



**SCOTTSDALE TRANSPORTATION COMMISSION
Notice and Agenda**

Date: Thursday, September 15, 2022

Time: 5:15 P.M.

Location: Kiva – City Hall

3939 N. Drinkwater Boulevard

Scottsdale, AZ 85251

Call to Order

Roll Call

Don Anderson, Vice-Chair	Mary Ann Miller, Commissioner
Pamela Iacovo, Chair	Kerry Wilcoxon, Commissioner
Karen Kowal, Commissioner	VACANT
B. Kent Lall, Commissioner	

One or more members of the Transportation Commission may be attending the meeting by telephone, video, or internet conferencing, pursuant to A.R.S. §38-431(4)

Public Comment

Spoken comment is being accepted on both agendized and non-agendized items. To sign up to speak on these items, please [click here](#). Request to speak forms must be submitted no later than 90 minutes before the start of the meeting.

Written comment is being accepted for both agendized and non-agendized items and should be submitted electronically at least 90 minutes before the meeting. These comments will be emailed to the Transportation Commission and posted online prior to the meeting. To submit a written public comment electronically, please [click here](#).

- [Approval of Meeting Minutes](#)----- Discussion and Action**
Regular Meeting of the Transportation Commission – August 18, 2022
- [Loop 101 Princess Drive to Shea Boulevard Project](#)-----Information**
Information on Loop 101 roadway improvements – John Tucker, Project Team AZDOT
- [Transportation Action Plan \(TAP\) Implementation: Corridors with partially reduced sidewalk widths](#)-----Discussion and Possible Action**
Outline and discuss the new concept and potential locations for reduced sidewalk widths in areas less likely to experience high volumes of pedestrians – Nathan Domme, Senior Transportation Planner

4. **Neighborhood Traffic Management Program**-----**Discussion and Possible Action**
Review Lafayette Blvd. and Oak St. speed cushions – Parker Murphy, Traffic Engineer
5. **HOA Exception from NTMP**-----**Discussion and Possible Action**
Discussion on exception for roadway access between two condominium buildings and the Silverado Golf Course – Parker Murphy, Traffic Engineer
6. **Commission Identification of Future Agenda Items**----- **Discussion**
Commission members identify items or topics of interest to staff for future Commission presentations

Adjournment



Persons with a disability may request a reasonable accommodation by contacting Kyle Lofgren at 480-312-7637. Requests should be made 24 hours in advance, or as early as possible, to allow time to arrange the accommodation. For TYY users, the Arizona Relay Service (1-800-367-8939) may also contact Kyle Lofgren at 480-312-7637.



DRAFT SUMMARIZED MINUTES

**CITY OF SCOTTSDALE
TRANSPORTATION COMMISSION
REGULAR MEETING**

**Thursday, August 18, 2022
Kiva-City Hall
3939 N. Drinkwater Boulevard
Scottsdale, Arizona 85251**

CALL TO ORDER

Chair Iacovo called the regular meeting of the Scottsdale Transportation Commission to order at 5:16 p.m.

ROLL CALL

PRESENT: Pamela Iacovo, Chair
Karen Kowal
B. Kent Lall
Mary Ann Miller
Kerry Wilcoxon

ABSENT: Don Anderson, Vice Chair

STAFF: Mark Melnychenko, Transportation & Streets Director
Nathan Domme, Senior Transportation Planner
Susan Conklu, Senior Transportation Planner
Kyle Lofgren, Office Manager
Dave Meinhart, Transportation Planning Manager
Greg Davies, Senior Transportation Planner
Cristina Lenko, Public Information Officer

PUBLIC COMMENT

There were no spoken or written comments.

1. APPROVAL OF MINUTES

One typographical correction was made.

COMMISSIONER WILCOXON MOVED TO APPROVE THE REGULAR MEETING MINUTES OF THE TRANSPORTATION COMMISSION OF JUNE 16, 2022 AS AMENDED. COMMISSIONER KOWAL SECONDED THE MOTION, WHICH CARRIED 5-0 WITH CHAIR IACOVO, COMMISSIONERS KOWAL, LALL, MILLER AND WILCOXON VOTING IN THE AFFIRMATIVE WITH NO DISSENTING VOTES.

2. NEIGHBORHOOD BIKEWAYS PRIORITIZATION CRITERIA

Mr. Domme stated that the Transportation Action Plan (TAP) established several key corridors to become neighborhood bikeways. The bikeways will be ranked for implementation. Roadway characteristics and design features were reviewed. The TAP established 19 neighborhood bikeways which will be prioritized according to the following criteria: Engineering, safety, connectivity, equity, demand.

Commissioner inquired as to whether consideration was given to the repaving schedule. Mr. Domme affirmed that they are always in conversation with the Street Operations Department regarding the resurfacing schedule.

Commissioner cited the extra points for number of major crossings and expressed concern that by giving two points per location, it is possible that decisions may tip in favor of these locations as opposed to other existing criteria. Dave Meinhart, Transportation Planning Manager, stated that the extra points go to the corridors that need the most help. Commissioner suggested the possibility of having a maximum listing of six points per location.

Commissioner inquired as to consideration for bike-related crash locations. Mr. Domme confirmed that this was discussed during the process, however, there was not a clear pattern to identify specific locations with repeated bike crash events.

Commissioner asked about the possibility of using actual recorded speeds rather than posted speed limits. Mr. Meinhart stated due to limited resources for extensive studies, the department's goal was to complete the work without the collection of volumes of extra information.

Chair cited 110th Street and inquired as to a safety consideration for removing the median. Mr. Domme clarified that there was no median, but there was a striped left turn lane. There was restriping to have a center yellow lane and narrowing of travel lanes.

Discussion ensued regarding equity considerations specific to age groups, with a commissioner commenting that in terms of weighting, younger demographics are likely to need bikeways more than individuals aged 65 and over and should receive greater weighting. Mr. Meinhart stated that the final product could include only one point in the over 65 category, rather than three. Commissioner commented that ADOT is having the same discussions regarding equity. There is a natural inclination to give more points to age groups above 65 and below 18. However, the percentage of bicyclist users in these categories is unknown.

Commissioner asked whether citizen concerns or input were considered in regard to demand. Mr. Meinhart stated that when prioritizing investment of capital funds to improve corridors, no formal weighting is given to citizen issues. This is partially because a group of individuals could get together and use their combined input to stack the process. This would also not be consistent with how projects in the City have been prioritized over the past 20 years. Staff is currently

working to update capital improvement information on the City’s website, which will make it easier for citizens to submit suggestions on projects. The corridors have already been adopted by City Council and priority has been granted.

Commissioner cited the Old Town area and stated that there should be data to suggest one area being favored over another. He inquired as to whether such data exists to identify that Old Town is having more bike trips than other areas. Favoring one area without this supporting data may be unfair and/or counterintuitive. Mr. Meinhart stated that the conversation by the Path and Trails Subcommittee, which led to the recommendation to increase the rating from 3 to 5 for Old Town was primarily because the Old Town location is calmer and less automobile-oriented than the Air Park and Shea 101. Commissioner commented that Old Town is already bike friendly at this time. Other areas are in greater need for these upgrades. Commissioner commented that the Paths and Trails Committee’s recommendation noted that considerations included the presence of snowbirds and that more visitors are likely to use the area. Chair commented that the area is not adjacent to an employment center. The concerns for this area might be more in line with engineering and safety, as opposed to demand considerations.

Commissioner commented that the plan is a very good step forward and he applauds the Department for its development. Individual considerations regarding points and considerations are minor in comparison to the overall intent. Criteria can always be adjusted based on the reality on the ground.

COMMISSIONER WILCOXON MOVED TO APPROVE THE OVERALL PRIORITIZATION PROGRAM AS PRESENTED, WITH A SCHEDULED FUTURE AGENDA ITEM TO REVIEW THE RANKING RESULTS. COMMISSIONER LALL SECONDED THE MOTION, WHICH CARRIED 5-0 WITH CHAIR IACOVO, COMMISSIONERS KOWAL, LALL, MILLER AND WILCOXON VOTING IN THE AFFIRMATIVE WITH NO DISSENTING VOTES.

3. ARTERIAL LIFE CYCLE PROGRAM (ALCP) FUNDING OPTION

Dave Meinhart, Transportation Planning Manager, noted that there has been a rapid escalation in project costs for a total approximate net increase of \$130 million. Of 20 ALCP projects, 10 have a total combined increased cost of \$158.5 million, 4 have a total combined decrease of \$28.8 million and 6 projects have no change in costs.

Approaches to address the cost increases include:

- Maintain 30 percent City share per 2018 0.1 percent temporary sales tax
- Reallocate funds programmed for Loop 101/Hayden Road Interchange (Option A)
- Require vacant land parcels to build roadway along their frontage consistent with zoning requirements (Options B and C)

An overview of options A, B and C was provided. Staff’s recommendation is to move forward with MAG to implement Options A and C.

Commissioner inquired as to how long a concept plan is valid for. Mr. Meinhart cited the example of the concept design for Scottsdale Road to Pinnacle Peak, which was completed in 2013 and is still good, as there has not been significant development in the identified area.

In response to a Commissioner question on the timing of current cost estimates, Mr. Meinhart stated that the cost estimates not tied to construction contracts were all done in the last six months. They included inflation factors of 10 percent per year based on the expected start of construction.

Commissioner cited the example in Option C that involved Prop 400 funds and asked what will occur if there is a gap before Prop 400 is extended. Mr. Meinhart stated that the savings do not take into account getting any money out of the Prop 400 extension.

Commissioner inquired whether the Economic Development Department has any feedback. Mr. Meinhart stated that staff has not had direct contact with Economic Development personnel, but have worked mainly with Executive Director Worth as well as the City Treasurer's Office. The zoning that stipulating the roadway improvements was done in 2016.

Chair asked about the difference in the presented options as opposed to the normal process. Mr. Meinhart stated that in 2002, the City put the projects into a regional plan for completion within 20 years. However, the costs for planned projects has increased exponentially since that time, limiting the number that could be completed.

Chair inquired as to the whether the Flood Control District has a shareholder role in terms of the floodplain situation for the Rawhide Wash and Scottsdale Road improvements. Mr. Meinhart stated that the Flood Control District did not participate in this piece of the Rawhide Wash improvements. However, upstream from Pinnacle Peak Road north to Happy Valley, both the Flood Control District, Scottsdale and the City of Phoenix have a three-way partnership for flood walls, berms and levies to contain the 100 year flood.

Chair asked how drainage conditions are considered to work with roadway improvements. Mr. Meinhart stated that projects include management of a significant portion of high flow events. The idea is to keep at least one lane dry for travel up to a 10-year storm event. About 20 percent of the cost of roadways to the north is drainage.

COMMISSIONER MILLER MOVED TO APPROVE OPTIONS A-C TO ADDRESS ALCP PROJECTED COST INCREASES. COMMISSIONER WILCOXON SECONDED THE MOTION, WHICH CARRIED 5-0 WITH CHAIR IACOVO, COMMISSIONERS KOWAL, LALL, MILLER AND WILCOXON VOTING IN THE AFFIRMATIVE WITH NO DISSENTING VOTES

4. PROJECTS AND PROGRAMS UPDATE

Mark Melnychenko, Transportation & Streets Director, provided an update on the following:

- Osborn Road complete street
- Old Town ADA ramps and crosswalk improvements
- Priority Area 1
- 2nd Avenue and Wells Fargo Avenue
- Improved crossing to Canal Path
- Indian Bend Wash Path renovation
- Monsoon storm cleanup
- Paving program
- Camelback Road and Saddlebag Trail HAWK

- Scottsdale Road and Legacy
- Traffic signals to be installed/signals in design

Chair asked whether a cost benefit has been performed for cleanups performed after monsoon events as opposed to a long-term solution of handling water on roadways. Mr. Melnychenko said he was unaware of a full benefit analysis, however staff is definitely documenting costs.

5. COMMISSION IDENTIFICATION OF FUTURE AGENDA ITEMS

The following agenda items were identified:

- Rankings for the bikeways program
- Crash analysis
- Potential discussion on economic impacts of distracted drivers
- Follow up to cool pavement presentation, pros and cons identified in the Phoenix study
- Tour of the transportation IT center

6. ADJOURNMENT

With no further business to discuss, being duly moved by Commissioner Wilcoxon and seconded by Commissioner Lall, the meeting adjourned at 7:20 p.m.

AYES: Chair Iacovo, Commissioners Kowal, Lall, Miller and Wilcoxon

NAYS: None

SUBMITTED BY:

eScribers, LLC

***Note: These are summary action meeting minutes only. A complete copy of the audio/video recording is available at <http://www.scottsdaleaz.gov/boards/transp.asp>**

TRANSPORTATION COMMISSION REPORT



To: Transportation Commission
From: John C. Tucker, ADOT Community Relations
Project Manager
Subject: Loop 101 (Pima Freeway) Princess Drive to Shea Boulevard
Improvements
Meeting Date: September 15, 2022

ITEM IN BRIEF

Action: Presentation and Discussion

Purpose:

Provide an update on the design elements, progress, and project schedule for the Loop 101 (Pima Freeway) Princess Drive to Shea Boulevard Improvements.

Background:

The Arizona Department of Transportation, in partnership with the city of Scottsdale, the Federal Highway Administration and the Maricopa Association of Governments, initiated a project to widen Loop 101 (Pima Freeway) between Princess Drive and Shea Boulevard in Scottsdale. This project will tie into the Loop 101 widening project between I-17 and Pima Road/Princess Drive, completed in 2022, and the earlier Loop 101 widening project south of Shea Boulevard.

The project team's construction crews will:

- Widen Loop 101 by adding one lane in both the northbound and southbound directions between Princess Drive and Shea Boulevard.
- Reconstruct the interchange at Frank Lloyd Wright Boulevard to a new configuration.
- Make minor modifications to the interchanges and cross-streets at Princess Drive, Raintree Drive and Shea Boulevard to improve turning movements.
- Rebuild interchange sidewalks to comply with current Americans with Disabilities Act (ADA) standards and integrate bicycle lanes.



Information:

A Design Concept Report (DCR) and environmental study was completed in 2010, which recommended the addition of a general-purpose lane in each direction and interchange improvements. The DCR was updated in 2021 to re-evaluate the interchanges to better accommodate increased traffic volumes in this area. These planned interchange improvements were presented to the Transportation Commission in September 2020.

Project Schedule items:

- Project is currently in the design phase.
- Project team will host a virtual public meeting **on Wednesday, November 2, from 6 to 7:30 p.m.** Information on how to join that meeting is forthcoming.
- Project construction is anticipated to begin in the summer or fall of 2023.

Staff Contact: Mark Melnychenko, 480-312-7651, mmelnychenko@scottsdaleaz.gov


ADOT Contact: John C. Tucker, jtucker2@azdot.gov

Loop 101 - Princess Drive to Shea Boulevard Improvements



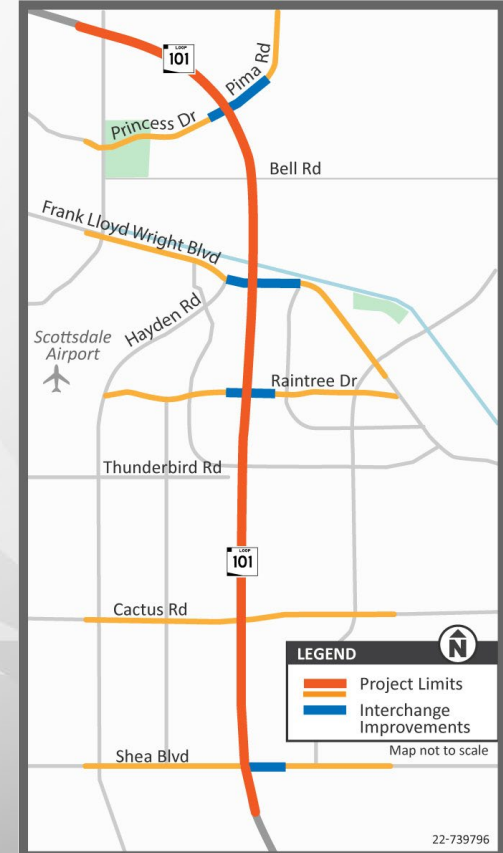
Scottsdale Transportation Commission
September 15, 2022

Agenda

- Project Overview
 - Improvements
 - Timeline
 - What To Expect During Construction
 - Q & A
- 

Project Overview

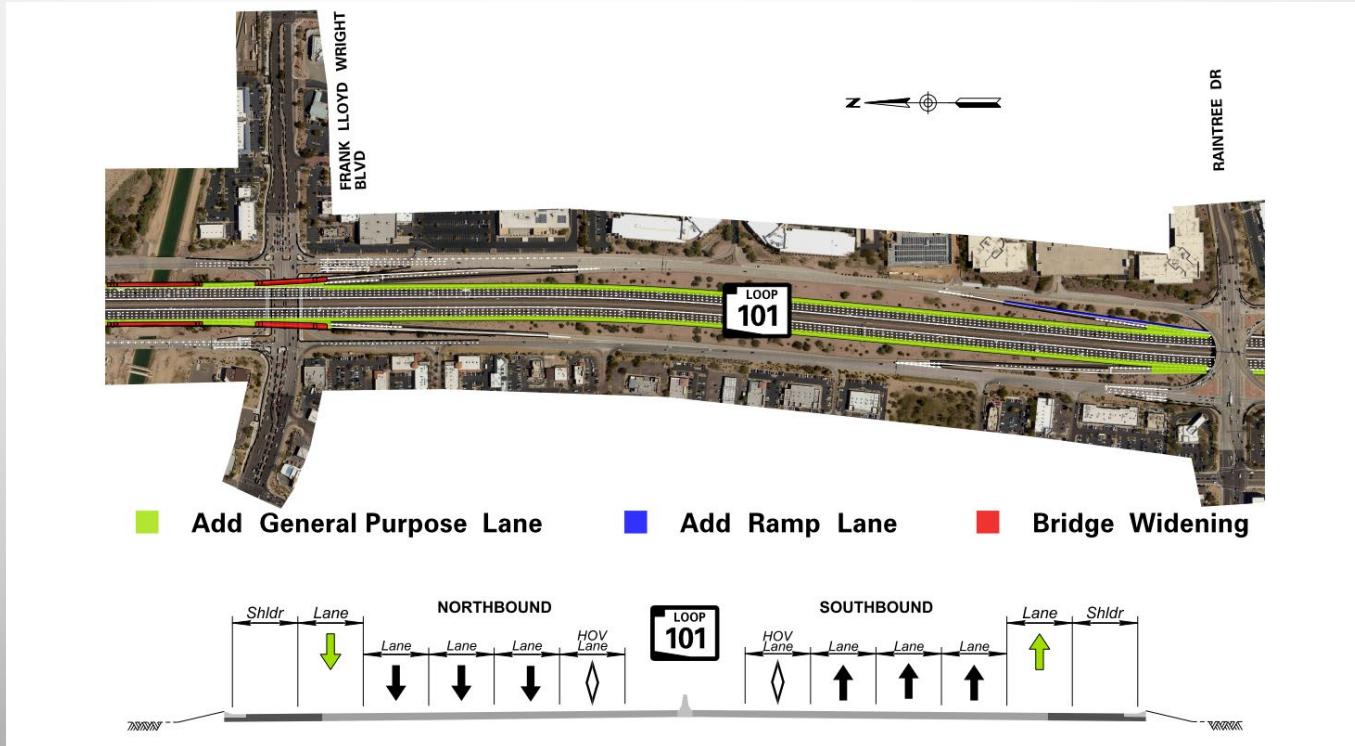
- Design Concept Report – 2010
- Public survey conducted – 2020
- Design Concept Report updated 2021
- Improve traffic flow, increase capacity
- Recommended improvements
 - General purpose lane
 - Interchange improvements
- Tie into Loop 101 widening project (I-17 to Pima Rd) completed in 2022, and earlier Loop 101 widening project south of Shea Boulevard



Improvements

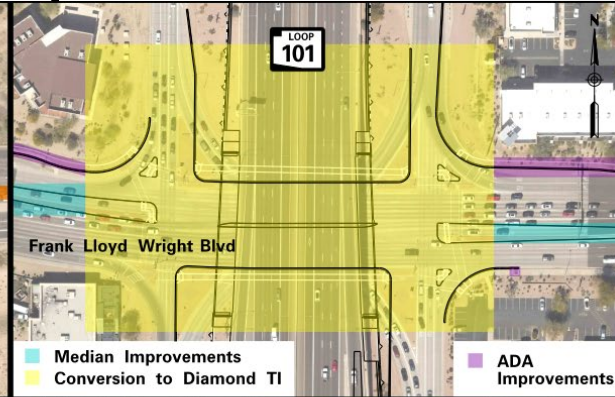
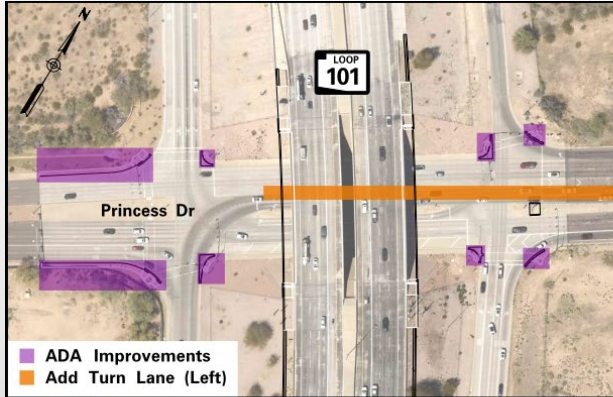
- Adding one general-purpose lane in both directions
- Converting Frank Lloyd Wright Boulevard interchange to Conventional Diamond Configuration
- Adding Turn Lanes to Princess Drive, Raintree Drive and Shea Boulevard
- Updating non-compliant ADA facilities

General Purpose Lane (Princess to Shea)



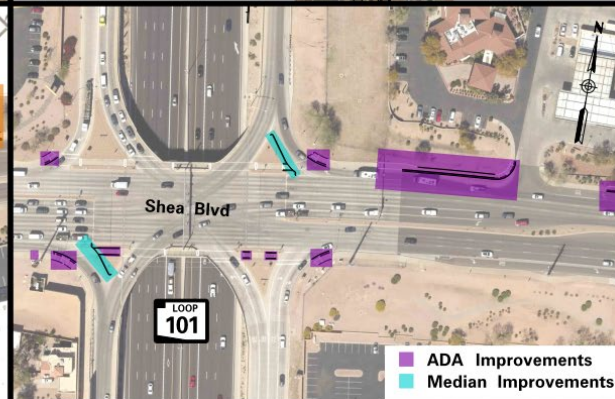
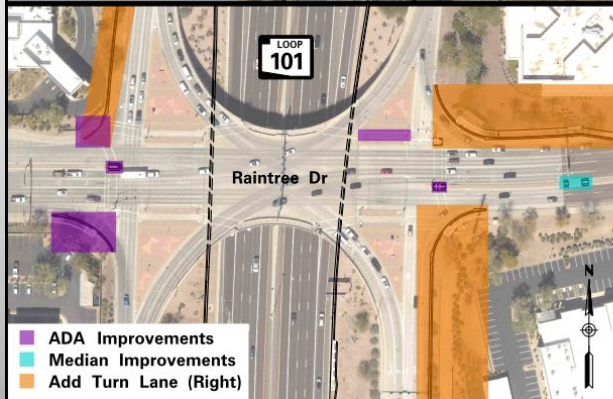
Crossroad Improvements

Pima/Princess

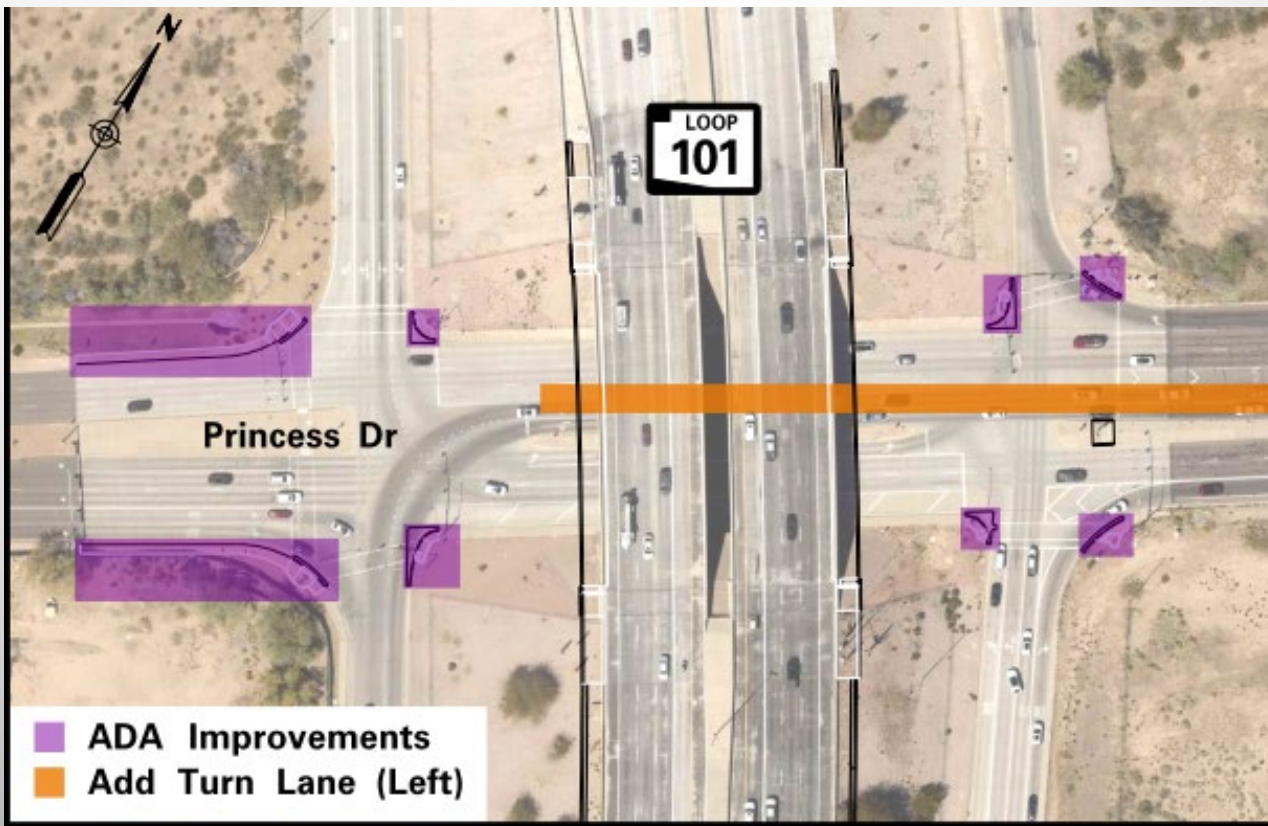


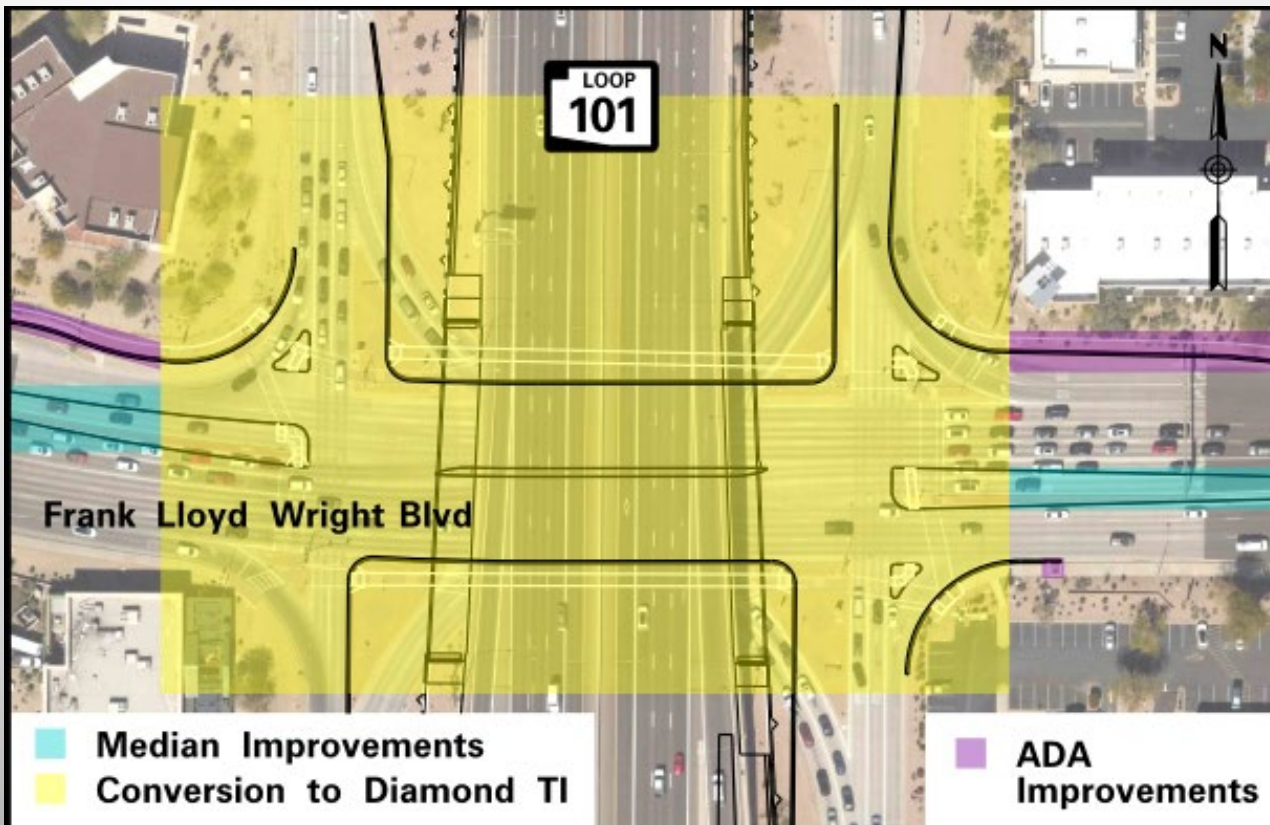
Frank Lloyd Wright

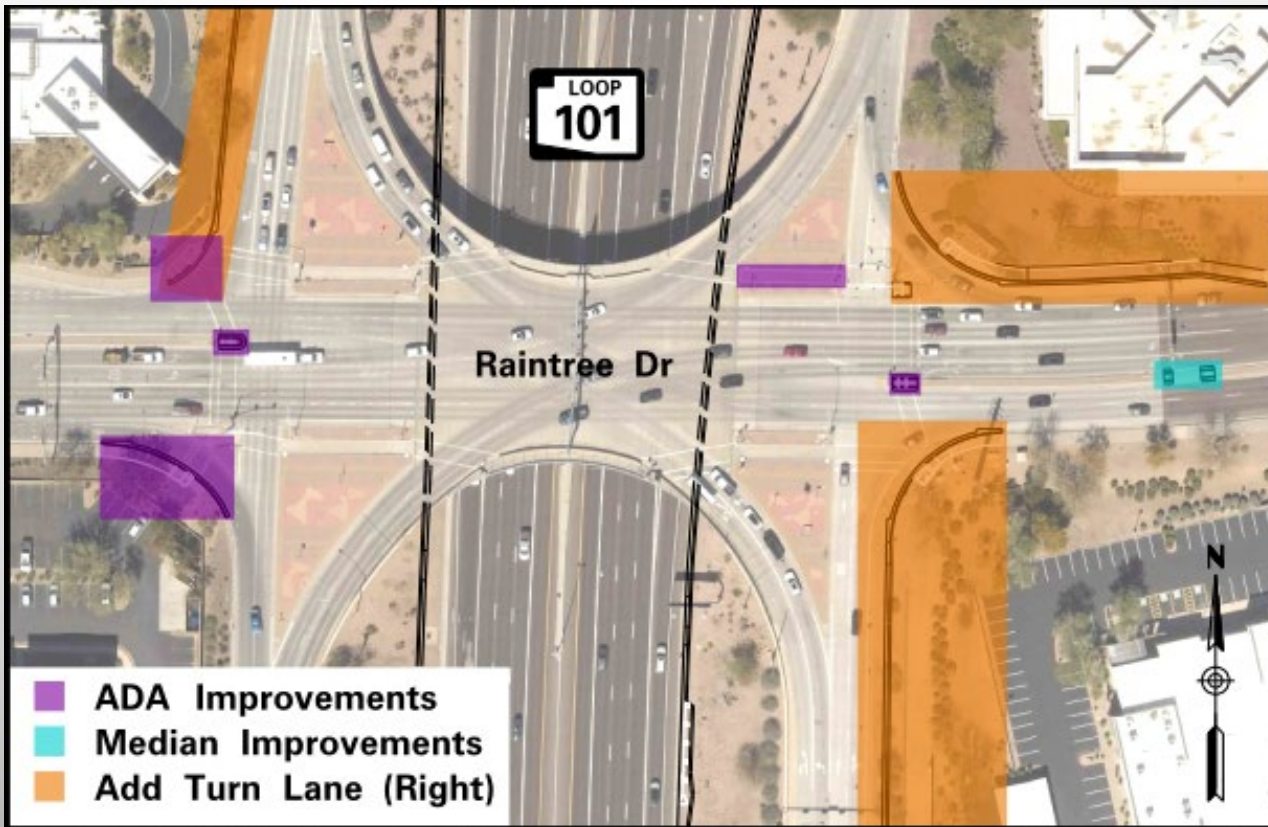
Raintree

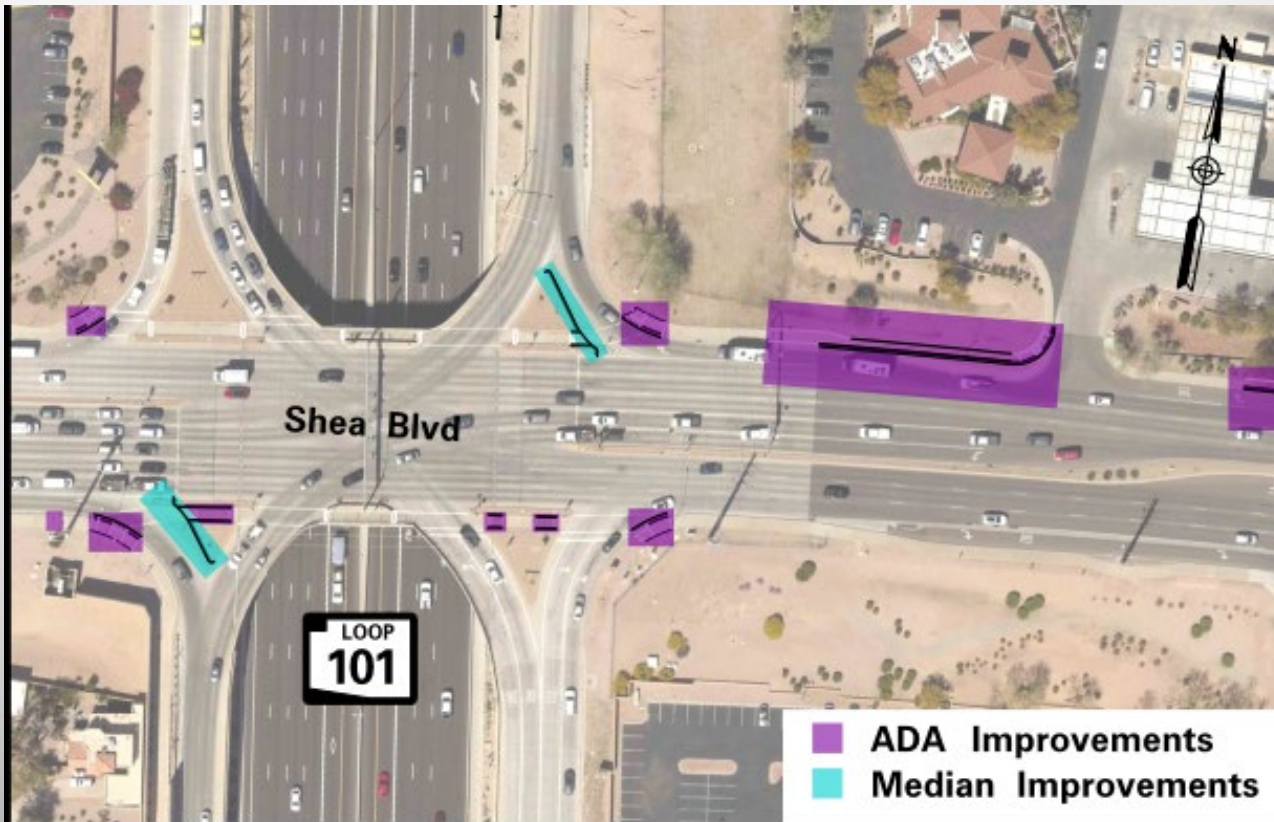


Shea









Landscape



Project Timeline



What to expect during construction

- During construction, there will be periodic weekend and nighttime restrictions and closures
- Freeway lanes will be maintained during daytime peak travel
- Periodic closures and lane restrictions on the ramps, crossroads, and frontage roads to complete construction
- Freeway closures during special events or holidays **will be avoided**
- As the project gets closer to construction and during construction, schedule and traffic restriction information will be shared in advance with the city and public

QUESTIONS?

Thank You

- Project website - azdot.gov/Loop101PrincesstoShea
- Virtual Public Meeting, **6-7:30 p.m., Wednesday, Nov. 2**
How To Participate information coming soon
- For more information, contact
John Tucker, 480-695-4027, jtucker2@azdot.gov
Dave Meinhart, DMeinhart@Scottsdaleaz.gov

TRANSPORTATION COMMISSION REPORT



To: Transportation Commission
From: Nathan Domme, Senior Transportation Planner
Subject: Transportation Action Plan Implementation: Corridors with partially reduced sidewalk widths
Meeting Date: September 15, 2022

ITEM IN BRIEF

Action: Discussion, comment, possible action

Purpose:

Review and discussion outlining the process and criteria used to determine which corridors would be eligible for a sidewalk width reduction on one side of the street, based on the direction provided in the Transportation Action Plan (TAP).

Background:

City Council approved and adopted the 2022 TAP on April 26, 2022. The Pedestrian element of the TAP recommends,

“In areas where sidewalks are less likely to experience high volumes of pedestrians due to lower density and/or subdivision access restrictions, one side of four-lane and six-lane streets has a narrower sidewalk of six feet, while maintaining an eight-foot-wide sidewalk on the other side. The wider sidewalk also serves as a side path for bicyclists. Some roads are planned to have a 10-foot multi-use path in place of a sidewalk to provide regional non-motorized connections to the city of Phoenix.”

Reasons for this change in sidewalk width include:

1. Not overbuilding where pedestrian usage would be limited.
2. Savings of approximately \$100,000 per mile in construction costs. There would be additional savings related to long-term maintenance.
3. Installing 10,560 square less concrete per mile supports sustainability concepts related to natural resource usage and urban heat island impacts.

Information:

Staff used the set of factors listed below to develop a list of suitable corridors for implementing the reduced sidewalk width concept:

- Limit to current or future four or six-lane roadways since the standard sidewalk width for two-lane roadways is already 6'
- Focus on the area north of Bell Road due to lower population and employment densities
- Utilize a non-complete streets inventory that identifies areas missing sidewalk
- Look for areas with subdivision access restrictions created by perimeter walls
- Look for areas with planned or existing trails or shared use paths along one side
- Look for connectivity to an existing sidewalk or side path

After using these steps, 11 corridors totaling 20 miles were considered appropriate to designate for the sidewalk width reduction.

The corridors are:

Streets	Limits
Thompson Peak Parkway	Legacy Blvd to Bell Rd
Bell Road	100 th St to 108 th St
Happy Valley Road/118 th Street	Alma School Rd to Ranch Gate Rd
Happy Valley Road	Scottsdale Rd to Pima Rd
Hayden Road	Legacy Blvd to Thompson Peak Pkwy
Pinnacle Peak Road	Scottsdale Rd to Pima Rd
Thompson Peak Parkway	87th St to Pima Rd
56th Street	Jomax Rd to Dynamite Blvd
Cave Creek Road	City Boundary to Lone Mountain Pkwy
Dynamite Boulevard	Alma School Rd to east City Limit
Dynamite Boulevard	56 th St to Pima Rd

Paths and Trails Subcommittee Recommendations:

On August 2, 2022, staff presented the corridors with partially reduced sidewalk widths to the Paths and Trails Subcommittee. After discussion, the subcommittee voted to approve the criteria as shown with no additional changes and present it to the Transportation Commission.

Continuing Steps:

Staff will note the locations that would be eligible for reduction in sidewalk width in the next update to the city's Design Standards & Policy Manual and will incorporate the changes into future capital improvement projects.

Attachments:

[Attachment 1](#): Corridor Location Map

Staff Contact: Nathan Domme, 480-312-2732, ndomme@scottsdaleaz.gov

Transportation Action Plan (TAP) Implementation: Corridors with partially reduced sidewalk widths

Transportation Commission
September 15, 2022

TAP Pedestrian Element

“In areas where sidewalks are less likely to experience high volumes of pedestrians due to lower density and/or subdivision access restrictions, one side of four-lane and six-lane streets has a narrower sidewalk of six feet, while maintaining an eight-foot-wide sidewalk on the other side.”

Paths and Trails Subcommittee

On August 2, 2022, the subcommittee voted to approve the criteria and present to Transportation Commission.

Reasoning for the Reduction

- Plan to reduce sidewalk widths in key locations based on:
 - Use in areas with limited walking demand on the corridor
 - Use in areas with limited walking demand for one side in particular
 - Use for new facilities or gaps in sidewalk network
- Cost Savings
 - Installation Savings: per mile reduction: \$106,000 savings per mile
 - Significant cost savings between 6ft and 8ft
 - Maintenance Savings
- Sustainability
 - Reduce heat island
 - Maintain natural aesthetic

Criteria

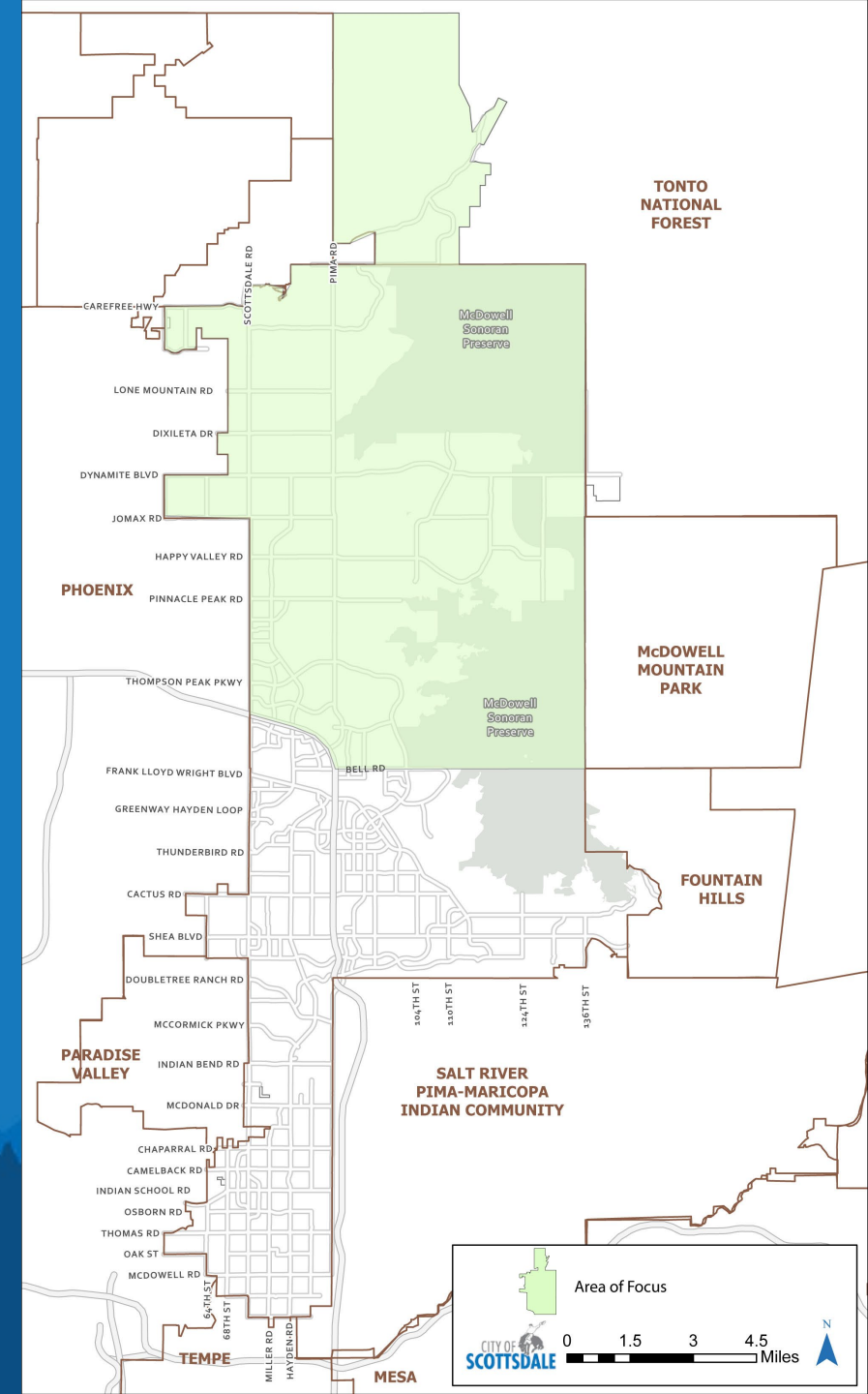
Transportation Staff used several factors in determining corridors that should use reduced width of sidewalk on one side of the street:

1. Limit to current or future four or six-lane roadways (since the standard sidewalk width for two-lane roadways is already 6')
2. Focus on area north of Bell Road due to lower population and employment densities
3. Utilize non-complete streets inventory that identifies areas missing sidewalk
4. Look for areas with subdivision access restrictions created by perimeter walls
5. Look for areas with planned or existing trail or shared use paths along one side
6. Look for connectivity to existing sidewalk or side path

North of Bell Rd

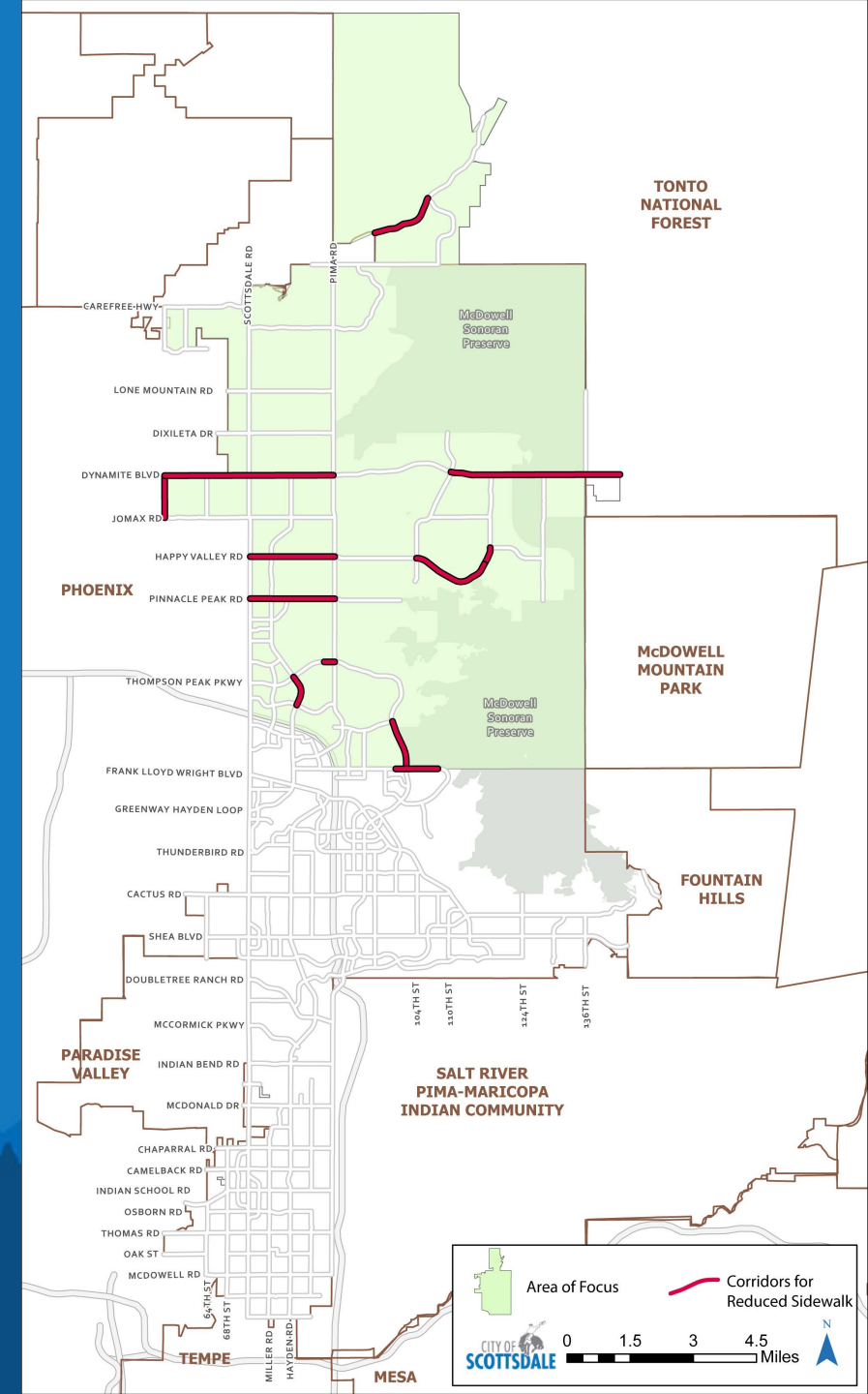
All Six and Four Lane Roadways:

- North/South Roads
 - Pima Road: Loop 101 to Stagecoach Pass Road
 - Scottsdale Road: Loop 101 to Carefree Highway
 - 56th Street: Dynamite Boulevard to Jomax Road
 - Hayden Road: Loop 101 to Happy Valley Road
 - 60th Street: Carefree Highway to Dove Valley Road
 - Alma School Road: Happy Valley Road to Dynamite Boulevard
 - Thompson Peak Parkway: Bell Road to Scottsdale Road
- East/West Roads
 - Cave Creek Road: Lone Mountain Road to Pima Road
 - Happy Valley Road: Scottsdale Road to Pima Road
 - Carefree Hwy: 56th Street to Scottsdale Road
 - Dynamite Boulevard: 56th Street to Eastern City Boundary
 - Pinnacle Peak Road: Scottsdale Road to Pima Road
 - Legacy Boulevard/Hualapai Drive: Pima Road to Scottsdale Road
 - Legacy Boulevard: Pima Road to Thompson Peak Pkwy



Locations for the Reduced Sidewalk Width of Six-feet

Street	Limits
Thompson Peak Parkway	Legacy Boulevard to Bell Road
Bell Road	100 th Street to 108 th Street
Happy Valley Road/118th Street	Alma School Road to Ranch Gate Road
Happy Valley Road	Scottsdale Road to Pima Road
Hayden Road	Legacy Boulevard to Thompson Peak Pkwy
Pinnacle Peak Road	Scottsdale Road to Pima Road
Thompson Peak Parkway	87 th Street to Pima Road
56th Street	Jomax Road to Dynamite Boulevard
Cave Creek Road	City Boundary to Lone Mountain Pkwy
Dynamite Boulevard	Alma School Road to City Boundary
Dynamite Boulevard	56 th Street to Pima Road



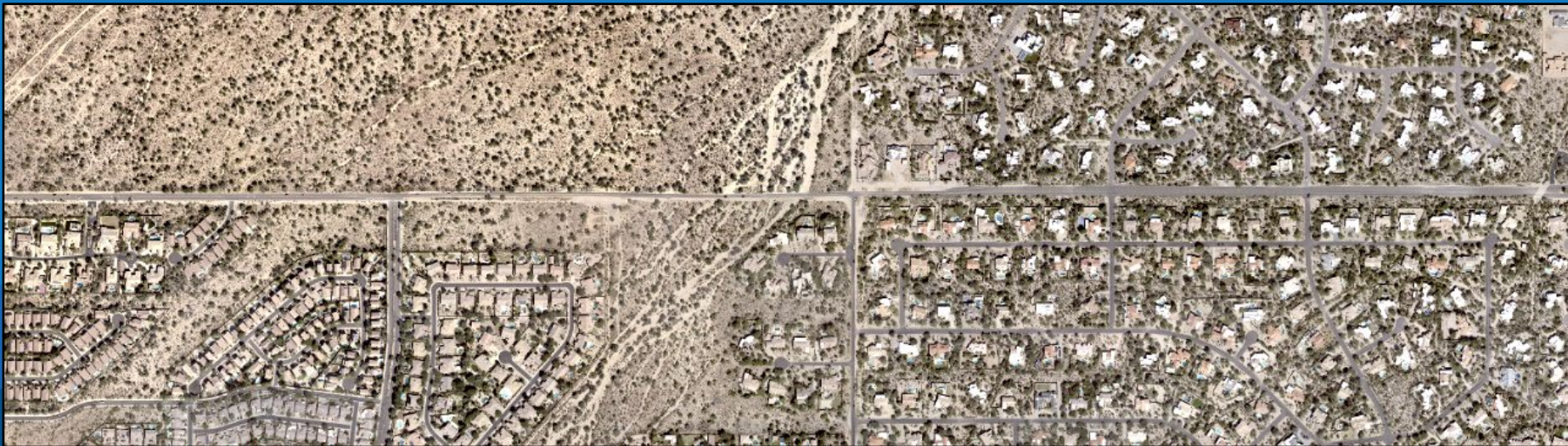
Pinnacle Peak Road: Scottsdale Road to Pima Road



Dynamite Boulevard: Alma School Road to City Boundary



Happy Valley Road: Scottsdale Road to Pima Road



Next Steps

- Note the locations that would be eligible for the reduction in sidewalk width in the next update to the city's Design Standards & Policy Manual (affects developer stipulations)
- Incorporate the changes into future capital improvement projects

Transportation Action Plan (TAP) Implementation: Corridors with partially reduced sidewalk widths

Transportation Commission
September 15, 2022

SCOTTSDALE TRANSPORTATION COMMISSION REPORT



To: Transportation Commission
From: Parker Murphy, Traffic Engineer
Subject: NTMP – Oak Street Speed Cushions
Meeting Date: September 15, 2022

Action:

The installation of traffic calming speed cushions on Oak Street between 72nd Place and 74th Street. Attachment 1 shows the approximate locations of the proposed devices.

Purpose:

It is required that the Transportation Commission review and approve all Neighborhood Traffic Management Program (NTMP) requests for the installation of traffic calming devices. Residents successfully completed the petition through the NTMP.

Information:

A request for traffic calming on Oak Street, east of Scottsdale Road, was submitted on November 1, 2021. Staff contacted resident with NTMP information on November 4, 2021, and received a completed Interest Form on January 19, 2022.

Oak Street is classified as a Minor Collector roadway and serves several residential developments between Scottsdale Road and Miller Road, as well as providing access to Coronado High School, and the Eldorado Community Center and Park. The intersection of Scottsdale Road & Oak Street is the primary signalized access into these areas. Due to the school and recreational land uses nearby, Oak Street experiences a relatively high volume of commuter traffic on weekdays and a significant number of recreation-related traffic on weekends, which may be further elevated during tournament seasons, where events are held at Eldorado.

Speed and volume data were collected on February 3, 2022, at one location along Oak Street. The data did not meet the NTMP thresholds.

There were concerns about the location where the traffic data was collected, so it was recollected. The data from March 9, 2022 is shown in Table 1 –

Total	Daily Traffic Volume	% of Vehicles 30mph or more	% of Vehicles 35 mph or more
NTMP Required	500 min, 3000 max	40%	20%
Measured	2706	69%	28%

Table 1: Speed and Volume count

As shown in the data above, both of the speed thresholds as outlined in the NTMP were met on Oak Street between 72nd Place and 74th Street.

Traffic Engineering reached out to City of Scottsdale Fire Department regarding the potential installation and no preliminary comments were given.

Traffic Engineering, working with Capital Projects, developed a preliminary drainage impact report. Stormwater Management found the analysis to be acceptable and would have minimal hydraulic impacts resulting from the proposed traffic calming devices.

Recommendation:

Staff recommends that the petition for traffic calming on Oak Street, between 72nd Place and 74th Street be accepted. Staff recommends that two (2) sets of speed cushions be installed at the locations shown in Attachment 1. The estimated cost for construction of the two speed cushions is approximately \$5,774.

Staff Contact: Parker Murphy, 480-312-7802, PMurphy@ScottsdaleAZ.gov

Attachments:

1. Speed Cushion Layout Exhibit
2. Oak & 72nd Drainage Report



PRELIMINARY EXHIBIT
 NOT FOR CONSTRUCTION
 SCALE

PRELIMINARY EXHIBIT
 NOT FOR CONSTRUCTION
 SCALE



Public Works, Capital Project Management

John Dowell, PE, Senior Civil Engineer
7447 E. Indian School Road, Suite 205
Scottsdale, AZ 85251

PHONE 480-312-2776
WEB ScottsdaleAZ.gov

Date: April 20, 2022
To: Roy Herrington, PE
From: John Dowell, PE
Subject: Rework - Oak Street Speed Cushion Drainage Study

The City of Scottsdale Transportation Department is evaluating the installation of speed cushions at two locations along Oak Street between 72nd Place and 74th Street (Attachment A). As part of the evaluation, I have been asked to perform a drainage study to determine the impacts of the speed cushions on the drainage of Oak Street.

The original study was completed March 30th, 2022 and provided to Mr. Richard Anderson and Mr. Ghassan Aouad. On April 19th, Mr. Aouad provided me comments on the study indicating that he would not review the study I submitted for the following reasons:

1. HEC-RAS modeling is not warranted for the small flow application.
2. The use of the Flo 2D flow rates are inappropriate because of the scale at which the model is prepared isn't detailed enough for street level evaluations.

Mr. Ghassan directed me to perform a new analysis using the Rational Method and the modified Manning's equation for streets, per the FCD Manual. This memo represents the revised analysis per Mr. Aouad's comments.

Hydrology & Hydraulics

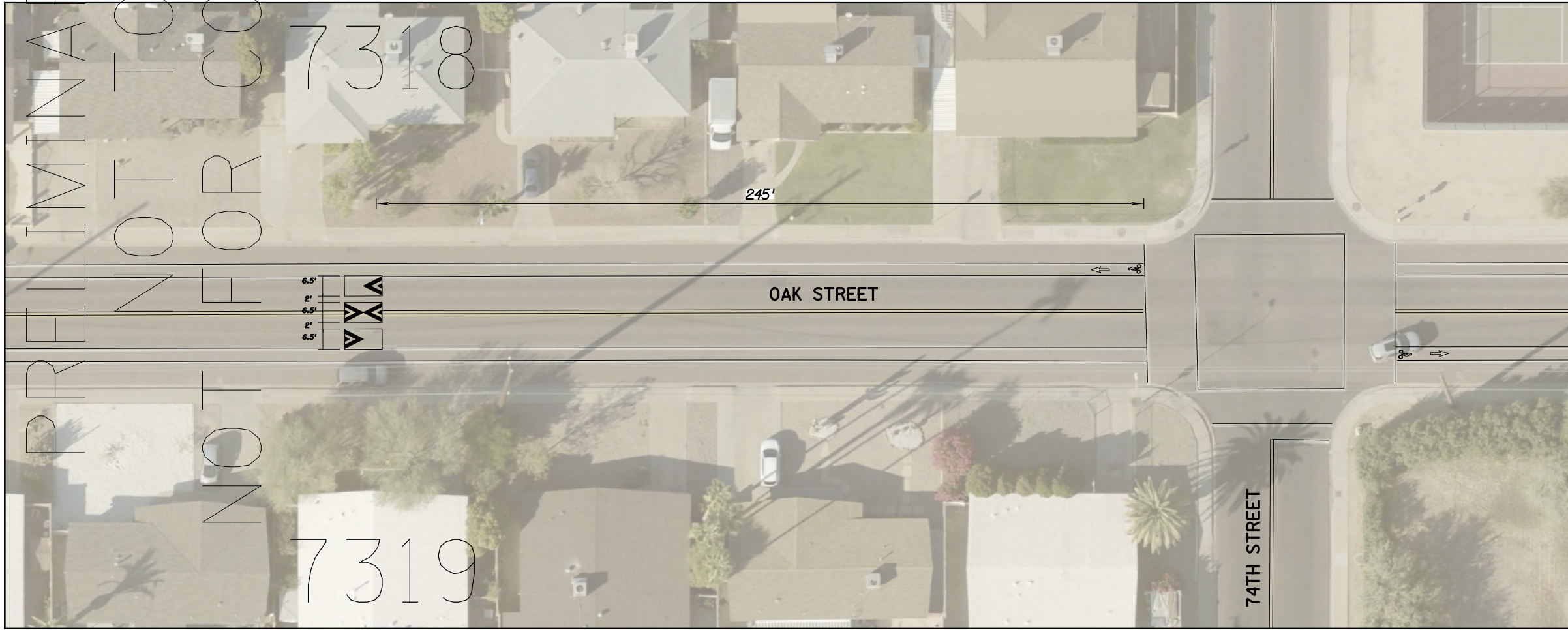
As directed by Mr. Aouad, the Rational Method was used to determine the 10 year and 100-year peak discharge. The peak discharge calculation, 2226-OAK-C-001, is included in Attachment B.

Microstation was used to draw the roadway cross section and the proposed water surface elevation and measure the flow area, wetted perimeter, and flow depth. Using trial and error I establish flow depths that correlated to the peak discharges that were calculated in 2226-OAK-C-001. The Manning's equation evaluation is shown in 2226-OAK-C-002, which is included in Attachment C.

Results & Conclusions

The study shows an increase in dry pavement width with the installation of the speed cushions. During the 10-year return storm event, there is at least one 12' dry lane in each direction in both the existing and proposed condition. During the 100-year event, the runoff is contained within the curb, and the max water depth is less than 8". Therefore, this project meets the criteria of the DSPM.

ATTACHMENT A – LOCATION MAPS



PRELIMINARY EXHIBIT
 NOT FOR SCALE
 NOT FOR CONSTRUCTION

ATTACHMENT B – PEAK DISCHARGE



Project Name: Oak Street Speed Cushion Date: 4/20/2022
Drainage Study
Project No.: 2226 - Oak Street Calculation No.: 2226-OAK-C-001
Calculation Title: Stormwater Runoff Estimate Checked By: _____

OBJECTIVE:

To estimate the peak discharge at two locations along Oak Street using Rational Method as directed by Mr. Ghassan Aouad.

REFERENCES:

- A City of Scottsdale. (2018). *Design standards and policies manual*. Scottsdale, AZ: Author.
- B G. M. Bonnin, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley. NOAA, National Weather Service. (2011). *Precipitation-frequency atlas of the United States*. NOAA Atlas 14, Volume 1, Version 5.0. Silver Spring, MD: Author.
- C Flood Control District of Maricopa County. (2013). *Drainage design manual for Maricopa County Arizona*. Phoenix: Author.

INPUT:

- A Watershed is zoned R1-7.
- B Slopes are less than 10%.
- C Runoff Coefficients

2-25 Year Runoff Coefficient	0.51	Figure 4-1.5 Reference A, Attachment A
50 Year Runoff Coefficient	0.66	Figure 4-1.5 Reference A, Attachment A
100 Year Runoff Coefficient	0.80	Figure 4-1.5 Reference A, Attachment A
- D For ease of calculation, use a time of concentration of 5 minutes. The majority of the watersheds are very small, and a minimum time of concentration will produce conservative results.

EQUATIONS:

- A $Q=CiA$ Equation 3.1 Reference C

VARIABLES:

- Q = peak discharge, cubic feet per second
- C = runoff coefficient, unitless
- i = rainfall intensity, in/hr
- A = drainage area, acres

ATTACHMENTS:

- A DSPM, Table 4-1.5 - 1 Page
- B Point Precipitation Frequency Estimate - 4 pages

CALCULATIONS:

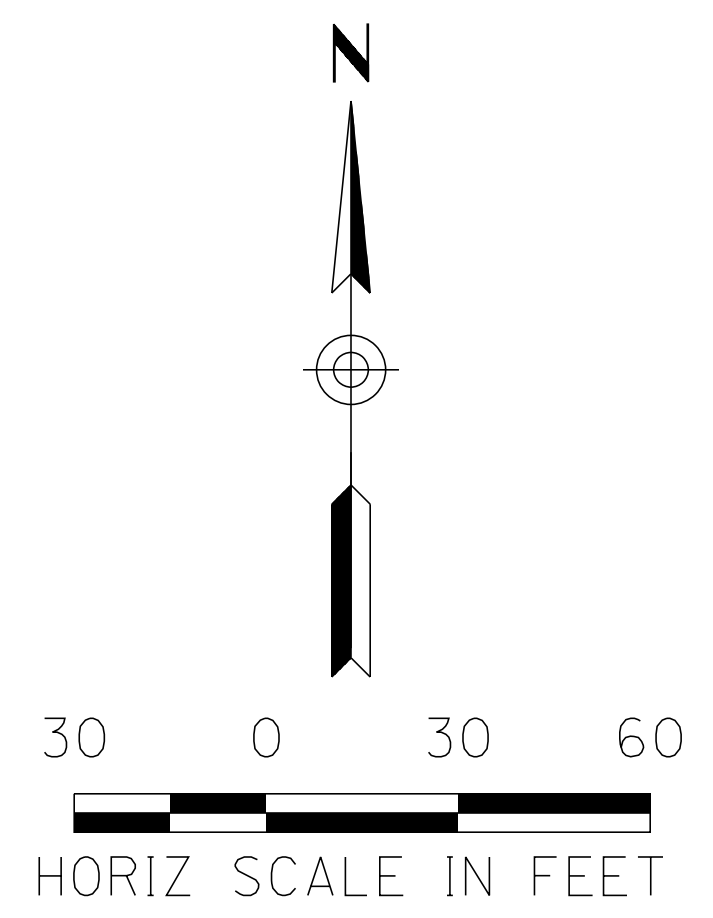
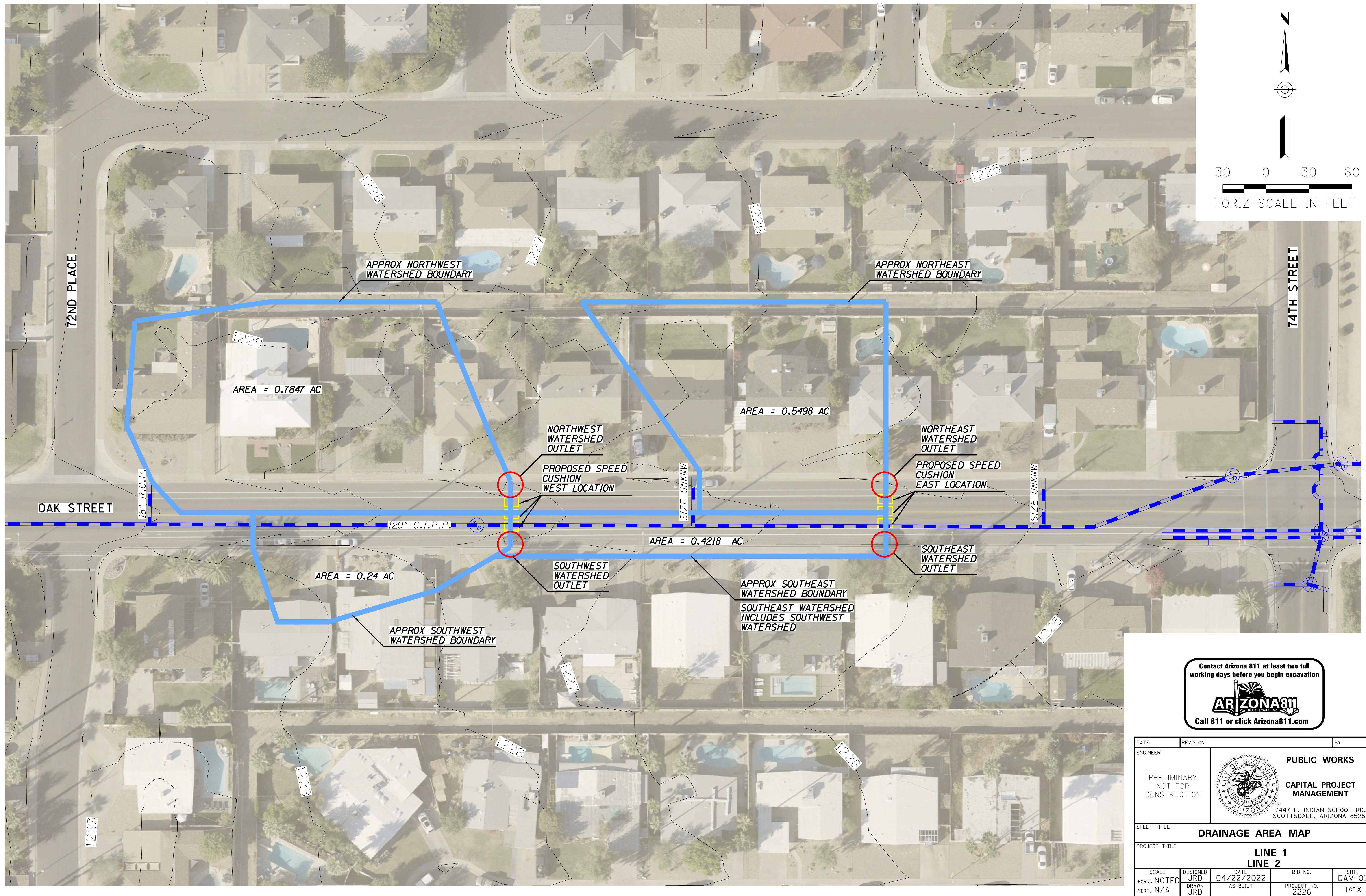
- A Estimate area of the watershed.

Watershed	Area, ac	Watershed	Area, ac
W Speed Cushion N Side of Oak	0.785	E Speed Cushion N Side of Oak	0.550
W Speed Cushion S Side of Oak	0.240	E Speed Cushion S Side of Oak	0.422
- B Select Runoff Coefficients, C
See Input C above.

C, 10 yr	0.51	C, 100 yr	0.80
----------	------	-----------	------
- C Compile rainfall intensity information from NOAA Atlas 14, Reference B, Attachment B.

i, 10 yr	4.73	i, 100 yr	7.46
----------	------	-----------	------
- D Calculate Q.


Watershed	Q10, cfs	Q100, cfs
W Speed Cushion N Side of Oak	1.89	4.68
W Speed Cushion S Side of Oak	0.58	1.43
E Speed Cushion N Side of Oak	1.33	3.28
E Speed Cushion S Side of Oak	1.02	2.52



Contact Arizona 811 at least two full working days before you begin excavation

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DATE	REVISION	BY
ENGINEER		
PRELIMINARY NOT FOR CONSTRUCTION	 PUBLIC WORKS CAPITAL PROJECT MANAGEMENT	7447 E. INDIAN SCHOOL RD. SCOTTSDALE, ARIZONA 85251
SHEET TITLE DRAINAGE AREA MAP		
PROJECT TITLE LINE 1 LINE 2		
SCALE	DESIGNED	DATE
HORIZ. NOTED	JRD	04/22/2022
VERT. N/A	JRD	AS-BUILT
		BID NO.
		2226
		SHT.
		DAM-01
		1 OF X

RUNOFF COEFFICIENTS – “C” VALUE

LAND USE	STORM FREQUENCY		
	2-25 Year	50 Year	100 Year
Composite Area-wide Values			
R1-7	0.51	0.66	0.80
R1-5	0.54	0.69	0.86
<hr/>			
Residential Areas – Single Family, slopes greater than 10%			
R1-190	0.65	0.74	0.82
R1-130	0.68	0.76	0.84
R1-70	0.69	0.77	0.85
R1-43	0.70	0.77	0.85
R1-35	0.70	0.78	0.85
R1-18	0.71	0.79	0.86
R1-10	0.75	0.82	0.88
R1-7	0.81	0.86	0.91
R1-5	0.85	0.89	0.92
Townhouse (R-2, R-4)	0.63	0.74	0.94
Apartments & Condominiums (Condos) (R-3, R-5)	0.76	0.83	0.94
<hr/>			
Specified Surface Type Values			
Paved streets, parking lots (concrete or asphalt), roofs, driveways, etc.	0.90	0.93	0.95
Lawns, golf courses, & parks (grassed areas)	0.20	0.25	0.30
Undisturbed natural desert or desert landscaping (no impervious weed barrier)	0.37	0.42	0.45
Desert landscaping (with impervious weed barrier)	0.63	0.73	0.83
Mountain terrain - slopes greater than 10%	0.60	0.70	0.80
Agricultural areas (flood irrigated fields)	0.16	0.18	0.20
Gravel floodways and shoulders	0.68	0.78	0.82

FIGURE 4-1.5 RUNOFF COEFFICIENTS FOR RATIONAL METHOD

F. HEC-1 Model

1. Minimum submittals
 - a. A printout of the input data.
 - b. A schematic (routing) diagram of the stream network.
 - c. The runoff summary output table, including drainage basin name, area, 2, 10, and 100- year flow values.
 - d. Electronic input file(s) on compact disc (CD) or digital versatile/video disc (DVD).
 - e. Supporting documentation and source material for parameter selection.



NOAA Atlas 14, Volume 1, Version 5
Location name: Phoenix, Arizona, USA*
Latitude: 33.4995°, Longitude: -111.9832°
Elevation: 1244.2 ft**
 * source: ESRI Maps
 ** source: USGS



POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Tryppaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	2.21 (1.86-2.68)	2.88 (2.44-3.50)	3.92 (3.30-4.74)	4.73 (3.95-5.68)	5.80 (4.76-6.94)	6.62 (5.36-7.90)	7.46 (5.94-8.87)	8.33 (6.52-9.88)	9.48 (7.22-11.3)	10.4 (7.74-12.3)
10-min	1.68 (1.41-2.03)	2.19 (1.85-2.66)	2.99 (2.51-3.61)	3.59 (3.00-4.32)	4.42 (3.62-5.28)	5.05 (4.08-6.01)	5.69 (4.52-6.74)	6.34 (4.96-7.52)	7.22 (5.50-8.57)	7.90 (5.89-9.40)
15-min	1.39 (1.16-1.68)	1.81 (1.53-2.20)	2.47 (2.07-2.98)	2.97 (2.48-3.57)	3.65 (2.99-4.36)	4.17 (3.38-4.96)	4.70 (3.74-5.58)	5.24 (4.10-6.22)	5.97 (4.54-7.09)	6.52 (4.87-7.76)
30-min	0.934 (0.784-1.13)	1.22 (1.03-1.48)	1.66 (1.39-2.01)	2.00 (1.67-2.40)	2.46 (2.01-2.94)	2.81 (2.27-3.34)	3.16 (2.51-3.75)	3.53 (2.76-4.19)	4.02 (3.06-4.77)	4.39 (3.28-5.23)
60-min	0.578 (0.486-0.701)	0.755 (0.638-0.916)	1.03 (0.863-1.24)	1.24 (1.03-1.49)	1.52 (1.25-1.82)	1.74 (1.41-2.07)	1.96 (1.56-2.32)	2.18 (1.71-2.59)	2.49 (1.89-2.95)	2.72 (2.03-3.24)
2-hr	0.334 (0.286-0.398)	0.432 (0.370-0.516)	0.580 (0.495-0.688)	0.692 (0.584-0.819)	0.846 (0.706-0.994)	0.963 (0.793-1.13)	1.09 (0.880-1.27)	1.21 (0.962-1.41)	1.37 (1.07-1.61)	1.50 (1.14-1.77)
3-hr	0.241 (0.205-0.289)	0.309 (0.264-0.372)	0.407 (0.346-0.487)	0.484 (0.408-0.577)	0.593 (0.492-0.701)	0.679 (0.556-0.801)	0.770 (0.618-0.907)	0.863 (0.682-1.02)	0.993 (0.761-1.17)	1.10 (0.821-1.30)
6-hr	0.146 (0.127-0.172)	0.185 (0.161-0.218)	0.238 (0.206-0.279)	0.280 (0.240-0.327)	0.337 (0.285-0.391)	0.382 (0.318-0.442)	0.428 (0.352-0.496)	0.476 (0.383-0.552)	0.541 (0.425-0.628)	0.592 (0.454-0.690)
12-hr	0.082 (0.071-0.095)	0.103 (0.090-0.120)	0.131 (0.114-0.152)	0.153 (0.132-0.177)	0.182 (0.156-0.210)	0.205 (0.173-0.235)	0.228 (0.190-0.263)	0.252 (0.207-0.290)	0.283 (0.227-0.328)	0.308 (0.242-0.359)
24-hr	0.049 (0.044-0.055)	0.062 (0.055-0.070)	0.081 (0.071-0.091)	0.095 (0.084-0.107)	0.115 (0.101-0.130)	0.131 (0.114-0.147)	0.148 (0.128-0.166)	0.165 (0.142-0.185)	0.189 (0.161-0.212)	0.208 (0.175-0.234)
2-day	0.027 (0.024-0.030)	0.034 (0.030-0.038)	0.045 (0.040-0.050)	0.053 (0.047-0.060)	0.065 (0.057-0.073)	0.075 (0.065-0.084)	0.085 (0.074-0.095)	0.095 (0.082-0.107)	0.110 (0.094-0.124)	0.122 (0.103-0.137)
3-day	0.019 (0.017-0.021)	0.024 (0.021-0.027)	0.032 (0.028-0.035)	0.038 (0.033-0.042)	0.046 (0.041-0.052)	0.053 (0.046-0.060)	0.061 (0.052-0.068)	0.068 (0.059-0.077)	0.079 (0.067-0.089)	0.088 (0.074-0.099)
4-day	0.015 (0.013-0.017)	0.019 (0.017-0.021)	0.025 (0.022-0.028)	0.030 (0.026-0.034)	0.037 (0.032-0.041)	0.042 (0.037-0.048)	0.048 (0.042-0.054)	0.055 (0.047-0.061)	0.064 (0.054-0.071)	0.071 (0.059-0.080)
7-day	0.009 (0.008-0.011)	0.012 (0.011-0.014)	0.016 (0.014-0.018)	0.019 (0.017-0.021)	0.023 (0.020-0.026)	0.027 (0.023-0.030)	0.031 (0.027-0.035)	0.035 (0.030-0.039)	0.040 (0.034-0.045)	0.045 (0.038-0.051)
10-day	0.007 (0.006-0.008)	0.009 (0.008-0.010)	0.012 (0.011-0.014)	0.014 (0.013-0.016)	0.018 (0.015-0.020)	0.020 (0.018-0.023)	0.023 (0.020-0.026)	0.026 (0.022-0.029)	0.030 (0.026-0.034)	0.034 (0.028-0.038)
20-day	0.004 (0.004-0.005)	0.006 (0.005-0.006)	0.007 (0.007-0.008)	0.009 (0.008-0.010)	0.011 (0.009-0.012)	0.012 (0.011-0.013)	0.014 (0.012-0.015)	0.015 (0.013-0.017)	0.017 (0.015-0.019)	0.018 (0.016-0.021)
30-day	0.003 (0.003-0.004)	0.004 (0.004-0.005)	0.006 (0.005-0.007)	0.007 (0.006-0.008)	0.008 (0.007-0.009)	0.009 (0.008-0.010)	0.010 (0.009-0.012)	0.012 (0.010-0.013)	0.013 (0.011-0.015)	0.014 (0.012-0.016)
45-day	0.003 (0.002-0.003)	0.003 (0.003-0.004)	0.004 (0.004-0.005)	0.005 (0.005-0.006)	0.006 (0.006-0.007)	0.007 (0.006-0.008)	0.008 (0.007-0.009)	0.009 (0.008-0.010)	0.010 (0.008-0.011)	0.011 (0.009-0.012)
60-day	0.002 (0.002-0.002)	0.003 (0.003-0.003)	0.004 (0.003-0.004)	0.004 (0.004-0.005)	0.005 (0.005-0.006)	0.006 (0.005-0.007)	0.006 (0.006-0.007)	0.007 (0.006-0.008)	0.008 (0.007-0.009)	0.008 (0.007-0.010)

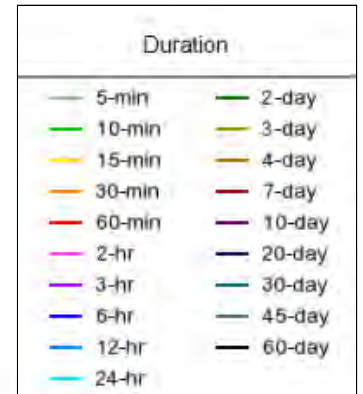
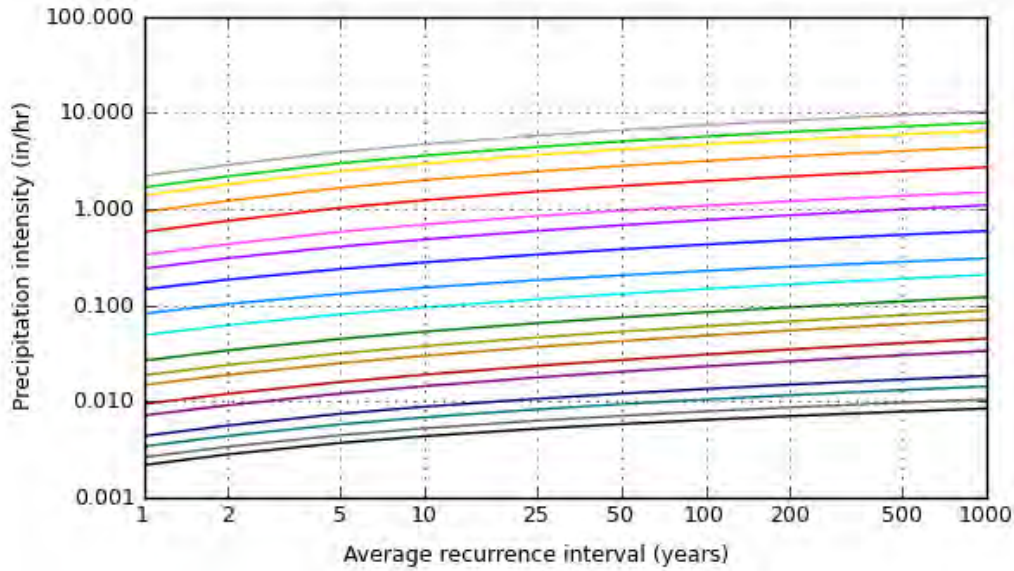
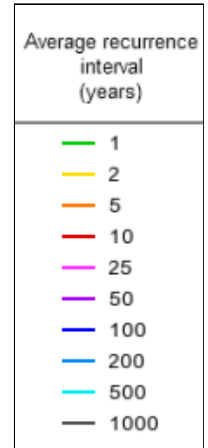
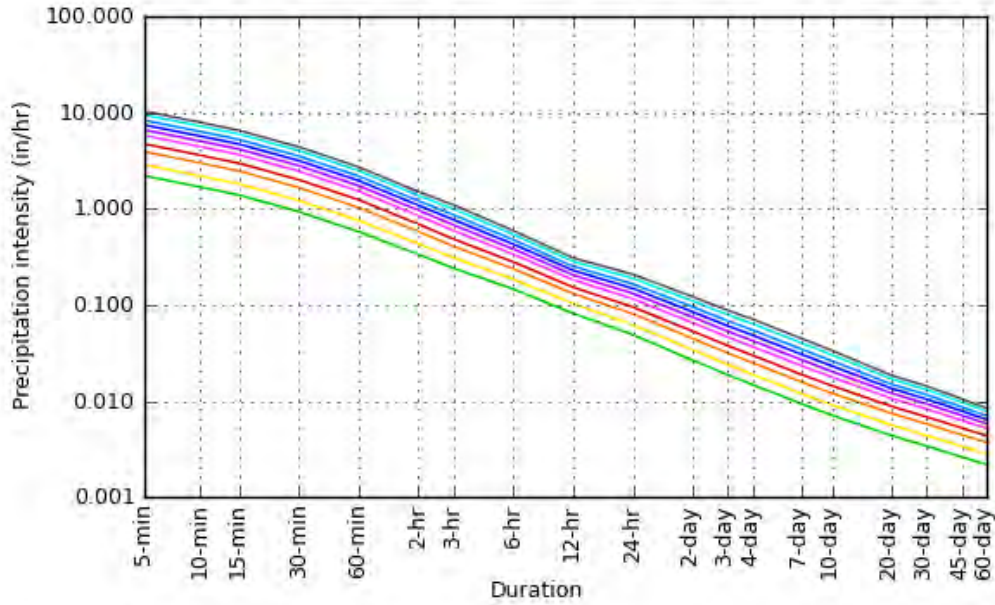
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

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PF graphical

PDS-based intensity-duration-frequency (IDF) curves

Latitude: 33.4995°, Longitude: -111.9832°



[Back to Top](#)

Maps & aeriels

Small scale terrain



Large scale terrain



Large scale map



Large scale aerial



[Back to Top](#)

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ATTACHMENT C – Flow Spread



Project Name: Oak Street Speed Cushion
Drainage Study
 Project No.: 2226 - Oak Street
 Calculation Title: Spread at Speed Cushion

Date: 4/20/2022
 Calculation No.: 2226-OAK-C-002
 Checked By: _____

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OBJECTIVE:

To estimate the spread at the proposed speed cushions.

REFERENCES:

- A City of Scottsdale. (2018). *Design standards and policies manual*. Scottsdale, AZ: Author.
- B G. M. Bonnin, D. Martin, B. Lin, T. Parzybok, M. Yekta, and D. Riley. NOAA, National Weather Service. (2011). *Precipitation-frequency atlas of the United States*. NOAA Atlas 14, Volume 1, Version 5.0. Silver Spring, MD: Author.
- C Flood Control District of Maricopa County. (2018). *Drainage design manual for Maricopa County Arizona*. Phoenix: Author.
- D Dowell, John. (April 20, 2022). *Stormwater runoff estimate (2226-OAK-C-001)*.

EQUATIONS:

A $Q = A \left(\frac{1.49}{n} \right) r_H^{0.67} S^{0.5}$ Reference C, Page 3-9, EQ 3.1

B $R = \frac{A}{P}$ (Normal flow conditions), Reference C, Page 4-41

VARIABLES:

- Q = Total flow, cfs
- n = Manning's roughness coefficient. A n-value of 0.015 or 0.016 is typically used for paved streets unless special conditions exist.
- A = Flow area, sq ft
- R = r_H = Hydraulic radius, ft
- S = Slope of energy grade line, assumed equal to longitudinal street slope, ft/ft
- P = wetted perimeter
- PT = total perimeter of flow area
- T = spread, ft
- h = flow depth at gutter, ft

INPUT:

n = 0.016 Reference C, page 3-9, under EQ 3.1
 S = 0.00784 Measured in Microstation

ATTACHMENTS:

- A Figure 4-1.2 Reference A
- B Sketches Depicting Flow in Road Cross Section

REQUIREMENTS:

- A Contain runoff from 10 year storm within street curbs. Maintain one 12- foot- wide dry driving lane in each direction.
- B Confine runoff from 100 year storm to street rights- of-way or drainage easements. d max =8 inches.



Project Name: Oak Street Speed Cushion Date: 4/20/2022
Drainage Study
 Project No.: 2226 - Oak Street Calculation No.: 2226-OAK-C-002
 Calculation Title: Spread at Speed Cushion Checked By: _____

CALCULATIONS:

- A Cross section is irregular. Draw a typical cross section in Microstation.
- Use trial and error to guess depth of flow (h) at gutter line and draw in horizontal water surface.
- In Microstation measure the spread (T), flow area (A), and total perimeter of flow area (PT).
- Calculate P by subtracting T from PT.
- Set up table to calculate Q based on measured data and Manning's Equation.
- Compare Calculated Q to design Q from Calculation 2226-Oak-C-001 (Reference F).
- If the Calculated Q is the same as, or slightly larger than the Design Q, then the h, T, A, and PT are acceptable.
- Complete this process for 10 year storm, existing and proposed conditions and 100 year storm, existing and proposed conditions.

Tables shown below represent the final results from the trial and error exercise.

10 Year Existing Conditions

Location	h, ft	T, ft	A, ft ²	PT, ft	P, ft	R	Calc.'d Q, cfs	Design Q, cfs
NW Speed Cush	0.240	12.070	1.140	24.350	12.280	0.093	1.928	1.890
SW Speed Cush	0.173	7.560	0.480	15.270	7.710	0.062	0.621	0.580
NE Speed Cush	0.220	10.730	0.912	21.660	10.930	0.083	1.437	1.330
SE Speed Cush	0.200	9.400	0.711	18.960	9.560	0.074	1.037	1.020

10 Year Proposed Conditions

Location	h, ft	T, ft	A, ft ²	PT, ft	P, ft	R	Calc.'d Q, cfs	Design Q, cfs
NW Speed Cush	0.240	11.980	1.140	24.170	12.190	0.094	1.938	1.890
SW Speed Cush	0.173	7.560	0.480	15.270	7.710	0.062	0.621	0.580
NE Speed Cush	0.220	10.730	0.912	21.660	10.930	0.083	1.437	1.330
SE Speed Cush	0.200	9.400	0.711	18.960	9.560	0.074	1.037	1.020

100 Year Existing Conditions

Location	h, ft	T, ft	A, ft ²	PT, ft	P, ft	R	Calc.'d Q, cfs	Design Q, cfs
NW Speed Cush	0.320	17.420	2.320	35.110	17.690	0.131	4.937	4.680
SW Speed Cush	0.220	10.730	0.912	21.660	10.930	0.083	1.437	1.430
NE Speed Cush	0.285	15.080	1.751	30.400	15.320	0.114	3.401	3.280
SE Speed Cush	0.265	13.740	1.463	27.710	13.970	0.105	2.680	2.520

100 Year Proposed Conditions

Location	h, ft	T, ft	A, ft ²	PT, ft	P, ft	R	Calc.'d Q, cfs	Design Q, cfs
NW Speed Cush	0.322	12.270	2.019	24.810	12.540	0.161	4.928	4.680
SW Speed Cush	0.220	10.730	0.912	21.660	10.930	0.083	1.437	1.430
NE Speed Cush	0.285	12.160	1.683	24.570	12.410	0.136	3.665	3.280
SE Speed Cush	0.265	12.080	1.441	24.390	12.310	0.117	2.843	2.520

Highlighted cells indicate input that changed between existing and proposed conditions.



Project Name: Oak Street Speed Cushion
Drainage Study

Project No.: 2226 - Oak Street

Calculation Title: Spread at Speed Cushion

Date: 4/20/2022

Calculation No.: 2226-OAK-C-002

Checked By: _____

RESULTS:

A Table below summarizes width of dry pavement for 10 year storm in both the existing and proposed conditions, and the max depth for the 100 year condition.

Location	10 Year		100 Year			
	Existing Dry Pvmnt Width	Proposed Dry Pvmnt Width	Existing Confined to Street	Proposed Confined to Street	Existing Max Depth, in	Proposed Max Depth, in
NW Speed Cush			Yes	Yes	3.84	3.858
SW Speed Cush	27.81	27.90	Yes	Yes	2.64	2.64
NE Speed Cush			Yes	Yes	3.42	3.42
SE Speed Cush	27.31	27.31	Yes	Yes	3.18	3.18

CONCLUSION:

- A For the 10 year return storm runoff, installation of the speed cushions increases the dry pavement width at the west location, and causes no change to the dry pavement width at the east location.
- B For the 100 year return storm runoff, installation of the speed cushions does not cause the runoff to go beyond the street right of way, and the max depth is less than 8".

GRADING & DRAINAGE

CHAPTER 4

HYDRAULIC DESIGN CRITERIA			
DRAINAGE FEATURE	PEAK FREQUENCIES		
	10-YEAR	25/50-YEAR	100-YEAR
Street with Curb & Gutter	Contain runoff within street curbs. For collector and arterial streets maintain one 12-foot- wide dry driving lane in each direction.	N/A	Contain runoff below the building's lowest floor. Confine runoff to street rights- of-way or drainage easements. d max =8 inches.
Street without Curb & Gutter (Dirt Roads, Ribbon Curbs)	Contain longitudinal runoff within roadside channels with water surface elevation below pavement subgrade.	N/A	Contain runoff below the building's lowest floor. Confine runoff to street rights- of-way or drainage easements. d max =8 inches.
Street without SD System	Add pipes or roadside channels if runoff from 10-year flood exceeds street capacity, unless waived per SRC, Chapter 37.	N/A	Add SD systems if a base flood inundates building's lowest floor. Provide catch basins, scuppers, etc. to remove water so d max =8 inches.
Cross Road Culvert or Bridge for Major Collector & Arterial Streets	N/A	Convey runoff by culvert or bridge under street with no flow overtopping the street for a 50-year flood, except as provided in SRC, Chapter 37.	Convey runoff by culvert and by flow over the street so d max =6 inches, except as provided in SRC, Chapter 37.

HYDRAULIC DESIGN CRITERIA			
DRAINAGE FEATURE	PEAK FREQUENCIES		
	10-YEAR	25/50-YEAR	100-YEAR
Cross Road Culvert or Bridge for Local and Minor Collector Streets, Local Residential* and Commercial/Industrial Streets	Convey runoff by culvert or bridge under street with no flow overtopping the street, except as provided in SRC, Chapter 37.	For a 25-year event, convey runoff by culvert or bridge and by flow over the street with so d max =6 inches, except as provided in SRC, Chapter 37.	d max =12 inches, except as provided in SRC, Chapter 37.
Any street or watercourse crossing that provides the only access to residential area.	N/A	N/A	Make all lots and structures accessible by at least 1 street with d max =12 inches for a base flood, except as provided in SRC, Chapter 37.
*Local Residential Streets with Low Volume Average Daily Trips (ADT)	See Low Volume Street Standards, Chapter 5		

FIGURE 4-1.2 STREET HYDRAULIC DESIGN CRITERIA CHART

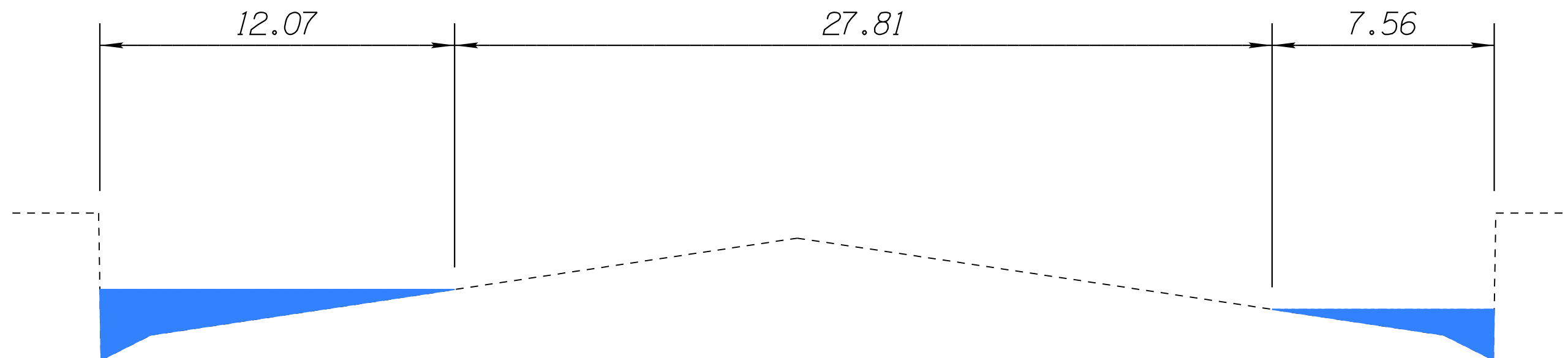
C. VALLEY GUTTERS

Valley gutters are permitted on local streets to transport runoff when a SD system is not required. Valley gutters are generally not acceptable on collector or arterial streets. In unusual cases, valley gutters may be necessary to convey runoff across a collector street. In such situations, the valley gutter shall be a minimum of 8 feet wide to lessen the impact on traffic.

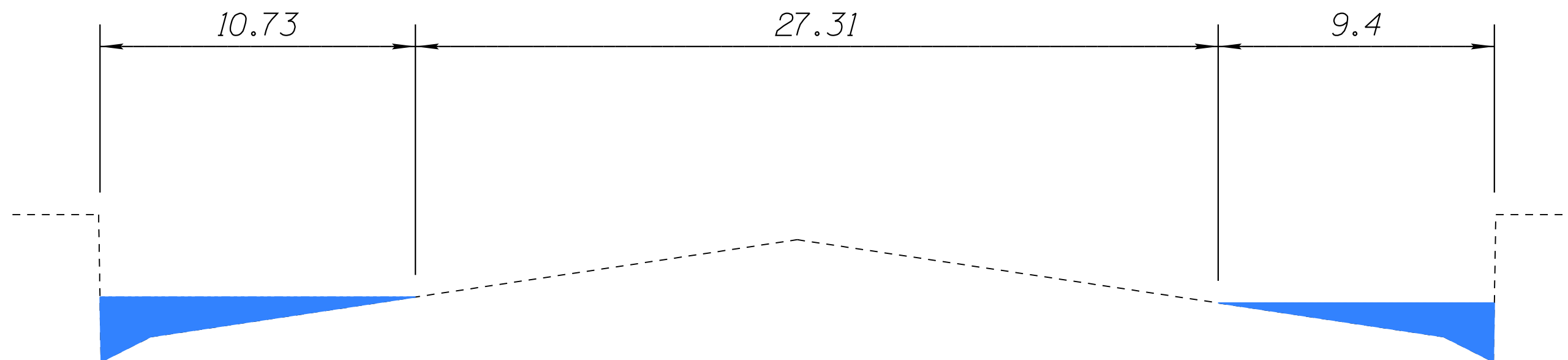
D. ROADSIDE SWALES

Unless waived by city staff, swales must intercept and safely convey flow to the nearest recognized watercourse within the same watershed. If velocities exceed 5 feet per second (fps), then the engineer must design the swale to provide erosion and scour protection. Swales are necessary to prevent:

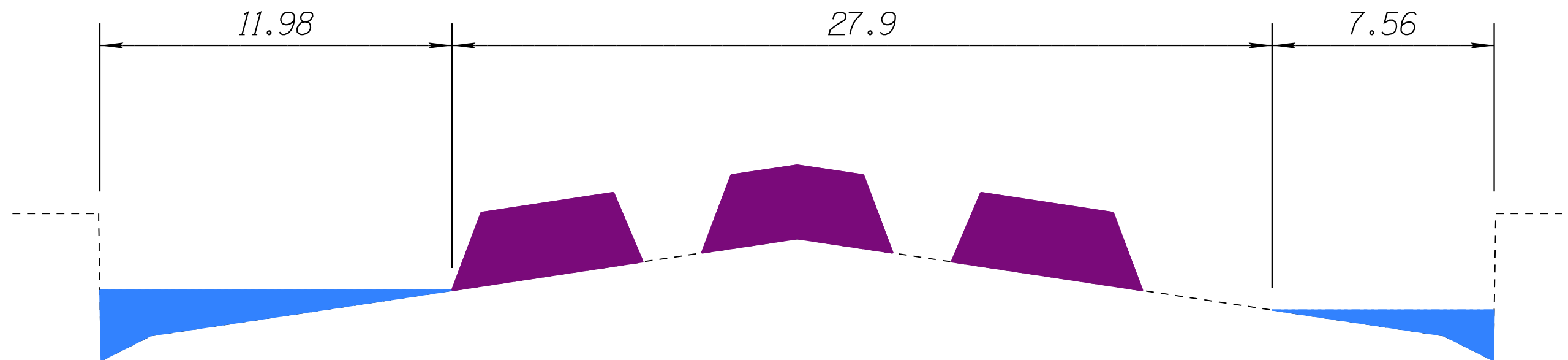
1. Runoff and debris from washing onto the roadway,
2. Erosion of roadway areas adjacent to the edge of pavement or curbing, and



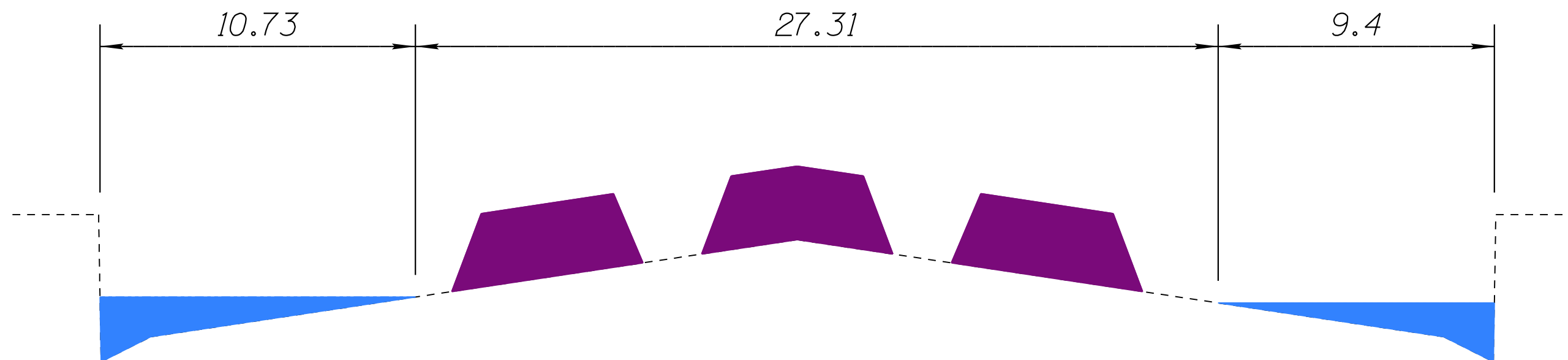
10 YEAR STORM, EXISTING CONDITIONS, WEST LOCATION



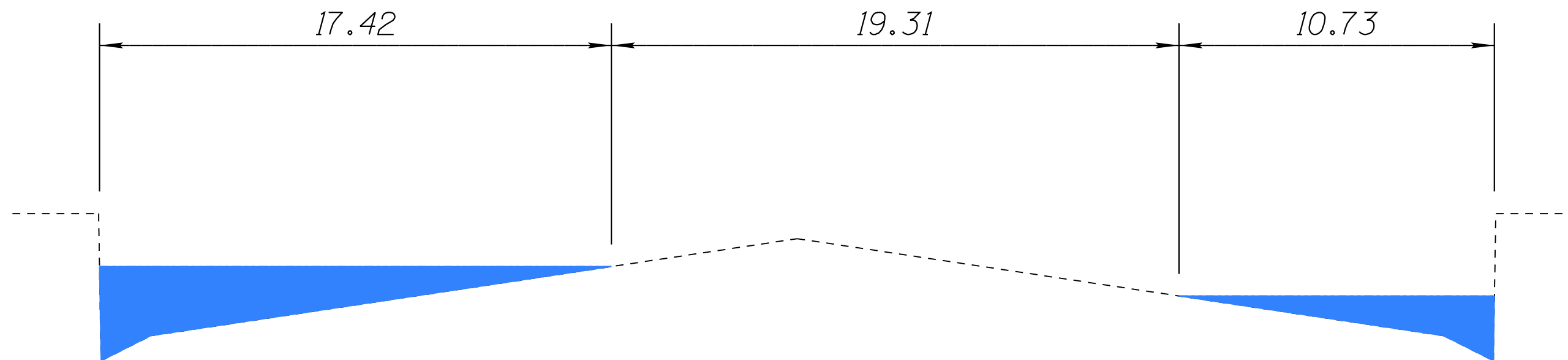
10 YEAR STORM, EXISTING CONDITIONS, EAST LOCATION



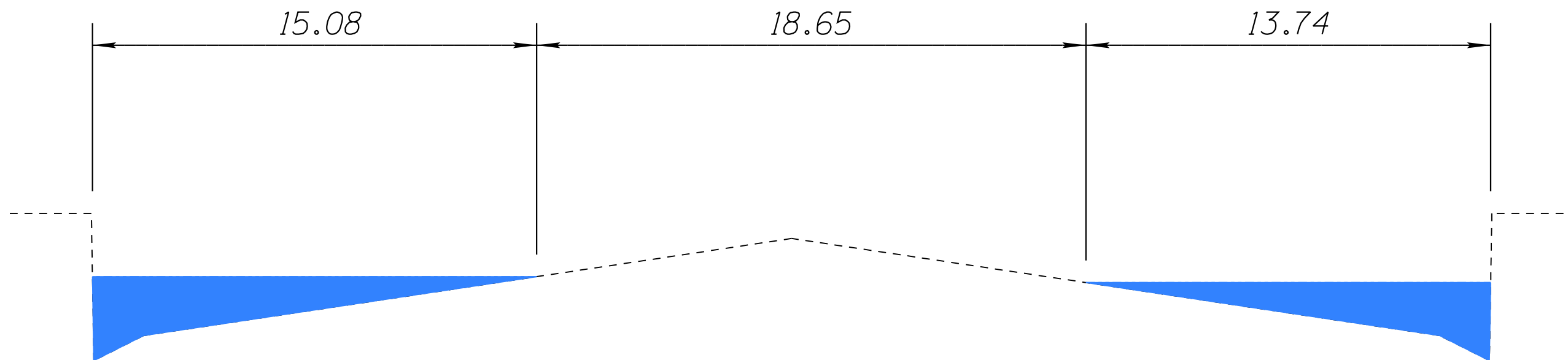
10 YEAR STORM, PROPOSED CONDITIONS, WEST LOCATION



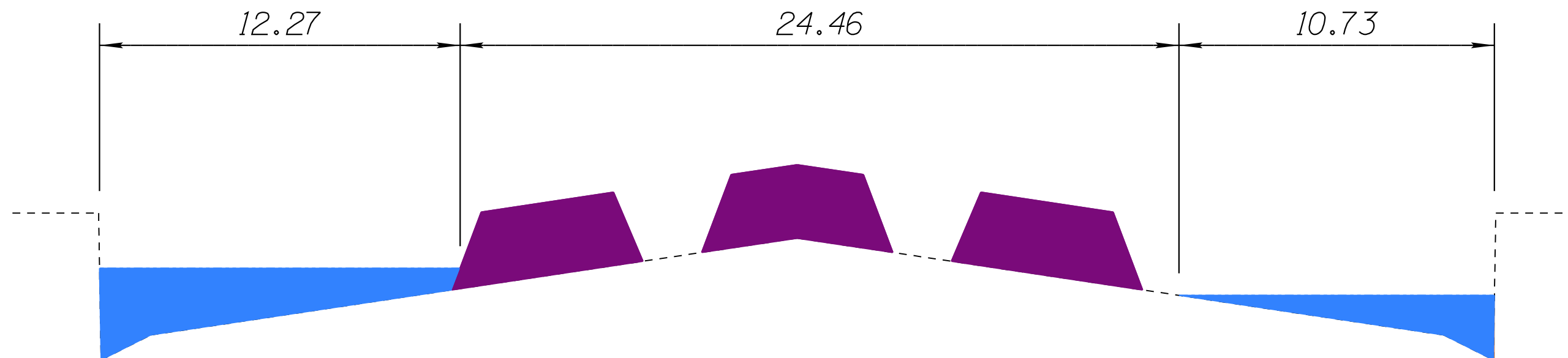
10 YEAR STORM, PROPOSED CONDITIONS, EAST LOCATION



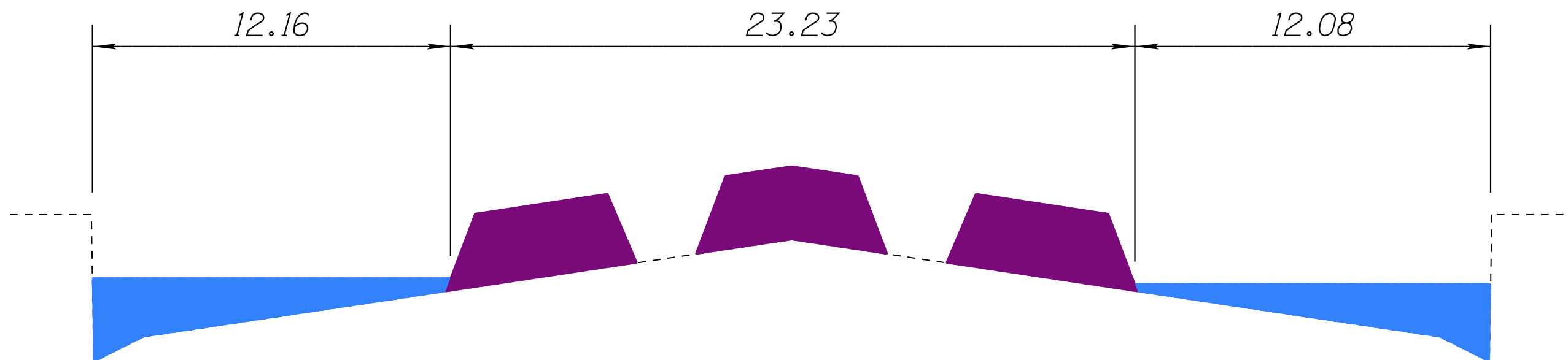
100 YEAR STORM, EXISTING CONDITIONS, WEST LOCATION



100 YEAR STORM, EXISTING CONDITIONS, EAST LOCATION



100 YEAR STORM, PROPOSED CONDITIONS, WEST LOCATION



100 YEAR STORM, PROPOSED CONDITIONS, EAST LOCATION

SCOTTSDALE TRANSPORTATION COMMISSION REPORT



To: Transportation Commission
From: Parker Murphy, Traffic Engineer
Subject: NTMP – Lafayette Boulevard Speed Cushions
Meeting Date: September 15, 2022

Action:

Approve the installation of traffic calming speed cushions on Lafayette Boulevard between 66th Street and 68th Street. Attachment 1 shows the approximate locations of the proposed devices.

Purpose:

It is required that the Transportation Commission review and approve all Neighborhood Traffic Management Program (NTMP) requests for the installation of traffic calming devices. The Lafayette residents successfully completed the petition through the NTMP.

Information:

A request for traffic calming on Lafayette Boulevard, west of 68th Street, was submitted on December 12, 2021. Staff contacted resident with NTMP information the same day and received a completed Interest Form on January 18, 2022.

Lafayette Boulevard is a residential collector roadway that provides access to Arcadia and is a potential alternative to Camelback Road and Indian School Road into and out of Scottsdale during times of congestion along the major street network. Cut-through traffic tend to travel at greater speeds to avoid further delay on their route which can cause concern for local, neighborhood traffic and its residents.

Speed and volume data were collected on February 2, 2022, in two locations along Lafayette Boulevard. The data is shown in Tables 1 and 2 below –

25 MPH zone	Daily Traffic Volume	% of Vehicles 30mph or more	% of Vehicles 35 mph or more
NTMP Required	500 min, 3000 max	40%	20%
Measured	2498	67%	28%

Table 1: Speed and Volume count, east of Calle Redondo

30 MPH zone	Daily Traffic Volume	% of Vehicles 35mph or more	% of Vehicles 40 mph or more
NTMP Required	500 min, 3000 max	40%	20%
Measured	2615	40%	14%

Table 2: Speed and Volume count, west of Calle Redondo

As shown in the tables above, both of the speed thresholds as outlined in the NTMP were met in the 25-MPH zone on Lafayette Boulevard, but only one (vehicles 5MPH or more over) was met in the 30-MPH zone on the subject roadway. However, due to the location of the speed limit change and the character of the roadway, it was determined that implementation of a traffic calming device should be considered in the immediate vicinity of the speed limit change. Further traffic calming within the 30-MPH zone would require an additional request/study.

Traffic Engineering reached out to City of Scottsdale Fire Department regarding the potential installation and no preliminary comments were given.

Traffic Engineering, working with Capital Projects, developed a preliminary drainage impact report. Stormwater Management found the analysis to be acceptable and would have minimal hydraulic impacts resulting from the proposed traffic calming devices.

Recommendation:

Staff recommends that the petition for traffic calming on Lafayette Boulevard, between 66th Street and 68th Street be accepted. Staff recommends two (2) sets of speed cushions be installed at the locations shown in Attachment 1. The estimated cost for construction of the two speed cushions is approximately \$5,774.

Staff Contact: Parker Murphy, 480-312-7802, PMurphy@ScottsdaleAZ.gov

Attachments:

-
1. Speed Cushion Layout Exhibit
 2. Lafayette & 68th Drainage Report



PRELIMINARY EXHIBIT
NOT TO SCALE
NOT FOR CONSTRUCTION



PRELIMINARY EXHIBIT
 NOT TO SCALE
 NOT FOR CONSTRUCTION

PRELIMINARY EXHIBIT
 NOT TO SCALE
 NOT FOR CONSTRUCTION



Public Works, Capital Project Management

John Dowell, PE, Senior Civil Engineer
 7447 E. Indian School Road, Suite 205
 Scottsdale, AZ 85251

PHONE 480-312-2776
 WEB ScottsdaleAZ.gov

Date: March 24th, 2022
To: Roy Herrington, PE
From: John Dowell, PE
Subject: Lafayette Boulevard Speed Cushion Drainage Study

The City of Scottsdale Transportation Department is evaluating the installation of speed cushions at two locations along Lafayette Boulevard, on either side of Calle Redondo (Attachment A). As part of the evaluation, I have been asked to perform a drainage study to determine the impacts of the speed cushions on the drainage of Lafayette Boulevard. This memo provides details and results of the study.

Hydrology & Hydraulics

The 100-year peak discharge for the two locations was taken from the Maricopa County Flood Control District Flo2D Model (Attachment B). Planimetric and topographic information was extracted from MicroStation 3D files gathered from the Maricopa County Flood Control District. Cross sections were cut every 25 feet beginning approximately 50 feet downstream of the proposed speed cushion and extending approximately 150 feet upstream of the proposed speed cushion. The cross sections were imported into the hydraulic modeling software, HEC-RAS. Using the 100- year peak discharges, the model was run with the existing conditions at each location. The existing geometry was then altered to include the speed cushions, and the model was re-run.

Results & Conclusions

East Location

At the proposed location east of Calle Redondo, the 100-year storm event was mostly contained within the curb limits, and entirely within the right of way. The results of the HEC-RAS model indicate that the speed cushions will cause a very small rise in the water surface elevation ($\pm 1/4$ inch) upstream of the speed cushion for about 100 feet. This rise is still contained within the curb limits and right of way like the existing conditions.

West Location

At the proposed location west of Calle Redondo, the 100-year storm event was not contained within the curb limits. The model drew a vertical wall to contain the flow. While in real life there wouldn't be a wall, if the modeled wall remains the same between the existing condition and proposed condition, then we can evaluate the impact of the proposed speed cushions. The results of the HEC-RAS model indicate that the speed cushions are mostly above water surface elevation in both the existing and proposed conditions. Thus, there is not an impact on the water surface elevation from the installation of the speed cushions.

The HEC-RAS model results are included in Attachment C.

ATTACHMENT A – LOCATION MAPS



East
Location

PRELIMINARY EXHIBIT
NOT TO SCALE
NOT FOR CONSTRUCTION



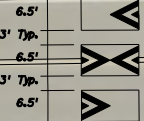
West
Location

PRELIMINARY EXHIBIT
NOT FOR CONSTRUCTION

6614

6622

6615



LAFAYETTE BOULEVARD

66TH STREET

PRELIMINARY EXHIBIT
NOT FOR CONSTRUCTION

ATTACHMENT B – PEAK DISCHARGE – FLO2D MODEL

Address or APN

Layer List

Operational Layers

- General Layers
- Lower Indian Bend Wash
- South 100YR6HR
- Model Boundary
- Grid Boundaries
- Labels
- Flow Direction @ Peak Discharge
- Pre-Defined Floodplain X-Sections
- Model Results - Rasters
- Peak Discharge

- <1
- >1 - 5
- >5 - 10
- >10 - 25
- >25 - 50
- >50 - 75
- >75 - 100
- >100 - 150
- >150 - 200
- >200 - 500
- >500

Maximum Water Surface Elevation (ft)



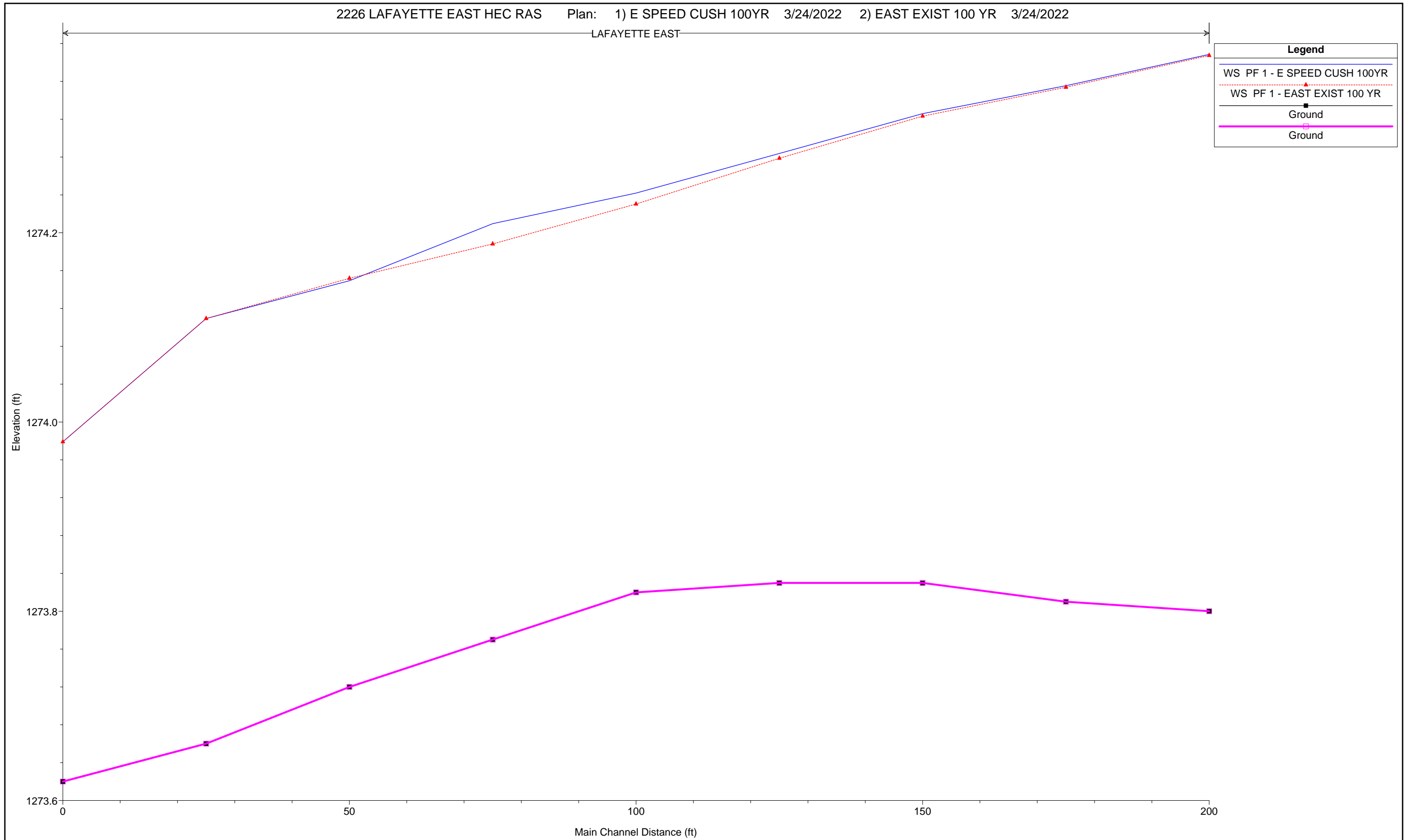
West Location

Qp=10.16cfs + 17.35 cfs
Qp=27.51 cfs

ATTACHMENT C – HEC-RAS MODEL RESULTS

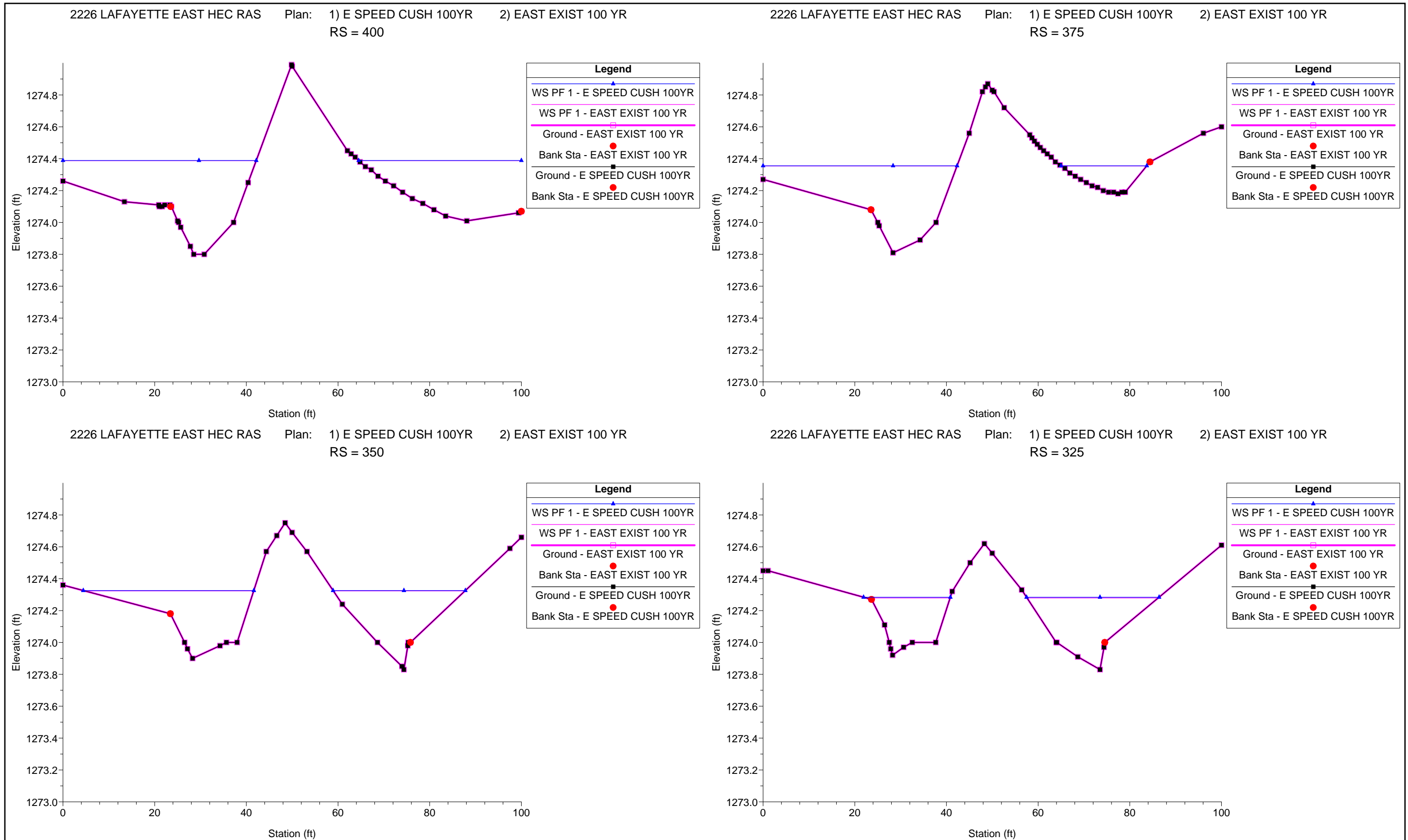
2226 LAFAYETTE EAST HEC RAS Plan: 1) E SPEED CUSH 100YR 3/24/2022 2) EAST EXIST 100 YR 3/24/2022

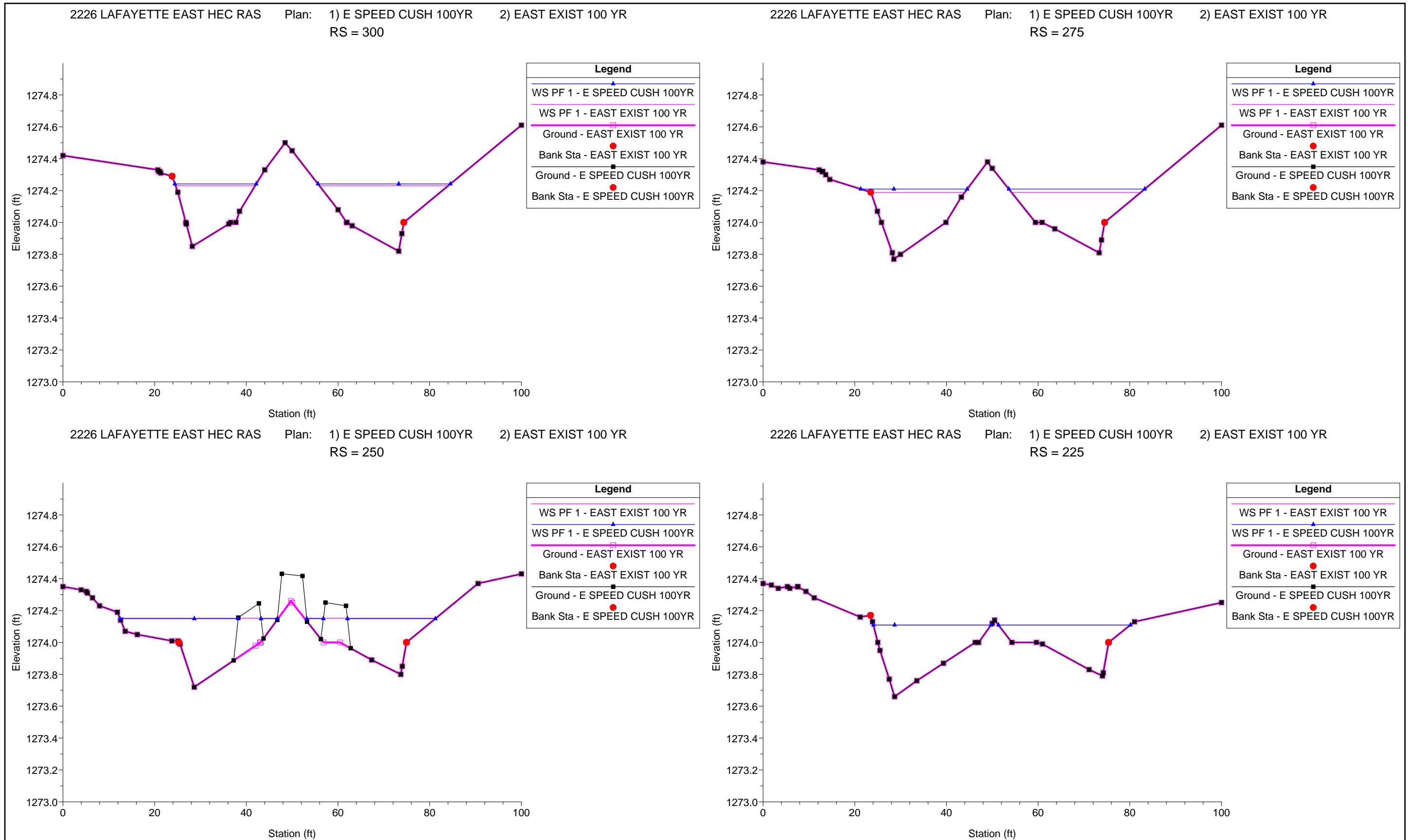
LAFAYETTE EAST



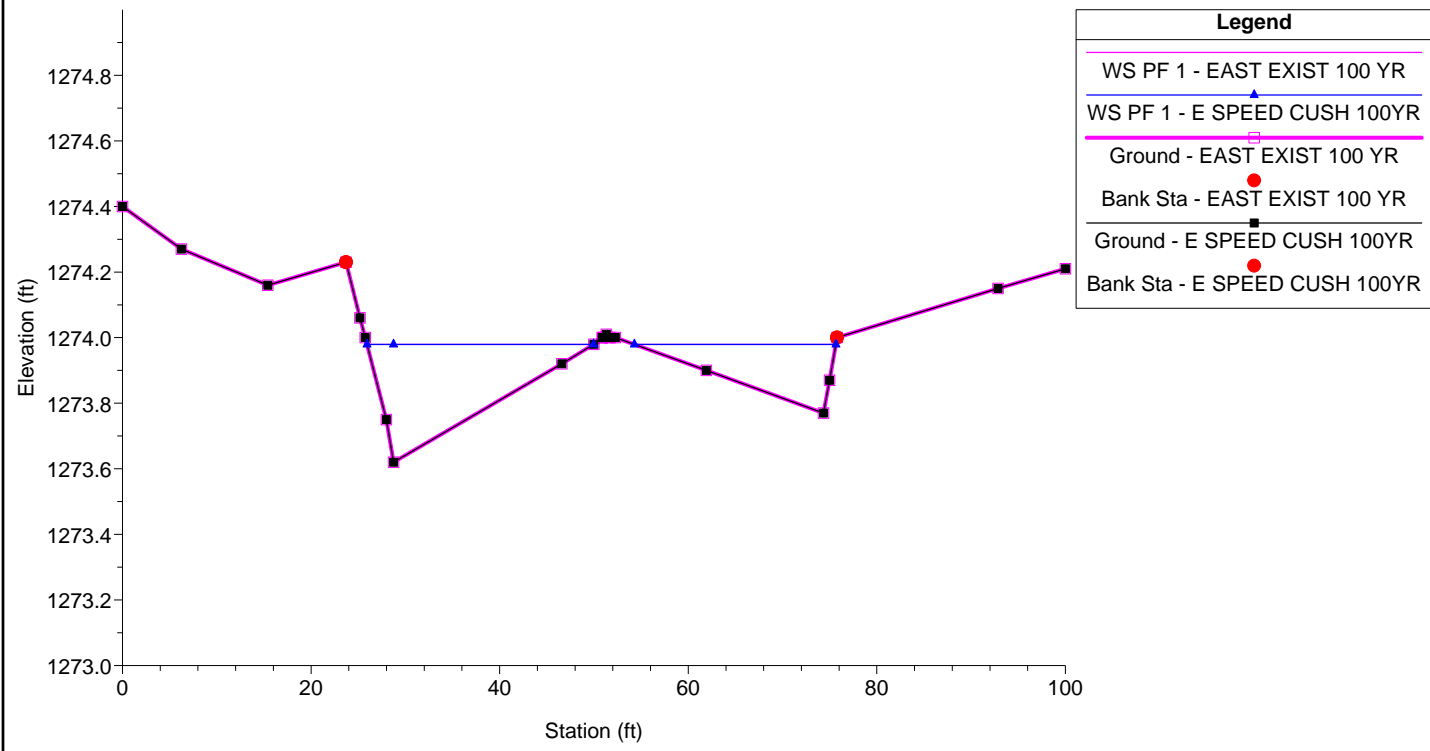
HEC-RAS River: LAFAYETTE Reach: EAST Profile: PF 1

Reach	River Sta	Profile	Plan	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
EAST	400	PF 1	E SPEED CUSH 100YR	14.02	1273.80	1274.39		1274.40	0.000310	0.75	22.41	77.66	0.24
EAST	400	PF 1	EAST EXIST 100 YR	14.02	1273.80	1274.39		1274.40	0.000314	0.76	22.32	77.60	0.24
EAST	375	PF 1	E SPEED CUSH 100YR	14.02	1273.81	1274.36		1274.38	0.001376	1.35	13.43	61.04	0.48
EAST	375	PF 1	EAST EXIST 100 YR	14.02	1273.81	1274.35		1274.38	0.001402	1.36	13.32	60.88	0.48
EAST	350	PF 1	E SPEED CUSH 100YR	14.02	1273.83	1274.33		1274.35	0.001039	1.30	13.43	66.07	0.43
EAST	350	PF 1	EAST EXIST 100 YR	14.02	1273.83	1274.32		1274.35	0.001070	1.32	13.25	65.53	0.43
EAST	325	PF 1	E SPEED CUSH 100YR	14.02	1273.83	1274.28		1274.32	0.001607	1.51	10.57	47.84	0.52
EAST	325	PF 1	EAST EXIST 100 YR	14.02	1273.83	1274.28		1274.31	0.001708	1.54	10.33	46.81	0.54
EAST	300	PF 1	E SPEED CUSH 100YR	14.02	1273.82	1274.24		1274.28	0.001706	1.51	10.25	46.66	0.54
EAST	300	PF 1	EAST EXIST 100 YR	14.02	1273.82	1274.23		1274.27	0.001955	1.59	9.71	45.47	0.57
EAST	275	PF 1	E SPEED CUSH 100YR	14.02	1273.77	1274.21		1274.24	0.001334	1.33	11.28	52.89	0.47
EAST	275	PF 1	EAST EXIST 100 YR	14.02	1273.77	1274.19		1274.22	0.001740	1.46	10.19	48.63	0.53
EAST	250	PF 1	E SPEED CUSH 100YR	14.02	1273.72	1274.15		1274.19	0.002280	1.70	9.74	52.18	0.61
EAST	250	PF 1	EAST EXIST 100 YR	14.02	1273.72	1274.15		1274.18	0.001511	1.35	11.93	63.23	0.50
EAST	225	PF 1	E SPEED CUSH 100YR	14.02	1273.66	1274.11	1274.03	1274.14	0.001764	1.36	10.52	54.47	0.53
EAST	225	PF 1	EAST EXIST 100 YR	14.02	1273.66	1274.11	1274.03	1274.14	0.001764	1.36	10.52	54.47	0.53
EAST	200	PF 1	E SPEED CUSH 100YR	14.02	1273.62	1273.98	1273.98	1274.05	0.007129	2.15	6.52	45.40	1.00
EAST	200	PF 1	EAST EXIST 100 YR	14.02	1273.62	1273.98	1273.98	1274.05	0.007129	2.15	6.52	45.40	1.00



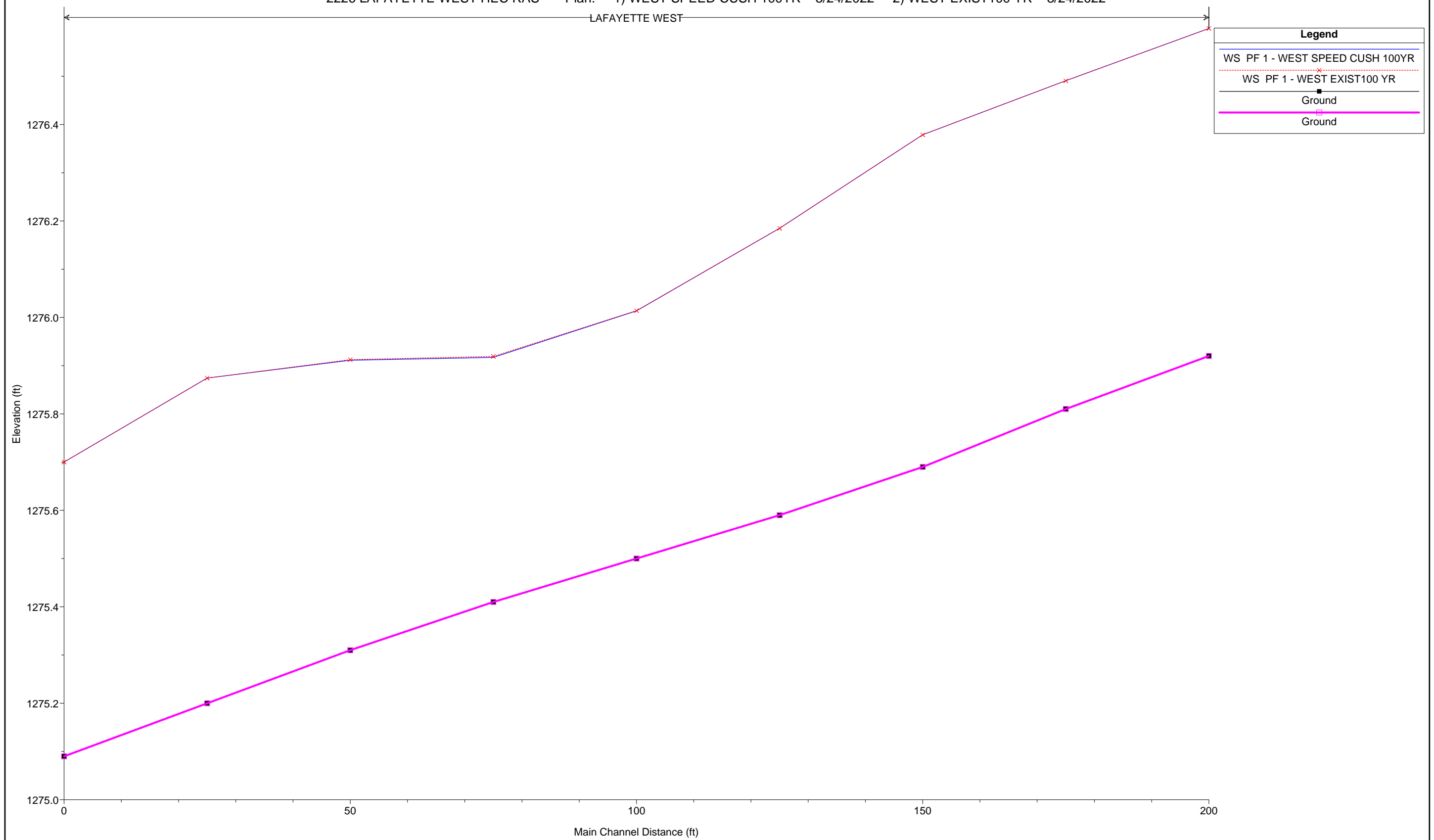


2226 LAFAYETTE EAST HEC RAS Plan: 1) E SPEED CUSH 100YR 2) EAST EXIST 100 YR
RS = 200



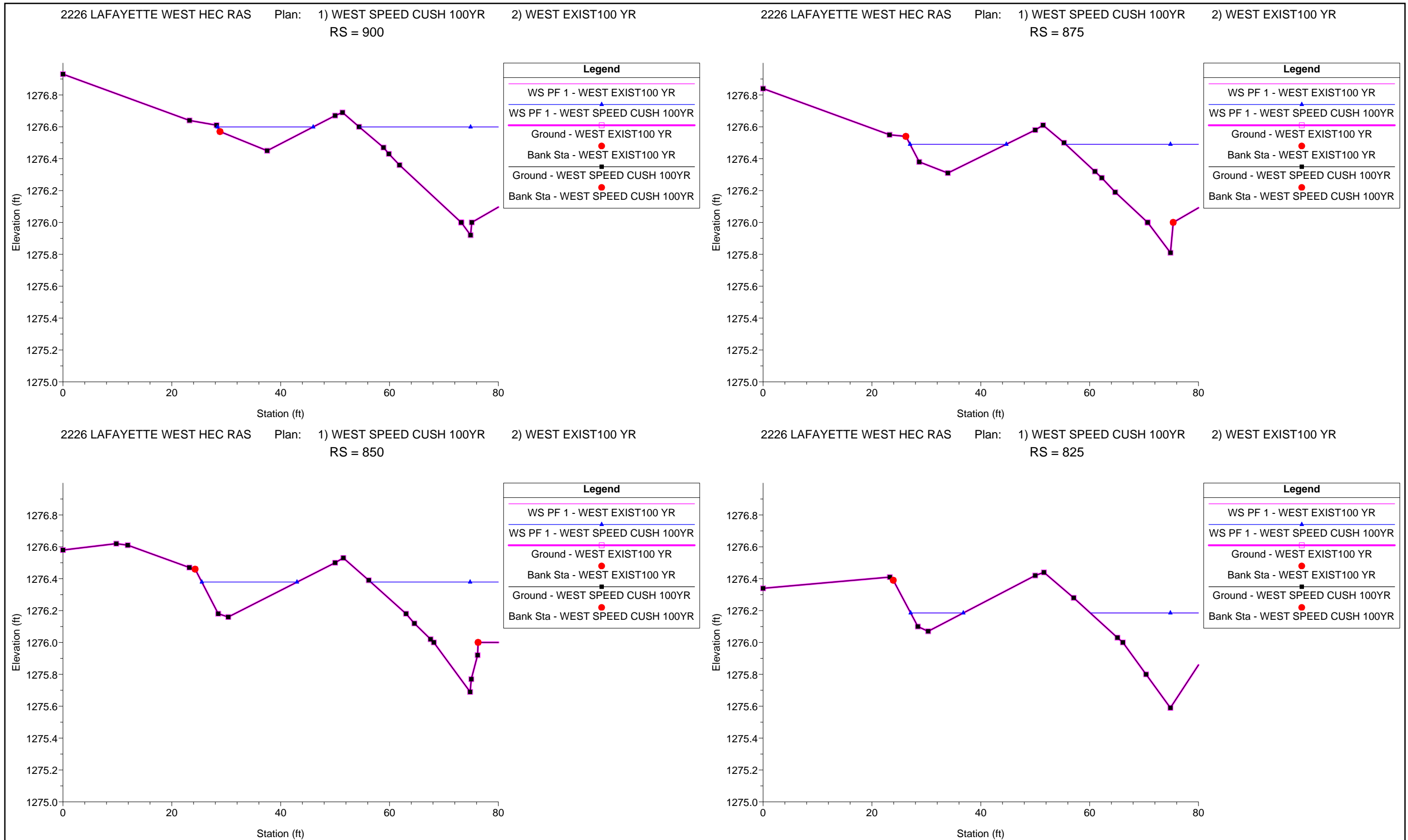
2226 LAFAYETTE WEST HEC RAS Plan: 1) WEST SPEED CUSH 100YR 3/24/2022 2) WEST EXIST100 YR 3/24/2022

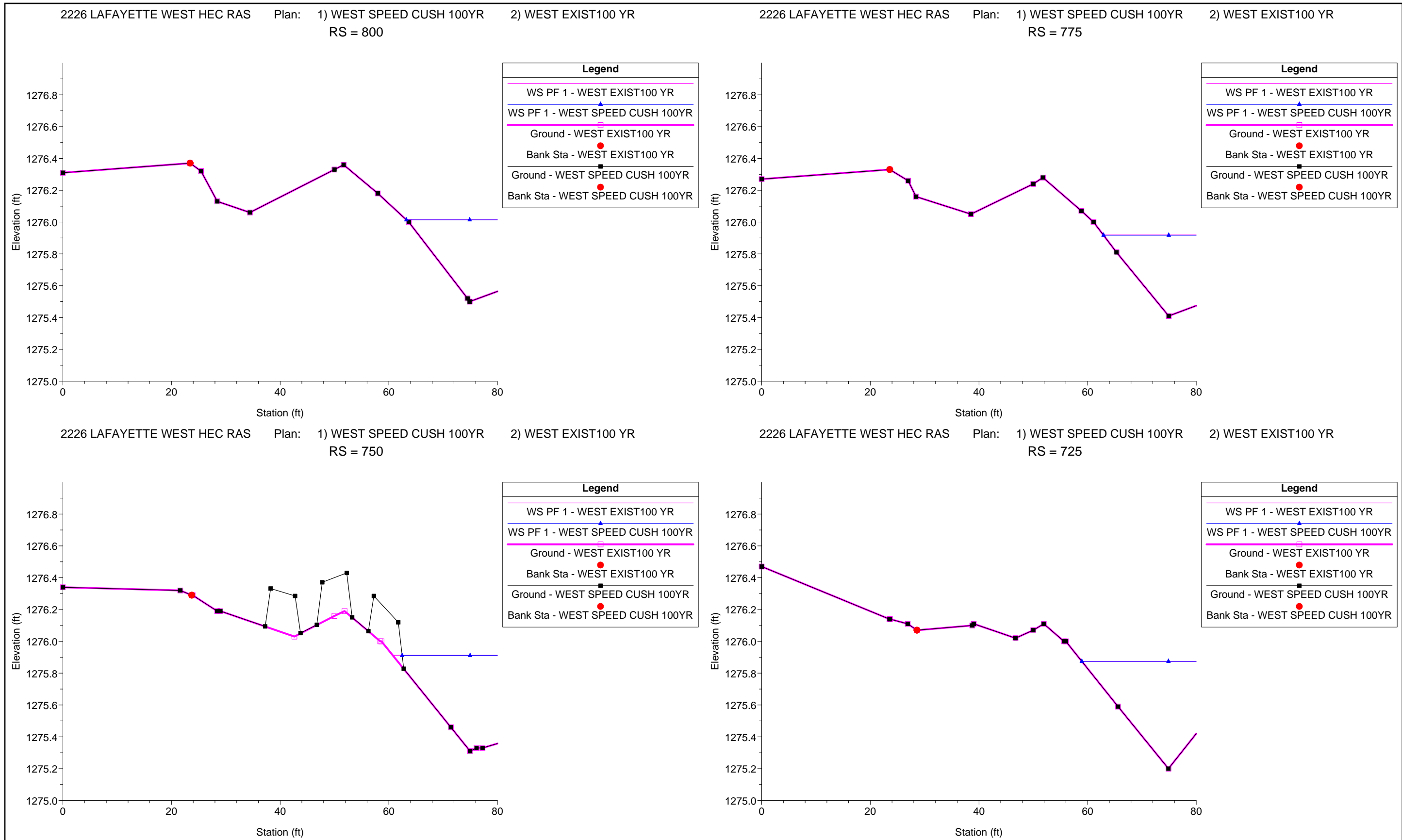
LAFAYETTE WEST



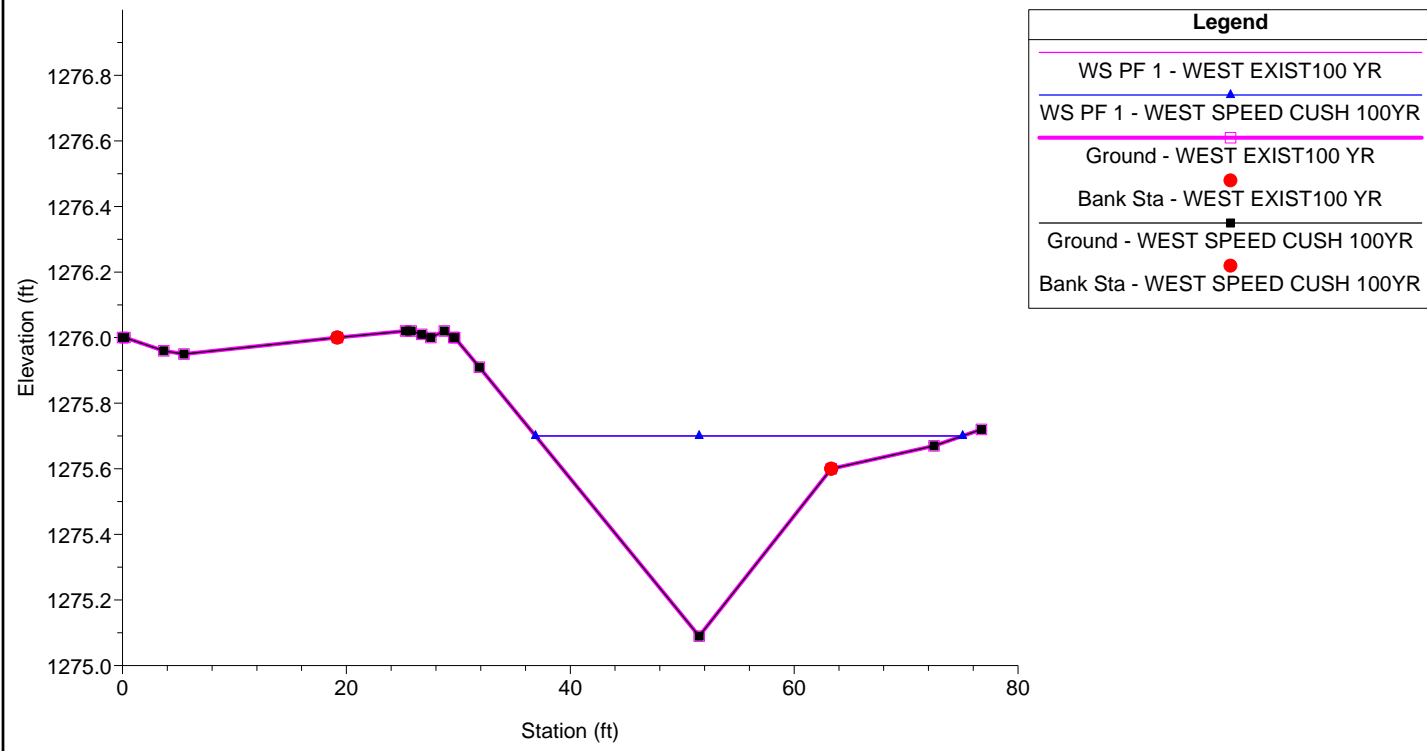
HEC-RAS River: LAFAYETTE Reach: WEST Profile: PF 1

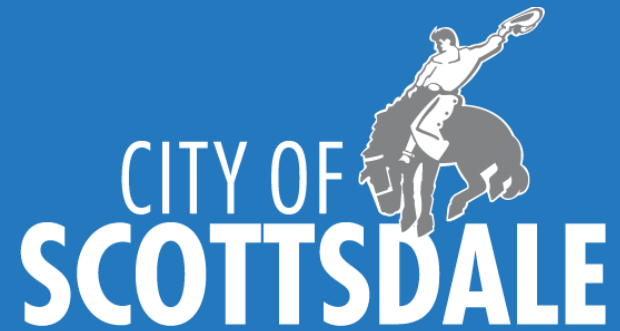
Reach	River Sta	Profile	Plan	Q Total (cfs)	Min Ch El (ft)	W.S. Elev (ft)	Crit W.S. (ft)	E.G. Elev (ft)	E.G. Slope (ft/ft)	Vel Chnl (ft/s)	Flow Area (sq ft)	Top Width (ft)	Froude # Chl
WEST	900	PF 1	WEST SPEED CUSH 100YR	27.51	1275.92	1276.60		1276.64	0.001722	1.61	17.04	63.14	0.55
WEST	900	PF 1	WEST EXIST100 YR	27.51	1275.92	1276.60		1276.64	0.001722	1.61	17.04	63.14	0.55
WEST	875	PF 1	WEST SPEED CUSH 100YR	27.51	1275.81	1276.49		1276.57	0.005354	2.48	15.09	62.11	0.93
WEST	875	PF 1	WEST EXIST100 YR	27.51	1275.81	1276.49		1276.57	0.005354	2.48	15.09	62.11	0.93
WEST	850	PF 1	WEST SPEED CUSH 100YR	27.51	1275.69	1276.38	1276.32	1276.44	0.004405	2.31	16.14	60.93	0.85
WEST	850	PF 1	WEST EXIST100 YR	27.51	1275.69	1276.38	1276.32	1276.44	0.004405	2.31	16.14	60.93	0.85
WEST	825	PF 1	WEST SPEED CUSH 100YR	27.51	1275.59	1276.19	1276.19	1276.30	0.006981	2.97	12.03	49.54	1.08
WEST	825	PF 1	WEST EXIST100 YR	27.51	1275.59	1276.19	1276.19	1276.30	0.006981	2.97	12.03	49.54	1.08
WEST	800	PF 1	WEST SPEED CUSH 100YR	27.51	1275.50	1276.01		1276.10	0.002855	2.36	11.88	36.76	0.73
WEST	800	PF 1	WEST EXIST100 YR	27.51	1275.50	1276.01		1276.10	0.002843	2.35	11.90	36.78	0.72
WEST	775	PF 1	WEST SPEED CUSH 100YR	27.51	1275.41	1275.92		1276.02	0.003654	2.75	12.84	37.06	0.83
WEST	775	PF 1	WEST EXIST100 YR	27.51	1275.41	1275.92		1276.02	0.003585	2.74	12.92	37.11	0.82
WEST	750	PF 1	WEST SPEED CUSH 100YR	27.51	1275.31	1275.91		1275.96	0.001053	1.71	16.13	37.53	0.46
WEST	750	PF 1	WEST EXIST100 YR	27.51	1275.31	1275.91		1275.96	0.001088	1.69	16.27	39.28	0.46
WEST	725	PF 1	WEST SPEED CUSH 100YR	27.51	1275.20	1275.87		1275.93	0.001438	1.81	15.21	41.07	0.52
WEST	725	PF 1	WEST EXIST100 YR	27.51	1275.20	1275.87		1275.93	0.001438	1.81	15.21	41.07	0.52
WEST	700	PF 1	WEST SPEED CUSH 100YR	27.51	1275.09	1275.70	1275.70	1275.85	0.005115	3.15	9.29	38.16	0.97
WEST	700	PF 1	WEST EXIST100 YR	27.51	1275.09	1275.70	1275.70	1275.85	0.005115	3.15	9.29	38.16	0.97





2226 LAFAYETTE WEST HEC RAS Plan: 1) WEST SPEED CUSH 100YR 2) WEST EXIST100 YR
RS = 700





Transportation Commission

Lafayette Boulevard Speed Cushions


DATE: September 15, 2022

Agenda


- NTMP Overview
- Site Location
- Data Overview
- Petition Map
- Recommended Speed Cushion Location(s)
- Recommendation and Requested Action

NTMP Overview

Volume and Speed Criteria		
Traffic Calming Device	Volume Criteria (vpd)	Speed Criteria
Vertical Realignment	500 to 3,000 vpd	40% 5 mph or more above Speed Limit. 20% 10 mph or more above Speed Limit.
Horizontal Realignment	500 to 3,000 vpd	40% 5 mph or more above Speed Limit. 20% 10 mph or more above Speed Limit.
Speed Feedback Sign	More than 1,000 vpd	30% 5 mph or more above Speed Limit. 15% 10 mph or more above Speed Limit
Route Restrictions	500 to 2,000 vpd	40% 5 mph or more above Speed Limit. 20% 10 mph or more above Speed Limit.




Traffic Engineering
Transportation & Streets
Department
7447 E. Indian School Road
Suite 205
Scottsdale, Arizona 85251
480-312-7250



Neighborhood Traffic Management Policy

Updated: April 2021



Site Location



- Collector from Arcadia
- Cut-through to avoid back ups on Indian School Road and Camelback Road
- 30 MPH and 25 MPH transition zone

Data Overview

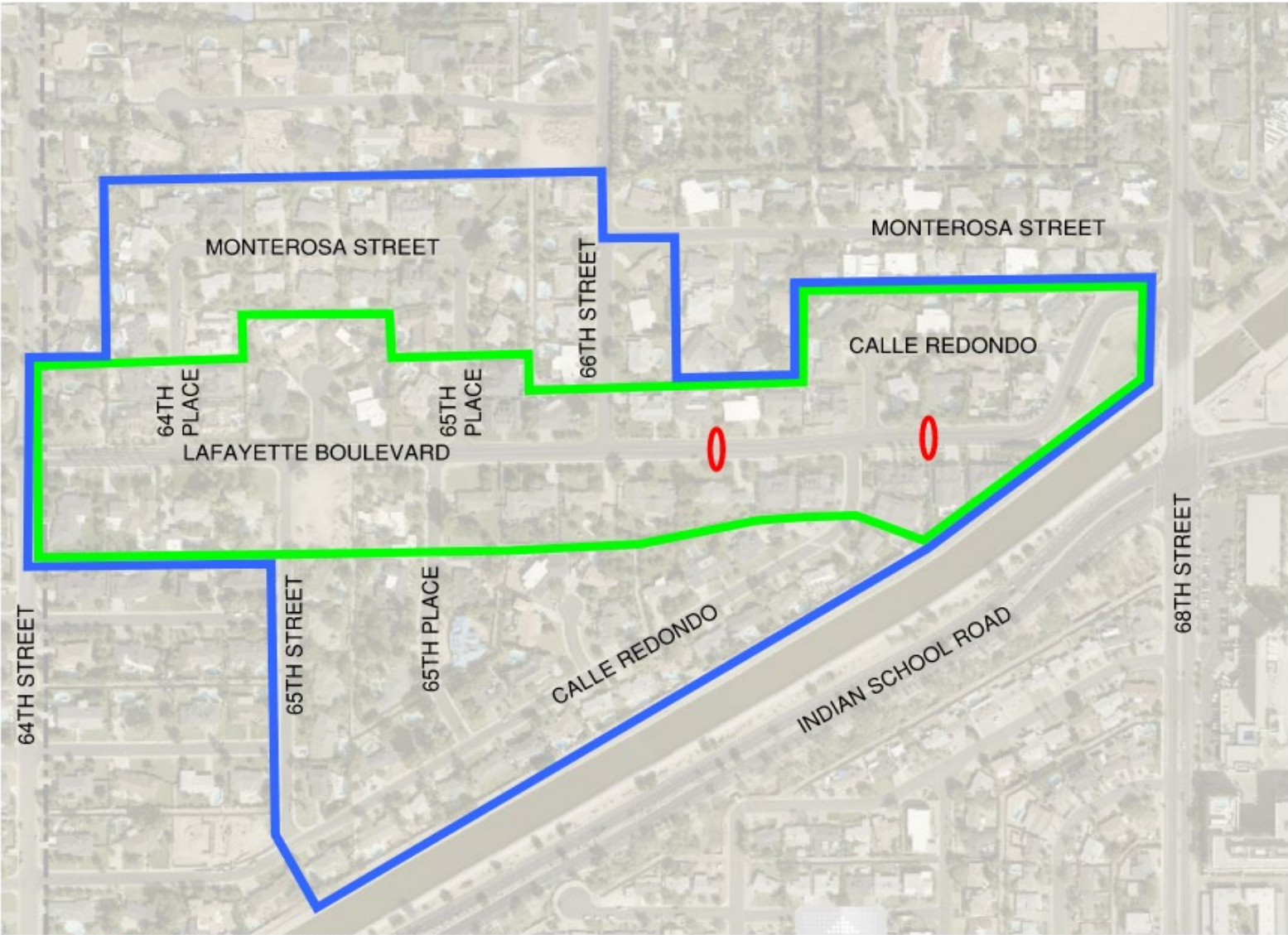
- Due to the proximity of the requested traffic calming location to a change in speed limit, one bi-directional count was completed in each zone in February 2022.




25 MPH zone	Daily Traffic Volume	% of Vehicles 30mph or more	% of Vehicles 35 mph or more
NTMP Required	500 min, 3,000 max	40%	20%
Measured	2498	67%	28%

30 MPH zone	Daily Traffic Volume	% of Vehicles 35mph or more	% of Vehicles 40 mph or more
NTMP Required	500 min, 3,000 max	40%	20%
Measured	2,615	40%	14%

- As shown, the 25 MPH zone met all criteria while the 30 MPH zone met only one of the speed criteria.
 - One speed cushion is proposed for each zone in close proximity to the speed limit change. Additional speed cushions in the 30 MPH would require additional study.

Petition Map

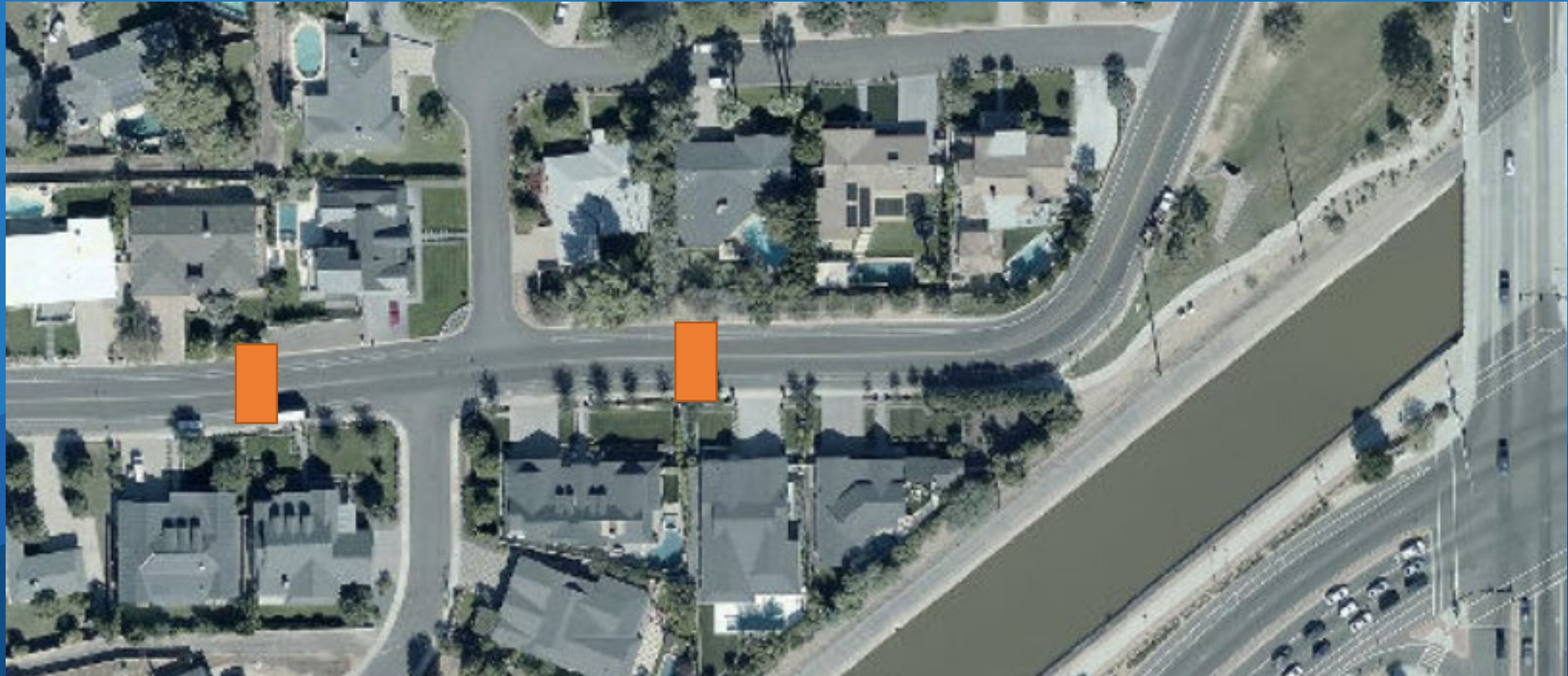


-  Traffic Calming Device/Location
-  Notification Area
-  Affected Area



Recommended Speed Cushion Location(s)

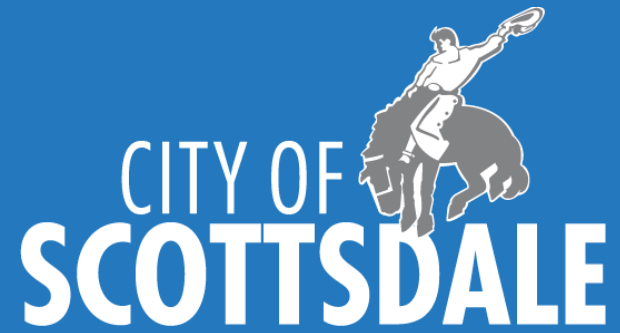
- Staff recommends two (2) speed cushions be installed at the locations shown below. The estimated cost for construction of the two speed cushions is approximately \$6,000.



Recommendation and Requested Action

- Staff recommends that the petition for traffic calming on Lafayette Boulevard, between 66th Street and 68th Street be accepted.

Questions ?



Transportation Commission

Oak Street Speed Cushions

DATE: September 15, 2022

Agenda

- Site Location
- Data Overview
- Petition Map
- Recommended Speed Cushion Location(s)
- Recommendation and Requested Action

Site Location



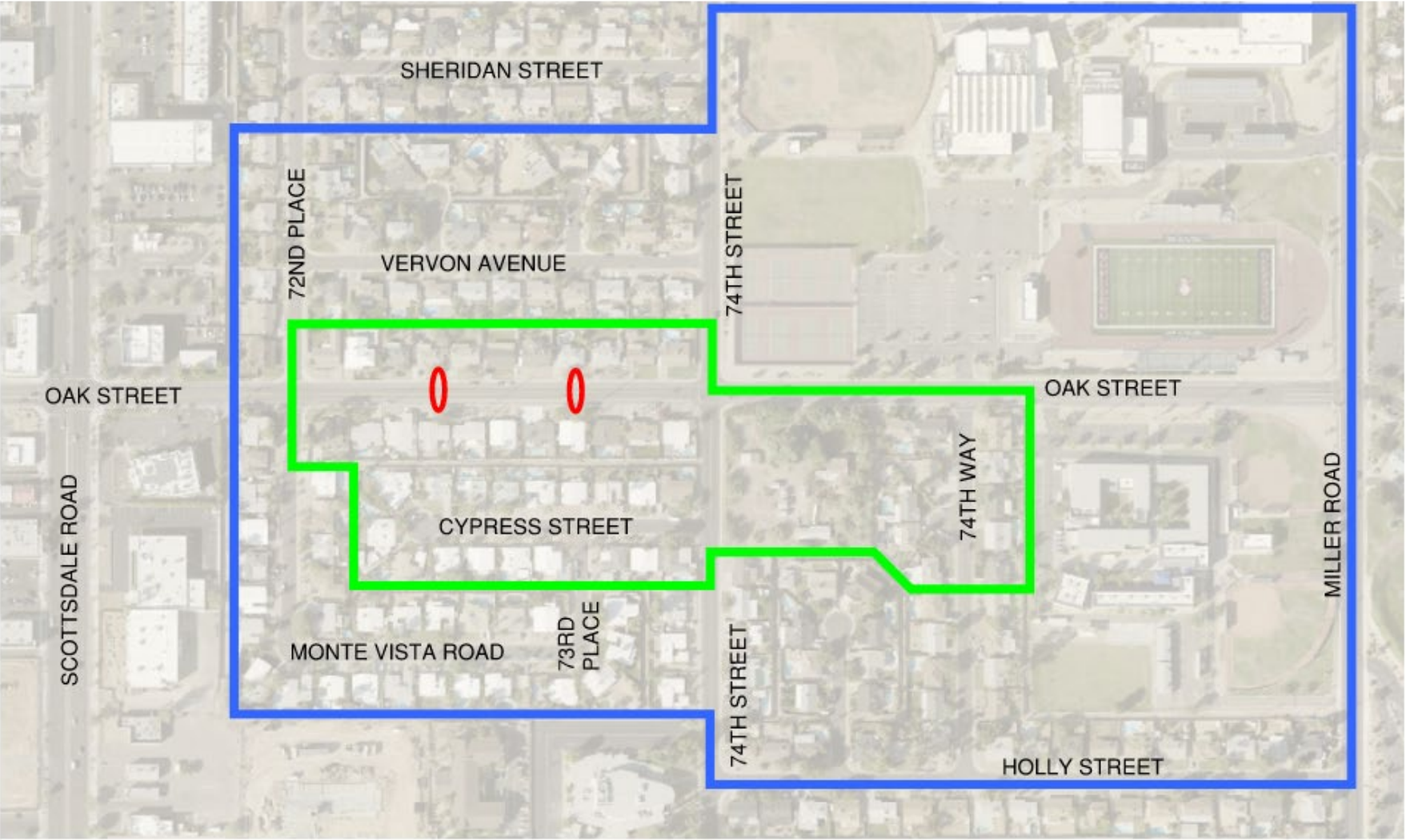
- Primary residential collector with signalized access to Scottsdale Road
- Serves Coronado High School




Data Overview

Total	Daily Traffic Volume	% of Vehicles 30mph or more	% of Vehicles 35 mph or more
NTMP Required	500 min, 3,000 max	40%	20%
Measured	2,706	69%	28%

- As shown in the data above, collected in March 2022, Oak Street, between 72nd Place and 74th Street, met all of the criteria for traffic calming.

Petition Map

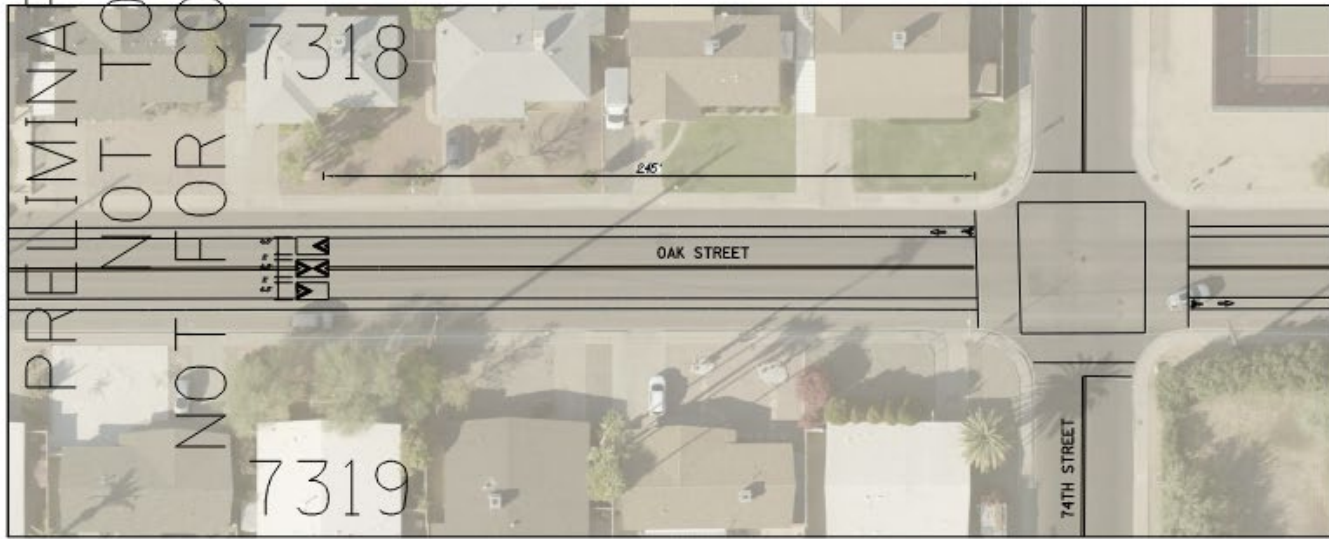


-  Traffic Calming Device/Location
-  Notification Area
-  Affected Area



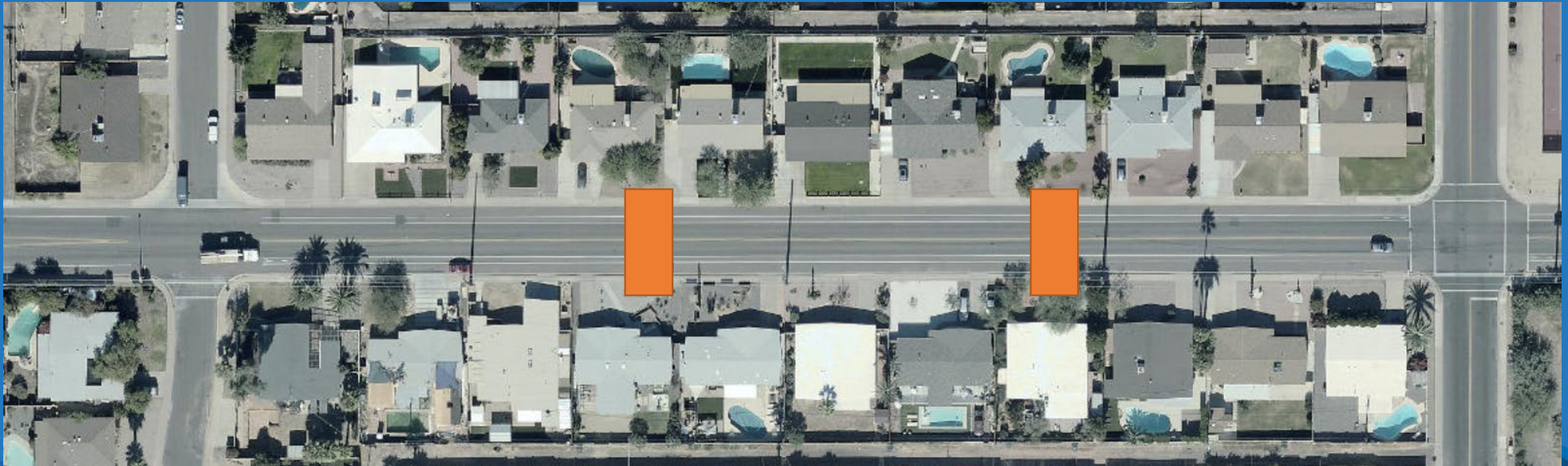
Recommended Speed Cushion Location(s)

PLOT DATE: 2/14/2022 6:33:05 AM



PRELIMINARY EXHIBIT
NOT TO SCALE
NOT FOR CONSTRUCTION

Recommended Speed Cushion Location(s)



- Staff recommends that two (2) speed cushions be installed at the locations shown above. The estimated cost for construction of the two speed cushions is approximately \$6,000.

Recommendation and Requested Action

- Staff recommends that the petition for traffic calming on Oak Street, between 72nd Place and 74th Street be accepted.

Questions ?

SCOTTSDALE TRANSPORTATION COMMISSION REPORT



To: Transportation Commission
From: Parker Murphy, Traffic Engineer
Subject: NTMP – Corriente Condominiums Variance Plea
Meeting Date: September 15, 2022

Action:

The Corriente Condominiums HOA Board is seeking a variance/exception for the installation of traffic calming devices on the Corriente Condominium/Silverado Golf Club access road through the Neighborhood Traffic Management Program (NTMP). The location/subject roadway is shown in Attachment 1.

Purpose:

Previous requests for traffic calming on this roadway through NTMP have shown that the speed thresholds are not met. The Corriente Condominium HOA Board is seeking an exception to move on to the Petition phase of the process.

Information:

A request for traffic calming on the Corriente Condominium/Silverado Golf Club access road, south of Indian Bend Road, was submitted on March 9, 2022. The access road provides access to the Corriente Condominiums, the Paradise View Villa Condominiums, and the Silverado Golf Course. The access road is not public right-of-way, but the City of Scottsdale has public access easements over it to secure access to the City owned golf course and the City maintains the street.

Staff contacted the resident and provided the results of a 2017 evaluation that showed that the traffic conditions did not meet the NTMP criteria. Staff initiated the collection of new data after receiving a completed interest form on May 13, 2022. The speed and volume data collected on May 21, 2022, at one location is shown in Table 1 –

	Daily Traffic Volume	% of Vehicles 30mph or more	% of Vehicles 35 mph or more
NTMP Required	500 min. 3000 max	40%	20%
Measured	662	13%	6%

Table 1: 2022 Speed and Volume count

As shown in the data above, neither of the speed thresholds outlined in the NTMP were met.

Staff previously collected data in 2017 at the same location. Table 2 below shows the data summary from the March 2017 collection –

2017 Data	Daily Traffic Volume	% of Vehicles 30mph or more	% of Vehicles 35 mph or more
NTMP Required	500 min. 3000 max	40%	20%
Measured	1001	7%	0.8%

Table 2: 2017 Speed and Volume count

As shown in the 2017 data, neither of the NTMP thresholds were met. Subsequent field observations and handheld speed surveys captured similar data as those shown above. Speed advisory signing and centerline striping were installed at/near the curve of the access road in May 2021 to address the resident concerns about high speeds and pedestrian crossing activity.

Traffic Engineering reached out to City of Scottsdale Fire Department regarding the requested installation and no preliminary comments were given.

No preliminary drainage impact report has been developed along this roadway for the requested devices.

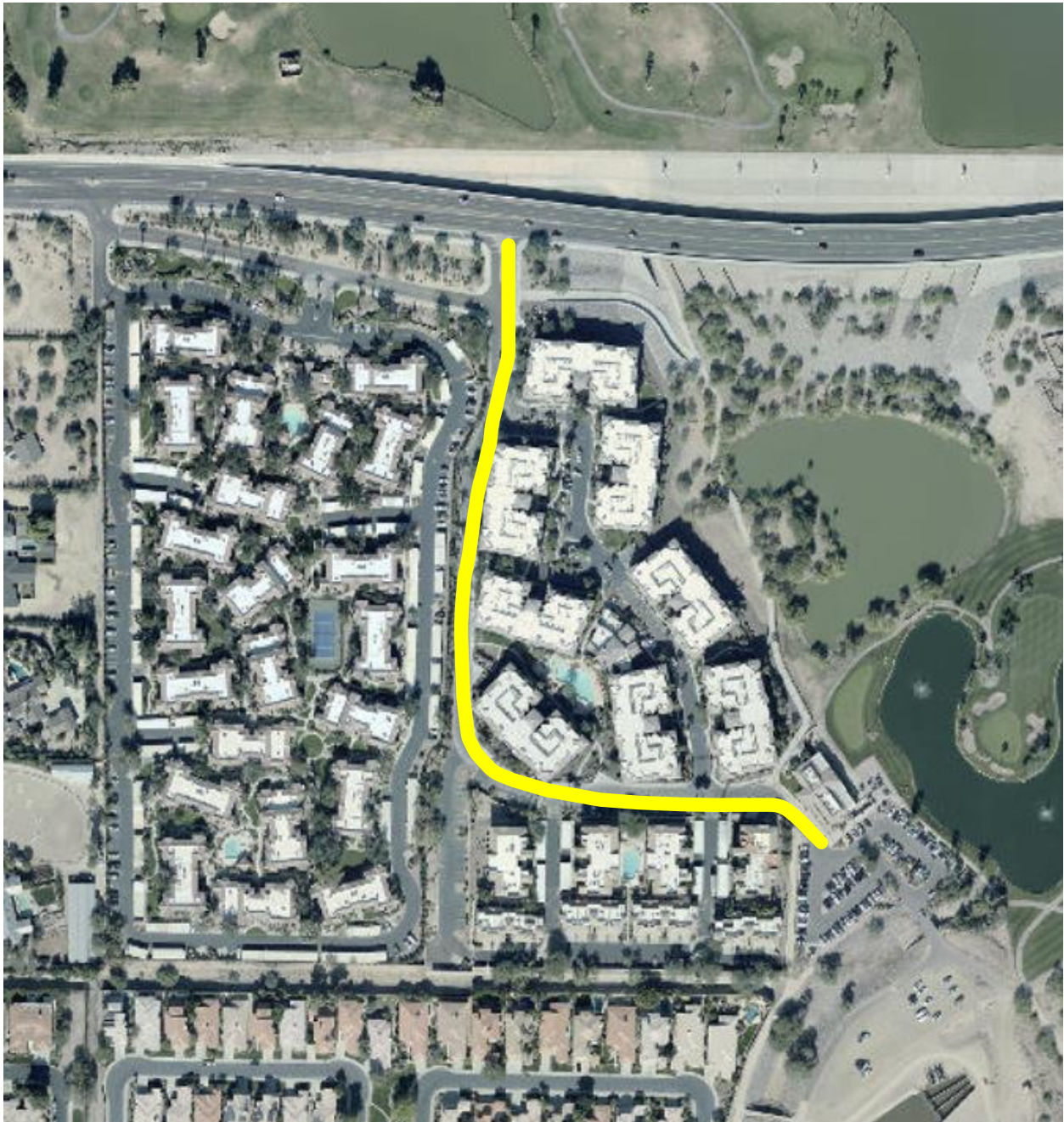
Recommendation:

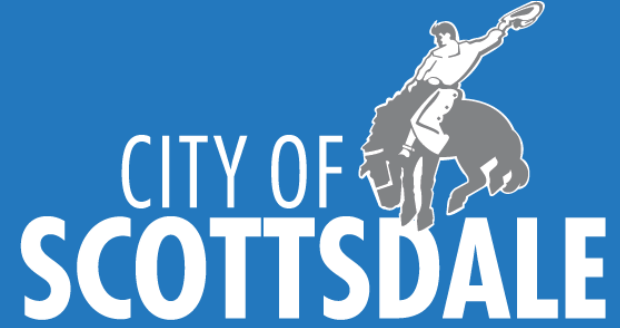
Staff does not recommend the installation of additional traffic and/or speed mitigation devices along the Corriente access roadway due to the collected data not meeting the thresholds outlined in the approved NTMP.

Staff Contact: Parker Murphy, 480-312-7802, PMurphy@ScottsdaleAZ.gov

Attachments:

-
1. Subject Roadway Exhibit





Transportation Commission

Corriente Condominiums NTMP Variance Plea

DATE: September 15, 2022

Agenda

- Site Location
- Data Overview
- Previous City Action
- Plea for Variance

Site Location



- Not City owned, but City maintained
- No direct residential driveways

Data Overview

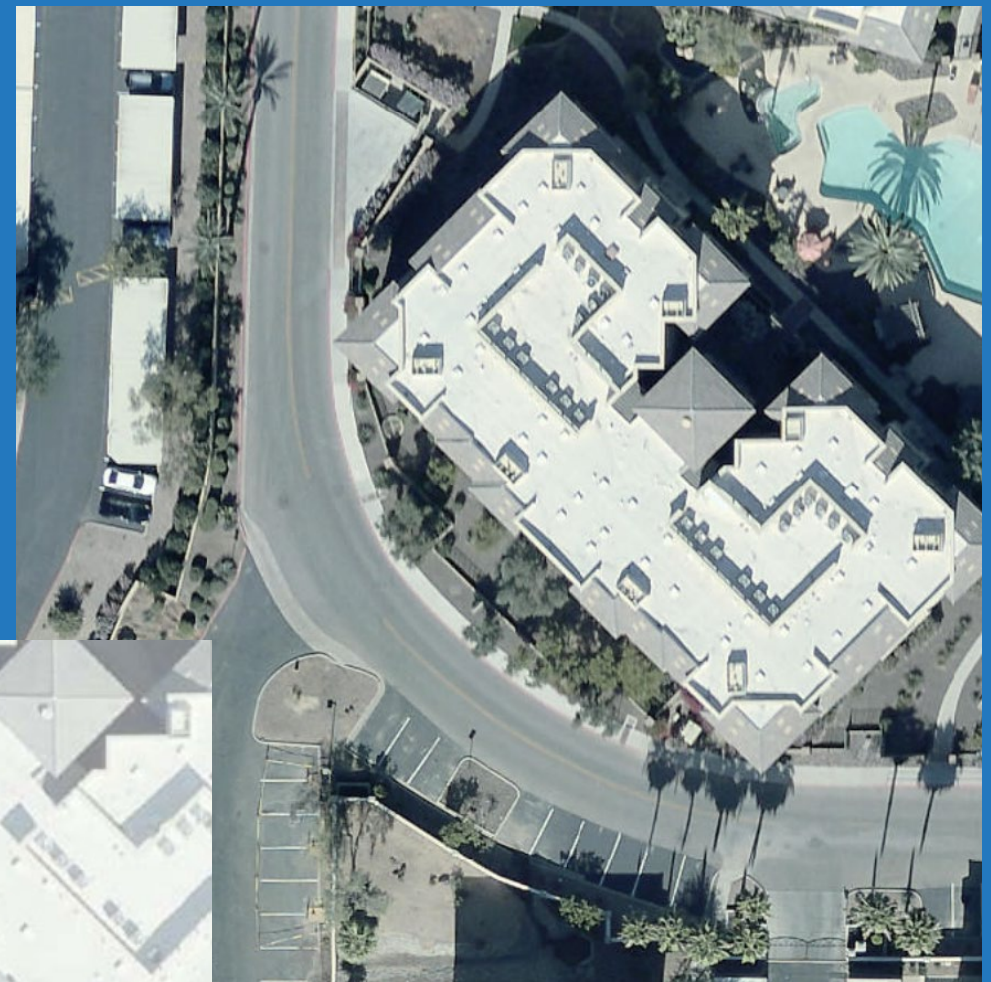
2022 Data	Daily Traffic Volume	% of Vehicles 30mph or more	% of Vehicles 35 mph or more
NTMP Required	500 min, 3,000 max	40%	20%
Measured	662	13%	6%

- As shown above from the data collected in May 2022, the Corriente/Silverado Golf Club access roadway does not meet either of the NTMP speed criteria.
- Data was also collected in March 2017, shown below –

2017 Data	Daily Traffic Volume	% of Vehicles 30mph or more	% of Vehicles 35 mph or more
NTMP Required	500 min, 3,000 max	40%	20%
Measured	1,001	7%	0.8%

Previous City Action

- New signing and marking around corners
 - Double yellow extended
 - Installation of curve signs with 20 MPH advisory speed (W1-1a)
 - Installed May 2021



Plea for Variance

- Sharon Gordon
 - Secretary for Corriente HOA Board of Directors

Recommendation and Requested Action

- Staff recommends that the City not deviate from the accepted guidelines established in the Neighborhood Traffic Management Policy document for the installation of traffic calming devices on public roadways.

Questions ?

TENTATIVE FUTURE AGENDA ITEMS

Rev.08-24-2022

All Items Subject to Change

TRANSPORTATION COMMISSION

MEETING DATE: September 15, 2022

REPORTS/PRESENTATIONS DUE September 8

- **Approval of Meeting Minutes** **Action**
Approval of Regular meeting minutes August 18, 2022
- **Loop 101 Princess Drive to Shea Boulevard Project** **Information**
Information on Loop 101 roadway improvements – John Tucker, Project Team AZDOT
- **Transportation Action Plan (TAP) Implementation: Corridors with partially reduced sidewalk widths.** **Discussion and Possible Action**
Outline and discuss the new concept and potential locations for reduced sidewalk widths in areas less likely to experience high volumes of pedestrians – Nathan Domme, Senior Transportation Planner
- **Neighborhood Traffic Management Program**..... **Discussion and Possible Action**
Review Lafayette Blvd. and Oak St. speed cushions – Parker Murphy, Traffic Engineer
- **HOA Exception from NTMP** **Discussion and Possible Action**
Discussion on exception for roadway access between two condominium buildings and the Silverado Golf Course – Parker Murphy, Traffic Engineer

MEETING DATE: October 20, 2022

REPORTS/PRESENTATIONS DUE October 13

- **Approval of Meeting Minutes** **Action**
Approval of Regular meeting minutes September 15, 2022
- **Sustainability Plan** **Information**
Introduction and information from the Sustainability Director on the Mobility Chapter of the Sustainability Plan – Lisa McNeilly, Sustainability Director
- **Jackrabbit Road Crossing Improvements** **Discussion and Possible Action**
Discussion on the analysis and recommendation of road crossing improvements on Jackrabbit Road – Kiran Guntupalli, Principal Traffic Engineer
- **Protected Bike Lane Pilot Locations** **Information**
Information on protected bike lines and their pilot locations – Susan Conklu, Senior Transportation Planner
- **Projects and Programs Update** **Discussion**
A continuing overview of Transportation & Streets divisions and programs/projects – Mark Melnychenko, Transportation & Streets Director

FUTURE ITEMS:

INFORMATION ITEMS

- **Urban Air Mobility** **Information**
Information on Urban Air Mobility as Mode of Transportation
- **Electric Car Movement**..... **Information**
Information on the electric car movement – Hong Huo, Traffic Engineer Principal
- **Shea and 124th Street Underpass** **Information**
Update on underpass – Susan Conklu, Senior Transportation Planner
- **Utilities Causing Project Delays**..... **Information**
Update on the delay's utility projects and how they are holding up project schedules and budgets- Mark Melnychenko, Transportation & Streets Director
- **Federal Highway Administration's Safety Countermeasures**..... **Information**

Update on the FHWA's new safety countermeasures for pedestrians and bicycles – Dave Meinhart, Transportation Planning Manager

- **Review of Travel Demand Patterns.....Information**
Information on how travel demand patterns effects roadway improvements – Kiran Guntupalli, Principal Traffic Engineer
- **Update on Traffic SafetyInformation**
Information on traffic safety as it relates to pedestrian and automobiles in the city of Scottsdale – Kiran Guntupalli, Principal Traffic Engineer
- **Update on Cool Paving ResultsInformation**
Information on the results from Cool Paving – Shayne Lopez, Street Operations Manager
- **Update from Valley Metro's New CEOInformation**
Introduction and information from the new CEO of Valley Metro – Jessica Mefford-Miller, Valley Metro
- **Fiscal Impact of Distracted DrivingInformation**
Information on the fiscal impact that distracted driving has on Transportation and Street Operations decisions – Mark Melnychenko, Transportation & Streets Director

TRANSPORTATION & STREETS DEPARTMENT ACTIVITIES

- **Loop 101 Mobility Project.....Presentation and Discussion**
Discuss USA's Transportation Research Department regarding connected vehicle technology -Kristin Darr, consultant and Mark Melnychenko, Transportation & Streets Director
- **Impact on Parking.....Presentation and Discussion**
Latest parking study, Walter Brodzinski, Right-Way Supervisor
- **Smart City.....Presentation and Discussion**
Discussion on the City's participation in Smart City applications as well as ITS strategic plan and ITS vehicle detection – Hong Huo, Traffic Engineer Principal
- **Alternate Modes of Transportation.....Presentation and Discussion**
Discuss alternative modes of transportation including electric bicycles, scooters, and pedestrian improvements – Susan Conklu, Senior Transportation Planner
- **Bus Stop Lighting.....Discussion**
Discuss future plans to light bus stop shelters – Ratna Korepella, Transit Manager
- **Expanding Maintenance Needs.....Presentation and Discussion**
Maintenance of current infrastructure – Mark Melnychenko, Transportation & Streets Director
- **Noise Walls.....Presentation, Discussion and Possible Action**
Discuss noise wall locations, including FHWA DBE levels – Mark Melnychenko, Transportation & Streets Director
- **Linking the Five-Year Paving Plan to Restriping Efforts.....Presentation and Discussion**
Discussion around linking the five-year paving plan and restriping along with the Transportation Action Plan (TAP) – Shayne Lopez, Paving Manager
- **2020 Traffic Volume and Collision Manual..... Presentation and Discussion**
Summarize the information in the recently published 2020 Traffic Volume and Collision Manual – Kiran Guntupalli, Traffic Engineer Principal and Parker Murphy, Traffic Engineer
- **No Engine Braking Ordinance Update.....Presentation and Discussion**
Discuss the recently approved no engine braking ordinance and its application -Phil Kercher, Traffic Engineering and Ops Manager and Walt Brodzinski, Right-of-Way Manager
- **Sensagrate Pilot Project.....Presentation and Discussion**
Discuss Sensagrate Pilot Project in Scottsdale and how the results can be utilized – Darryl Keeton, Sensagrate
- **Leading Pedestrian Interval Policy.....Presentation and Discussion**

Discuss Leading Pedestrian Interval Policy and how the city applies it – Hong Huo, Traffic Engineer Principal

- **Roundabout Education.....Presentation and Discussion**
Discuss benefits of Roundabouts and how success is evaluated – Phil Kercher, Traffic Engineer & Ops Manager
- **Speed Limit Study Update Project.....Presentation and Discussion**
Present Traffic Engineering’s recent effort to update speed limit studies in Scottsdale- Phil Kercher, Traffic Engineering and Ops Manager and Kiran Guntupalli, Traffic Engineer Principal
- **Neighborhood Bikeway Prioritization Criteria.....Discussion and Possible Action**
An update to the Neighborhood Bikeway Prioritization Criteria after induction – Nathan Domme, Senior Transportation Planner
- **Transportation Commission Tour of TMC.....Presentation and Discussion**
In lieu of the December 15, 2022 Transportation Commission Public Meeting, TMC staff will provide an overview and tour of the Traffic Management Center to the Commission. There will be a quorum. – Hong Huo, Principal Traffic Engineer

PATHS & TRAILS SUBCOMMITTEE

MEETING DATE: October 4, 2022

REPORTS/PRESENTATIONS DUE September 27

- **Approval of Meeting Minutes Action**
Approval of Regular meeting minutes of August 2, 2022
- **Protected Bike Lane Pilot Locations Discussion and Possible Action**
Information on protected bike lines and their pilot locations – Susan Conklu, Senior Transportation Planner
- **Thunderbird Trail..... Discussion and Possible Action**
Thunderbird Trail: Hayden to Northsight Park – Susan Conklu, Senior Transportation Planner

MEETING DATE: December 6, 2022

REPORTS/PRESENTATIONS DUE November 29

- **Approval of Meeting Minutes Action**
Approval of Regular meeting minutes of October 4, 2022

FUTURE ITEMS:

INFORMATION ITEMS

TRANSPORTATION & STREETS DEPARTMENT ACTIVITIES

- **Access to Indian Bend Wash Presentation and Discussion**
Better access and how the Parks Dept. can assist. – Susan Conklu, Senior Transportation Planner
- **Path and Trail Gap Analysis Presentation and Discussion**
Information on gaps in the citywide path and trails network – Greg Davies, Senior Transportation Planner
- **Equestrian Connectivity Presentation and Discussion**
Panel – Susan Conklu, Senior Transportation Planner
- **Pavement Restriping Presentation and Discussion**
Information on the coordination of re-paving and re-striping – Dave Meinhart, Transportation Planning Manager

Sharon Gordon
Secretary, Corriente Condominiums
7601 E Indian Bend Road #3006
Scottsdale, AZ 85250

September 1, 2022

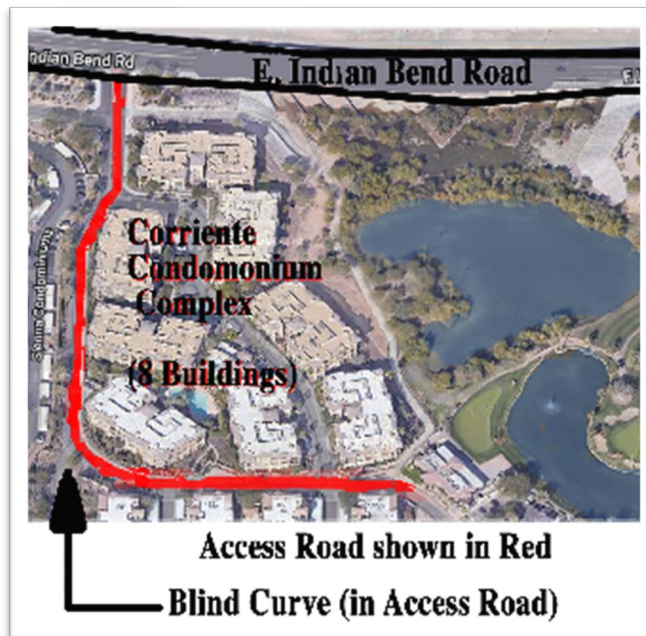
City of Scottsdale
Transportation Commission
3939 N Drinkwater Blvd.
Scottsdale, Arizona 85251

Re: Legal Risk to City
September 15, 2022 Hearing (appeal from Traffic Analysis)

Dear Transportation Commission:

You maintain and control a roadway where it appears that an automobile striking a pedestrian is not only legally “foreseeable” but possibly even inevitable. You finished a traffic analysis (by Parker Wood Murphy in May 2022). I suggest that putting in speed bumps would probably resolve your safety and liability issues.

The road in question is known to you as the “access road,” a street open to the public that leads from E. Indian Bend Road in Scottsdale to the Silverado Golf Course.



It also bifurcates our property, leaving the condominium complex on the west side and tenant parking and an electrical charging station on the east side. So, people cross the street traversing to and from their cars daily.

Additionally, the condominium complex behind us uses the road for ingress and egress, and it is not uncommon to see some of their residents walking or bicycling along the road, augmenting our usage.

In addition to tort liability issues, we are also appealing and asking for a waiver for installation of speed bumps. As we own the underlying property in fee simple absolute and with the road having the unique completely blind curve, you would not be setting a precedent for any other land. Corriente HOA will take responsibility for the installation of the speed bumps.

The average car according to VEHQ is 5.8 feet, and the average SUV is 78 inches, and the typical pick-up-truck is six-foot seven-inches. Given the width of the lanes, there is very little room to quickly swerve safely around a pedestrian. Some people come speeding down the access road from Indian Bend Road.

It would have little benefit painting a crosswalk as the lines would have to be around the blind curve that is the cause of the bad risk walking across this road. There are also a fair number of bicyclists who bike on that road.

Negligence

A former retired California attorney suggested under California Government Code §835, which we assume is like statutes or case law in Arizona that the public entity is generally “liable for injuries caused by a dangerous condition on its property [or property it controls].” For liability under §835 the plaintiff must prove four elements:

1. That the property quote was in a dangerous condition at the time of the injury.”
2. That the injury “was proximately caused by the dangerous condition.”
3. That the dangerous condition “created a **reasonably foreseeable risk** of the kind of injury which has incurred.”
4. Either that the dangerous condition was created by an employee’s wrongful act or omission within the scope of employment, or that the entity had **actual or constructive notice of the dangerous condition** in time to take protective measures.

Facts on this case

As you can see from the enclosed picture, going from Indian Bend Road toward the golf course, there is a fully blind curve that prevents you from seeing what is on the other end of the Road.

A person parking their car in the condominium's parking stalls on the east side of the road must then walk back to the complex on the west side. Also, Corriente people charging their electric vehicles at the Corriente charging station must walk across the road.

So, imagine the person looking both ways, seeing no cars in either direction, proceeds to cross. Suddenly, a car traveling at or over 50 mph twice (as recorded by your department) turns the blind corner just as the walker is in the middle of the road. We suggest, there is too little time (by the law of physics) for the driver to swerve or brake in the minimal distance provided after the curve. Human reaction time and braking distance are fixed numbers that can't be ignored.

The posted speed limit is 25 mph. As your survey indicated, a certain number of cars go forty miles or more (4.3%), and two or more cars went twice over the speed limit at 50 miles per hour. Yes, 85% of the drivers are within tolerable and safe speeds, but as your survey showed, it is the 15% that puts the pedestrians who daily cross the road at risk. We think going 50 mph on that road might be equivalent to going 110 mph on Hwy 17 to Sedona, a very unsafe speed. It is also possible that drivers could be driving under the influence leaving the golf course as beer cans litter along the side of the access road.

Conclusion

It is not a volume of cars that warrants the speed bumps but instead because of (a) the civilian traffic crossing the road, (b) daily, (c) just after the blind curve, with (d) the 15% of cars that speed down that road (by your recent traffic study) at up to twice the speed limit, all of which creates the reasonably foreseeable and dangerous condition.

Sincerely,
Corriente Board of Directors,

By: _____
Sharon Gordon, Secretary