REVISED
NOTICE OF PUBLIC MEETING
PHOENIX CITY COUNCIL
TRANSPORTATION AND INFRASTRUCTURE SUBCOMMITTEE

Pursuant to A.R.S. Section 38-431.02, notice is hereby given to the members of the **PHOENIX CITY COUNCIL TRANSPORTATION AND INFRASTRUCTURE SUBCOMMITTEE** and to the general public, that the **PHOENIX CITY COUNCIL TRANSPORTATION AND INFRASTRUCTURE SUBCOMMITTEE** will hold a meeting open to the public on **Wednesday, February 25, 2015 at 1:00 p.m., located at Phoenix City Hall, 1st Floor Atrium, Assembly Rooms A, B, & C, 200 West Washington Street, Phoenix, Arizona.**

One or more Subcommittee members may participate via teleconference. The agenda for the meeting is as follows (items may be discussed in a different sequence than posted):

1.	**Call to Order**	Chair Williams
Items 2 and 3 are for information, discussion and possible action.		
2.	**Street Landscape Maintenance** This report requests the Transportation and Infrastructure Subcommittee recommend that the City Council approve the consolidation of street landscape design and maintenance activities into the Street Transportation Department and begin the process to pursue outsourcing measures. **This item is for information, discussion and possible action.**	Ray Dovalina, Street Transportation James P. Burke, Parks and Recreation Page 3
*3.	**Stormwater Use** This report provides the Transportation and Infrastructure Subcommittee with a summary of issues related to the capture and reuse of stormwater. It also recommends further evaluation of green stormwater infrastructure measures that capture, manage and increase on-site infiltration of stormwater. **This item is for information, discussion and possible action.**	Mark Hartman, Chief Sustainability Officer Kathryn Sorensen, Water Services Page 7
Items 4 - 7 are for information and discussion.		
4.	**Street Transportation Department Procedure for Calculating Yellow Change Intervals at Traffic Signals** This report provides information about how traffic signal yellow change times are calculated in Phoenix. **This item is for information and discussion.**	Ray Dovalina, Street Transportation Page 11

5.	**City of Phoenix Bus Stop Shade Study Analysis** This report provides the Transportation and Infrastructure Subcommittee with the results of a bus stop shade study. The study included an inventory and analyses of Phoenix bus stops that will assist in determining the provision of passenger shade and prioritizing future bus stop improvements. **This item is for information and discussion.**	Maria Hyatt, Public Transit Page 13
6.	**Update on Infill Development/Utility Coordination** This report provides an update on infill development and Reinvent PHX planning efforts related to utility conflicts. This is the second report in a three-phase study and recommendation process. This phase provides a number of options for compliance with the Reinvent PHX shade and setback requirements as well as the results of a landscape study commissioned by the Water Services Department. Staff requests direction from the Transportation and Infrastructure Subcommittee for proposed changes to the WSD Design Standards Manual. **This item is for information and discussion.**	Alan Stephenson, Planning and Development Kathryn Sorensen, Water Services Page 15
7.	**Water Treatment Plant Infrastructure Renewal Program** This report provides information to the Transportation and Infrastructure Subcommittee regarding the Water Services Department's Water Treatment Plant Infrastructure Renewal Program. **This item is for information and discussion.**	Kathryn Sorensen, Water Services Page 25
8.	**Call to the Public:** Consideration, discussion, and concerns from the public. Those wishing to address the Subcommittee need not request permission in advance. Action taken as a result of the public comment will be limited to directing staff to study the matter or rescheduling the matter for further consideration and decision at a later date.	Chair Williams
9.	**Request for Future Agenda Items**	Chair Williams
10.	**Adjournment**	Chair Williams

For further information, please call Rita Marko, Management Assistant, City Manager's Office, at 602-262-7684 or Gabriel Morales at 602-534-9222.

Persons paid to lobby on behalf of persons or organizations other than themselves shall register with the City Clerk prior to lobbying or within five business days thereafter, and must register annually to continue lobbying. If you have any questions about registration or whether or not you must register, please contact the City Clerk's Office at 602-262-6811.

For reasonable accommodations, call Rita Marko at 602-262-7684 or Gabriel Morales at 602-534-9222 as early as possible to coordinate needed arrangements.

February 19, 2015

CITY COUNCIL REPORT

TO: Rick Naimark
Deputy City Manager

Lisa Takata
Deputy City Manager

FROM: Ray Dovalina, PE
Street Transportation Director

James P. Burke
Parks and Recreation Director

SUBJECT: STREET LANDSCAPE MAINTENANCE

This report requests the Transportation and Infrastructure (T&I) Subcommittee recommend that the City Council approve the consolidation of street landscape design and maintenance activities into the Street Transportation Department and begin the process to pursue outsourcing measures.

THE ISSUE

During the City's Comprehensive Organizational Review Evaluation (CORE), street landscape maintenance was identified as a function currently performed by both the Parks and Recreation Department and the Street Transportation Department.

The Street Transportation Department is responsible for:

- Design and retrofit of landscaping along major streets;
- Removal of litter and vegetation from unimproved right-of-way (ROW) along major streets;
- Management of contract maintenance of any new street projects along a major arterial (since 2009); and,
- Management of an annual contract of approximately $1.84 million dollars to provide maintenance of 75.2 miles landscaping along the outside of freeway walls and 467 acres of landscape in special areas, such as traffic calming devices, washes, and other agreed-upon locations. The current contract calls for weekly/monthly service.

The Parks and Recreation Department is responsible for:

- Maintenance of landscaping along major streets (developed prior to 2009).

Neither department addresses landscape maintenance or clean-up on collector or residential streets or in areas maintained by commercial property owners or homeowner associations.

In 2003, the Parks and Recreation Department had 90 full-time equivalents (FTEs), who performed street landscape maintenance every 11 days, covering 552 acres. Positions fluctuated over the years, but major budget reductions were made beginning in Fiscal Year 2008-09. Currently, there are 21 FTEs who maintain 657 acres or approximately one staff person per 31 acres. The drastic decrease in staffing coupled with the increase in acres maintained by the Parks and Recreation Department has resulted in a complaint-only maintenance schedule.

The table below summarizes different options for addressing the challenge of providing more efficient and effective street landscaping services.

Options for consideration:

Option 1	**Service Level**	**Budget**	**City Resources**	**Total Amount**	**Notes**
No Change to Current Level of Service in Parks & Recreation	Complaint driven	$1,230,524	21 FTE		
Option 2		**Contract Cost Estimate**			
Contract with minimal service level improvements	3 times per year plus complaint response	$881,000	Contract Inspection (6 staff) $350,000 (est.)	$1,230,524	
Option 3					
Modest level of improvement	Monthly	$2,289,513 - $3,373,286	Contract Inspection $350,000	$2,639,513 - $3,723,286	$1,408,989- $2,492,762 Funding needed
Option 4					
Highest level of improvement	Blend of weekly/monthly	$4,579,027 - $6,868,540	Contract Inspection $350,000	$5,186,405 - $6,903,540	$3,955,881- $5,673,016 Funding needed

Based upon the CORE review, staff recommends the consolidation of street landscape maintenance activities in the Street Transportation Department. This measure will allow Parks and Recreation maintenance staff to focus on its core mission of maintaining parks and create an opportunity to achieve greater street landscaping consistency and economies of scale by combining the service in one City department. This combination also allows the City to take advantage of anticipated lower costs through private sector delivery of the service, which is expected to result in a somewhat higher service level for the same budget.

Based upon current City contract rates for similar landscape maintenance services, staff anticipates that outsourcing with the current budget will likely result in an increase in the service level to 3 times per year maintenance, which is an increase from the current complaint-driven service. This includes the addition of contract management staff needed to assure appropriate oversight and quality assurance (see Option 2 above). Options 3 and 4 above provide estimates of the cost to enhance the service even further by devoting additional resources not currently budgeted to the program.

If this consolidation and outsourcing approach is approved, the following process would be used:

- Staff would issue an Invitation for Bids (IFB) to determine actual costs to contract all areas of street landscaping along major arterials with various bid tabs for three possible levels of service:
    1. Three times per year plus complaint response
    2. Monthly
    3. Blend of weekly/monthly
- Based upon bid results, staff would evaluate funding needs and develop options for implementation.
- Staff will return to City Council with bid results and a recommendation for implementation.
- All staff previously performing street landscaping maintenance service will be fully devoted to maintaining parks. Twenty-one vacant positions will be eliminated.

Depending upon bid results, it may be fiscally beneficial to phase in the contracted firms based upon available funds and resources.

OTHER INFORMATION

With more than 755 miles of arterial streets traveled by 100 to 150 million vehicles per month, street landscaping is one of the most visible City assets.

Landscaping in the ROW provides both aesthetic and tangible benefits. Well-maintained landscaping impacts public perception of an area and improves surrounding property values. The importance of public landscapes was confirmed by City Council adoption of the 2010 Tree and Shade Master Plan, which details the important role trees play in creating a healthier, more livable and prosperous city. Recent community outreach for City projects such as Reinvent Phoenix and the Complete Streets initiative indicated growing community support for well-designed and maintained ROW landscaping in order to provide shade on streets and sidewalks, and other environmental benefits.

RECOMMENDATION

Staff requests the T&I Subcommittee recommend that the City Council approve the consolidation of street landscape design and maintenance activities into the Street Transportation Department and begin the process to pursue outsourcing measures. This item was presented for information and discussion to the Finance, Efficiency, Economy and Sustainability Subcommittee on February 3, 2015.

THIS PAGE LEFT BLANK INTENTIONALLY

CITY COUNCIL REPORT

TO: Rick Naimark
Deputy City Manager

FROM: Mark Hartman
Chief Sustainability Officer

Kathryn Sorensen
Water Services Director

Alan Stephenson
Planning & Development Director

SUBJECT: STORMWATER USE

This report provides the Transportation and Infrastructure Subcommittee with a summary of issues related to the capture and reuse of stormwater. It also recommends further evaluation of green stormwater infrastructure measures that capture, manage and increase on-site infiltration of stormwater.

THE ISSUE

The extreme monsoon storm events last summer coupled with the 15-year drought conditions in the region have created interest in evaluating the capture and delivery of stormwater which can mitigate the potential for flooding in future extreme monsoon events. Many factors must be analyzed to determine the viability of expanding or retrofitting the systems for such use, including water quality and quantity, water rights, and infrastructure needs. This report provides a brief overview of some of these factors and identifies areas of opportunity to encourage and adopt stormwater management techniques that will beneficially reuse stormwater and reduce flood risk during extreme events.

OTHER INFORMATION

The focus of the City's stormwater program is increasing site flood and contamination protection by increasing stormwater infiltration onsite to naturally recharge underground aquifers, or allowing it to drain into storm sewers where it flows downstream into natural water courses to mimic historical flows and provide riparian habitat.

For on-site retention, City Code requires all new development to have design capacity to retain stormwater runoff within the property for a 100-year, two-hour storm event. Although this policy is common among Valley cities, it is among the most stringent in the nation. Phoenix's stormwater retention policy was lauded by the Environmental Protection Agency's (EPA) contractor in 2012, when it reviewed the City's stormwater management practices using EPA's *Water Quality Scorecard* tool.

For stormwater drainage, water that falls onto city streets or overflows from hardscape and older properties not subject to the current new development retention standards is conveyed through the City's storm drain system to retention basins, natural washes, or river beds, such as the Salt River. The City maintains and operates an extensive stormwater system including headwalls, pipes, outfall structures and more than 1800 acres of stormwater retention basins and 2000 drywells (both public and private) within the City.

This drainage system allows water to infiltrate into the ground and replenish the groundwater or discharge into natural waterways through its 700 outfalls to help maintain vibrant riparian zones such as the Rio Salado project where stormwater runoff fills the low flow channel and recharges local groundwater. Stormwater facilities are operated under the guidance of a Municipal Separate Storm Sewer System (MS4) permit issued by the Arizona Department of Environmental Quality (ADEQ) to regulate the outfall locations and water quality. While ADEQ acknowledges several benefits of managing stormwater runoff close to the source through green infrastructure, it also realizes these practices must be balanced against other environmental needs: "This reduction in runoff [from green infrastructure] reaching water bodies can also negatively impact riparian ecosystems and hydrologic resources." (from *ADEQ Fact Sheet, Phase II MS4 General Permit, 2015*).

Water rights are also a concern when considering large-scale transportation and storage of stormwater runoff in impoundments for future use. Flood water is subject to appropriation under Arizona law as surface water. Surface water within the Salt River watershed is subject to claims and adjudicated water rights of the Salt River Project (SRP) and numerous other claimants, each of whom claim senior rights to appropriate the water. If the water is diverted for delivery, the City's use of stormwater might be considered a new appropriation that interferes with the rights of senior water users, possibly resulting in litigation from multiple parties.

Despite some of the challenges with a regional approach to stormwater capture and reuse, there are a number of opportunities to encourage and increase the beneficial reuse of stormwater within property boundaries, as well as mitigating some of the related issues that can exacerbate flooding. For example, developers can refer to the Green Building Code and the Stormwater Policies and Standards Manual to design green infrastructure such as vegetated swales, a series of connected micro-basins, hardscape minimization, rainwater harvesting cisterns, or rain barrels to meet the requirement to retain stormwater onsite. In addition, several of the City's draft planning documents such as the General Plan, Transit District Plans, and the Walkable Urban Code are recommending further exploration of these techniques.

Given the City's existing stringent stormwater on-site retention standards, staff recommends that the City focus its efforts on the following:

1) encouraging site-level stormwater infrastructure and management practices that beneficially reuse the stormwater within the property boundaries to the maximum extent practical;
2) expanding use of green infrastructure for City-owned sites and City-maintained infrastructure; and,

3) taking actions to ensure stormwater management features are adequately maintained in order to mitigate flooding issues that can be exacerbated by neglect.

RECOMMENDATION

Staff requests the Transportation and Infrastructure Subcommittee approve the following:

1) The development of a program by Planning and Development staff to annually provide reminders and guidance to HOAs on stormwater management feature maintenance and situations that may require certified professionals to evaluate maintenance to ensure that the features work adequately.
2) Continued work by staff with the Complete Streets Advisory Board and affected departments to consider and incorporate green infrastructure techniques into the Complete Streets Policy and the Complete Streets Design Manual.

Staff will return to the Subcommittee at a future date for consideration of the following:

1) Staff will review City Code and Zoning Ordinance revisions that will serve to better facilitate beneficial on-site reuse of stormwater in private development, and return to Subcommittee with a list of recommended Code and Ordinance revisions. As a starting point, staff will further consider those recommendations identified by EPA's consultant in the city's 2012 Green Infrastructure Opportunities grant-awarded study.
2) Staff will review available rainwater harvesting guides and resources and explore the costs and benefits to the city of developing its own guidance materials.
3) To avoid the future possibility of City irrigation systems exacerbating flood conditions, or the perception thereof, staff will evaluate feasibility of a City policy to incorporate moisture-based irrigation systems into new facility construction projects and streets landscape installations.

THIS PAGE LEFT BLANK INTENTIONALLY

CITY COUNCIL REPORT

TO: Rick Naimark
Deputy City Manager

FROM: Ray Dovalina, PE
Street Transportation Director

SUBJECT: STREET TRANSPORTATION DEPARTMENT PROCEDURE FOR CALCULATING YELLOW CHANGE INTERVALS AT TRAFFIC SIGNALS

This report provides a summary of how traffic signal yellow change times are calculated in Phoenix.

THE ISSUE

The purpose of the yellow change interval is to warn drivers that the green signal is transitioning. After the yellow indication, the signal then transitions to a red phase clearance interval to allow all approaching intersection traffic to stop for up to 1 second (actual time based street width and speed) before other traffic is signaled to proceed. The primary reason for adequate yellow times is to reduce the frequency of red light running. Research has shown that change intervals which are “too long” or “too short” can increase the frequency of red light running. Phoenix uses an “optimal” change interval calculation.

OTHER INFORMATION

The Institute of Transportation Engineers (ITE) “Traffic Control Devices Handbook” outlines the method to determine the yellow change interval and is considered the definitive reference by traffic engineering professionals. The City of Phoenix and the Arizona Department of Transportation follow the procedures and formula as outlined in the handbook. The federal Manual on Uniform Traffic Control Devices (MUTCD) and the Arizona Supplement to the MUTCD refer to the ITE formula to set yellow clearance intervals. They further refer to using a minimum setting of 3 seconds and a maximum setting of 6 seconds based on the calculation.

RECOMMENDATION

This report is for information and discussion.

THIS PAGE LEFT BLANK INTENTIONALLY

CITY COUNCIL REPORT

TO: Rick Naimark
Deputy City Manager

FROM: Maria Hyatt
Public Transit Director

SUBJECT: CITY OF PHOENIX BUS STOP SHADE STUDY ANALYSIS

This report provides the Transportation and Infrastructure Subcommittee with the results of a bus stop shade study. The study included an inventory and analyses of Phoenix bus stops that will assist in determining the provision of passenger shade and prioritizing future bus stop improvements.

THE ISSUE

The Public Transit Department (PTD), in conjunction with a local consulting firm, conducted an inventory of bus stops lacking City-provided shade structures to document the overall conditions at each stop. In doing so, a methodology can be established for making future improvements so that bus stops are Americans with Disabilities Act (ADA) compliant, as well as making determinations that sufficient right-of-way (ROW) or infrastructure (curb, sidewalk, etc.) exists at stops to construct compliant structures. The inventory included documenting any naturally occurring or constructed shade, such as landscaping, buildings, or other permanent structures.

Of the 4,059 bus stops in Phoenix, 1,507 currently have no City-constructed transit shade shelter. Of the stops with no transit shade structure:

- 548 had trees, buildings, or other features, which provide shade during some periods of the day in the same manner a City-provided transit shelter would.
- 323 have significant ROW or infrastructure constraints, whereby improving these bus stops would require the purchase of additional ROW.
- 636 bus stops have no physical constraints that would preclude the installation of a standard transit shade structure. As a result of this study, these stops will be placed on a prioritization schedule for future enhancements.

The overall study concluded that 77 percent of all Phoenix bus stops have shade, either through a standard transit shelter or other type of shade. Staff further reviewed bus stop usage and when ridership is considered, the data shows that 93 percent of passengers are currently being provided with shade at their bus stop.

PTD's practice has been to construct shade structures at bus stops with high ridership, including bus or light rail transfer points (primarily at intersections) or locations with known employment centers or clustered users, such as high schools.

Number of Bus Stops and Boardings (Jul-Oct 2014):
Shaded Bus Stops vs. Non-Shaded Bus Stops

Bus Stops			Average Weekday Boardings	
Category	**Number**	**Percent of Total**	**Number**	**Percent of Total**
Shade Structure Present	2,552	63%	110,443	87%
Other Shade Present	548	13%	7,178	6%
No Shade - ROW & Infrastructure adequate to install a structure	636	16%	6,567	5%
No Shade - ROW & Infrastructure **inadequate** to install a structure	323	8%	2,801	2%
TOTAL	**4,059**	**100%**	**126,989**	**100%**

OTHER INFORMATION

The average cost for construction, permitting and installation of an ADA-compliant shelter at a location with adequate ROW and infrastructure is approximately $10,000. Ongoing maintenance and cleaning of that bus stop at an average of three times per week costs approximately $1,700 per year. The acquisition of additional ROW at locations that do not have adequate space for the construction of an ADA-compliant bus shelter vary and would be in addition to construction of the shade structure.

PTD's current five-year capital improvement program funds construction of approximately 30 shade structures annually for locations where no additional ROW acquisition is required. Staff ranks non-shaded bus stops by the number of average weekday passenger boardings to create a priority listing. In the first year of the shade improvement program, 30 new shade structures will serve an additional 2,000 transit riders annually.

With existing funding levels, bus stop locations with inadequate ROW or lacking the necessary infrastructure will be addressed on a case-by-case basis as prioritized by ridership use and availability of funding. Locations with inadequate street infrastructure could be included in the Street Transportation Department's Capital Improvement Program which targets such areas. Additionally, areas where transit service operates adjacent to county islands will be dependent on the county making the necessary road improvements in cases where transit improvements are being considered.

RECOMMENDATION

This report is for information and discussion.

CITY COUNCIL REPORT

TO: Rick Naimark
Deputy City Manager

FROM: Alan Stephenson
Planning and Development Director

Kathryn Sorensen
Water Services Director

SUBJECT: UPDATE ON INFILL DEVELOPMENT/UTILITY COORDINATION

This report provides an update on infill development and Reinvent PHX planning efforts related to utility conflicts. This is the second report in a three-phase study and recommendation process. This phase provides a number of options for compliance with the Reinvent PHX shade and setback requirements as well as the results of a landscape study commissioned by the Water Services Department (WSD). Staff requests direction from the Transportation and Infrastructure (T&I) Subcommittee for proposed changes to the WSD Design Standards Manual.

BACKGROUND

The establishment of the initial segment of the light rail line combined with the City of Phoenix's focus on infill development and adaptive reuse has created the need to evaluate all development regulations that were created to facilitate new growth on the suburban fringe, where regulations are not constrained by an established development pattern and code requirements that focus on auto usage first and alternate transportation modes second. Infill development that builds upon the existing character and development patterns is necessary to achieve City infill goals and utilization of the light rail line as a public transportation amenity. These efforts have led staff to modify codes, ordinances, and policies to allow for a more urban style of development.

More recent public concerns have arisen about the difficulty/inability to implement some provisions within the existing Downtown Code and the proposed Walkable Urban (WU) Code because of utility conflicts with shade structures and landscaping. Staff has been working on options for developers to comply with Public Utility Easement (PUE) requirements, planting restrictions, and the WU Code in a manner that provides desired shade and urban amenities, while also accommodating the utilities.

THE ISSUE

Planning and Development staff worked closely with representatives from City Departments and major utilities to create some development options that accommodate their needs while also meeting the intent of the proposed WU Code. As a result, several options for arterial and collector streets have been developed as exhibits to be referenced in the WU Code (Attachment A). These options incorporate the PUE,

sidewalk, landscape, shade, and setback requirements in various designs depending on street and building frontage type. These exhibits will assist business owners in planning their site development so they can meet their business needs without compromising on shade and walkability elements desired by the community. All of the exhibited options conform to codes and ordinances and do not require technical appeals or variances, saving business owners time and money. In addition, they will achieve the goals of the City to provide a shaded walkable environment. The exhibits shown as Attachment A are part of the proposed revisions to the WU Code to be considered at a future Neighborhoods, Housing and Development Subcommittee meeting.

The Water Services Department hired a consultant to evaluate the City's standards for maintaining 10-feet clearance between trees and water and sewer lines. One aspect of the study was to evaluate separation standards developed by other cities. The table below shows information for cities both locally and regionally.

Jurisdiction	Waterline Separation	Sewerline Separation
City of Phoenix (existing)	10 feet	10 feet
City of Tempe	20 feet	20 feet
City of Scottsdale	7 feet	7 feet
City of Tucson	10 feet (over 20' height at maturity) 5 feet (under 20' height at maturity) 3 feet (under 3' height at maturity)	10 feet (over 20' height at maturity) 5 feet (under 20' height at maturity) 3 feet (under 3' height at maturity)
City of Las Vegas	10 feet	10 feet
City of San Diego	5 feet	10 feet
City of Seattle	5 feet	5 feet
City of Portland	5 feet	5 feet
City of San Francisco	5 feet	5 feet
City of Denver	Did not reply	Did not reply

In addition to reviewing separation requirements, the consultant reviewed different pipe materials, tree types and typical irrigation practices as part of the evaluation process. Based upon the analysis, the consultant recommends maintaining the 10-foot separation requirement for trees without any mitigation measures. The consultant did recommend that a reduction to 6 feet would have minimal impacts to infrastructure if appropriate mitigation measures are taken to ensure protection of the utility infrastructure from tree roots. Some of these mitigation measures may include:

- Compliance with recommended tree list - A list of trees with a smaller canopy/root size to minimize the extent to which roots expand. A list of prohibited trees and plants will also be developed due to evidence that the roots of these plants are extremely invasive and opportunistic no matter what the soil conditions are or the distance they are planted from a pipe. Most small trees typical to our environment attain a canopy diameter of about 12 feet. The root structure can grow as far as the canopy; therefore, maintaining a 6-foot clearance with mitigation ensures protection of the root structure as well as the water and sewer infrastructure.

- Root Barriers and/or Chemical Impregnated Fabrics –Root barriers are used to re-direct, discourage or deter root growth into specified areas of the soil. Chemical impregnated fabrics contain a slow-release low-dose herbicide which deters root growth on contact.

- Constructed Root Channels with Structural Soil – Root channels are intentional reconfiguration of the soil profile to create oxygen and increased water availability. The channels are excavated within the preferred location for roots. The excavated channels are filled with an aggregate that is structurally sound if properly installed and compacted. This area would be inappropriate for the location of underground utilities, but is appropriate for paved hardscape areas.

- Polyvinyl Cellular Structures – The cellular structures are installed below hardscape and also filled with an appropriate growing medium to entice root growth within the cellular space. This solution also provides the necessary aeration and water retention that roots need to survive. Areas above cellular structures are appropriate for hardscape such as sidewalks and pavement, but are not appropriate for location of utilities.

Based upon the consultant analysis, staff recommends that the 10-foot separation requirement be maintained throughout the City, except that the 10 feet may be reduced to 6 feet within the Infill Development District Boundaries with appropriate mitigation measures. This area includes all of Downtown and the Reinvent PHX Study Area, and is shown in Attachment B. The Water Services Department is in the third phase of the study, which includes development of specifications, details, and standards to be integrated into the Department's Design Standards Manual. This phase is expected to be completed and implemented by the end of June 2015. Staff anticipates adoption of the WU Code in summer 2015 and the related map adoption to apply the regulations to specific properties in early 2016.

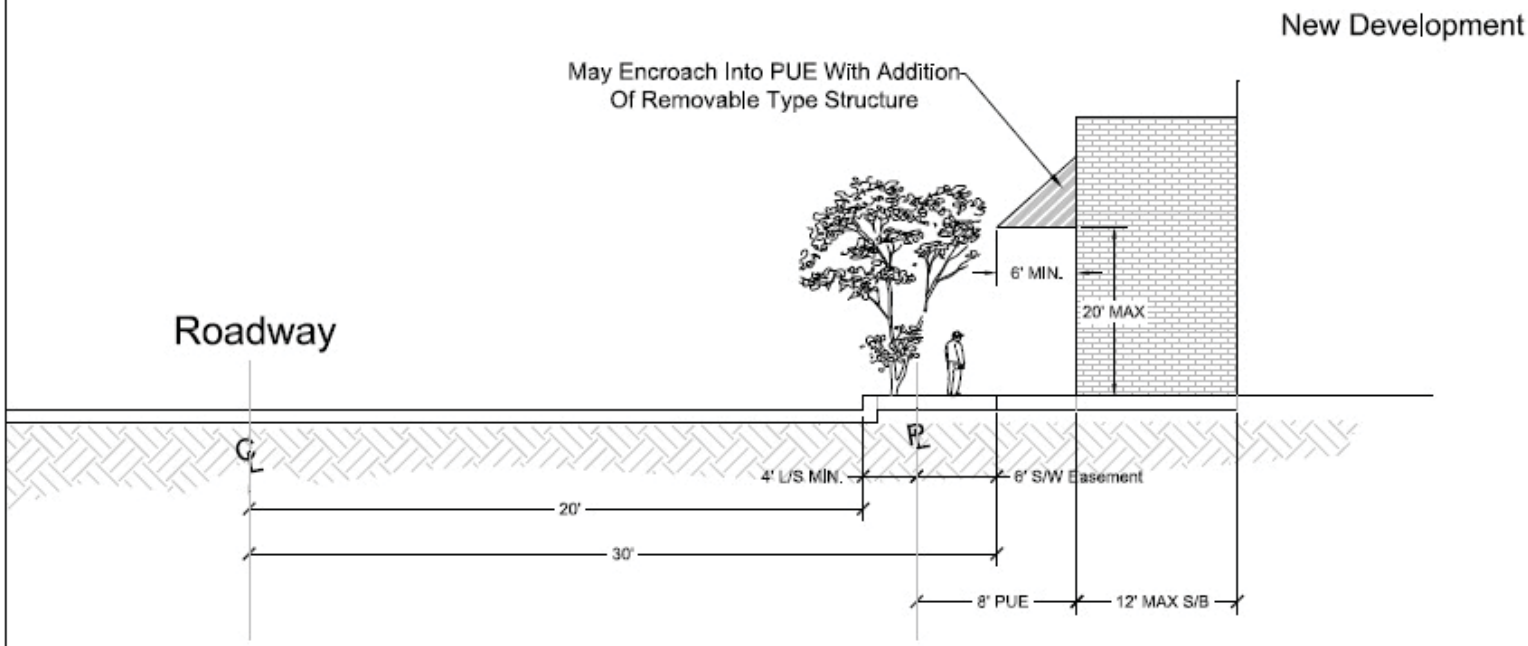
RECOMMENDATION

Staff requests direction from the T&I Subcommittee for proposed changes to the WSD Design Standards Manual.

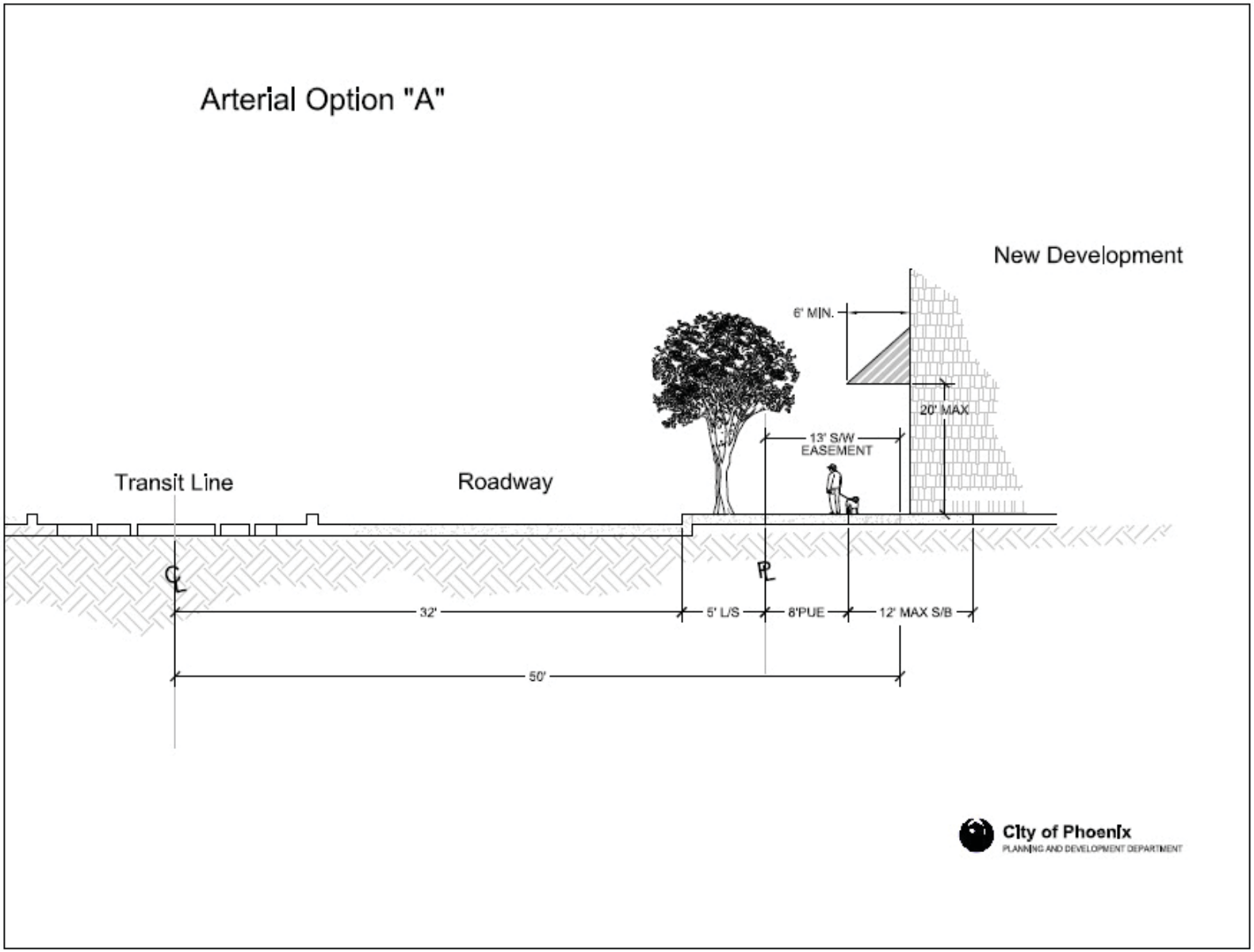
Attachment A: WU Code Exhibits (Local/Collector Option A and Arterial Options A-D)
Attachment B: Infill Development District Boundaries

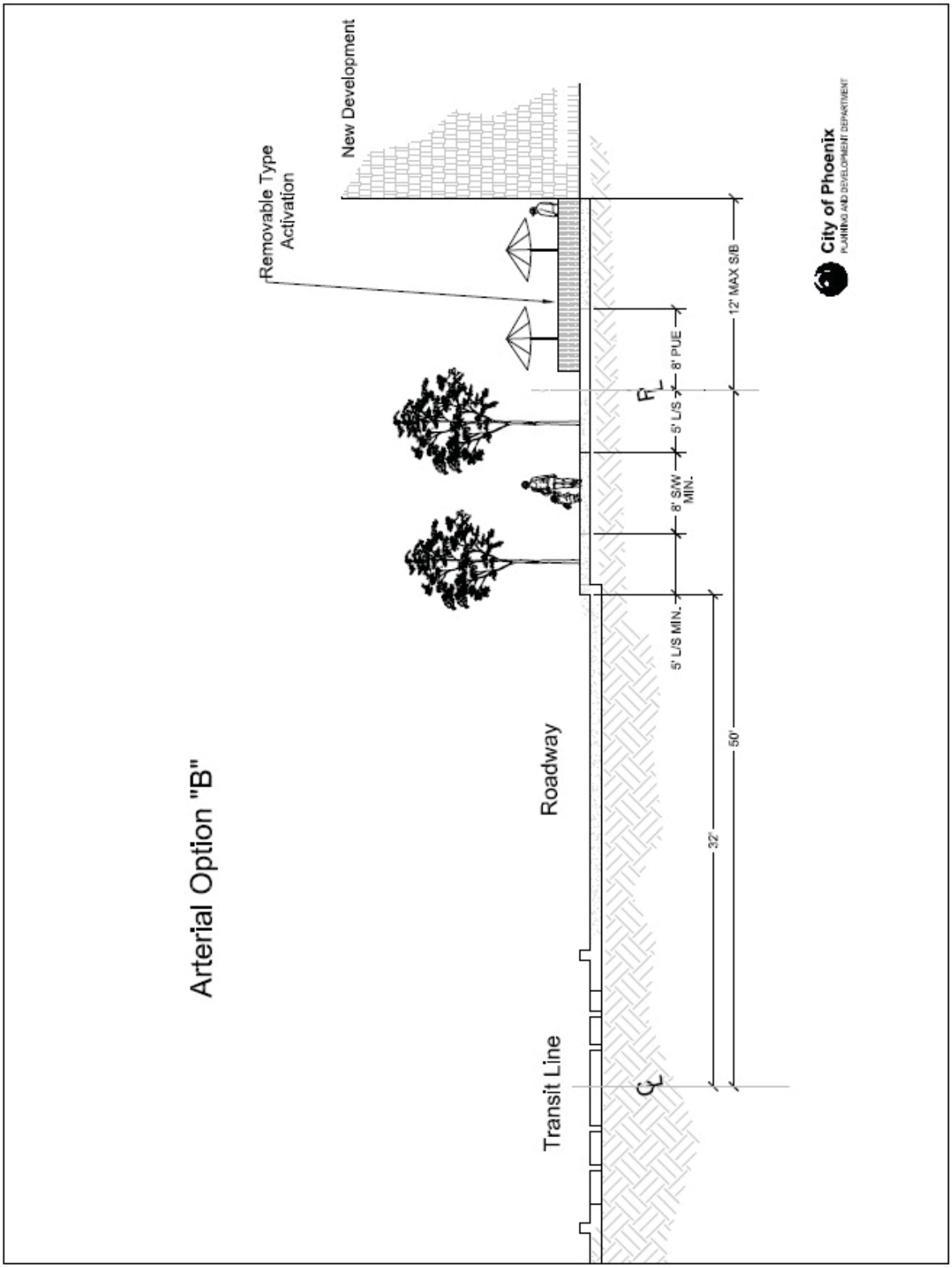
Attachment A

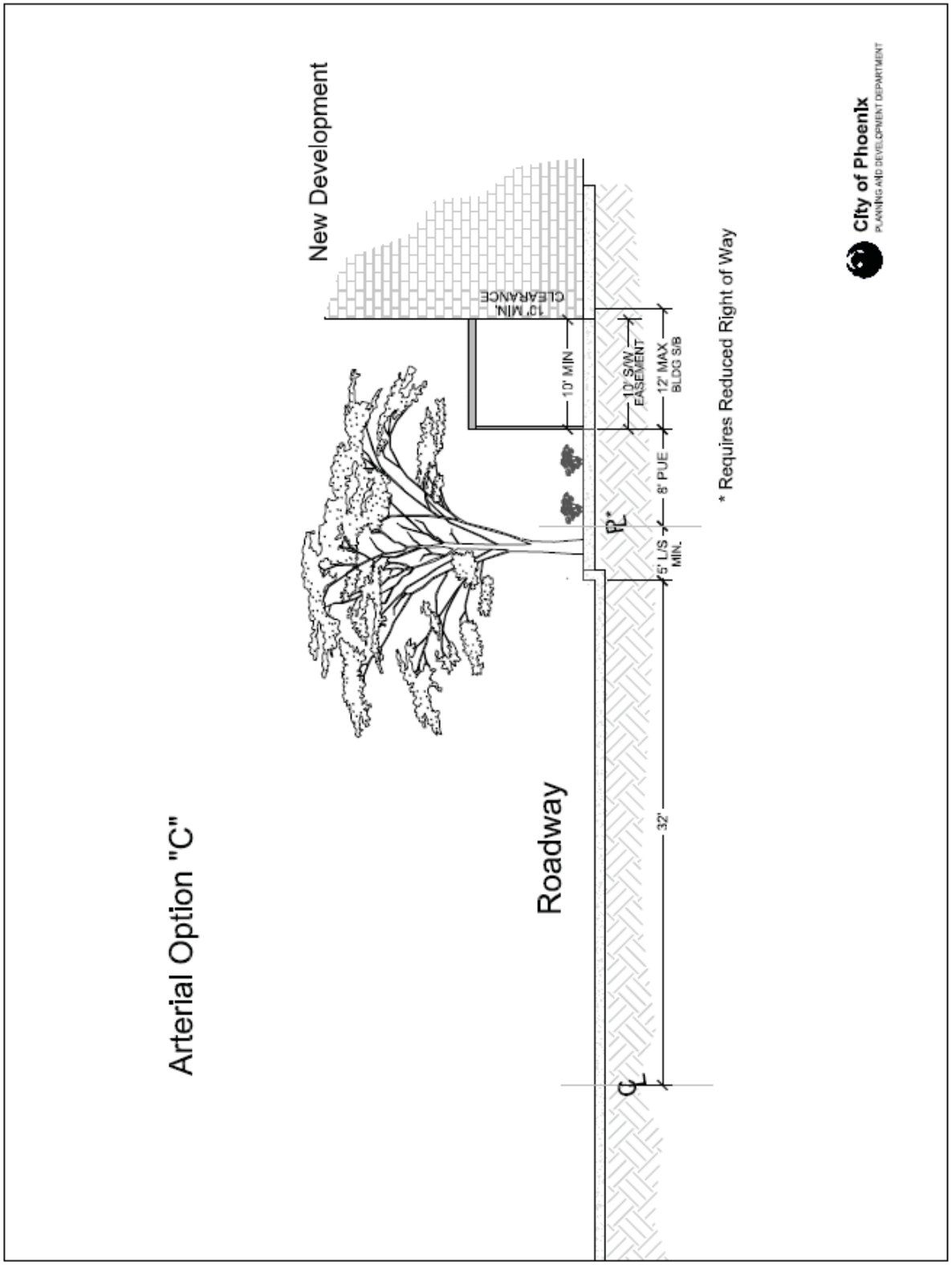
Local / Collector Option "A"

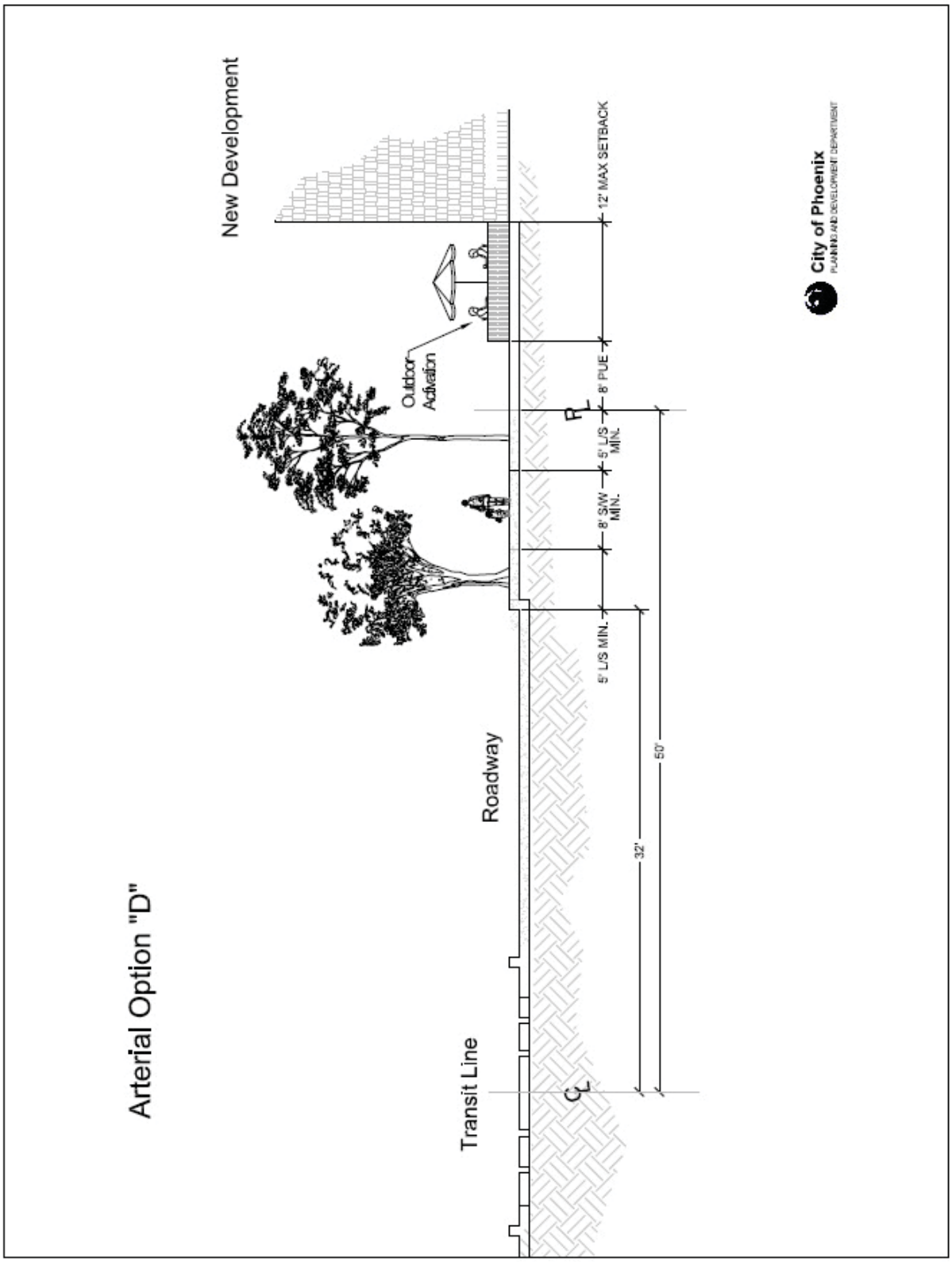


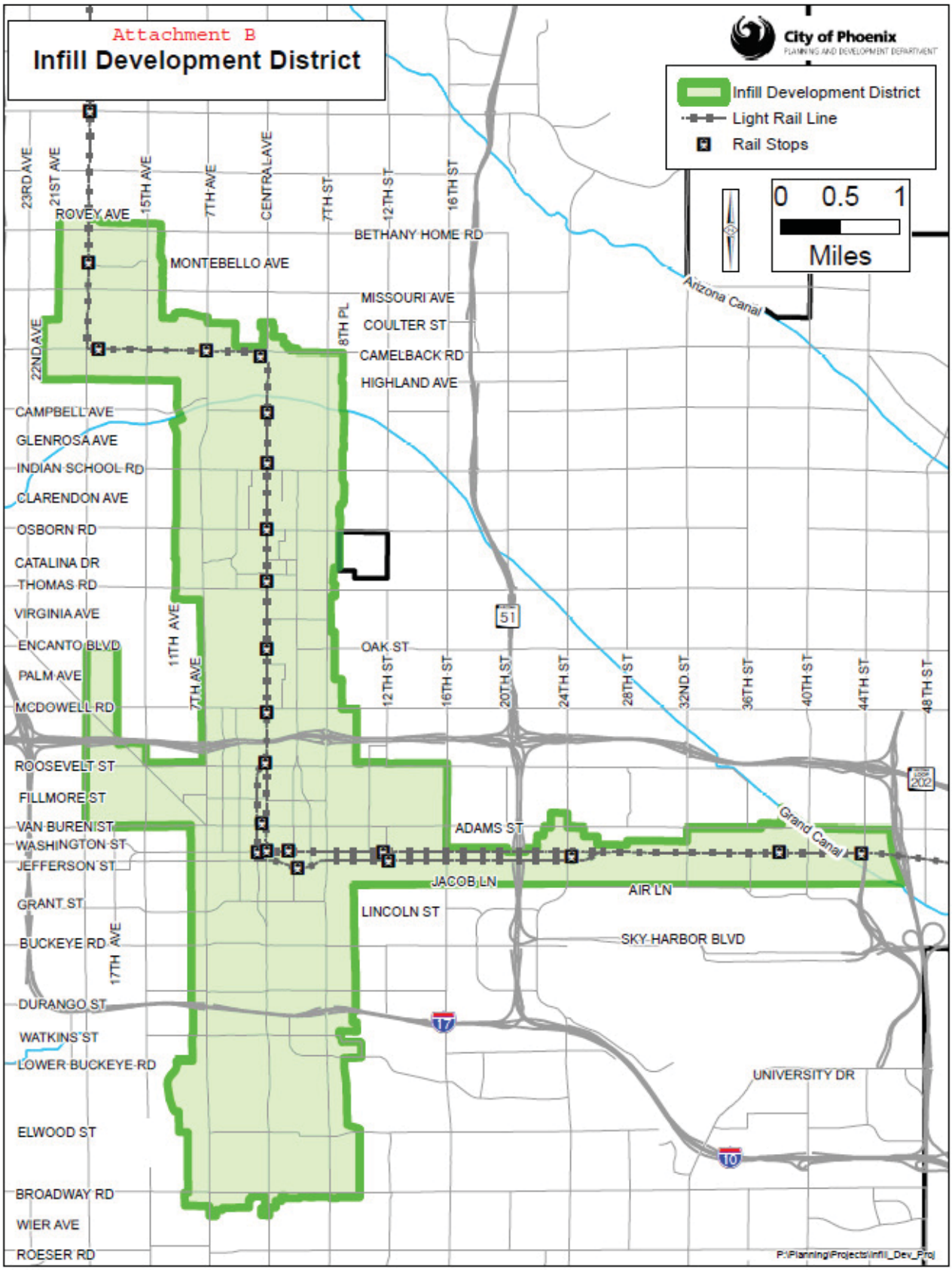
City of Phoenix
PLANNING AND DEVELOPMENT DEPARTMENT


Arterial Option "A"
New Development
6' MIN.
20' MAX
13' S/W
EASEMENT
Transit Line
Roadway
CL
PL
32'
5' L/S
8'PUE
12' MAX S/B
50'
City of Phoenix
PLANNING AND DEVELOPMENT DEPARTMENT


Arterial Option "B"
Removable Type Activation
New Development
Transit Line
Roadway
5' L/S MIN.
8' S/W MIN.
5' L/S
8' PUE
12' MAX S/B
32'
50'
City of Phoenix
PLANNING AND DEVELOPMENT DEPARTMENT


Arterial Option "C"
New Development
Roadway
10' MIN. CLEARANCE
10' MIN
10' S/W EASEMENT
12' MAX BLDG S/B
8' PUE
5' L/S MIN.
32'
* Requires Reduced Right of Way
City of Phoenix
PLANNING AND DEVELOPMENT DEPARTMENT


Arterial Option "D"
New Development
Outdoor Activation
12' MAX SETBACK
8' PUE
5' L/S MIN.
8' S/W MIN.
5' L/S MIN.
Roadway
Transit Line
32'
50'
City of Phoenix
PLANNING AND DEVELOPMENT DEPARTMENT


Attachment B
Infill Development District
City of Phoenix
PLANNING AND DEVELOPMENT DEPARTMENT
Infill Development District
Light Rail Line
Rail Stops
0 0.5 1
Miles
23RD AVE
21ST AVE
15TH AVE
7TH AVE
CENTRAL AVE
7TH ST
12TH ST
16TH ST
ROVEY AVE
BETHANY HOME RD
MONTEBELLO AVE
MISSOURI AVE
COULTER ST
CAMELBACK RD
HIGHLAND AVE
8TH PL
22ND AVE
Arizona Canal
CAMPBELL AVE
GLENROSA AVE
INDIAN SCHOOL RD
CLARENDON AVE
OSBORN RD
CATALINA DR
THOMAS RD
VIRGINIA AVE
ENCANTO BLVD
PALM AVE
MCDOWELL RD
11TH AVE
7TH AVE
OAK ST
12TH ST
16TH ST
20TH ST
24TH ST
28TH ST
32ND ST
36TH ST
40TH ST
44TH ST
48TH ST
51
ROOSEVELT ST
FILLMORE ST
VAN BUREN ST
WASHINGTON ST
JEFFERSON ST
ADAMS ST
Grand Canal
JACOB LN
AIR LN
GRANT ST
LINCOLN ST
BUCKEYE RD
17TH AVE
SKY HARBOR BLVD
DURANGO ST
17
WATKINS ST
LOWER BUCKEYE RD
UNIVERSITY DR
ELWOOD ST
10
BROADWAY RD
WIER AVE
ROESER RD
P:\Planning\Projects\Infil_Dev_Proj

THIS PAGE LEFT BLANK INTENTIONALLY

CITY COUNCIL REPORT

TO: Rick Naimark

Deputy City Manager

FROM: Kathryn Sorensen

Water Services Director

SUBJECT: WATER TREATMENT PLANT INFRASTRUCTURE RENEWAL PROGRAM

This report provides information to the Transportation and Infrastructure Subcommittee regarding the Water Services Department's (WSD) Water Treatment Plant Infrastructure Renewal Program.

THE ISSUE

The City of Phoenix owns five water treatment plants (WTPs), which are used to supply high quality water to customers in the City's water service area.

- 24th Street WTP is located near the intersection of 24th Street and Lincoln Drive and receives Salt and Verde River water delivered through the Salt River Project (SRP) canal system. The plant was originally constructed in 1948 with a design capacity of 30 million gallons per day (mgd); today that capacity stands at 140 mgd.

- Deer Valley WTP is located near the intersection of 31st Avenue and Dunlap Road and receives Salt and Verde River water delivered through the SRP canal system. It was originally constructed in 1964 with a design capacity of 80 mgd; today that capacity stands at 100 mgd.

- Val Vista WTP is a jointly-owned facility with the City of Mesa. The plant is located on McDowell Road between Lindsay and Val Vista Roads, and also receives Salt and Verde River water delivered through the SRP canal system. It was originally constructed in 1975 with a design capacity of 80 mgd. Today, capacity stands at 220 mgd, 140 mgd of which is owned by Phoenix.

- Union Hills WTP is located near the intersection of Deer Valley and Cave Creek Roads, and receives Colorado River water delivered through the Central Arizona Project (CAP) canal system. It was originally built in the 1986 with a design capacity of 80 mgd and was expanded to 160 mgd in 1990.

- Lake Pleasant WTP is located along New River Road, north of Carefree Highway, and receives Colorado River water delivered through the CAP canal system. It was constructed in 2007 with a design capacity of 80 mgd. This WTP is owned by City of Phoenix; however, it is operated and maintained by American Water.

OTHER INFORMATION

The primary goal of the infrastructure renewal program is to maximize the useful life and to plan for the replacement of aging water treatment plant assets, such as structures, equipment, and systems. WSD uses an asset management program to collect and document asset age, condition, criticality, risk value and maximum potential life. Based on these findings, the assets are maintained, rebuilt and/or replaced to meet the service levels expected by customers. Water treatment plant needs are prioritized and budgeted. Currently smaller less complex systems are addressed annually and major systems are addressed every four years to allow for planning, design, and system shutdowns.

The 10-year (FY 2015-16 to FY 2024-25) total budget for the infrastructure renewal program is $314 million. The individual WTP allocation is $70 million for Deer Valley, $68 million for 24th Street, $107 million for Val Vista, and $69 million for Union Hills. There is no budget allocated for Lake Pleasant, as it is currently operated and maintained by American Water.

RECOMMENDATION

This report is for information and discussion.