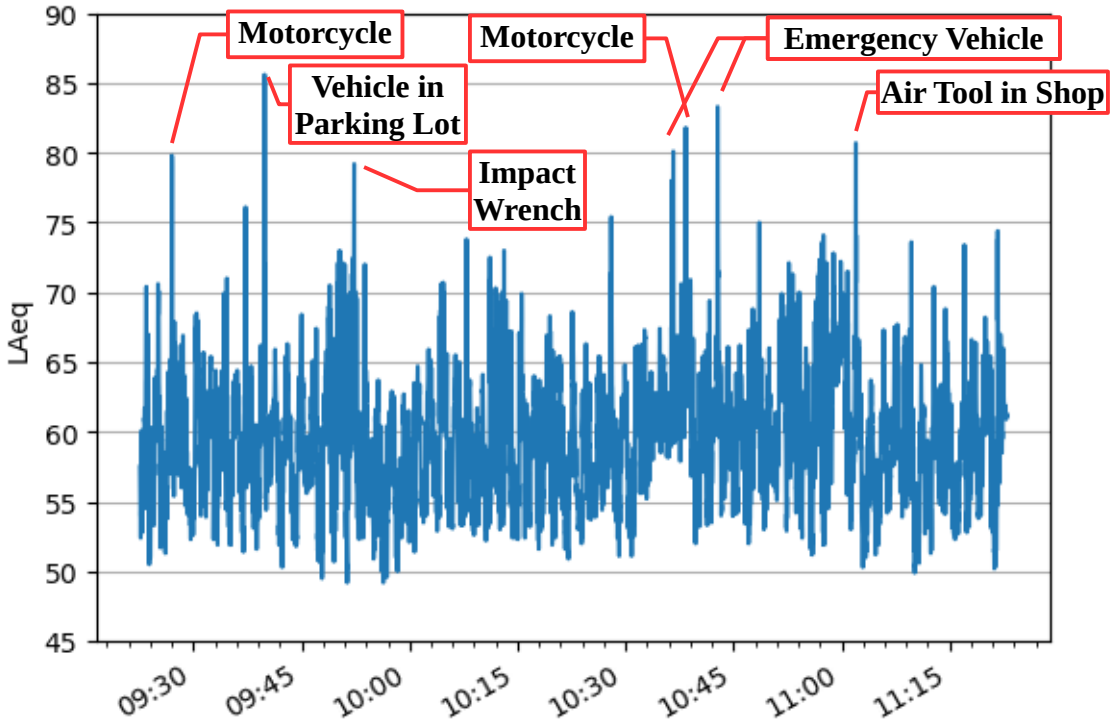

Figure 3.4. Sound Pressure Levels in Tucson Shop Parking Lot

Table 3.1 shows a summary of the sound pressure level data. The 91.7 dBA LAmax was caused by a car starting close to the sound level meter.

	Start Time	End Time	Elasped Time	LAeq	C.I. 95%	LAmax	LA10	LA50	LA90
Parking Lot	09:22:35	11:22:57	02:00:22	62.6	0.8	91.7	64.8	59.0	53.6

Table 3.1. Sound Pressure Level Data Summary in Tucson Shop Parking Lot

3.2.4 Noise-induced Annoyance

ANSI S12.9 is a national standard for quantifying annoyance caused by sound and is used here to assess the noise impact of the individual sound events from the shop activities. Annoyance is influenced by more than loudness. Adjustments are therefore added for sounds with special characteristics to account for other factors such as onset rate and tonal prominence. The most prominent sounds observed and their adjustments are listed in Table 3.2.

Sound Source	Occurrences	Adjustment Type	Adjustment (dB)	Unadjusted LAeq (dBA)	Adjusted LAeq (dBA)
impact wrench	178	Regular impulsive	5.0	53.8	58.8
metal fixture	23	Highly impulsive	12.0	43.4	55.4
misc impact	78	Highly impulsive	12.0	46.5	58.5
car horn	2	Regular impulsive	5.0	22.3	27.3
air tool	10	No special characteristics	0.0	44.4	44.4
car starting	1	Regular impulsive	5.0	33.8	38.8
tire squeak	1	Regular impulsive	5.0	47.7	52.7
sawing	12	Regular impulsive	5.0	33.1	38.1

Table 3.2. Sound Sources and Adjustments

The primary sounds emitted from the shop bays were impact wrenches, sound produced by miscellaneous impacts, and dropping a metal fixture into place. The overall ANSI S12.9 adjusted LAeq was 63.1 dBA at the SLM location in the parking lot. This sound level will be used as the basis for calculating the noise-induced annoyance in the area around the proposed shop site.

3.3 Background Noise at the Proposed Site

Rear drive behind proposed Brake Masters shop. Intervening ground was asphalt and graded soil.

Background noise measurements at the Pat Tillman Boulevard location were performed on March 6, 2026. The primary sound sources were traffic on Pat Tillman Boulevard 163rd Avenue was not noticeable. Earth moving equipment was in use on the adjacent construction site on 163rd Avenue until noon.

Figure 3.5. Sound Level Meter at Proposed Site Looking North

Figure 3.6. Sound Level Meter at Proposed Site Looking South

Daytime equivalent-continuous background noise levels were in the 52 to 54 dBA range as seen in Table 3.3. This is typical of a busy suburban area. This measurement is, however, not representative of the increased roadway noise that will be present when the shops along Pat Tillman Boulevard and 163rd Avenue and the housing projects to the south of Pat Tillman Boulevard and to the east across 163rd Avenue have been completed.

Hour	LAeq
12:00:00	54.0
13:00:00	52.0

Table 3.3. Sound Pressure Levels at Back of Proposed Shop Site

4. Noise Impact Assessment

4.1 Noise Assessment Criteria

The Surprise Code of Ordinances does not provide any specific criteria for assessing daytime noise impact. ANSI S12.9 Parts 4 and 5 have therefore been used to assess the noise-induced annoyance of sounds emitted by the proposed shop. ANSI S12.9 is a national standard for quantifying annoyance caused by sound and is consistent with the nighttime criteria in Section 34-105 of the Code prohibiting “discomfort or annoyance to any reasonable person of normal sensitivities.” Part 5 of the standard recommends a maximum day-night level of 60 dBA for multiunit housing areas. This translates to a 60 dBA adjusted equivalent-continuous sound pressure level (LAeq) limit for daytime activities.

4.2 Acoustical Modeling Parameters

4.2.1 Methodology

The acoustical site model has been constructed using the iNoise package version 2024.2 developed by DGMR. The sound propagation model is ISO 9613. This software conforms with the ISO/TR 17534-3 quality standard for implementing the ISO 9613 Part 2 outdoor sound propagation model.

4.2.2 Equivalent-continuous Sound Pressure Level

As described in the previous chapter, the ANSI S12.9 adjusted LAeq was measured to be 63.1 dBA at 51 feet from the bay doors of an eight bay shop in Tucson. The proposed shop is also eight bays in the same configuration as the shop measured.

4.2.3 Sound Pressure Level Contour Maps

Sound pressure level contours in the figures below are displayed in 5 dBA increments. The grid height for the contours is 5 feet above grade. The legend identifying the map symbols is in Figure 4.1 and all sound pressure levels are A-weighted ANSI S12.9 adjusted levels as described above. Sound walls are labeled as barriers in the iNoise software.

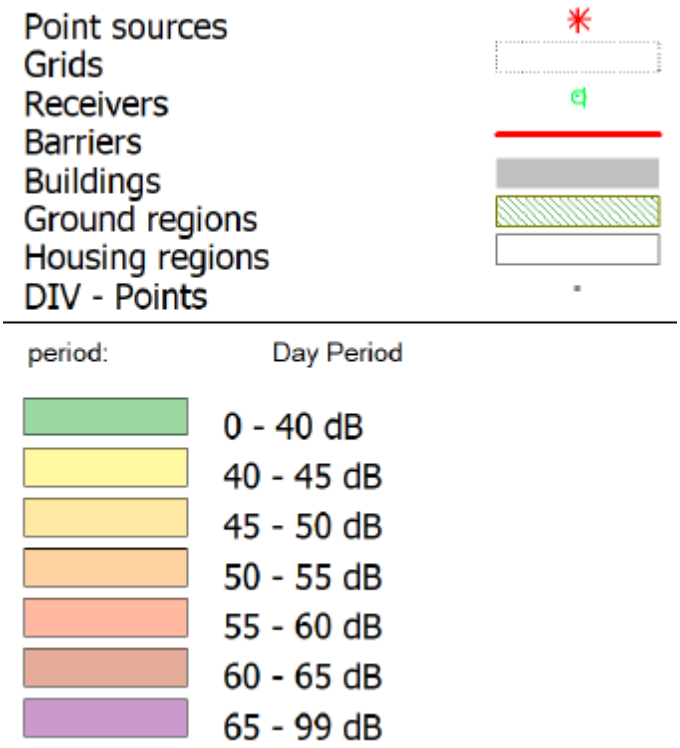

Figure 4.1 Legend for Sound Pressure Level Contour Maps

4.3 Expected Noise Impact on Surrounding Properties

ANSI S12.9 adjusted sound pressure level contours are shown in Figure 4.2. The 55 and 60 dBA contours are contained outside the residential area. The noise impact on the proposed multiunit housing is therefore in the normally acceptable range according to ANSI S12.9 Part 5.

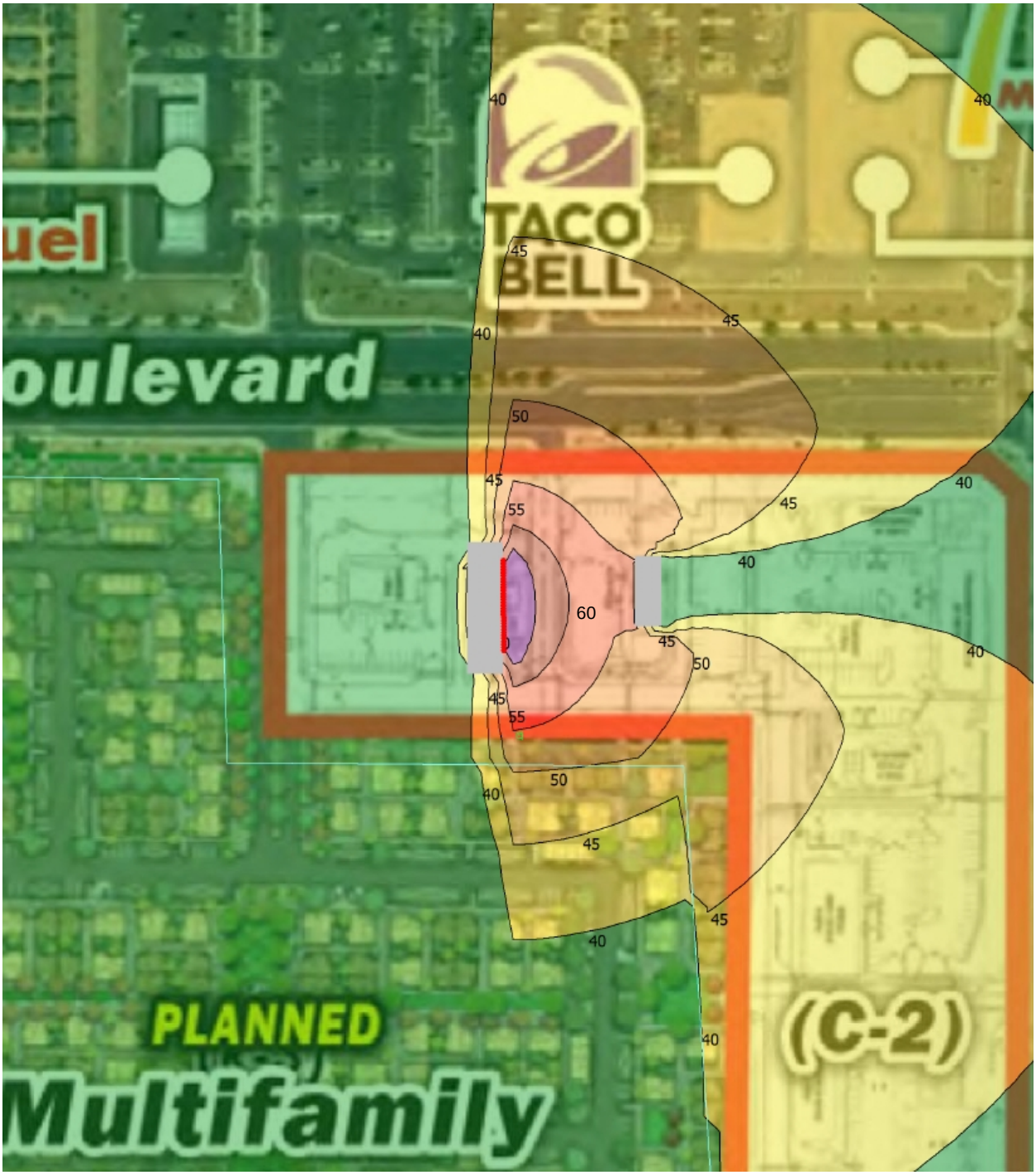

Figure 4.2. Adjusted Sound Pressure Level Contours (dBA)

5. Conclusions

Acoustical measurements were performed at an active Brake Masters shop at 7855 East Speedway Boulevard in Tucson, Arizona. This data was used to assess the noise impact of a proposed brake shop on Pat Tillman Boulevard. An ANSI S12.9 analysis of noise-induced annoyance for sound emitted from the garage bays was performed for the surrounding land uses. Sound levels were found be in the normally acceptable range according to ANSI S12.9 Part 5. This meets the subjective requirements in the Surprise Code of Ordinances.

For comparison to the existing background noise level, the Surprise noise code does not include any provisions for assessment of impulsive sound. The unadjusted LAeq for the reference brake shop was 7.1 dBA less than the ANSI S12.9 adjusted LAeq. This places the projected equivalent-continuous sound pressure level near the south property line of the proposed brake shop below 48 dBA and below the measured 52 to 54 dBA background noise levels.

Appendix

A1. Glossary of Acoustical Terms and Abbreviations

A1.1 Abbreviations

AI: articulation index

ASEL: A-weighted sound exposure level

ASTC: apparent sound transmission class

dB: decibel

DNL: day - night level

FSTC: field sound transmission class

Hz: Hertz

IIC: impact insulation class

kHz: kilohertz

L_{eq}, LA_{eq}, LC_{eq}: equivalent sound pressure level

NC: noise criteria

NIC: noise isolation class

NIPTS: noise induced permanent threshold shift

NR: noise reduction

Pa: Pascal

POE: probable occupant evaluation (see room criteria)

PTS: permanent threshold shift

PWL: sound power level

QAI: quality assessment index (see room criteria)

RC: room criteria

RT_{60}: reverberation time

SEL: sound exposure level

SII: speech interference index

SIL: speech interference level

SLM: sound level meter

SPI: speech privacy index

SPL: sound pressure level

STI: speech transmission index

TTS: temporary threshold shift

A1.2 Terms

A-weighting: see frequency weighting

absorption coefficient: see sound absorption coefficient

acoustical coupler: a cavity of predetermined shape and volume used for the calibration of earphones or microphones in conjunction with a calibrated microphone adapted to measure the sound pressure developed within the cavity

anechoic room: a room whose boundaries absorb practically all of the sound incident thereon, thereby providing essentially freefield conditions

articulation index (AI): a number (ranging from 0 to 1) which is a measure of the intelligibility of speech- the higher the number the greater the intelligibility. This metric has been replaced by the Speech Intelligibility Index (SII) defined in ANSI S3.5.

average sound level: see equivalent continuous sound level

background noise: the total noise from all sound sources other than a particular sound that is of interest

band: a subsection of the frequency spectrum

C-weighting: see frequency weighting

coupler: see acoustical coupler

day-night level (DNL): the 24 hour equivalent (average) A-weighted sound pressure level. A 10 dBA penalty is incurred between the hours of 10:00 PM and 7:00 AM. The DNL system has been adopted by the U.S. Department of Housing and Urban Development, the Department of Defense, and the Federal Aviation Administration.

decibel (dB): a unit of level which denotes the ratio between two quantities that are proportional to power; the number of decibels is 10 times the common logarithm (base 10) of this ratio.

diffuse field: a sound field which has statistically uniform energy density and in which the

directions of propagation of the sound waves are randomly distributed. In a practical sense, the sound pressure levels at all points in the room are nearly the same except near the room boundaries and a sound wave reaching a given point in the room is equally likely to arrive from all directions.

direct sound: sound which reaches a given location in a direct line from the source without any reflections.

equivalent continuous sound level (L_{eq}): the level of steady sound which, in a stated time period and at a stated location, has the same sound energy as the time varying sound. If frequency weighting is applied, the equivalent continuous sound level may be designated LA_{eq} to indicate A-weighting or LC_{eq} to indicate C-weighting, etc. See also frequency weighting.

field sound transmission class (FSTC): a single number rating similar to sound transmission class (STC), except that the transmission loss values used to derive this class are measured in the field. FSTC ratings are typically lower than STC ratings which are measured under laboratory conditions.

flanking path: A wall or floor/ceiling construction that permits sound to be transmitted along its surface; or any opening, which permits the direct transmission of sound through the air.

freefield: a sound field in which the boundaries have negligible effect over the frequency range of interest.

frequency: the number of times that a waveform repeats itself in a given period of time, usually one second, i.e. the number of cycles per second). Unit: Hz.

frequency weighting: a prescribed frequency dependent attenuation or amplification applied to measured sound data usually intended to better approximate the sensation of loudness in a human listener. For example, A, B, and C weighting approximate the frequency dependent shape of the equal loudness contours for soft, moderate, and loud sounds.

Hertz (Hz): unit of frequency, cycles per second.

impact insulation class (IIC): a single number metric used to compare the effectiveness of floor-ceiling assemblies in providing reduction of impact-generated sounds such as footsteps. This rating is derived from values of normalized impact sound pressure levels in accordance with ASTM E492.

insertion loss: the reduction in sound level at the location of the receiver when a noise reduction measure such as a barrier, attenuator, muffler, etc. is inserted into the transmission path between the source and receiver. Unit: dB.

level: the logarithm of the ratio of a given quantity to the reference quantity of the same kind. Levels represent physical quantities such as sound pressure on a logarithmic scale and are therefore expressed in decibels. Unit: dB.

loudness: that attribute of auditory sensation in terms of which sounds may be ordered on a scale extending from soft to loud. Unit: sone.

masking: the process by which the threshold of hearing for one sound is raised by the presence of another sound.

noise criteria (NC): a single number criteria for the HVAC or mechanical noise level in a room derived from measured octave band data. The octave bands are weighted to de-emphasize low frequencies because the human ear is least sensitive to these frequencies. This metric is not valid for outdoor measurements.

noise induced permanent threshold shift (NIPTS): the permanent hearing loss resulting from noise exposure.

noise isolation class (NIC): a single number rating derived from measured values of noise reduction between two enclosed spaces that are connected by one or more paths. This rating is not adjusted or normalized to a standard reverberation time.

noise reduction (NR): the difference in sound pressure level between any two points along the path of sound propagation, e.g. the difference in level between the interior and exterior of a building where the sound level inside is due only to exterior noise.

octave: the frequency interval between two tones whose frequency ratio is 2.

omnidirectional microphone: a microphone whose response is independent of the direction of the incident sound wave.

Pascal (Pa): a unit of pressure. 1 Pascal = 1 Newton per square meter ($1\ N / m^2$).

permanent threshold shift (PTS): a permanent increase in the threshold of hearing at a given frequency.

point source: a source that radiates sound as if from a single point.

receiver: a person (or persons) or equipment which is affected by sound.

refraction: (1) the phenomenon by which the direction of propagation of a sound wave is changed as a result of a spatial variation is the speed of sound. (2) The angular change in direction of a sound wave as it passes obliquely from one medium to another having different sound speed.

reverberation time (RT_{60}): of an enclosure, for a sound of a given frequency or frequency band, the time that is required for the sound pressure level in the enclosure to decrease by 60 dB after the source has stopped. Unit: second.

room criteria (RC, RC Mark II): an octave band metric for evaluating HVAC noise inside a room. RC is a two dimensional metric consisting of a curve number that is the arithmetic average of the 500, 1000, and 2000 Hz octave band sound pressure levels and a qualitative descriptor identifying the character of the sound spectrum. The descriptor can be (N) for neutral, (LF) for low frequency dominance (rumble), (MF) for midfrequency dominance (roar), and (HF) for high frequency dominance (hiss). In addition, acoustically induced vibration can be designated by (LFV_B) for moderate, but perceptible vibration and (LFV_A) for clearly perceptible vibration. As an example, the maximum RC prerequisite for LEED is designated as RC 37(N) indicating curve

number 37 with a neutral spectrum.

Further, two intermediary metrics are used in calculating the room criteria. The quality assessment index (QAI) is a measure of the deviation from the given RC curve. The probable occupant evaluation (POE) is based on the magnitude of the QAI and can be 'Acceptable,' 'Marginal,' or Objectionable.'

Sabin: a unit of measure of sound absorption; a measure of sound absorption of a surface. It is the equivalent of 1 square foot of a perfectly absorbing surface; a metric Sabin is the equivalent of 1 square meter of a perfectly absorbing surface.

sone: the unit of loudness. One sone is the loudness of a pure tone presented frontally at a frequency of 1000 Hz and a sound pressure level of 40 dB referenced to 20 micropascals.

sound absorption coefficient (α): ideally, the fraction of diffusely incident sound power that is absorbed (or otherwise not reflected) by a material or surface.

sound exposure level (SEL): over a stated time period or event, 10 times the logarithm base 10 of the ratio of the time integral of the sound pressure squared to the product of the reference sound pressure, 20 μPa, squared and the reference time, one second. This quantity is used to characterize single events of short duration where the averaged level (L_{eq}) is inadequate.

sound level meter (SLM): an instrument that is used to measure sound level, with a standard frequency weighting and standard exponentially weighted time averaging.

sound power level (PWL): the total acoustical power emitted from a sound source expressed in decibels relative to 10^{-12} Watts.

sound pressure level (SPL): the acoustical pressure amplitude expressed in decibels relative to 20 micropascals.

sound transmission class (STC): a single number rating used to compare sound insulation properties of walls, floors, ceilings, windows, or doors. See also field sound transmission class.

speech intelligibility index (SII): metric defined under ANSI S3.5 to quantifiy the intelligibility of speech under adverse listening conditions such as noise masking, spectral filtering, and reverberation. The SII is defined for a scale of 0 to 1 where values greater than 0.75 indicate good communication and values below 0.45 indicate generally poor communication conditions.

speech intelligibility test: a procedure that measures the portion of test items (such as syllables, monosyllabic words, or sentences) that are heard correctly.

speech interference level (SIL): an index for assessing the interference effects of noise on the intelligibility of speech, derived from measurements of the background noise level of contiguous octave bands; i.e. the arithmetic average of the octave band sound levels for the bands centered at 500, 1000, 2000, and 4000 Hz (four band method) or the corresponding average for the octave bands centered at 500, 1000, and 2000 Hz (three band method). If other octave bands are used they must be specified. Unit: dB.

speech privacy index (SPI): The SPI is essentially the opposite of the speech intelligibility index and is defined as 1 - SII and usually represented as a percentage. An SPI above 80% is

considered normal privacy while an SPI above 95% would meet the requirements of confidential privacy.

speech transmission index (STI): an index for rating the intelligibility of speech that takes both noise and reverberation into account.

temporary threshold shift (TTS): a temporary increase in the threshold of hearing at a given frequency.

threshold of hearing: for a given listener, the minimum sound pressure level of a specified sound that is capable of evoking an auditory sensation. The sound reaching the ears from other sources is assumed negligible.

transducer: a device designed to receive an input signal of a given kind and to furnish an output signal of a different kind in such a manner that the desired characteristics of the input signal appear in the output signal. For example, a microphone takes an acoustic pressure as an input and produces an electrical voltage as an output that is direct proportion to the instantaneous acoustic pressure amplitude. Other common examples in noise measurement would be a loudspeaker, accelerometer, or laser Doppler vibrometer (LDV).

transmission loss: the reduction in sound level from one side of a partition to the other.

wavelength: the distance a sound wave travels in the time it takes to complete one cycle.

weighting: see frequency weighting

A2. Site Conditions

A2.1 Weather: March 4, 2021

Meteorological conditions in the area were clear with light winds.

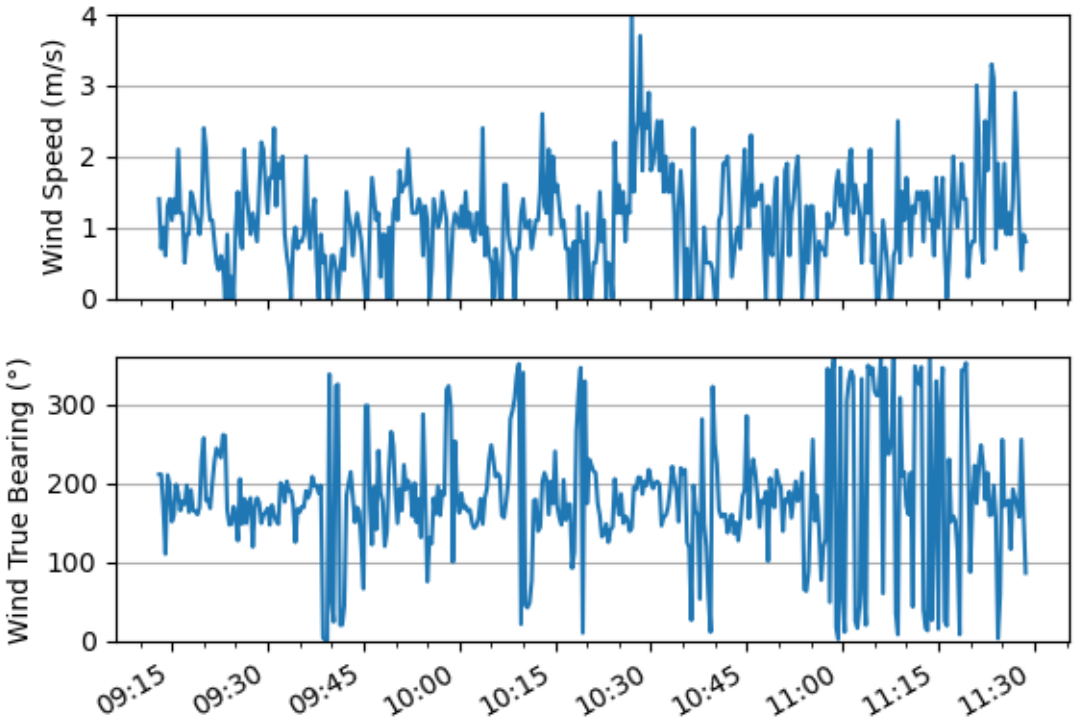

Figure A2.1. Wind Speed and Bearing

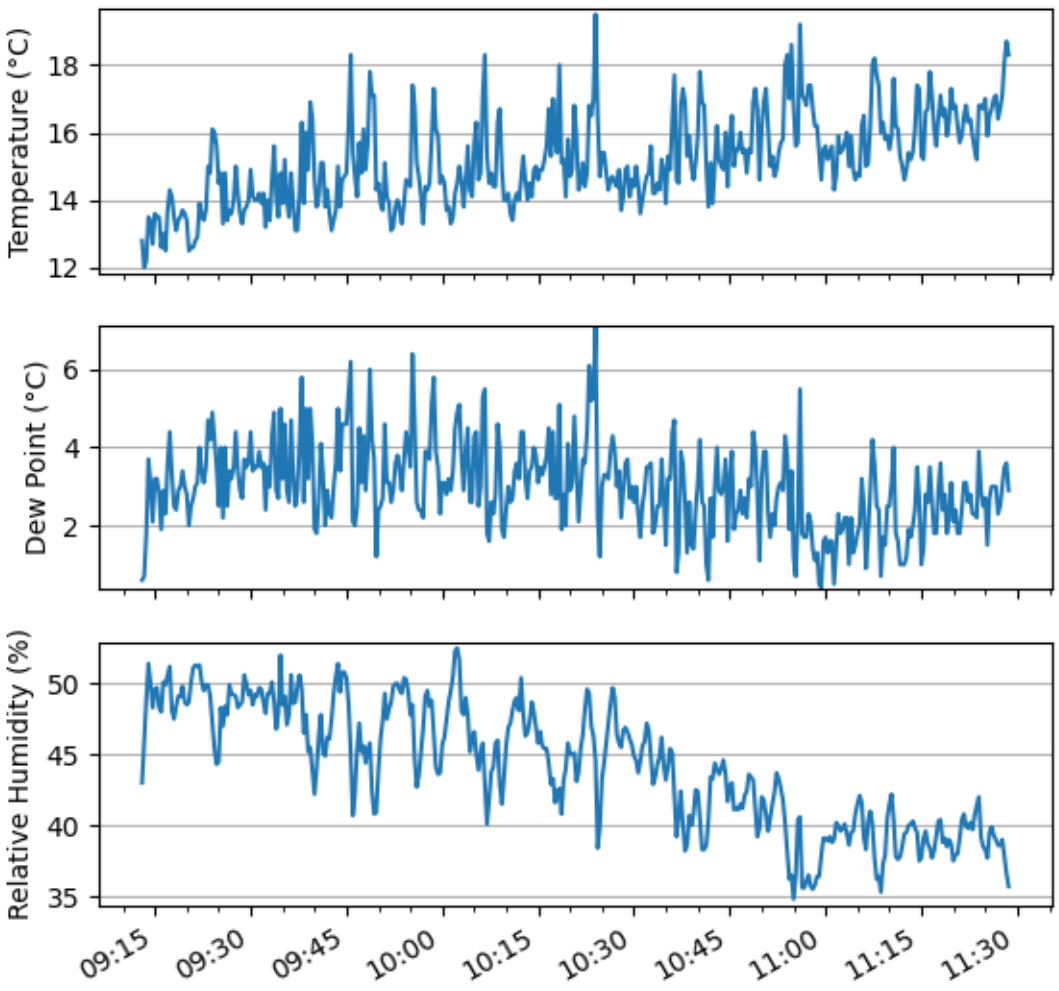

Figure A2.2. Temperature and Humidity

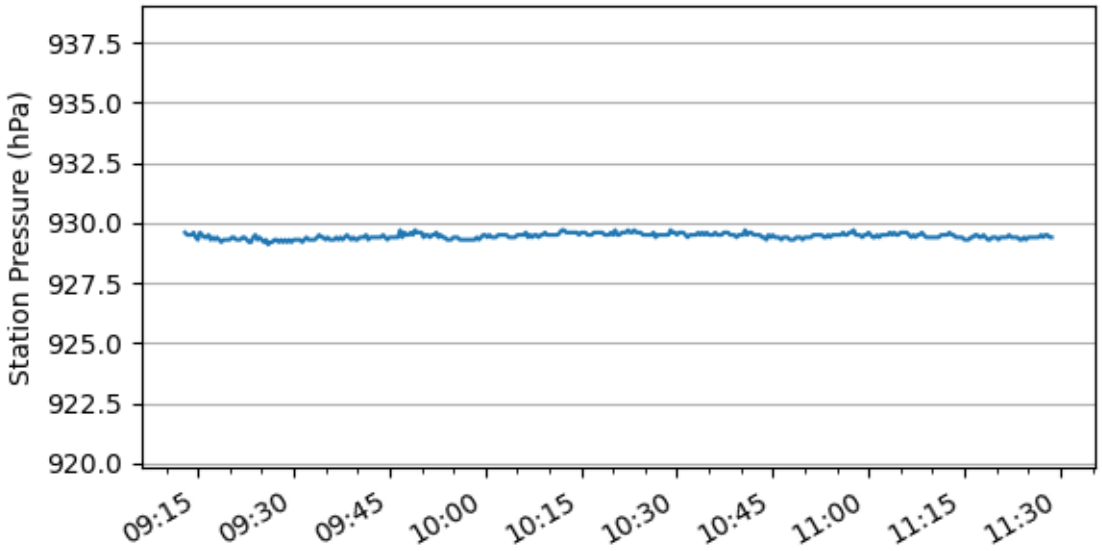

Figure A2.3. Station Pressure

A2.2 Weather: March 6, 2026

Meteorological conditions in the area were clear with southwest winds increasing in the afternoon.

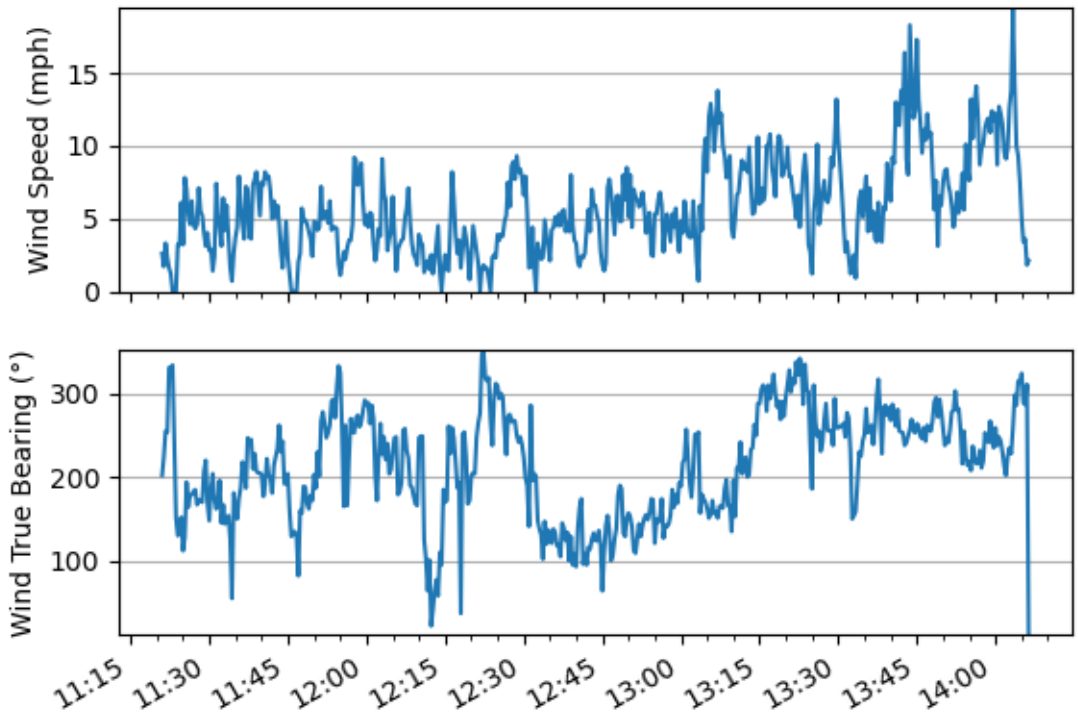

Figure A2.4. Wind Speed and Bearing

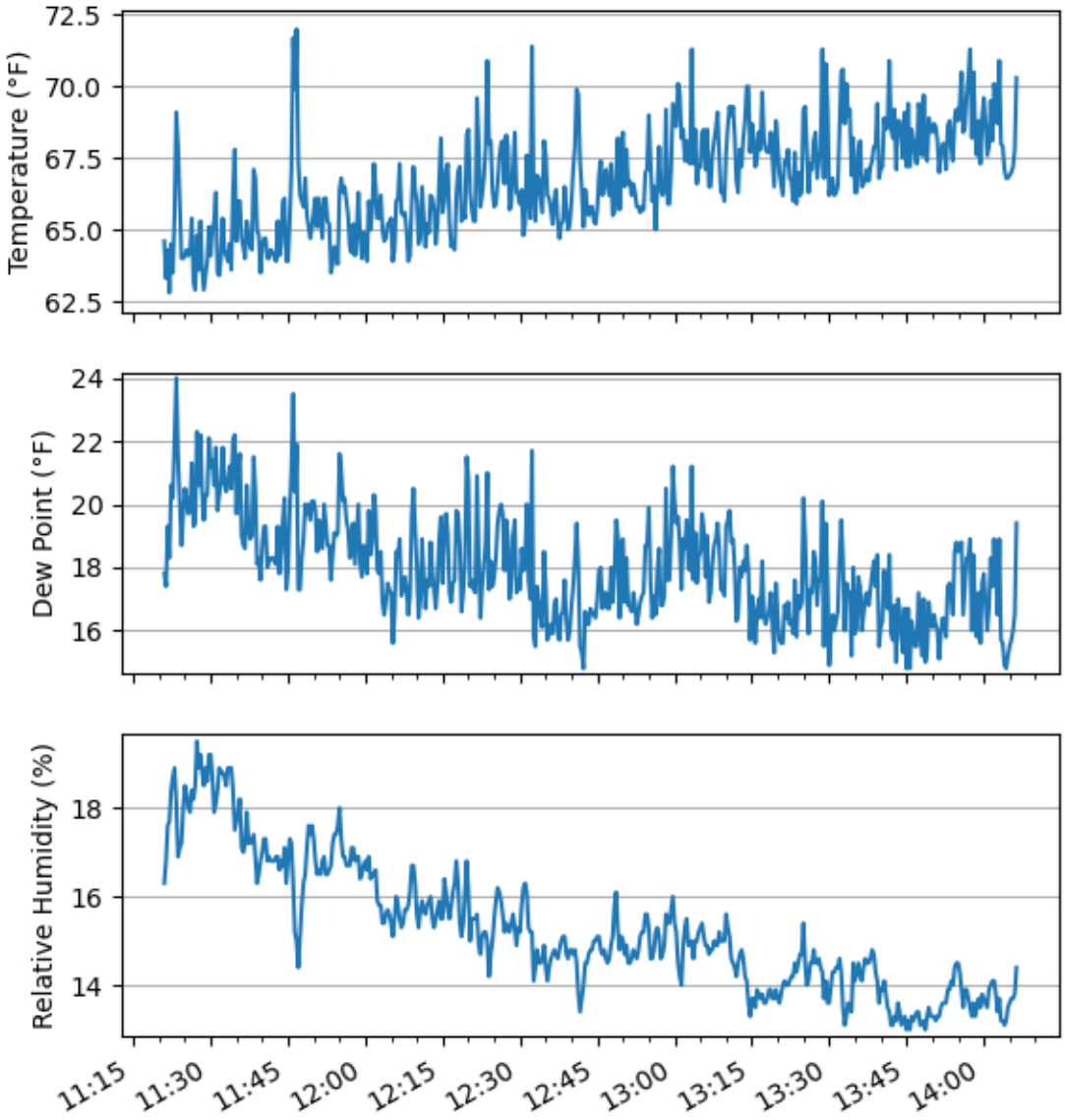

Figure A2.5. Temperature and Humidity

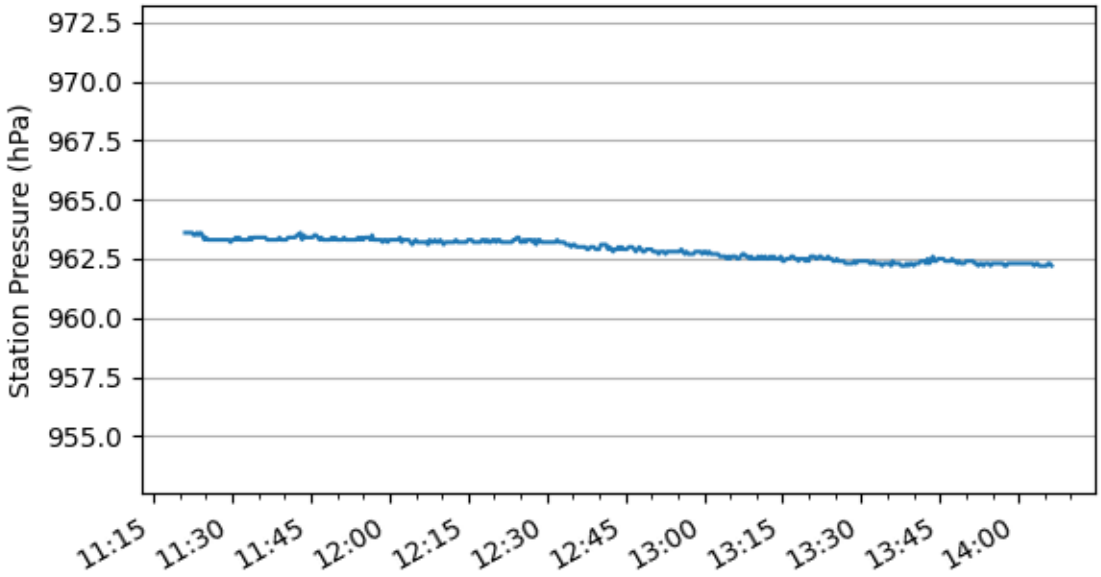

Figure A2.6. Station Pressure

A3. Field Calibrations

	Start Time	End Time	LAeq	LAmin	LAmax	LA10	LA50	LA90
Before	09:17:39	09:17:53	**93.5**	93.5	93.6	93.5	93.5	93.5
After	11:25:37	11:25:51	**93.5**	93.5	93.5	93.5	93.5	93.5

Table A3.1. Sound Level Meter Field Calibration: 2021-03-04

	Start Time	End Time	LAeq	LAmin	LAmax	LA10	LA50	LA90
Before	11:27:54	11:28:14	**93.9**	93.9	93.9	93.8	93.8	93.8
After	14:03:08	14:03:24	**93.8**	93.7	93.8	93.7	93.7	93.7

Table A3.2. Sound Level Meter Field Calibration: 2026-03-06

A4. Equipment List

SOUND LEVEL METER

- NTi XL2, Sound Level Meter and Acoustic Analyzer
  Serial #: A2A-06316-E0
  Calibration: September 28, 2020, NTi Audio
  Calibration: November 20, 2024, NTi Audio
- NTi Microphone M2230
  Serial #: 2502
  Calibration: September 28, 2020, NTi Audio
  Calibration: November 20, 2024, NTi Audio

MICROPHONE CALIBRATOR

- Larson Davis CAL200 Calibrator [1 kHz, 94 dB]
  Serial #: 13295
  Calibration: September 28, 2020, NTi Audio
  Calibration: November 20, 2024, NTi Audio

WEATHER

- Nielsen-Kellerman Kestrel 4500 with wind vane
  Serial #: 570551
  - Temperature: ± 1.8 ºF, -20 to 158 ºF (1.0 ºC, -29 to 70 ºC)
  - Humidity: ± 3% RH, 5 to 95 % non-condensing
  - Pressure: ± 1.5 hPa, 750 to 1100 hPa
  - Wind speed: larger of ± 3% of reading or least significant digit
  - Wind direction: ± 5º

FS25-1012

Brake Masters

Conditional Use Permit with Site Plan

Planning & Zoning Commission

May 21, 2026

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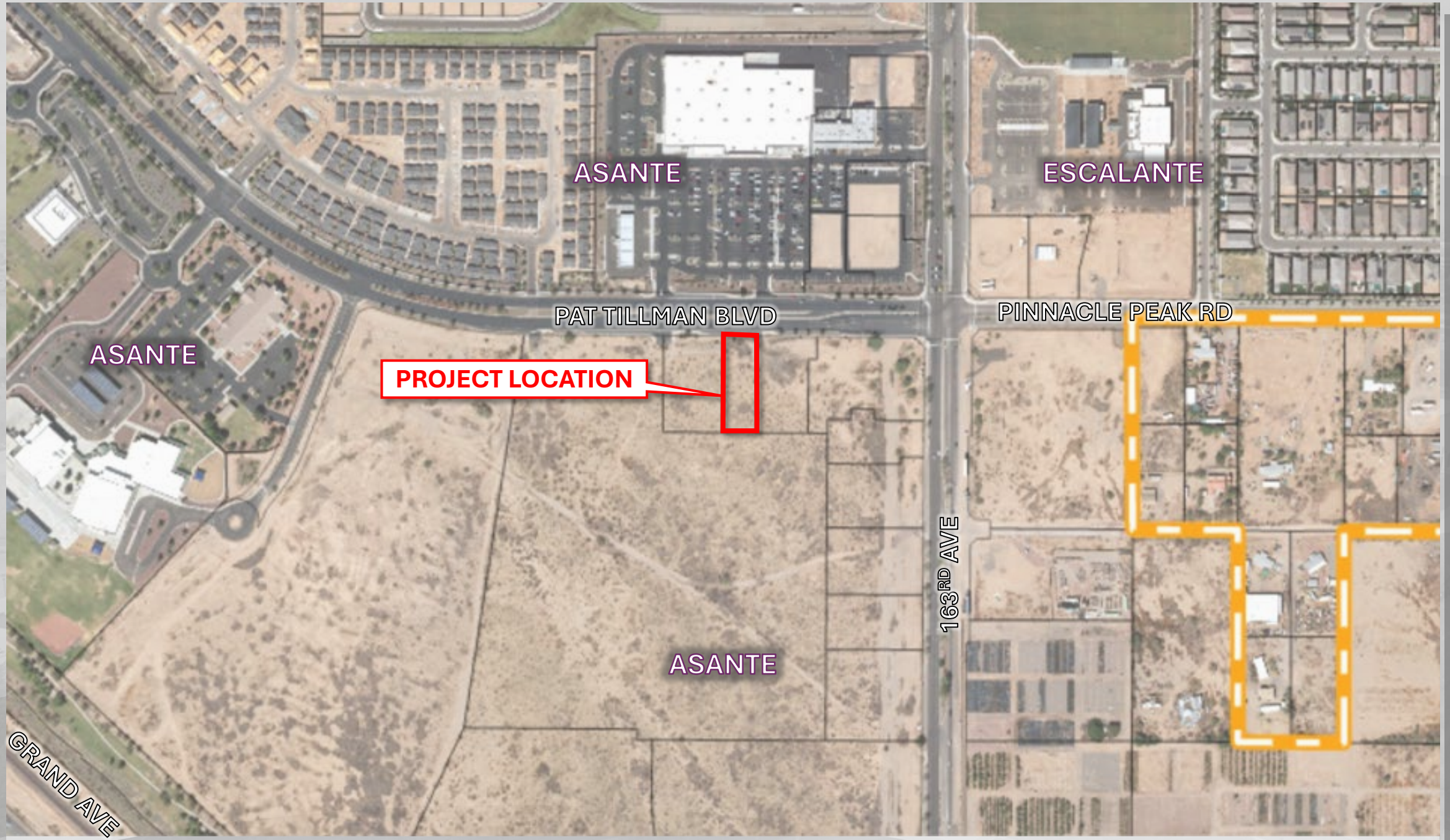
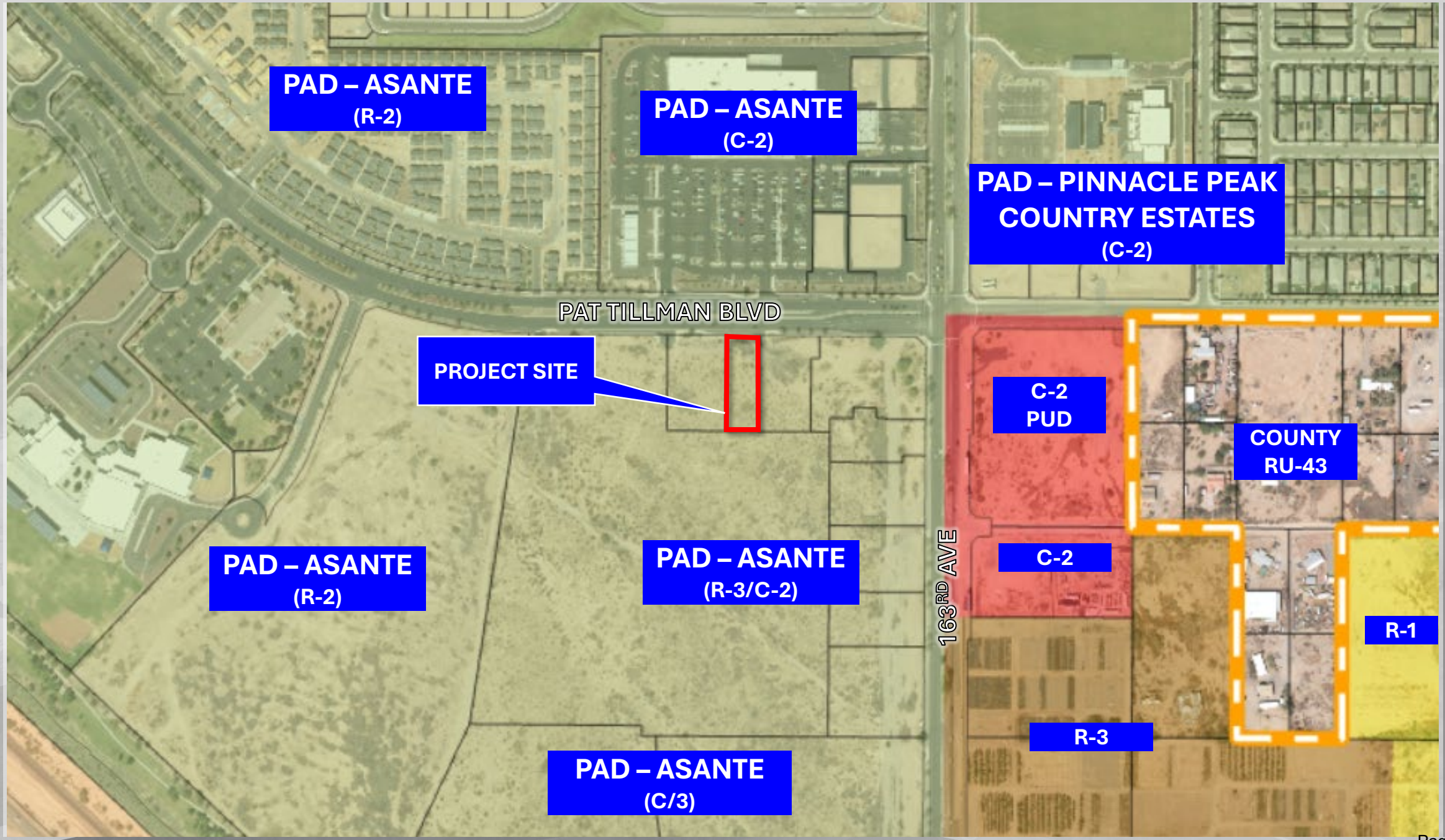


FS25-1012 VICINITY MAP

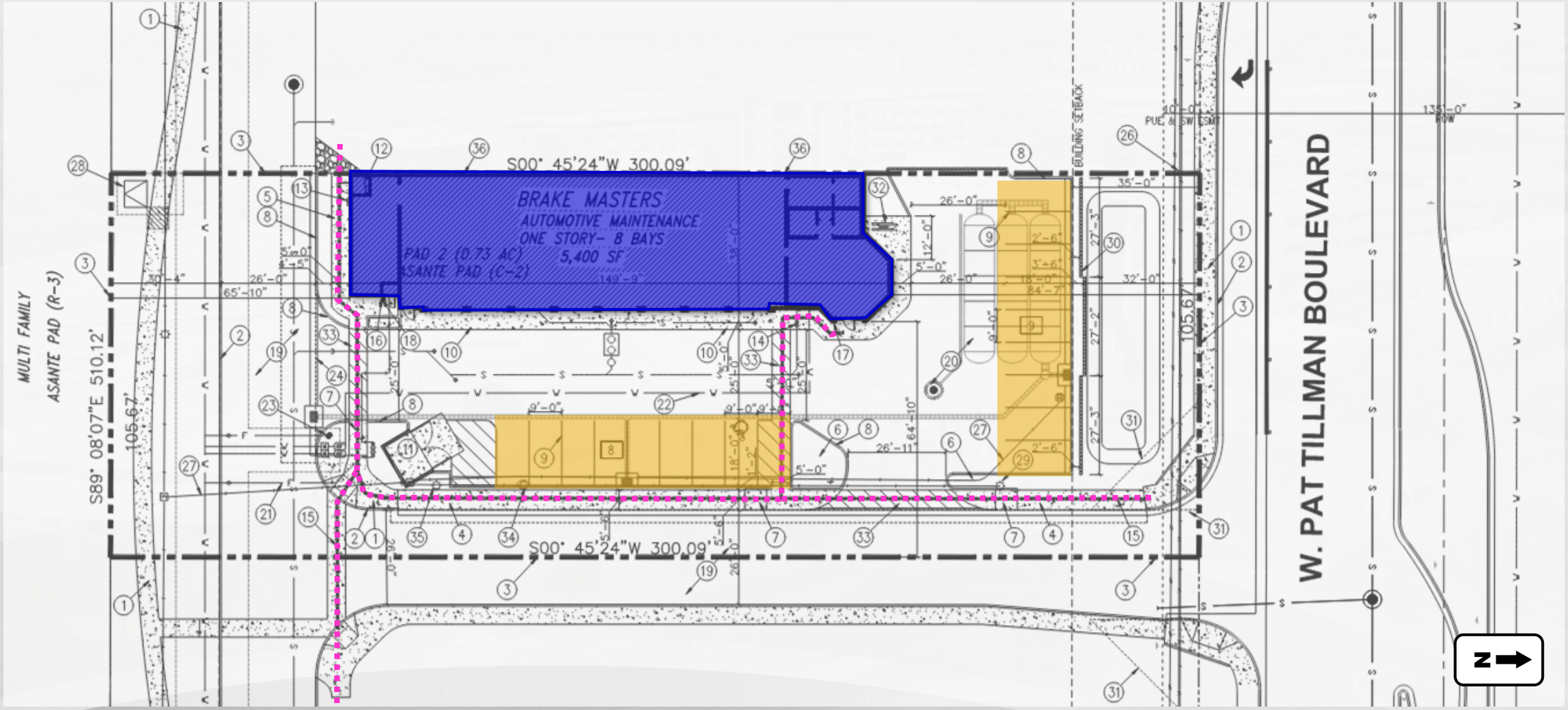


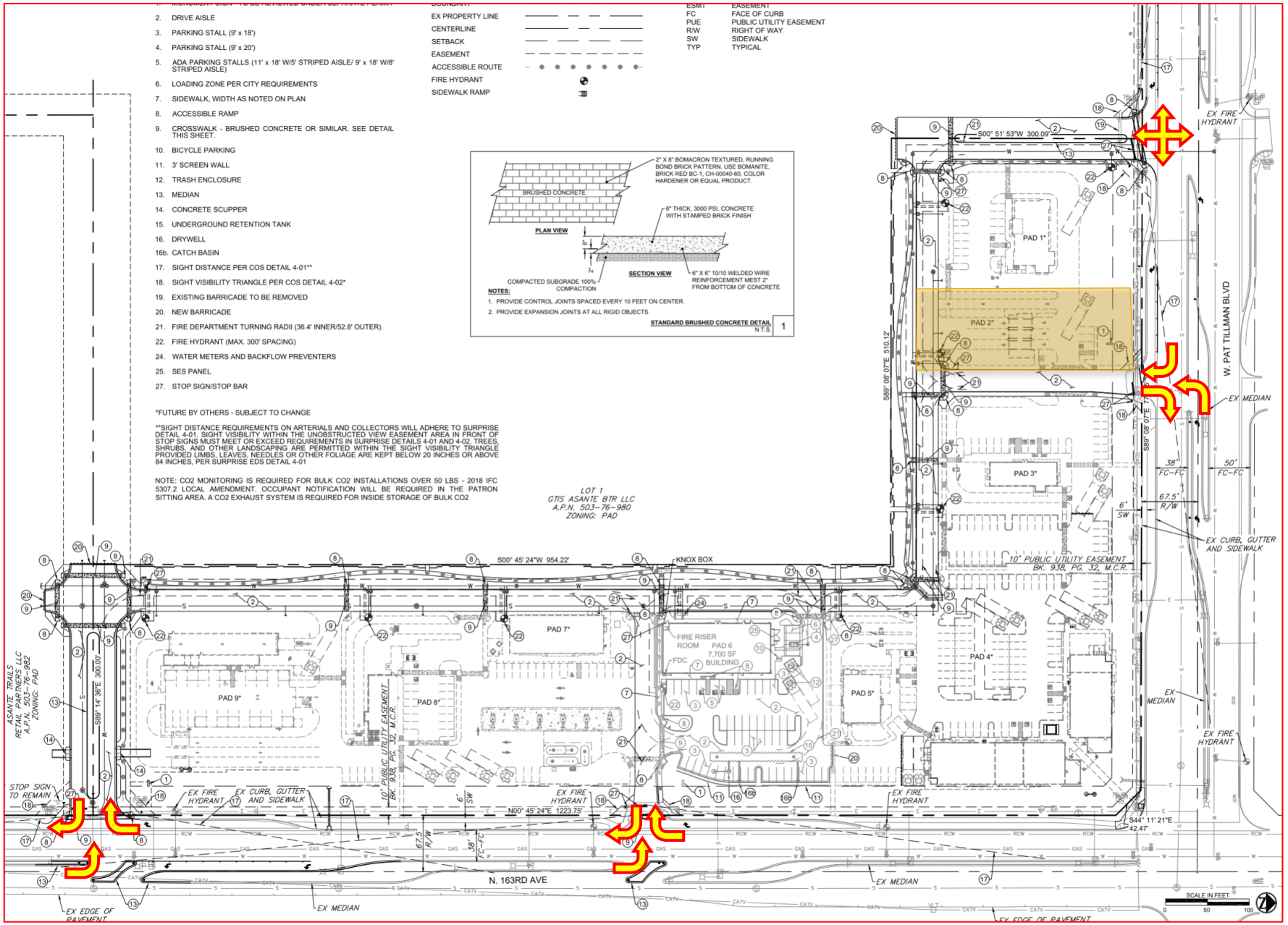
FS25-1012 ZONING MAP

FS25-1012 SITE PLAN

5,400 SF Automotive Maintenance facility

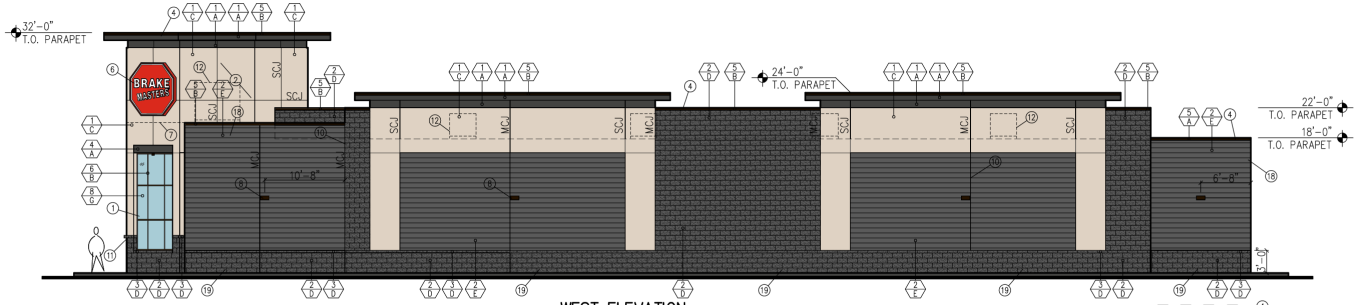
Parking Required = 11 Spaces
Parking Provided = 17 Spaces ☑



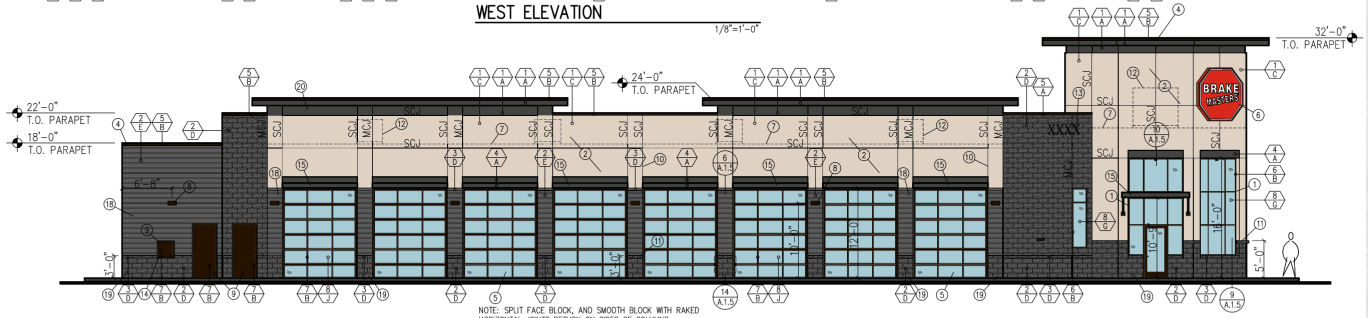


FS25-1012 ACCESS

NOTE: ALL PROPOSED EQUIPMENT, INCLUDING ROOFTOP MECHANICAL EQUIPMENT, SES CABINETS, AND OTHER GROUND OR ROOF MOUNTED EQUIPMENT SHALL BE SCREENED IN ACCORDANCE WITH THE CITY OF SURPRISE LAND DEVELOPMENT ORDINANCE



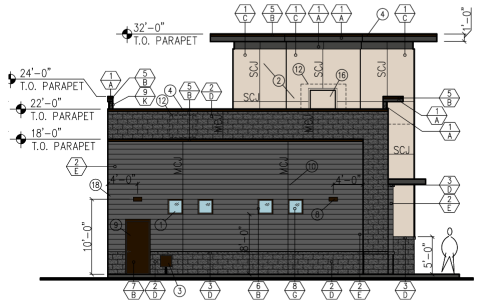
WEST ELEVATION
1/8"=1'-0"



NOTE: SPLIT FACE BLOCK, AND SMOOTH BLOCK WITH RAKED HORIZONTAL JOINTS RETURN ON SIDES OF COLUMNS

EAST ELEVATION
1/8"=1'-0"

0' 4' 8' 16'



SOUTH ELEVATION
1/8"=1'-0"

NORTH ELEVATION
1/8"=1'-0"

COLOR "IRON ORE" SW 7069

COLOR "NATURAL LINEN" SW 9109

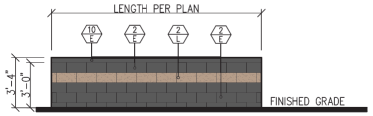
COLOR DARK BRONZE ANODIZED

CMU FINISH: "SPLIT FACE"
COLOR: "OPAL"
MFR: SUPERLITE ECHELON

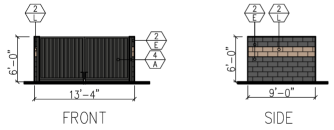
CMU FINISH: "SMOOTH FACE"
COLOR: "OPAL"
MFR: SUPERLITE ECHELON

CMU FINISH "SMOOTH FACE"
COLOR: "COCOA BROWN"
MFR: SUPERLITE ECHELON

MATERIAL BOARD

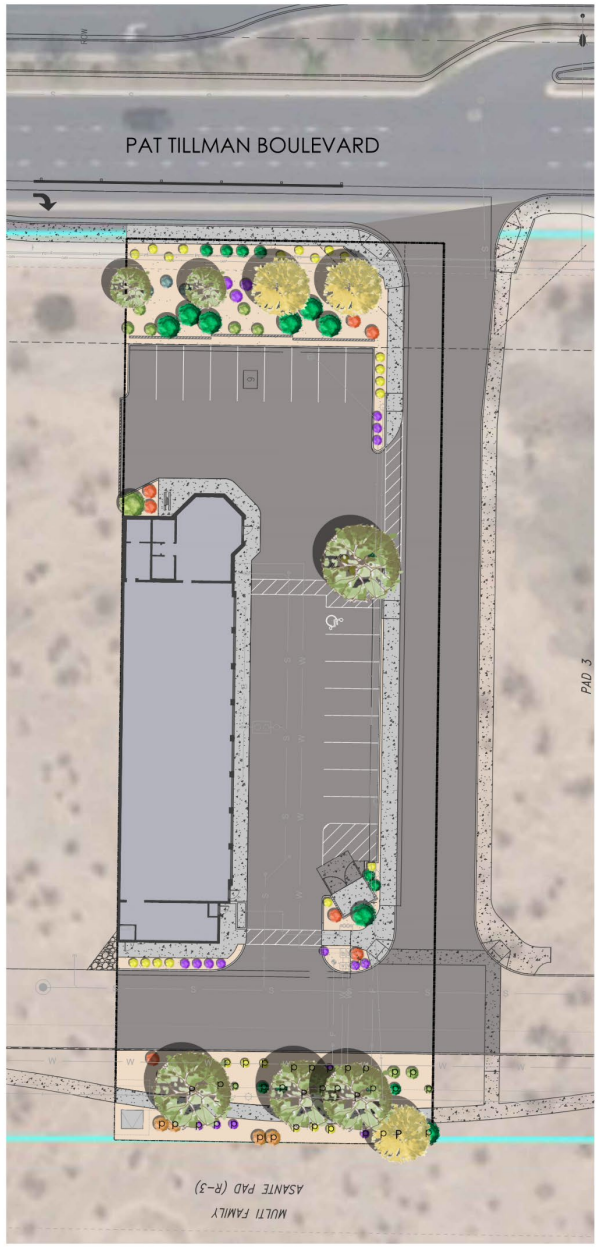


SCREEN WALL
1/4"=1'-0"



DUMPSTER ENCLOSURE ELEVATIONS
1/8"=1'-0"

FS25-1012 ELEVATIONS



plant legend

botanical name / common name	emitters	size	qty	comments
trees				
PARKINSONIA X. 'DESERT MUSEUM' DESERT MUSEUM	(5 @ 1.0 GPH)	24" BOX	2	5.0H - 3.0W - 1.0CAL. STAKE IN PLACE
ULMUS PARVIFOLIA EVERGREEN ELM	(6 @ 2.0 GPH)	24" BOX	1	7.0H - 3.0W - 1.0CAL. STAKE IN PLACE
VITEX AGNUS-CASTUS 'ALBA' ALBA OR ROSEA CAHSTE TREE	(6 @ 2.0 GPH)	24" BOX	2	5.0H - 3.0W - 1.0CAL. STAKE IN PLACE
shrubs				
DODONAEA VISCOSA HOPSEED BUSH	(1 @ 1.0 GPH)	5 GAL.	1	
EREMOPHILA HYGROPHANA 'BLUE BELLS' EMU	(1 @ 1.0 GPH)	5 GAL.	3	
TECOMA X 'SIERRA APRICOT' SIERRA APRICOT ESPERANZA	(1 @ 1.0 GPH)	5 GAL.	7	
accents				
ALOE BARBADENSIS ALOE VERA		5 GAL.	16	
AGAVE VILMORINIANA OCTOPUS AGAVE		5 GAL.	3	
HESPERALOE FUNIFERA GIANT HESPERALOE		5 GAL.	6	
MUHLENBERGIA LINDHEIMERI AUTUMN GLOW		5 GAL.	6	
groundcover				
LANTANA 'NEW GOLD' NEW GOLD LANTANA		1 GAL.	24	
CALLISTEMON 'LITTLE JOHN' DWARF CALLISTEMON		1 GAL.	9	
LANTANA MONTEVIDENSIS PURPLE LANTANA		1 GAL.	10	
inerts				
1/2" SCREENED DECOMPOSED GRANITE APACHE GOLD ROCK PROS		1/2" SCREENED	3,778 S.F.	2" MINIMUM IN ALL PLANTERS

FS25-1012 LANDSCAPE

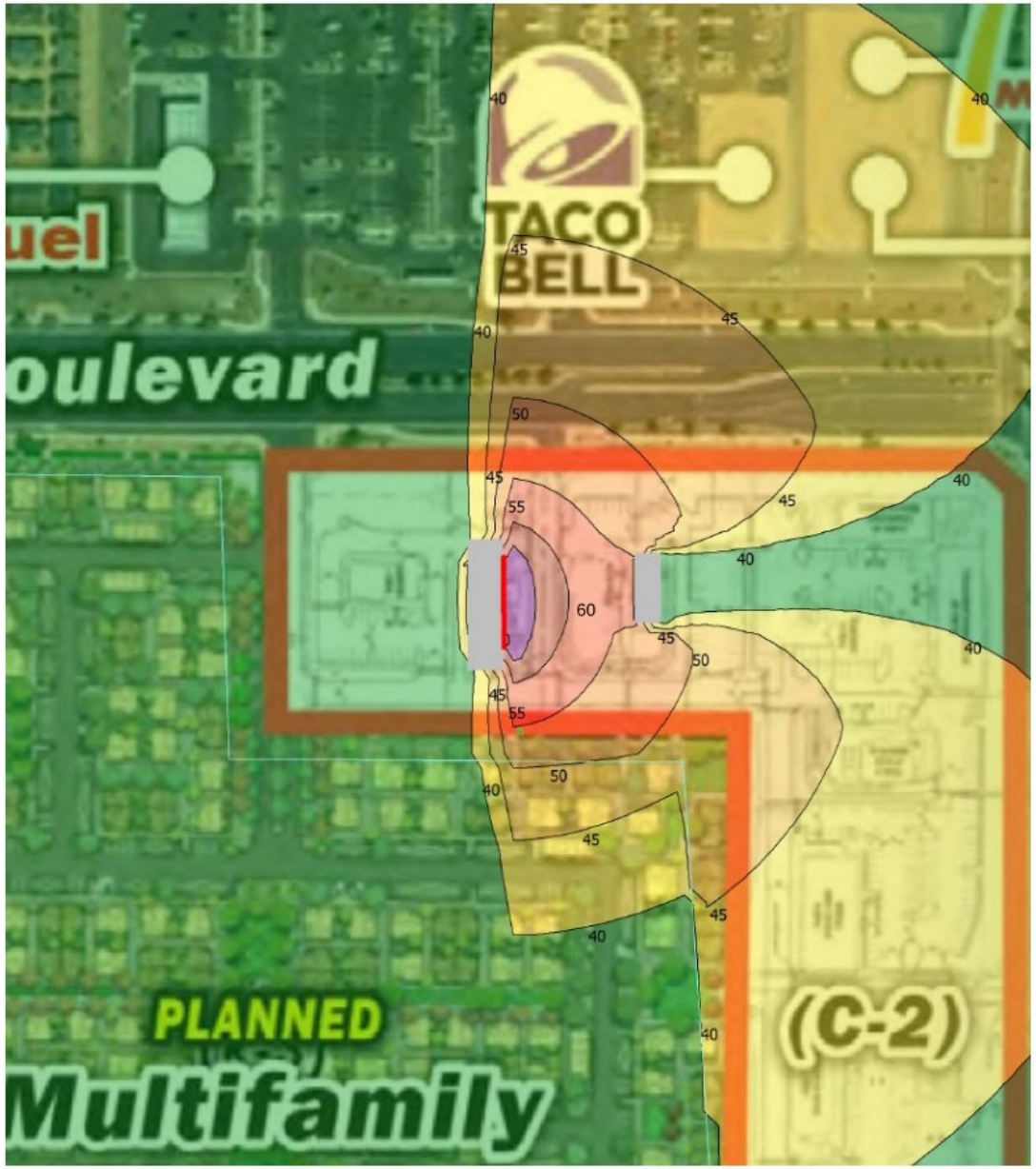


Figure 4.2. Adjusted Sound Pressure Level Contours (dBA)

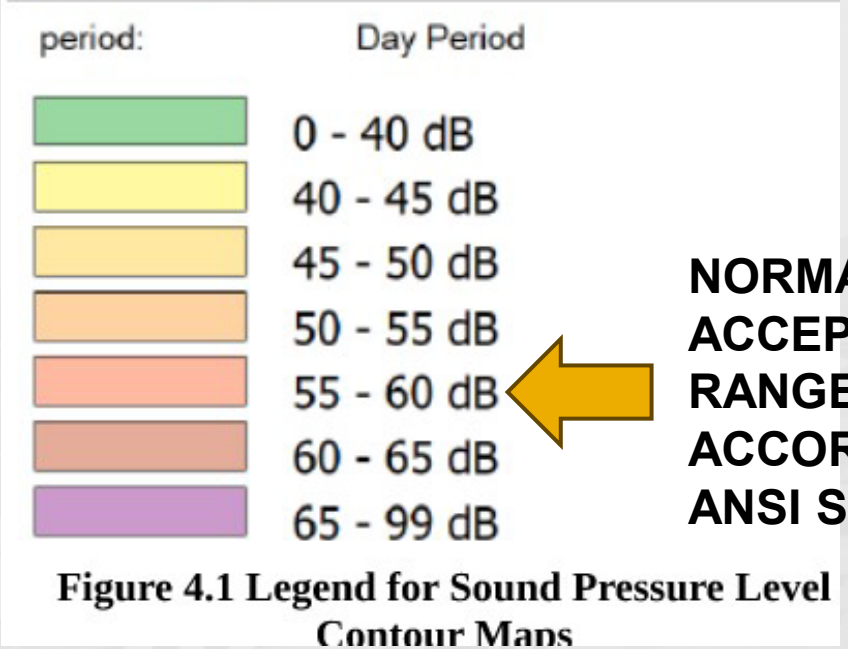


Figure 4.1 Legend for Sound Pressure Level Contour Maps

NORMAL ACCEPTABLE RANGE ACCORDING TO ANSI S12.9 PART 5

FS25-1012 NOISE STUDY

Evaluation Criteria

LDO Section 106-10.51 B

- ✓ If an installation service is offered, the service shall be restricted to the installation of minor parts only, including batteries, windshield wipers, hoses, fuses, lights, radios, tires and similar minor elements, but excluding engine, transmission and differential service, or similar installation.
- ✓ All repair and service work shall be performed within a completely enclosed building with the exception of gasoline sales.
- ✓ Service bays shall not face public rights-of-way and shall be designed to minimize the noise and visual intrusion into adjoining properties.
- ✓ No new stock, or used or discarded automotive parts or equipment, shall be located or stored in any open area outside of the enclosed building.
- ✓ No dismantling, remanufacturing or rebuilding shall be permitted.
- ✓ All vehicles waiting for repair shall be screened from view through the use of a landscape screen such as berms and dense landscaping.
- ✓ Outdoor storage and displays are prohibited.

Outreach

- **Citizen Participation Meeting (In-Person)**
  - February 24 , 2026
  - Asante Library
  - 3 attendees

- **Advertised according to the Surprise Land Development Ordinance (LDO)**

- **Questions**
  - Project timeline and site circulation

RECOMMENDATION

If the Commission approves the CUP with Site Plan, staff recommends the Commission approve the subject CUP with Site Plan, case FS25-1012, subject to stipulations ‘a’ through ‘e’.

Questions or Comments?

THANK YOU

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ARIZONA

STIPULATIONS

a. Development and use of the site shall be consistent with the Site Plan entitled “Brake Masters” consisting of one (4) sheets prepared by kbp architecture, llc and stamp received January 30, 2026.

b. Landscaping of the site shall be consistent with the Landscape Plan entitled “Brake Masters,” consisting of three (8) sheets prepared by Design Ethic Landscape Architecture and stamp received January 28, 2026.

c. Building façade of the site shall be consistent with the Architectural Elevations entitled “Brake Masters” consisting of two (2) sheets prepared by kbp architecture and stamp received January 30, 2026.

d. The applicant shall obtain a building permit for the subject facility within one (1) year of the effective date of Planning and Zoning Commission approval of this Conditional Use Permit. If the applicant does not obtain said building permit within the specified time, this Conditional Use Permit shall be deemed null and void.

e. Non-compliance with the stipulations of approval of this case will be treated as a violation in accordance with the applicable provisions of the Surprise Municipal Code.

CITY OF SURPRISE
Planning and Zoning Commission

Council Meeting Date: May 21, 2026 Contact Person: Chris Sexton
Submitting Department: Community Development District: Citywide
Staff Recommendations:

Consent: No Regular: Yes Public Hearing: No Report/Discussion: No

Agenda Wording:
Presentation and discussion pertaining to a proposed Zoning Text Amendment ("ZTA") to the Surprise Land Development Ordinances ("LDO") to establish a new Battery (B) overlay zone related to Battery Energy Storage Systems ("BESS"). Case FS23-1041.

Motion:
Presentation and discussion only. No motion.

Background:
On December 4, 2023, staff initiated a Zoning Text Amendment related to Battery Energy Storage Systems ("BESS"). In support of this effort, staff reviewed BESS ordinances from multiple jurisdictions and engaged external stakeholders through two outreach meetings. The proposed text amendment is intended to establish a new overlay zone in addition to zoning criteria and development standards for BESS while safeguarding public health, safety, welfare, and overall quality of life as set forth in the LDO.

Objective Analysis:
The proposed Zoning Text Amendment will provide regulatory framework, including zoning criteria and development standards applicable to the installation and use of Battery Energy Storage Systems ("BESS"). The proposed regulations are intended to protect the health, welfare, safety, and quality of life for the general public and ensure compatible land uses in the areas affected by BESS.

Policy Compliant:
The proposed Zoning Text Amendment is consistent with, and will help implement, the Surprise General Plan 2040.

Financial Impact:
The budget impact associated with the adoption of this Ordinance will be the cost to convert the Ordinance to MuniCode online for inclusion with the other Surprise Municipal Codes. The actual cost for conversion will be determined once the final document length is known.

Budget Impact:

FTE Impact:

ATTACHMENTS:

1. 01-FS23-1041 BESS Draft ZTA Legislative Edit
2. FS23-1041 BESS ZTA Work Session Presentation

Chapter 101 ADMINISTRATIVE PROVISIONS

ARTICLE II. RULES OF INTERPRETATION AND GLOSSARY OF TERMS

Sec. 101-2.2. Glossary of terms.

C. Definitions. The following additional words and phrases shall, for the purpose of this ordinance, have the following meanings:

Battery cabinet. A component of a Battery Energy Storage System (BESS) that is a self-contained, often modular, unit designed to securely house batteries, inverters, cooling systems, and fire management equipment.

Battery Energy Storage System (BESS). A facility consisting of electrochemical storage batteries, battery chargers, controls, power conditioning systems, and associated electrical equipment, assembled together, capable of storing energy in order to supply electrical energy at a future time, not to include any batteries or systems that are located within single or multi-family residential projects.

Chapter 106 ZONING AND USE STANDARDS

ARTICLE IX. - OVERLAY ZONING DISTRICTS

Sec. 106-9.1. Planned unit development (P) overlay.

A. Purpose. The planned unit *development* (PUD) overlay *zoning district* facilitates *development* by permitting flexibility to accommodate creative and imaginative designs that may not be possible under conventional regulations. It is intended to accommodate site constraints and unique circumstances that may include topography or *environmentally sensitive lands.*

B. Applicability. The PUD overlay *zoning district* is permitted in all character areas as set forth in the General Plan. A PUD overlay *zoning district* provides for the establishment of distinct regulations as adopted by the city council. A PUD overlay may be applied to any *zoning district* in the city, except for the Surprise Heritage District (SHD), traditional neighborhood development (TND), or on any individual residential *dwellings.* Where a provision in a PUD overlay *zoning district* varies from this ordinance, the provisions in the PUD overlay *zoning district* shall govern.

C. Rationale. An application may request deviations from regulations in this *ordinance*, as permitted in this section. The proposal shall identify the various constraints associated with site and demonstrate how the design meets the following guiding objectives of a PUD overlay *zoning district.*

1. Development enriches the whole community through creating a unique sense of place for the residents within the PUD overlay *zoning district* as well as those in surrounding neighborhoods.
2. Provide for a variety of coordinated and compatible land uses through innovative site planning.
3. Create a higher standard of *development* than would be accomplished through the *development* of individual *parcels* through conventional *zoning* regulations.
4. Planned and integrated comprehensive transportation systems for pedestrian and vehicular traffic as outlined in this *ordinance*, which may include provisions for mass transportation and *roadways*, bicycle or equestrian paths, pedestrian walkways and other similar transportation facilities to meet the site conditions.

5. Preserve existing *environmentally sensitive lands* that exceeds the minimum open space area required in the ordinance and provide for and well-designed open space *amenities.*
6. Fulfills the goals, objectives, and policies of the General Plan as well as specific plans for city areas that may include, but are not limited to cultural, educational, medical, and/or recreational facilities.
7. Provide for a variety of housing types, employment opportunities, and commercial services to achieve a balanced community for families of a wide variety of ages, sizes, and levels of income.
8. Site *structures* to take maximum advantage of the natural and man-made environment, provide view corridors, and minimize adverse environmental impact on surrounding areas during the *development* stages.
9. Avoid premature or inappropriate *development* that would result in incompatible *uses* or would create traffic and *public* service demands that exceed the capacity of existing or planned facilities.
10. All standards set forth in an approved PUD document shall carry the full force of law.

D. Permitted uses.

1. All *uses* shall comply with the underlying *zoning district.*

E. General regulations and permitted deviations.

1. The PUD overlay district may establish alternate standards for those found in **Chapter 106** and **Chapter 107**. Standards developed through the PUD overlay district re*zoning* process shall be appropriate to the location and context for the site for which the project is proposed. Standards created through the PUD overlay should also assist in the fulfillment of the goals, objectives, and policies in the General Plan. Approval of the standards is based on the *site plan* provided as part of the PUD.
2. All PUD districts shall otherwise adhere to the regulations established in this *ordinance.* Any PUD overlay *zoning district*s containing standards that do not adhere to **Chapter 106** or **Chapter 107** shall be identified at the time of PUD zoning approval and shall be set forth in the *development plan.*

Sec. 106-9.2. Battery (B) overlay.

A. Purpose. The battery (B) overlay *zoning district*, when combined with another zoning district, is intended to permit the use and development of buildings, structures and land associated with *battery energy storage systems* (BESS), which would otherwise be prohibited in conventional zoning districts. The battery overlay zoning district modifies the regulations of the zoning district it is combined with by providing specific regulations applicable to BESS. These specific regulations are intended to protect the health, welfare, safety, and quality of life for the general public and ensure land use compatibility.

B. Applicability. This overlay zoning district shall not be combined with any other overlay zoning district. The battery overlay *zoning district* is permitted in all character areas as set forth in the General Plan. A battery overlay *zoning district* provides for the establishment of distinct regulations as adopted by the city council. A battery overlay may be applied to any *zoning district* in the city, except for the Surprise Heritage District (SHD), or on any individual residential *dwellings*, subject to the requirements herein. Where a provision in a battery overlay *zoning district* varies from this ordinance, the provisions in the battery overlay *zoning district* shall govern.

1. A battery overlay zoning district shall be located no closer than fifteen hundred feet (1,500') from any existing *dwelling*. For purposes of this subsection, 'existing *dwelling*' shall include a built dwelling or an issued and active permit to construct a *dwelling*. Compliance with this separation requirement will be determined during the staff review of the type 3 rezone application.

C. Process.

1. A type 3 rezone application is required to establish a battery overlay zoning district. A zoning narrative and preliminary site plan showing compliance with the regulations herein shall be submitted with the rezone application.

2. All development within a battery overlay zoning district is subject to the review and approval of a type 1 site plan application prior to any permit issuance. The site plan shall be in substantial conformance with the approved zoning narrative and preliminary site plan.

   a. The Community Development Director or designee(s) shall determine whether or not the type 1 site plan application is in substantial conformance with the approved zoning narrative and preliminary site plan.

   b. Any modifications to the site plan, at any time, that change or expand the site design beyond what was approved with the rezone application, as determined by the Community Development Director or designee(s), shall require another type 3 rezone application.

D. Development Standards. *Battery energy storage systems* (BESS) shall comply with the site design requirements set forth below in addition to all other applicable provisions of the Surprise Municipal Code:

1. Development within a battery overlay zoning district shall incorporate an eight foot (8') to twelve foot (12') tall perimeter wall to provide screening and prevent unauthorized access to the facility. Walls shall be designed to include changes in the surface plane, variable heights, articulated recesses, and wall offsets to avoid the construction of long, unbroken and monotonous expanses of wall(s).

2. The perimeter wall shall be located no closer than one hundred fifty feet (150') from any property line.

3. Separation distances between *battery cabinets* within a BESS shall comply with the requirements of National Fire Protection Association (NFPA) 855, "Standards for the Installation of Energy Storage Systems."

4. Grading shall be minimized to maintain the natural landform.

5. All landscaping and other vegetation shall be maintained to be a minimum ten feet (10') from any buildings or equipment.

6. A landscaped area with a minimum width of twenty-five feet (25') shall be provided along the outside of the perimeter wall. No landscaping shall be located inside the perimeter wall. All site landscaping shall comply with **Section 107-2**, unless otherwise noted herein.

7. All site lighting shall comply with **Section 107-3** herein.

8. On-site parking shall be provided as specified below:

   a. For sites occupied daily by employees or contractors, one (1) parking space per employee or contractor shall be provided.

   b. For unoccupied sites, one (1) on-site parking space shall be provided.

   c. All parking, fire access roadways, and drive aisles shall be paved in accordance with **Section 107-4**.

9. *Battery cabinets* shall only provide access externally. Internal access or space for human occupancy is prohibited.

10. Any proposed signs, including any on-site safety signage, shall comply with **Chapter 109** herein.

11. The following plans, studies, and reports shall be submitted to the City for review with the type 1 site plan application. Approval of these plans, studies, and reports is required prior to site plan approval.

    a. Hazardous Materials Impact Analysis (HMIA), in accordance with **Section 104-1.9**.

b. Hazardous Materials Management Plan (HMMP) and Hazardous Materials Inventory Statement (HMIS) in accordance with Appendix H of the International Fire Code, as adopted by the City.

c. Noise study performed by a third-party acoustical engineer that demonstrates that the BESS will not generate noise perceptible beyond the boundaries of the site pursuant to **Section 104-1.7**.

d. A report detailing the proper installation, use, and maintenance of 24/7 security, surveillance, and notification systems.

e. Commissioning Plan in accordance with National Fire Protection Association (NFPA) 855 and Underwriters Laboratories 9540 ("UL9540").

f. Decommissioning Plan in accordance with National Fire Protection Association (NFPA) 855.

ARTICLE X. USE SPECIFIC STANDARDS

Sec. 106-10.11. Battery energy storage systems – accessory use standards.

A. *Battery energy storage systems* (BESS) accessory to a primary use shall comply with the standards set forth below, in addition to all other applicable provisions of the Surprise Municipal Code.

1. Development shall incorporate an eight foot (8') to twelve foot (12') tall perimeter wall around the BESS to provide screening and prevent unauthorized access to the facility. Walls shall be designed to include changes in the surface plane, variable heights, articulated recesses, and wall offsets to avoid the construction of long, unbroken and monotonous expanses of wall(s).
2. The perimeter wall shall be located no closer than one hundred fifty feet (150') from any property line.
3. An accessory BESS shall be located no closer than fifteen hundred feet (1,500') from any existing *dwelling*. For purposes of this subsection, 'existing *dwelling*' shall include a built dwelling or an issued and active permit to construct a *dwelling*. Compliance with this separation requirement will be determined during the staff review of the type 3 conditional use permit application.
4. Separation distances between *battery cabinets* within a BESS shall comply with the requirements of National Fire Protection Association (NFPA) 855, "Standards for the Installation of Energy Storage Systems."
5. All landscaping and other vegetation shall be maintained to be a minimum ten feet (10') from any buildings or equipment associated with the BESS.
6. No landscaping shall be located inside the perimeter wall. All site landscaping shall comply with **Section 107-2**, unless otherwise noted herein.
7. All site lighting shall comply with **Section 107-3** herein.
8. *Battery cabinets* shall only provide access externally. Internal access or space for human occupancy is prohibited.
9. Any proposed signs, including any on-site safety signage, shall comply with **Chapter 109** herein.
10. The following plans, studies, and reports shall be submitted to the City for review with the type 3 conditional use permit application. Approval of these plans, studies, and reports is required prior to approval.

    a. Hazardous Materials Impact Analysis (HMIA), in accordance with **Section 104-1.9**.

    b. Hazardous Materials Management Plan (HMMP) and Hazardous Materials Inventory Statement (HMIS) in accordance with Appendix H of the International Fire Code, as adopted by the City.

c. Noise study performed by a third-party acoustical engineer that demonstrates that the BESS will not generate noise perceptible beyond the boundaries of the site pursuant to **Section 104-1.7**.

d. A report detailing the proper installation, use, and maintenance of 24/7 security, surveillance, and notification systems.

e. Commissioning Plan in accordance with National Fire Protection Association (NFPA) 855 and Underwriters Laboratories 9540 ("UL9540").

f. Decommissioning Plan in accordance with National Fire Protection Association (NFPA) 855.

FS23-1041

Battery Energy Storage Systems (BESS)

Zone Text Amendment

Planning & Zoning Commission – Work session

May 21, 2026

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Definition - Sec. 101-2.2. - Glossary of terms.

- **Battery Energy Storage System (BESS)**

  A facility consisting of electrochemical storage batteries, battery chargers, controls, power conditioning systems and associated electrical equipment, assembled together, capable of storing energy in order to supply electrical energy at a future time, not to include any batteries or systems that are located within single or multi-family residential projects.

- **Battery cabinet**

  A component of a Battery Energy Storage System (BESS) that is self-contained, often modular, unit designed to securely house batteries, inverters, cooling systems, and fire management equipment.

Purpose – Battery (B) Overlay

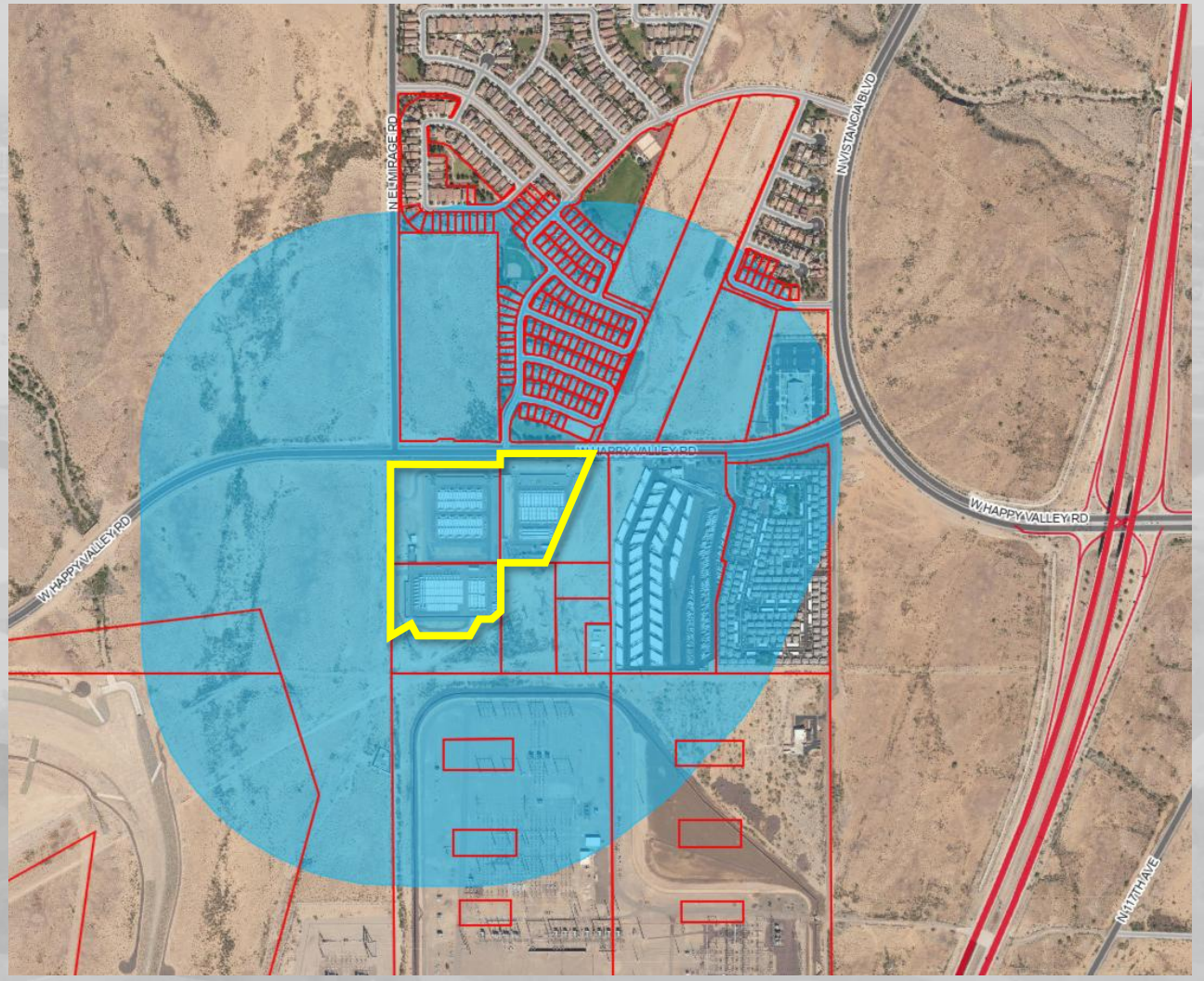
- Permit the use and development of building, structures and land associated with battery energy storage systems (BESS)
- When combined with another zoning district:
  - Modifies the regulations of the zoning district by providing specific regulations
  - Intention is to protect the health, welfare, safety, and quality of life
  - Ensure land use compatibility

Applicability – Battery (B) Overlay

- Permitted in all character areas as set forth in the General Plan 2040
- Provides for distinct regulations
- May be applied to any zoning district in the City
  - Exceptions: Surprise Heritage District (SHD), Planned Unit Development Overlay (PUD), or any individual residential dwellings.

Applicability – Battery (B) Overlay

A battery overlay zoning district shall be located no closer than fifteen hundred feet (1,500) from any existing dwelling unit. ‘Existing dwelling unit’ shall include a built dwelling or an issued or active permit to construct a dwelling.



Process

Rezone – Type III

- Project narrative and preliminary site plan shall be submitted with the rezone document
- Neighborhood Meeting
- Recommendation from Planning and Zoning Commission to the Mayor and City Council
- Approval from City Council

Process cont.

Site Plan – Type I

- Any modifications to the site plan requires another Type III review, as determined by the Community Development Director or designee
- Required prior to submittal of a building permit and/or grading permit.

As An Accessory Use

BESS facilities are allowed as an accessory use with a CUP in the following zoning districts:

- **Business Park (BP)**
- **Light Industrial (I-1)**
- **General Industrial (I-2)**
- **Heavy Industrial (I-3)**

Process Includes:

- Neighborhood Meeting
- P&Z Commission Approval

Development Standards

- 8’ – 12’ perimeter wall (minimum 150’ from property line)
- Separation distance between battery cabinets/cabinets shall only provide external access
- Minimized grading
- Landscaping
  - 10’ separation from buildings/structures
  - 25’ provided along outside perimeter wall

Image: Fluence

Development Standards cont.

- Site Lighting
- On-site parking
- Proposed signs shall comply with the LDO
- All parking, fire access roadways and drive aisles shall be paved.

Development Standards cont.

- The following plans shall be submitted for review:
  - Hazardous Materials Impact Analysis (HMIA)
  - Hazardous Materials Management Plan (HMMP)
  - Hazardous Materials Inventory Statement (HMIS)
  - Noise Study
  - Security & Surveillance Plan
  - Commissioning Plan
  - Decommissioning Plan

Separation Comparison

	Surprise *(Proposed)*	Goodyear	Buckeye	Mesa	Maricopa County
Jurisdiction Separation Criteria	• 1,500 feet from any 'existing dwelling unit'	• 500 feet from residential/sensitive uses; • 150 feet to Commercial/Industrial buildings	• All BESS facilities 150 feet from existing or planned residential properties	• 1,000 feet to residential; • 150 feet to Commercial/ Industrial buildings	• 100 feet from lot line

Timeline

Neighborhood Outreach	
1st outreach meeting	***01/30/2025***
2nd outreach meeting	***01/07/2026***
Work Sessions	
Planning & Zoning – Work Session	***05/21/2026***
City Council – Work Session	***06/02/2026***
Public Hearings	
Planning and Zoning Commission – Public Hearing	***06/04/2026***
City Council – Public Hearing	***06/16/2026***

Questions?

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