City of Phoenix

Administrative Procedure (AP) 5.1

Requirements for Securing a Permit for Utility Construction in the Public Rights-of-Way

Prepared by the Street Transportation Director/City Engineer's Office

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REQUIREMENTS FOR SECURING A PERMIT FOR UTILITY CONSTRUCTION IN THE PUBLIC RIGHTS-OF-WAY

PURPOSE

To describe the requirements for securing a permit for utility construction in the public rights-of-way and City of Phoenix owned property.

GENERAL INFORMATION AND OVERVIEW OF PROCESS

The City of Phoenix grants permission for utility construction and maintenance work in the public rights-of-way and all City of Phoenix owned property by the issuance of a permit. Authority for the administration and enforcement of this administrative procedure is derived from Chapter 31 of the Phoenix City Code.

Governmental agencies and utility companies providing electricity, gas, cable television, and communication lines receive permits from the Street Transportation Director. This document discusses utility permits issued by the Street Transportation Director only. It does not address private development or water and wastewater permits which are provided by the City of Phoenix Planning and Development Department. Likewise, it does not address permits which may be required by Federal, State, County, or other regulatory agencies.

The City of Phoenix administers all utility planning, permitting, and construction processes in accordance with the Arizona Utility Coordinating Committee (AUCC) Public Improvement Project Guide, City of Phoenix Standard Utility Locations Manual, the Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details for Public Works Construction, and the City of Phoenix Supplements to MAG except as may be modified by this Administrative Procedure.

NEED FOR A PERMIT

Permits are necessary to ensure that all utility company facilities are constructed in the proper location with adequate spacing, built in accordance with acceptable materials and methods, installed in a safe and professional manner, that final completion is assured and acceptable, and that liability issues are properly addressed.

Engineered construction plans must be submitted for review. The purpose of the Street Transportation Director's review of these plans is to ensure compliance with all applicable City of Phoenix requirements, to coordinate with other utility companies, agencies, and the City's Capital Improvement Program project activities, and to minimize the risks and inconveniences to the public. The objective is to make optimum utilization of the space available in the public rights-of-way. During the review process, the City will assist in the resolution of conflicts, which may appear with respect to existing facilities in the area, proposed construction, or future improvements.

PERMIT PROCESS - OVERVIEW

The process begins with the submission of a *Permit Application for Utility Construction in the Public Right-of-Way* to the Street Transportation Department - Utility Coordination Section (200 West Washington Street, 5th Floor). Upon submittal, the application will be logged into a tracking system to show all stages from the date the application was submitted to the date a utility permit was issued. During the permit process, City staff will distribute the application and plans for technical review in accordance with the Permit Processing Flowchart (Exhibit "A"). This review includes checking for compliance with construction standards, approving alignments, verifying that work is in the public right-of-way, determining if other construction is planned in the vicinity, and checking for conflicts. The review also entails verifying that joint trench opportunities have been explored and incorporated in the design, determining if work is proposed in newly paved streets (discouraged by a higher fee schedule), and reviewing traffic engineering /ADA (Americans with Disabilities Act) requirements. The City of Phoenix requires all utility construction projects comply with the Arizona Utility Coordinating Committee project models, including the Joint Trench Use Model and the Western Underground Trench Formula.

Upon completing the review (approximately 15 working days), the permit will either be issued or the application and plan(s) returned to the applicant for necessary corrections. Approved permits are generally issued for 6 months. The permit will contain a number of comments, conditions and traffic control regulations. The approved permit is given to the applicant for signature indicating acceptance of any stipulations and fees.

If the application is denied, the application and plans will be returned to the applicant along with the reason(s) for denial. The applicant must make the required modifications to the plans and/or permit application and resubmit both.

If the permittee does not complete the work under the approved permit within the 6 months, the permittee must request an extension to the permit prior to the expiration date. Permit extensions shall be requested no more than 30 days before the original expiration date. Extensions are normally granted for an additional 6-month period and can be requested via the General Mailbox for the Utility Coordination Section at **permits.str@phoenix.gov.** or by contacting the appropriate plan reviewer. Utility permits will be extended only ONCE. If work is not completed within that 6 month extension period, the permittee shall submit a new application and plan(s) to the City of Phoenix.

CONSTRUCTION

All work in the City of Phoenix rights-of-way requires a permit and approved construction plans. This permit along with the approved plans must be kept at the project site at all times and shown when requested. The permittee is required to submit a construction schedule, noting start and completion dates, five working days prior to the start of construction. Permittee must fax or email information to the City of Phoenix Street Transportation Department - Utility Inspection Section via fax (602-534-1403) or email (utility.inspectors.streets@phoenix.gov), at least two working days prior to start of work to schedule appropriate inspections. Excavations may not be backfilled without a satisfactory inspection by the City. Before starting any work on a major or collector street, permittee shall schedule a pre-construction meeting with the Utility Inspections Section.

Finally, "Record Drawings" (a.k.a. As-Builts and Installation Records) of the completed construction must be maintained by the permittee in accordance with Arizona Revised Statutes and made available to the Street Transportation Director upon request. The record drawings shall be submitted in a format usable by the City and clearly labeled as such.

PERMIT APPLICATION PROCESS

Application for a permit, along with required submittals e.g., drawings, details, notes, etc., is submitted on a *Permit Application for Utility Construction in Public Right-of-Way* form. This application form is used for two types of construction, "Major" and "Minor" which are defined in the section titled "Major Underground Installations" and "Minor Underground and Overhead Installations."

Permit applications shall be submitted electronically through the City's Internet Permitting System. The completed application form and drawing(s) are submitted directly to the General Mailbox for the Utility Coordination Section at **permits.str@phoenix.gov.** All construction drawings (plans) submitted electronically must be in AutoCad format and depict the Blue Stake colors that represent the utility facility. Since the City of Phoenix continues to update AutoCAD software when it becomes available, the City shall inform all companies of which version of the software is currently in use. The application, along with supporting documentation such as this Administrative Procedure, the Permit Processing Flow Chart (Exhibit "A") and Plan Review Checklist (Exhibit "C") can be found at the following website:
http://agency.phoenix.gov/phxuc

Annual permits may be issued for emergency work, lane closures, and for reoccurring minor facility maintenance work in public rights-of-way. Annual permits are also issued for locating existing facilities for design purposes.

MAJOR UNDERGROUND INSTALLATION

Major underground installations are hereby defined as the following:

1. Electrical systems of 12 KV or larger and any number of concrete encased or capped conduit systems

2. Gas lines 6-inch in diameter or larger and all feeder lines to operate over 175 psig.

3. Conduit Systems

    - Any number of concrete encased or capped conduit systems
    - One – 8" diameter or larger conduit
    - Three – 4" diameter or larger conduits
    - Four or more conduits of any diameter

4. Interoffice and fiber optic trunk communications cables (NOTE: One (1) quad-lock is equal to one (1) 4" conduit)

5. Joint-use trenches

Construction Plan Requirements

PLAN VIEW REQUIREMENTS – The plan view shall include, but not be limited to, the following:

1. A scale or dimension adequate to accurately depict relationships among the physical features within the construction area and to identify potential conflicts. Scale should be no smaller than 1" = 40'.

2. Existing and proposed rights-of-way and adjacent easements clearly labeled and dimensioned. Right-of-way lines shall be labeled "R/W" or "ROW."

3. Location and size of all existing and proposed facilities and street improvements that the proposed utility construction would either cross or run parallel within the limits of the right-of-way corridor and the adjacent easement. When proposed construction is located within the asphalt surface of the right-of-way, lip-of-gutter and/or edge of pavement shall be indicated.

4. Existing or proposed improvements including landscaping, above and underground structures, lip-of-gutter, curb, back of sidewalk, and front of sidewalk if not adjacent to the curb when proposed construction is located within an alley or behind curb and gutter.

5. All existing and proposed paving improvements when proposed work is in areas with new development.

6. Storm drains, sanitary sewer lines, and water lines over 12" in diameter drawn to scale. Simply using a line symbol to indicate these facilities is not sufficient. NOTE: All conduits or conduit systems over 12" in diameter or wide shall be shown to scale if proposed construction is within 2 feet of existing conduit system.

7. Proposed utility crossings (underground and overhead) at a 90-degree angle with the road monument line.

8. Locations and limits of proposed construction, e.g. City of Phoenix boundary between other right-of-way owners.

9. Dimensioned ties to nearest cross street. Dimensioned ties to monument lines (not centerline of asphalt) in streets and to property lines in alleys and easements.

10. Existing topography affected by the proposed construction.

11. Completed title block.

12. Vicinity map indicating major cross streets.

13. North arrow on each plan sheet.

14. Street names

15. A legend showing all symbology used on plans.

16. A note stating "Notify Arizona Blue Stake two working days before construction". (In Maricopa County call 602-263-1100; statewide call 811 or 1-800-782-5348.)

17. All revisions to approved plans must be made distinctive on the revised plans. "Clouded" representation of revisions to approved plans is the suggested method.

PROFILE REQUIREMENTS **–** The profile shall include, but not be limited to, the following:

1. Existing and proposed grades at intervals of 100' or less in the same alignment as the proposed construction. The profile shall be shown as a continuous line on the plans throughout the project.

2. All existing and proposed facilities that the proposed utility will cross (storm drains, sanitary sewer lines, waterlines, and conduit systems).

3. Storm drains, sanitary sewer lines, and water lines over 12" in diameter shall be drawn to scale. Simply using a line symbol to indicate these facilities is not sufficient. NOTE: All conduit systems over 12" in diameter or high shall be shown to scale if proposed construction is within 2' of existing conduit system.

4. A vertical scale that adequately depicts installation of existing facilities is required. Please specify scale (1" = 2', 1" = 5', etc.)

5. Elevations shall be City of Phoenix datum and indicated on the plans. The City of Phoenix Street Transportation Department Survey Section (602) 495-2050 *may* provide elevations datum information. City of Phoenix NGVD -1929 Benchmark Elevations can be found at http://www.surveyorresourcepage.com/cop_bm/srchbm.asp.

NOTE: Complete profile drawings showing all intersections return curve to return curve for Major Street to Major Street, or Major Street to Collector Street shall be provided when proposed construction crosses existing or proposed facilities. Profiles may also be required when clarity of a proposed crossing is necessary.

MINOR UNDERGROUND AND OVERHEAD INSTALLATION

Definition – Any proposed installation not previously described as a major installation.

Construction Plan Requirements

PLAN VIEW REQUIREMENTS – The plan view shall include, but not be limited to, the following:

1. A scale or dimension adequate to accurately depict relationships among the physical features within the construction area and to identify potential conflicts. Scale should be no smaller than 1" = 40'.

2. Existing and proposed rights-of-way and adjacent easements clearly labeled and dimensioned. Right-of-way lines shall be labeled "R/W" or "ROW."

3. Location and size of all existing and proposed facilities and street improvements that the proposed utility construction would either cross or run parallel within the limits of the right-of-way corridor and the adjacent easement. When proposed construction is located within the asphalt surface of the right-of-way, lip-of-gutter and/or edge of pavement shall be indicated.

4. Existing or proposed improvements including landscaping, above and underground structures, lip-of-gutter, curb, back of sidewalk, and front of sidewalk if not adjacent to the curb when proposed construction is located within an alley or behind curb and gutter.

5. All existing and proposed paving improvements when proposed work is in areas with new development.

6. Storm drains, sanitary sewer lines, and water lines over 12" in diameter drawn to scale. Simply using a line symbol to indicate these facilities is not sufficient. NOTE: All conduits or conduit systems over 12" in diameter or wide shall be shown to scale if proposed construction is within 2 feet of existing conduit system.

7. Proposed utility crossings (underground and overhead) at a 90-degree angle with the road monument line.

8. Locations and limits of proposed construction.

9. Dimensioned ties to nearest cross street. Dimensioned ties to monument lines (not centerline of asphalt) in streets and to property lines in alleys and easements.

10. Existing topography affected by the proposed construction.

11. Completed title block.

12. Vicinity map indicating major cross streets.

13. North arrow on each plan sheets.

14. Street names

15. A legend showing all symbology used on plans.

16. A note stating "Notify Arizona Blue Stake two working days before construction". (In Maricopa County call 602-263-1100; statewide call 811 or 1-800-782-5348.)

17. All revisions to approved plans must be made distinctive on the revised plans. "Clouded" representation of revisions to approved plans is the suggested method.

PROFILE REQUIREMENTS – The profile shall include, but not be limited to, the following:

1. Depth of proposed installations by notes or typical cross sections.

OVERHEAD INSTALLATIONS AND MAINTENANCE REQUIREMENTS

1. Minimum overhead clearance shall be 18 feet. Overhead lines shall not obstruct or interfere with traffic signal visibility. Other governmental agencies or codes may require a greater distance. In such cases, the greater distance required shall prevail as the rule.

2. Existing underground facilities need not be shown on plans for overhead installations or maintenance (including overlashing) if excavations do not exceed 20 feet total.

3. The MAG Standard Specifications and Details, including City of Phoenix Supplements to MAG shall be followed for the installation and maintenance of both underground and overhead facilities. Permits for overhead lines must comply with any agreement with licensed and franchised companies.

4. When plans are submitted for utility pole relocation (s) and/or removal (s), all utility owners that may be attached to the pole (s) will be issued a joint use utility permit. All pole occupants must relocate their facilities in a timely manner. When all attachments are clear, the pole (s) shall be removed immediately.

CONSTRUCTION REQUIREMENTS

The current MAG Uniform Standard Specifications and Details including the current City of Phoenix Supplements to MAG shall be followed for the installation of facilities.

The City of Phoenix Street Transportation Department's Right-of-Way Management Program governs all street and sidewalk restrictions and traffic control devices utilized in the right-of-way.

All work must comply with the requirements of the current City of Phoenix Traffic Barricade Manual and specific traffic regulations, which are contained in the approved permit.

The permittee is responsible for insuring the natural drainage is not impeded during and after construction. Storm water management within the construction site is the responsibility of the permittee. Where required, the permittee shall obtain all necessary National Pollution Discharge Elimination System (NPDES) permits and comply with all applicable requirements therein.

WATER & SEWER REQUIREMENTS

The City of Phoenix "Design Standards Manual for Water and Wastewater Systems" mandates a six-foot horizontal clearance from City of Phoenix water and sewer lines.

UTILITY CLEARANCES

1. A six (6) foot minimum horizontal separation from any dry underground utility shall be provided for water mains and sewer mains. The minimum horizontal separation is measured from outside of water/sewer main to the outside of the underground utility.

2. A three (3) foot minimum horizontal separation from any dry underground utility shall be provided for water services and sewer services. The minimum horizontal separation is measured from outside of water/sewer services to the outside of the underground utility.

3. A one (1) foot minimum vertical separation from any dry underground utility crossing shall be provided for water mains, water services, sewer mains, and sewer services. The minimum vertical separation is measured from outside of water/sewer main/service to outside of the underground utility.

4. Any and all more stringent separation requirements required by Federal, State, or Local codes or ordinances take precedence.

A utility company requesting a variance from the above minimum clearances must do so in writing to the Street Transportation Department, Utility Coordination Section as part of the permit application. The request shall identify each utility clearance requirement for which a variance is requested and the reasons why a variance should be granted. The Utility Coordination Supervisor shall decide, with the guidance of the Water Services Department, whether a variance should be granted. When utility conflicts are found during construction, all changes and variances must be preceded by an approved plan revision.

Construction plans showing water/sewer mains/services that do not agree with the City of Phoenix record drawing information must be accompanied by stamped utility location sheets showing the exact location of the underground structures. Construction plan approvals will be based on this information and will be forwarded to the utility construction inspector for use in the inspection of your installation.

FACILITY ATTACHMENTS TO BRIDGES OR ROADWAY STRUCTURES

Facilities may be installed as attachments to bridges or roadway structures only where the utility company has demonstrated that all other means of installation is not practicable. Other means shall include, but are not limited to, underground and independent poles. If the attachment must be made, submittals shall include sealed plans, profiles and details on the proposed attachment to the structure and method of attachment, along with sealed structural calculations for all brackets and connection devices into the structure. An Arizona Registered Structural Engineer must seal the plans and calculations.

Facility installations conveying commodities that are volatile, flammable, corrosive or present high degrees of risk to persons and property in the event of damage to or failure of that facility is highly discouraged, but may be reviewed and approved on a case-by-case basis.

MANHOLE REQUIREMENTS

The Street Transportation Director must approve placement of all manholes and hand holes in advance.

A detail drawing of the manhole must be submitted to the Street Transportation Department, Utility Coordination Section for review, where it will be kept on file. The drawings must include the ring and lid detail. The City will review the submittal for approval to construct in asphalt and landscape areas. Placement of manholes, hand holes, and pull boxes in sidewalks, unless approved by the Street Transportation Director, is prohibited. The City will review on a case-by-case basis, instances where the permittee provides a substantial reason why placement of the manhole, hand hole or pull box in the sidewalk is necessary.

When plans are submitted for permit approval the manhole type must be called out to be cross-referenced with the manhole detail on file. If a manhole has not been submitted for approval, the permit application will be returned with a comment stating no manhole detail has been approved to date.

Due to size of various manholes, the City of Phoenix Water Services Department will allow proposed manhole installations to encroach on the six (6’) foot minimum horizontal separation requirement as long as the manhole extends at least to the bottom level of the City’s water or sewer facility. This requirement is needed so that the City’s facility does not undermine the utility company’s facility. The City still requires at least three (3’) feet of clearance in these

cases, but the utility lines still need to maintain the required six (6') foot horizontal separations from water and sewer facilities.

UTILITY PERMITS IN EXCLUSIVE EASEMENTS

Exclusive easements such a sidewalk, landscape, trail, etc., are dedicated to the public for specific purposes and typically do not include the right of use for utility purposes. As custodians of the public rights-of-way, which includes these easements, the City of Phoenix cannot grant permission for additional uses of easements above what has been dedicated. If the utility company has been granted a subordinate easement to the original dedications, then this must be noted on the plans. Furthermore, the utility company must supply dedication documents with the permit application and plans. The Utility Coordination Section will review the construction plans that contain work within the right-of-way and approve if the required criteria is met. The City will acknowledge the utility company's claim of easement based on the submitted documentation, but it will not be approved as part of the permit.

LIGHT RAIL UTILITY COORDINATION

All utility company work located within the light rail corridor that is in the public rights-of-way, must also be approved and permitted by Valley Metro Rail, Inc. The light rail corridor within the public rights-of-way is defined as 3 feet from the outside of guideway curbs over which light rail transit routes operate.

REQUIREMENTS FOR SECURING A PERMIT

Engineered plans and permitting documentation must conform to the latest edition of the following references:

- City of Phoenix Administrative Procedure 5.1
- Light Rail Design Guidelines Manual (METRO Operations and Maintenance Center, 602-652-5062)
- Light Rail Safety Maintenance Manual (METRO Operations and Maintenance Center, 602-652-5062)

LIGHT RAIL PERMIT APPLICATION PROCESS

The light rail permit application process shall comply with all procedures already identified in Administrative Procedure 5.1, along with the addition of the following:

- Utility company engineered plans must be approved and permitted by Valley Metro Rail, Inc. and included in the submittal process for the Permit Application for Utility Construction in the Public Right-of-Way to the Street Transportation Department.

PAVEMENT CUTS

SURCHARGE AND VARIANCE

The City of Phoenix adopted ordinance G-3208 that places assessments for any cuts in pavement 30 months old or less. A copy of this ordinance can be obtained from the City of Phoenix City Clerks Department. The amount of the assessment is based on the age of the pavement and the surface area of the cut as described below.

The Utility Coordination Section can approve utility construction permits that contain pavement cuts in this category. The City of Phoenix Street Transportation Department will assess a surcharge fee to the applicant, and the utility construction inspector will inform the contractor of any special pavement restoration conditions.

PAVEMENT CUT PER PHOENIX CITY CODE

Art. III § 31-38
AMENDING ORDINANCE G-3208

Sub section (d)
It is the intent of this ordinance to avoid the cutting of new street pavement, or newly overlaid pavement. In the event that a street opening in a new pavement cannot be avoided, a surcharge fee to cover damages and early deterioration is assessed as follows:

Cuts in new paving less than 12 months old. Opening less than 9 sq. ft., or 9 linear. ft. of trench $1000. Trenches over 9 ft. long - $2500 for every 50 ft. or fraction thereof.

For pavement less than 24 months old. Openings less than 9 sq. ft., or 9 linear ft. of trench $640. Trenches over 9 ft. long - $1600 for every 50 ft. or fraction thereof.

For pavement less than 30 months old. Openings less than 9 sq. ft. or 9 linear ft. of trench - $320. Trenches over 9 ft. long - $800 for every 50 ft. or fraction thereof.

These surcharge fees are assessed in addition to the regular permit fees, and are over and above any special backfill, compaction and pavement replacement stipulations that may be imposed as a condition of permitting

WAIVER OF SURCHARGE FEE

SEC. 31-38.1 WAIVER OF FEES

The pavement cut surcharge fee may be waived by the Street Transportation Director upon finding by the Street Transportation Director that the fee imposes an undue hardship on the owner of the utility, or the applicant for services, or for an emergency cut necessary to protect the public's health or safety. Evidence must be presented by the applicant that the following conditions have been fulfilled:

1. The cut is not the result of improper planning or lack of diligence on the part of the applicant.

2. The cut cannot be avoided by routing the line in a different manner or taking any other action.

The surcharge fee may also be waived by the City Council in recognition of extraordinary public benefit or as part of the City contribution in a joint project. (Ord G-730. § 1: Ord. G-1250 § 1: Ord No. G-1525, § 1: Ord. G-1815, § 1: Ord. No. G-1993, § 18: Ord. No. G-2144, § 2: Ord. No. G-2396, § 1: Ord. No. G-2510, § 1: Ord. No. G-2551, §§ 1-3: Ord. No. G-2627, § 1: Ord. No. G-2785 §§ 1 & 2: Ord. No. G-2977, § 1: Ord. No. G-3009, § 1: Ord. No. G-3127, § 1: Ord. No. G-3208, § 1: Ord. No. G-3313, § 1; Ord. No. G-3346, § 3: Ord. No. G-5590, § 1, adopted 2-23-2011, eff. 3-25-2011)

CENTRAL AVENUE

Although pavement age is over 30 months for Central Avenue I-10 to Camelback Road the City of Phoenix prefers that pavement cuts be avoided in all situations. Before planning any installations involving the rights-of-ways for Central Avenue, a pre-design meeting is required. Please contact your City of Phoenix Utility Coordination Team Leader to schedule this meeting.

BIKE PATHS

The City of Phoenix has adopted the following guidelines for work in bike lanes. If you cut pavement in a bike lane, you will be required to mill 1" and overlay the pavement matching the existing material full width of the lane for the entire length of the trench cut. If you trench horizontally across a bike lane you will be required to mill and overlay 50' on either side of the trench. Copies of the Bike Route Map can be obtained from the City of Phoenix Street Transportation Department.

MORATORIUM

During certain times of the year and during special events the City of Phoenix does not allow pavement cuts and/or lane restrictions. An example would be the areas near major shopping centers during the holiday season, Thanksgiving to New Years Day; due to the volume of traffic in these areas we try not to disrupt traffic flow with barricading or trench plates. The City of Phoenix Street Transportation Department will inform you of any restrictions to construction when you call-in to start construction, and work with you throughout construction to obtain the most timely completion of your construction. For further information on traffic restrictions contact your City of Phoenix Utility Construction Inspector assigned to the area of your build, or area supervisor north of Bethany Home Road **(602) 534-1405** area supervisor south of Bethany Home Road **(602) 534-1406.**

ABOVE GROUND UTILITY STRUCTURES

SUBMITTAL REQUIREMENTS

All permit applications, excluding inside the boundaries of new subdivisions that place an above ground structure greater in height than 36" must be accompanied with the following documentation:

1. Three (3) photographs of the proposed structures location, one at 90 degrees, the other two at 45 degrees on either side of the proposed location. Identify the location of the proposed structure, mark the location with white paint, use an orange traffic cone, etc.

2. Submit a detail drawing of the structure to be placed on file with the Street Transportation Department. All future permit plan submittals using the same structure can call out the structure type on the plan to be cross-referenced with our file. An acceptable alternative to a file copy of the structure would be to place a structure detail once on each permit plan submittal for every type of structure being placed.

All permit applications, excluding new subdivisions, that place an above ground structure equal to or less than 36" in height must call out structure size on the plans for each structure being placed, i.e. 24x24x36, or placed in a detail book supplied to the Utility Coordination Section.

Any variations to the above requirements must be agreed to in advance by the City of Phoenix Street Transportation Department. Please contact your Utility Coordination Team Liaison to set up a meeting to discuss a request for a variance.

PUBLIC NOTIFICATION GUIDELINES

Break down the public notification process into 3 scenarios:

1. For strictly maintenance projects with like-for-like replacements and no additional structures, there would be no public notification required.

2. For primarily maintenance projects, where the utility would like to upgrade their system (e.g. replacing wood poles with steel, adding 12kv lines to an existing 69kv system, upgrading cabinets, etc.), compliance with the public notification process is required.

3. For completely new installations where nothing existed previously, compliance with the public notification process is required.

Public Notification Process:

A. Identify the potential site for placement within the neighborhood. The site will be selected on the basis of aesthetics, technical/engineering restrictions and may include PUE and/or ROW areas. The preferred location will be outlined with white paint.

B. Send an Information Packet to abutting property owners and any residence within the proposed structure lines of sight. The packet will include a "before" and "after" (with the new structure superimposed) picture plus a diagram showing all work to be performed, including trenching in the area. At this time a 10-day citizen response period will begin.

C. If the unit is located in a PUE or less than 50 feet from a residence, a utility company customer service representative will make personal contact with the property owner either by phone or in person, at the property owner's preference, to discuss any concerns the property owner might have.

D. When a proposed location is outlined in white paint and continuing through the 10-day waiting period, the utility company shall post a sign with an explanation of the work and the hotline number (similar to what is done with zoning issues). The company shall accumulate feedback via a hotline number, e-mail, or fax. If feedback is negative and the citizens' concerns cannot be resolved, the process starts over with a second potential site and again with a third site, if necessary.

E. Hang door tags and/or flyers two days prior to start of construction on homes within 300 feet of the proposed site explaining what will occur.

F. Oversee contract labor completing placement of the structure. A sign with the utility company's customer service hotline number will be placed at the location during the construction phase.

G. Place an emphasis on public relations and their willingness to work with residents and select alternate locations if there is a strong resistance to the utility company's preferred placement.

H. The use of the PUE and/or ROW shall be allowed on a case-by-case basis through the permitting process.

I. For equipment new to the City of Phoenix rights-of-way, the utility company will establish a dedicated customer service program to serve the citizens of the City of Phoenix for construction issues.

NOTE: Utility Coordination Staff will initiate monthly meetings, and continue them as needed, with the utility companies to assess effectiveness of the program and will make alterations as necessary to protect the needs of the residents.

REVIEW GUIDELINES

For above ground structures over 36 inches in height, all proposed locations will be reviewed using the guidelines set forth in the section "G*uidelines for the placement of Large Utility Structures."* All above ground structures will adhere to applicable City of Phoenix planning and zoning ordinances copies of the ordinances pertaining to your specific job requirements are available through the City of Phoenix Planning and Development Department.

We understand the needs of the utility companies in having these above ground structures to serve the needs of the customers, but we try to minimize disruptions around citizen's yards. When placing a new above ground structure do not place it in such a way that any one citizen's yard becomes a "*utility box dumping ground."*

Concrete pads must be the same height as the adjacent sidewalks and the cabinets must be set back 18" from the edge of the sidewalk. The distance from the front of the structure to the edge of the sidewalk must be shown on the plans.

GUIDELINES FOR THE PLACEMENT OF LARGE UTILITY STRUCTURES

Attached are suggested guidelines for the location of new utility structures along major streets in Phoenix. This supersedes a January 23, 1990 memo to clarify concerns on the placement of utility poles. These guidelines have been prepared primarily for the location of large switching cabinets, transformers or other structures that are higher than 36 inches above the street surface and are greater than 15 inches in width, which may cause a visibility obstruction to motorists.

Figure 1 is for a typical 64-foot wide major street, which is not curved. The figure indicates desirable line of sight dimensions for 40 mph and 50 mph design speeds. Values for other speeds and street widths can be interpolated. The calculated distance to the object is measured from the driver position (not the edge of curb or driveway) and assumes the driver's eye is 10 feet behind the curb. This figure does not represent all possible geometric and traffic conditions. However, if a large utility structure is intended for installation within the shaded triangles, further study may be necessary.

Figure 2 illustrates the suggested guidelines for a curved major street. Since every curve may be different, it is best to draw the line of sight on the diagram using a driver eye position of 10 feet behind the curb, to the center of the vehicle in the nearest approach lane.

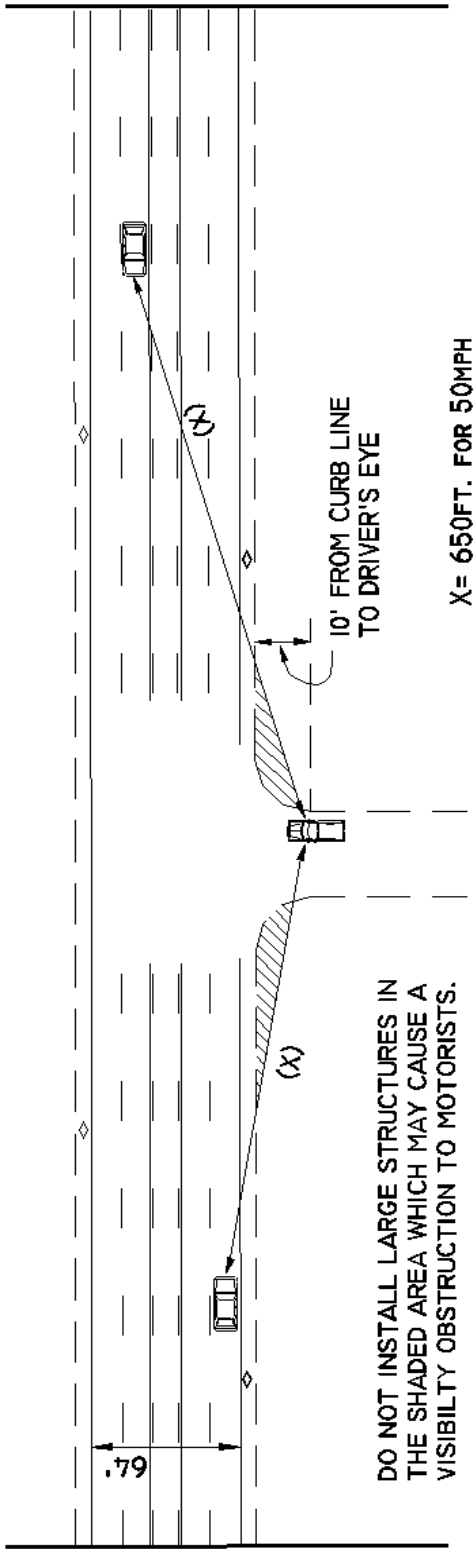
Other considerations include:

- It is desirable to use a design speed of 5 mph above the posted limit to allow for future speed limit fluctuations. For other design speeds, the desirable sight distance is calculated as 130 feet for every 10 mph (for 6 lane streets).

- There are advantages and disadvantages of sighting utility poles near intersections. Clearly, the greatest concerns are the provision of street lighting at the intersection and the span length between power poles. It is rare for steel street light poles or typical wood utility poles to cause a vision obstruction at an intersection (which generally only occurs in combination with other obstacles). To optimize conditions, it is desirable to locate street light poles close to the intersection, but on the downstream side to minimize the chance of a vision obstruction.

- Avoid encroachments into sidewalks. When this is unavoidable, a sidewalk width must meet ADA compliance; otherwise, 60" is considered a desirable minimum sidewalk width along major streets. If this is not possible, an easement should be obtained to construct the utility appurtenance behind the sidewalk.

- Encroachment into multi-use or shared use paths are not appropriate and should be avoided.



DESIRABLE DISTANCE FROM DRIVER TO VISIBILITY OBSTRUCTION FOR VARIOUS OFFSETS

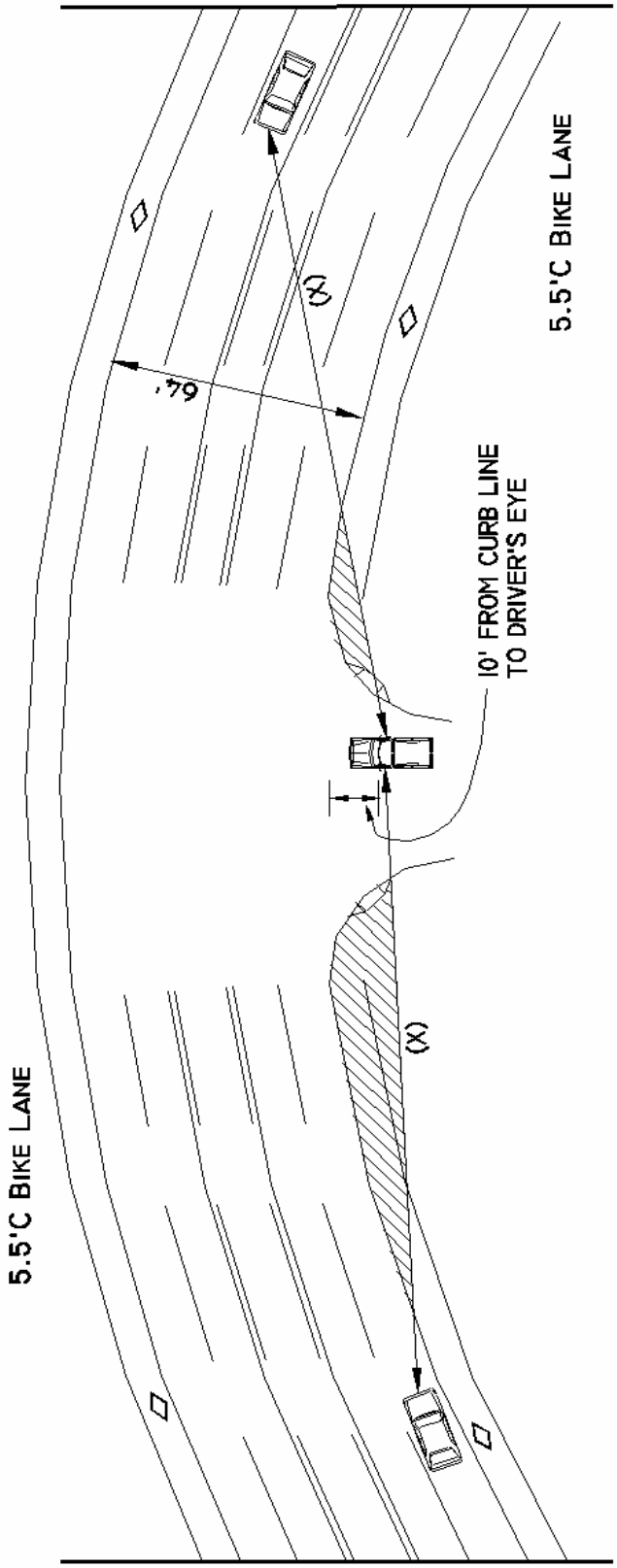
UPSTREAM

OFFSET FROM CURB FACE	DESIGN SPEED 40 MPH	DESIGN SPEED 50MPH
2'	260'	325'
3'	227'	284'
4'	195'	244'
5'	162'	203'
6'	130'	162'
7'	97'	122'
8'	65'	81'

DOWNSTREAM

OFFSET FROM CURB FACE	DESIGN SPEED 40 MPH	DESIGN SPEED 50MPH
2'	88'	110'
3'	77'	96'
4'	66'	83'
5'	55'	67'
6'	44'	55'
7'	33'	41'
8'	22'	28'

FIGURE 1. SUGGESTED GUIDELINES FOR PLACEMENT OF LARGE UTILITY STURCTURES ON TANGENT SECTIONS OF MAJOR STREETS



DO NOT INSTALL LARGE STRUCTURES IN THE SHADED AREA WHICH MAY CAUSE A VISIBILITY OBSTRUCTUION TO MOTORISTS.

X= 650FT. FOR 50MPH
X= 520FT. FOR 40MPH

FIGURE 2. SUGGESTED GUIDELINES FOR PLACEMNET OF LARGE UTILITY STRUCTURES ON CURVED MAJOR STREETS.

STRUCTURES IN ALLEYS

All utility equipment such as pedestals, cabinets, transformers should be installed on the same side as the trash containers to avoid being hit by trash collection vehicles.

Public Works requirements

1. The structure has to be far enough in from the end of the alley to allow the vehicle to enter the alley without needing to maneuver around it. The structure must be 35 feet from mouth of alley.

2. Structures on either side of the entrance must conform to Street Transportation Department site triangle standards a minimum of 10 feet. Structures that exceed 36" will not be allowed, structures that are less than 36" will be reviewed on a case by case basis.

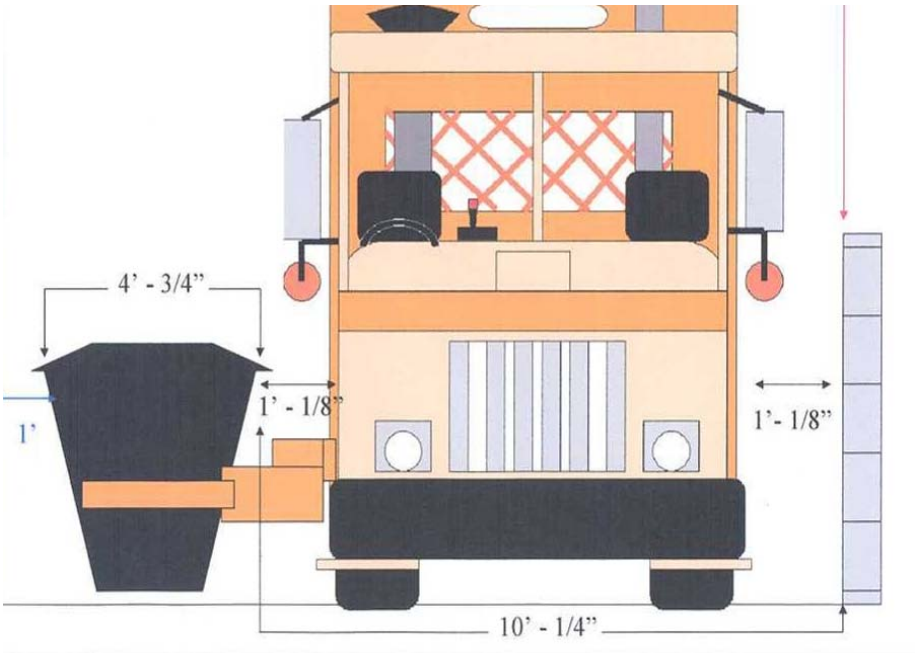
3. Equipment should not extend into the alley any further than necessary. 4.5 feet is an absolute maximum.

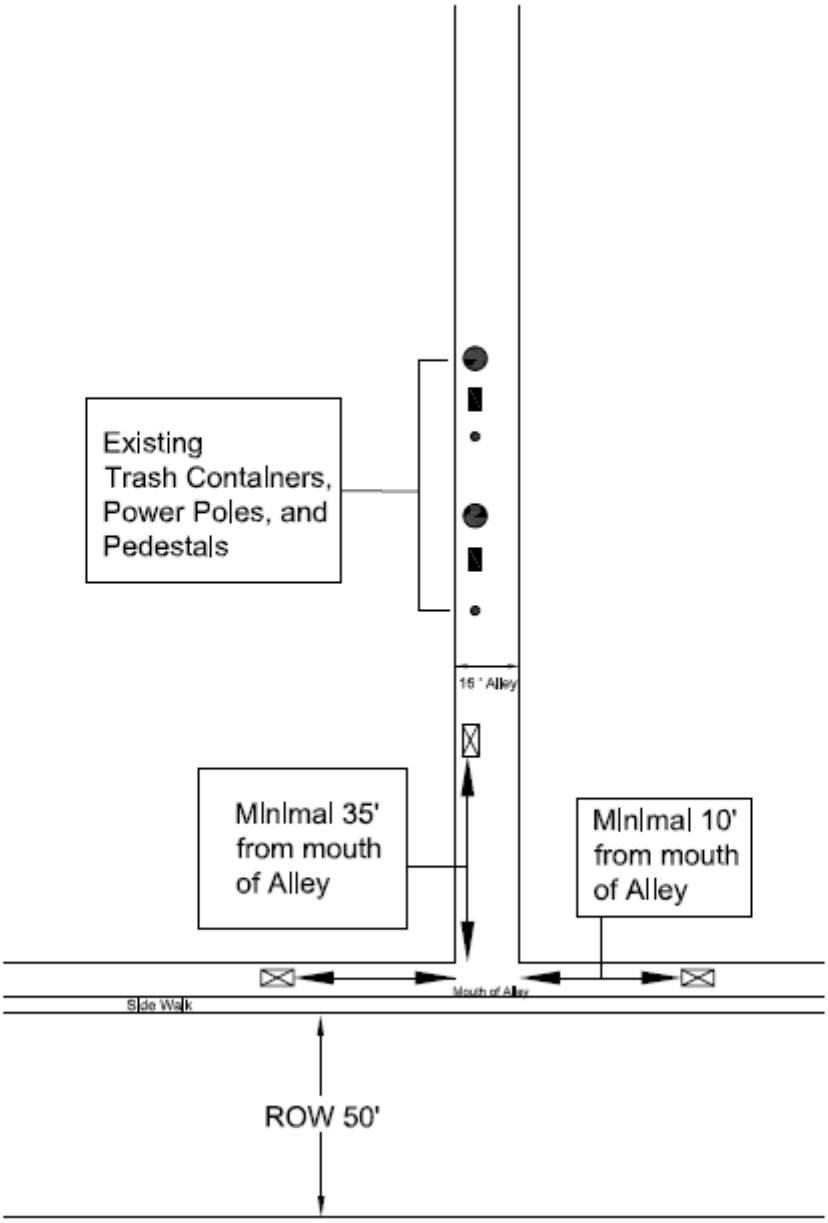
4. Any above grade slab for any structure should be rounded rather than having squared corners. This decreases the possibility of blowing out a truck tire.

5. If existing infrastructure is on the opposite side of the cans, an exception can be made as long as the new facilities stay in the same alignment as existing structures.

SANITATION TRUCK VEHICLES

Residential alleys are typically 16 feet across, the truck is 8 feet wide at the wheels, containers are 4'-3/4" feet across at the top.
If the proposed structure extends more than 4.5 feet into the alley, it can interfere with truck traffic.




Existing
Trash Containers,
Power Poles, and
Pedestals
15 ' Alley
Minimal 35'
from mouth
of Alley
Minimal 10'
from mouth
of Alley
Mouth of Alley
Side Walk
ROW 50'

NOISE ORDINANCE

Art. I § 23-14 MORALS AND CONDUCT Art. I § 23-14

(h) **BUILDING OPERATIONS; PERMIT FROM PLANNING AND DEVELOPMENT DIRECTOR**

The erection (including excavating), demolition, alteration or repair of any building in any residential district or section, other than between the hours of 6:00 a.m. and 7:00 p.m. from May 1 to and including September 30 and between the hours of 7:00 a.m. and 7:00 p.m. beginning October 1 to and including April 30 on weekdays, except in case of urgent necessity in the interest of public health, safety and welfare and then only with a permit from the Planning and Development Director, which permit maybe granted for a period not to exceed thirty days, while the emergency continues. If the Planning and Development Director should determine that the public health, safety and welfare will not be impaired by the erection, demolition, alteration or repair of any building within the hours specified herein, and if he shall further determine that loss or inconvenience would not result to any party in interest, he may grant permission for such work to be done at times other than specified herein, upon application being made at the time the permit for the work is awarded or during the progress of the work

(i) **EXCAVATION OF STREET, PERMIT FROM STREET TRANSPORTATION DIRECTOR**.

The excavation of streets and highways in any residential district or section, other than within the hours specified in Section 23-14(h), except in the case of urgent necessity in the interest of public health, safety and welfare, then only with a permit from the Street Transportation Director, which permit may be granted for a period not to exceed thirty days, while the emergency continues. If the Street Transportation Director should determine that the public health, safety and welfare will not be impaired by the excavation of streets and highways within the hours specified in Section 23-14(h), and if he shall further determine that loss or inconvenience, should not result to any party in interest, he may grant permission for such work to be done other than specified in Section 23-14(h), upon application being made at the time the permit for work is awarded or during the progress of work.

(j) **NOISES NEAR SCHOOLS, HOSPITALS, CHURCHES, ETC**.

The creation of any excessive noise on any street adjacent to any school, institution of learning, church or court while the same is in session, or adjacent to any hospital, which unreasonably interferes with the workings or session thereof, Provided, that signs must be displayed in such streets indicating that the same is a school, institution of learning, church, court or hospital.

DEVELOPER/CUSTOMER SUPPLIED TRENCH/JOINT TRENCH PROCEDURES

The lead utility company will design their facilities and submit the plans to the Utility Coordination Section for review. When the plans meet City of Phoenix standards, the plan reviewer will issue a permit to each utility company that will occupy the trench, and forward a copy of these plans to the Planning and Development Department (PDD) to issue a trenching permit. This process will eliminate discrepancies between the trenching and utility plans that are used to issue permits and provide a seamless service to the development community by submitting one set of plans and getting all permits necessary to place dry utilities in the right-of-way.

In response to utility company's request to continue using the electronic procedures for submitting plans for review we have listed the requirements for submitting plans both electronically and hard copy. To speed processing time the City of Phoenix recommends the subdivision design consultant use city layer standards for electronic drawings. This will save time in the utility design process by not having to re-layer the drawing to meet city standards.

ELECTRONIC SUBMITTALS

Plans submitted for review must contain the following information:

1. Location of the dry utility trenches including dimensions to tie down all main trenches and service drop trenches.

2. Location of the water and sewer mains and services including dimensions tied to the same points as the dry utility trenches, to check for appropriate clearances.

3. The plans must follow all applicable standards as set forth in this administrative procedure.

4. A list of non-standard* utility companies that will occupy the trench.

5. If the trenching contractor has an account with PDD and wants to have the trenching permit returned electronically, the name, phone number and e-mail address for the contractor or the representative designated by the developer. If they do not have an account the name, phone number and mailing address of the trenching contractor or the representative designated by the developer.

6. Total trench footage for the dry utilities on the plans.

7. Total trench footage for the dry utilities in the right-of-way.

8. Subdivision name and PDD project number.

***STANDARD UTILITIES**

Electric	APS or SRP
Telephone	Century Link fka Qwest
Gas	Southwest Gas
Cable TV	COX Communications

Subdivisions

When the plans are approved, the plan reviewer will electronically send the approved stamped plans and the appropriate copy of the permit to each utility company in the trench. The plan reviewer will then forward the stamped plans and a copy of each permit issued to PDD. PDD will then approve the plans for a trenching permit and forward a copy of the plans and all permits to the PDD inspection staff.

Commercial & Industrial Developments

When the plans are approved, the plan reviewer will electronically send the approved stamped plans and the appropriate copy of the permit to each utility company in the trench. The plan reviewer will then forward a copy of the stamped plans and a copy of each permit issued to the utility inspection staff. The plan reviewer will also forward a copy of the stamped plans to PDD to issue a trenching permit. PDD will forward a copy of the plans and the trenching permit to PDD inspection staff.

HARD COPY SUBMITTALS

The plan package submitted for review must contain the following:

1. Four sets of plans for City of Phoenix use.

2. One set of plans for each utility company using the trench.

3. The plan package must contain and meet all applicable standards as set forth in this administrative procedure.

Plans submitted for review must contain the following information:

1. Location of the dry utility trenches including dimensions to tie down all main trenches and service drop trenches.

2. Location of the water and sewer mains and services including dimensions tied to the same points as the dry utility trenches, to check for appropriate clearances.

3. The plans must follow all applicable standards as set forth in this administrative procedure.

4. A list of non-standard* utility companies that will occupy the trench.

5. The name, phone number and mailing address of the trenching contractor or the representative designated by the developer.

6. Total trench footage for the dry utilities on the plans.

7. Total trench footage for the dry utilities in the rights-of-way.

8. Subdivision name and PDD project number.

***STANDARD UTILITIES**

Electric	APS or SRP
Telephone	Century Link fka Qwest
Gas	Southwest Gas
Cable TV	COX Communications

Subdivisions

When the plans are approved, the plan reviewer will send a copy of the approved stamped plans and the appropriate copy of the permit to each utility company in the trench. The plan reviewer will then forward a copy of the stamped plans and a copy of each permit to PDD. PDD will then approve the plans for a trenching permit and forward a copy of the plans and all permits to the PDD inspection staff.

Non-Subdivisions

When the plans are approved, the plan reviewer will send a copy of the approved stamped plans and the appropriate copy of the permit to each utility company in the trench. The plan reviewer will then forward a copy of the stamped plans and a copy of each permit issued to the utility inspection staff. The plan reviewer will also forward a copy of the stamped plans to PDD to issue a trenching permit. PDD will forward a copy of the plans and the trenching permit to PDD inspection staff.

REVISIONS

Revisions to approved plans will follow the same procedures as new submittals. All revisions to approved plans shall be made distinctive on the revised plans. “Clouded” representation of revisions to approved plans is preferred.

DEVIATION FROM JOINT TRENCH

If any utility company deviates from the approved plans they must apply for a separate permit showing the locations and applicable information listed above. If these plans include customer trenching, they will follow the same procedures as new submittals, and include the permit number assigned to the original construction plans. If the plans include utility company trenching, they will be reviewed by the Utility Coordination Section and forwarded to the appropriate inspection staff.

Public Improvement Project Model

PREFACE

PHASE 1 - PLANNING
PROJECT SPECIFIC

- Define the role of the trench provider
- Facilitates joint use trench interest responses

1.01 Trench Provider Role

PHASE 2 - DESIGN DEVELOPMENT
PROJECT SPECIFIC

- Both trench provider and trench participant develop an acceptable trench detail
- Trench provider sends final designs to participants
- Trench provider may formalize trench participation with a Joint Use Memo

2.01 Design Coordination
2.02 Joint Use Memo
2.03 Agency Notification

PHASE 3 - CONSTRUCTION
PROJECT SPECIFIC

- A pre-construction meeting is held with all parties to coordinate construction activities
- Trench provider provides trench
- Each trench participant inspects its own facilities
- Construction progress meetings held, if needed

3.01 Pre-Construction Meeting
3.02 Field Coordination

PHASE 4 – PROJECT CLOSURE
PROJECT SPECIFIC

- Each participant completes its own installation records
- Trench provider processes final billing

4.01 Permit Closures
4.02 Installation and Record Drawing
4.03 Billing

EXAMPLES AT THE END OF THIS MODEL:

- Western Underground Trench Formula
- Memorandum for the Joint Use Trenches

JOINT USE TRENCH MODEL

PREFACE

THE PURPOSE OF THE JOINT USE TRENCH MODEL IS TO FACILITATE THE EFFICIENT AND TIMELY PLANNING, DESIGN, CONSTRUCTION AND CLOSURE OF JOINT USE UTILITY TRENCH INSTALLATIONS. PLACING MULTIPLE UTILITIES IN ONE COMMON TRENCH CAN RESULT IN SIGNIFICANT COST SAVINGS TO THE PARTICIPANTS AND CAN REDUCE CONGESTION IN AN OTHERWISE CROWDED RIGHT-OF-WAY. ON THE OTHER HAND, JOINT USE TRENCHES TYPICALLY REQUIRE GREATER COORDINATION DURING BOTH THE DESIGN AND CONSTRUCTION PHASES TO INSURE THAT THE FINAL INSTALLATION MEETS CLEARANCE AND BACKFILL REQUIREMENTS OF EACH UTILITY.

IT IS RECOGNIZED THAT SOME COMPANY AND AGENCY STANDARDS PLACE LIMITATIONS ON THE NUMBER OR TYPE OF UTILITIES THAT CAN SHARE A COMMON TRENCH. THIS GUIDE IS NOT INTENDED TO CONTRADICT ANY INDIVIDUAL COMPANY OR AGENCY STANDARD, BUT RATHER TO WORK WITHIN THE FRAMEWORK OF THOSE STANDARDS TO DERIVE THE SAFEST, MOST EQUITABLE AND EFFICIENT INSTALLATION POSSIBLE.

THIS PROJECT MODEL IS INTENDED AS A GUIDE TO EASE THE COORDINATION OF JOINT USE TRENCHES WHEN THAT OPTION EXISTS, SO THAT THE PARTICIPATING UTILITIES, THE AFFECTED AGENCIES AND THE GENERAL PUBLIC CAN BENEFIT FROM THE COOPERATIVE EFFORT.

JOINT USE TRENCH MODEL
PROJECT SPECIFIC PLANNING
PHASE ONE

THE PURPOSE OF THE PLANNING PHASE IS TO IDENTIFY THE KEY ELEMENTS NECESSARY TO SUCCESSFULLY PLAN A JOINT USE TRENCH. A JOINT USE TRENCH MAY BE ALL OR PART OF ANY OF THE PREVIOUSLY IDENTIFIED PROJECT MODELS. THE STEPS OF THOSE MODELS STILL APPLY; HOWEVER, WITH A JOINT USE TRENCH THERE IS A SECOND LEVEL OF PLANNING AND COORDINATION THAT OCCURS. **IF APPLICABLE, THE PROJECT OWNER OR MUNICIPALITY/COUNTY/STATE AGENCY WILL HAVE THE OPTION TO ENCOURAGE JOINT TRENCH.** THE ACTIVITIES AT THIS LEVEL ARE INITIATED AND CONTROLLED BY THE TRENCH PROVIDER. THE OPPORTUNITY FOR JOINT USE TRENCH AND THE DESIGNATION OF THE TRENCH PROVIDER **COULD BE** DETERMINED **AS EARLY AS** THE CONCEPT DESIGN PHASE OF A PROJECT MODEL.

1.01 TRENCH PROVIDER ROLE

The trench provider not only provides the trenching and trenching related activities, but also performs, provides and/or facilitates the following for each joint use trench:

A. ***Define the scope of the project.*** The scope describes the nature of the project, the physical boundaries and location of the project and the **estimated** construction time frames.

B. ***Notify possible participants.*** The trench provider sends notifications as early as possible of its intent to construct underground facilities and to offer joint use trench to potential participants. **Sample notifications that may be sent to potential participants are shown (pages 33 and 34) at the end of this model. This same form, when completed and returned to the trench provider, may be used by the trench provider to document positive or negative interest in joint use to governing agencies should they request this as part of their permitting process.**

C. ***Provide design drawings.*** Design drawings are provided to each trench participant **as well as project owner** so they may complete their respective designs. A trench detail showing the overall width and depth of the joint use trench as well as any required clearances, bedding, shading and backfill requirements shall be part of the final design.

D. ***Obtain a joint trench agreement with each participant.*** Once the final design has been determined, an estimate of the trenching and trench related costs can be calculated. An agreement as to how these costs are to be shared should be secured prior to construction. These costs are allocated according the Western Underground Trench Formula (see page JNT-8-), unless other provisions are made. Many utilities use a Joint Use Memo and Master Joint Trench Agreement for this purpose.

E. ***Develop a general schedule.*** A schedule will be developed and communicated to each joint use trench participant. This project schedule should include, as applicable, time frames for land rights acquisition, **any applicable permit application(s),** a bid date and the construction date with any required partial completion dates.

F. ***Coordinate construction.*** The responsibilities of each trench participant including inspection duties should be made known prior to construction. The trench provider will hold a pre-construction meeting and any construction progress meetings as needed. The pre-construction meeting will provide each trench participant the opportunity to make a presentation regarding their involvement, construction coordination, and to answer any questions. The construction progress meetings are used to monitor the construction progress and to address any problems that may arise.

G. ***Provide the trench.*** The trench provider or its contractor excavates the trench which may include any sawcutting, spoil removal, shading, backfill, compaction, barricades, steel plates, cold patch, shoring, dust control, traffic control, and landscape and asphalt replacement. **Trench provider or its contractor will be responsible for restoring the job site.**

H. ***Project closure.*** **Each trench participant is responsible for notification of completion to permit owner and keeping installation records for their respective facilities.** The trench provider processes any billings associated with the joint use trench in accordance with the joint trench agreements.

JOINT USE TRENCH MODEL

PROJECT SPECIFIC DESIGN DEVELOPMENT
PHASE TWO

THE PURPOSE OF THE DESIGN DEVELOPMENT PHASE IS TO COORDINATE THE DESIGN ACTIVITIES OF THE TRENCH PROVIDER AND EACH TRENCH PARTICIPANT. THE OUTCOME OF THIS PHASE IS WELL-CONCEIVED JOINT TRENCH DETAIL AND A FINAL DESIGN, WHICH CAN BE USED TO PREPARE A TRENCHING COST ESTIMATE. **THROUGH THE DESIGN PROCESS, THERE MAY BE A NEED FOR MULTIPLE MEETINGS.**

2.01 DESIGN COORDINATION

The most common joint use trench designs involve some combination of dry utilities, i.e. electric, communication (telephone, cable TV, fiber optics, data lines) and gas. Occasionally joint use trenches may involve a mix of dry and wet utilities such as gas and water. The trench provider is responsible for developing a trench detail with assistance from the other participants. For large or complex projects, a pre-design meeting should occur to insure that trench designs adhere to all applicable standards, codes and agency requirements including clearance and backfill specifications. The trench provider shall send each trench participant a copy of its final design.

2.02 JOINT USE MEMO

A Joint Use Memo may be required by the trench provider to formalize the trench participation for construction and billing. (See pages 33 and 34 for sample Joint Use Memos.)

2.03 AGENCY NOTIFICATION

Each trench participant will be responsible for acquiring their respective permits. The trench provider may be required to provide the permitting agency with documentation of joint use interest responses.

JOINT USE TRENCH MODEL

PROJECT SPECIFIC CONSTRUCTION
PHASE THREE

THE PURPOSE OF THE CONSTRUCTION PHASE IS TO ENHANCE THE FIELD COORDINATION DURING JOINT TRENCH INSTALLATIONS, TO MINIMIZE DELAYS AND INSURE THAT ALL APPLICABLE STANDARDS, CODES AND AGENCY REQUIREMENTS ARE MET.

3.01 PRE-CONSTRUCTION MEETING

The trench provider will **schedule and coordinate** a pre-construction meeting with all trench participants, **affected utilities and agencies as applicable**. The meeting will cover the construction schedule including time frames for participant facility installations, any potential problems or special concerns, participant contacts for resolving problems, and the responsibilities of each party. The pre-construction meeting will provide each trench participant the opportunity to make a presentation regarding their involvement, construction coordination, and to answer any questions.

3.02 FIELD COORDINATION

While the use of a single contractor to provide the trench and install all facilities can simplify coordination, conditions may require individual trench participants to install their own facilities. Each trench participant is responsible for inspection of its own facilities. Close coordination between the trench provider and trench participants on **materials, and providing** inspection requirements is needed to avoid delays. On large or complex projects, construction progress meetings may be necessary to monitor construction progress and to address any problems that may occur during construction. The trench provider will notify the trench participants of construction progress meetings, as needed.

JOINT USE TRENCH MODEL

PROJECT CLOSURE(S)

PHASE FOUR

THE PURPOSE OF THE PROJECT CLOSURE PHASE IS TO BRING ABOUT A SUCCESSFUL CONCLUSION TO THE JOINT USE TRENCH PROCESS AND SATISFY ANY REMAINING OBLIGATIONS OF THE JOINT TRENCH AGREEMENT.

4.01 PERMIT CLOSURES

Trench provider and/or each trench participant is responsible for notification of completion of work to permitting agency.

4.02 INSTALLATION RECORD DRAWING

During the course of construction each party will maintain accurate installation records of its respective facilities.

4.03 BILLING

The trench provider processes any billings associated with the joint use trench in accordance with the joint trench agreements. The trench participants are responsible for prompt payment of their allocated costs once the invoice is received.

WESTERN UNDERGROUND TRENCH FORMULA*

To determine joint trench costs, each party shall determine the width and depth of trench which would meet its separate requirements, i.e. electric, telephone, CATV, gas, etc. The following formula will then be used to determine the amount of the billing.

Power Co. % Cost $= \dfrac{PW \times PD}{PW \times PD + TW \times TD + CW \times CD + GW \times GD + OW \times OD}$

Telephone Co. % Cost $= \dfrac{TW \times TD}{PW \times PD + TW \times TD + CW \times CD + GW \times GD + OW \times OD}$

CATV Co. % Cost $= \dfrac{CW \times CD}{PW \times PD + TW \times TD + CW \times CD + GW \times GD + OW + OD}$

Gas Co. % Cost $= \dfrac{GW \times GD}{PW \times PD + TW \times TD + CW \times CD + GW \times GD + OW \times OD}$

Other Co. % Cost $= \dfrac{OW \text{ X } OD}{PW \times PD + TW \times TD + CW \times CD + GW \times GD + OW \times OD}$

Legend:

P = Electric Power Company

T = Telephone Company

C = Cable TV Company

G = Gas Company

O = Other Company

W = Width of trench if separate construction were planned

D = Depth of trench if separate construction were planned

*Developed by the Western Underground Committee

JOINT USE TRENCH MODEL

JOINT USE MEMO

EXAMPLES OF APS/QWEST AND SRP JOINT USE MEMO FORMS ARE PROVIDED ON PAGES 33 AND 34. OTHER PARTICIPANTS MAY USE ALTERNATIVE FORMS. CONTACT JOINT TRENCH PROVIDERS FOR MORE INFORMATION.

MEMORANDUM FOR THE JOINT USE OF POLES AND/OR TRENCHES

TRENCH PROVIDER: _____

☐ APS ☐ USWC ☐ OTHER ☐ CUSTOMER ☐ O.H. ☐ U.G. ☐ BOTH

IN ACCORDANCE WITH THE PROVISIONS OF THE JOINT USE CONTRACT, LICENSE AGREEMENT, OR JOINT TRENCH AGREEMENT NOW IN EFFECT BETWEEN APS AND ONE OR MORE OF THE COMPANIES INDICATED, WHICH AGREEMENT, CONTRACT OR LICENSE IS INCORPORATED HEREIN BY REFERENCE.

☐ APS ☐ TELCO ☐ CATV ☐ OTHER *(CO. NAME)* _____

SEE ATTACHED DRAWING(S) AND EXHIBIT(S) DESCRIPTION PURPOSE, NECESSITY AND REMARKS

LEGEND: APS = A TELC = T CATV = C OTHER = O

ESTIMATED COMPLETION DATE

__ __ __ WISHES TO USE	_____ POLES	__ __ __ WILL REMOVE	_____ POLES	__ __ TOP	_____ POLES
__ __ __ WILL VACATE	_____ POLES	__ __ __ WILL SELL	_____ POLES	__ __ TRENCH	_____ POLES
__ __ __ WILL INSTALL	_____ POLES	__ __ __ WILL CANCEL J.U.	_____ POLES	__ __ REFRAME	_____ POLES
__ __ __ WILL REPLACE	_____ POLES	__ __ __ WILL PURCHASE	_____ POLES	__ __ Review for bonding requirements	

IS CATV RESPONSIBLE FOR ANY COST? ☐ YES ☐ NO	EST.CATV COST	CATV VERBAL APPROVAL(NAME)	TELEPHONE NUMBER

BILLING INFORMATION	STANDARD BILLING	SPECIAL BILLING	OTHER BILLING	BILLING ESTIMATE

COMPUTER NOTES	POSTED P-EXHIBIT NUMBERS	BILL NUMBERS

RESPONSE

APS / QWEST EXAMPLE

DIVISION/DISTRICT _____ IN-NEAR CITY OF _____ DATE _____

POWER CONDUCTOR VOLTAGE T _____ ;R _____ ;Sec _____ ;1/4 _____

_____ Phase to Ground _____ _____ _____ _____

_____ _____ _____ _____

ORIGINATOR		***RESPONDENT***	
BY	PHONE	BY	PHONE
FOR Arizona Public Service		FOR	
DATE WORK COMPLETED		JOB NO.	DATE WORK COMPLETED
		☐ APPROVED ☐ MODIFIED	☐ REJECTED
X		X	
SIGNATURE & DATE		**SIGNATURE & DATE**	

443-90A (10-09)

RESPONDENT MUST SIGN EACH FORM

MEMORANDUM FOR THE JOINT USE OF POLES OR TRENCH

SRP®
PO Box 52025
Phoenix, AZ 85072-2025

[x] POLES [ ] TRENCH

S -

DATE 12/9/2010

IN ACCORDANCE WITH THE PROVISIONS OF THE JOINT USE CONTRACT, JOINT TRENCH AGREEMENT OR LICENSE AGREEMENT (THE "AGREEMENTS") NOW IN EFFECT BETWEEN SALT RIVER PROJECT AND THE FOLLOWING COMPANIES:

[x] QWEST COMM [x] COX COMM [ ] CABLE AMERICA [ ] MEDIACOM

[ ] EAGLE WEST [ ] SADDLEBACK [ ] APS [ ] GILA RIVER [ ] _____

SRP JOB #		SRP JOB NAME:				
DIVISION		TOWNSHIP	RANGE	SECTION	1/4 SECTION	
IN OR NEAR CITY OF						
SRP 40 ACRE NUMBER						

DEADLINE FOR RESPONDENT'S SUBMITTAL OF DESIGN DRAWINGS (30 WORKING DAYS FROM ISSUANCE OF S-MEMO UNLESS OTHERWISE INDICATED IN WRITING BY SRP):	1/23/2011	WORK COMPLETED ON: (FOR DAMAGE/STORM JOBS ONLY)	--/--/--

SEE ATTACHED DRAWING(S) AND/OR EXHIBIT(S) FOR LOCATION, ENGINEERING AND CONSTRUCTION SPECIFICATIONS.
DESCRIPTION OF WORK TO BE DONE:

SRP EXAMPLE

NOTE: Nothing in the Agreements, shall be construed as a conveyance or attempted conveyance of an interest in real property. SRP makes no affirmations, warranties or assurances regarding its interest in any real property on which a participant's facilities will be located. Each party must secure the necessary rights of way for the installation of its facilities.

SRP ORIGINATOR

By _____ Mail Station _____
Phone _____
Project Leader _____ Phone _____

PLEASE RESPOND BY: 12/23/2010

Failure to respond by this date shall be construed to mean that the company does not want to jointly use the trench or pole(s).

**********RESPONDENT ONLY BELOW**********

Comments:

RESPONDENT

PARTICIPATE: [ ] YES [ ] NO
DRAWINGS ATTACHED: [ ] YES [ ] NO

By _____ Job # _____ Company _____
Phone _____ Date _____

REV02/14/2002

REFERENCES (PARTIAL LISTING)

1. Arizona Utility Coordinating Committee (AUCC) Public Improvement Project Guide
2. City of Phoenix Standard Utility Locations Manual
3. The Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details for Public Works Construction
4. City of Phoenix Supplements to MAG
5. City of Phoenix Design Standards Manual for Water & Wastewater Systems
6. City of Phoenix Traffic Barricade Manual
7. Arizona Revised Statutes
8. Light Rail Design Guidelines Manuals
9. Light Rail Safety Maintenance Manuals

EXHIBIT "A"

PERMIT PROCESSING FLOWCHART

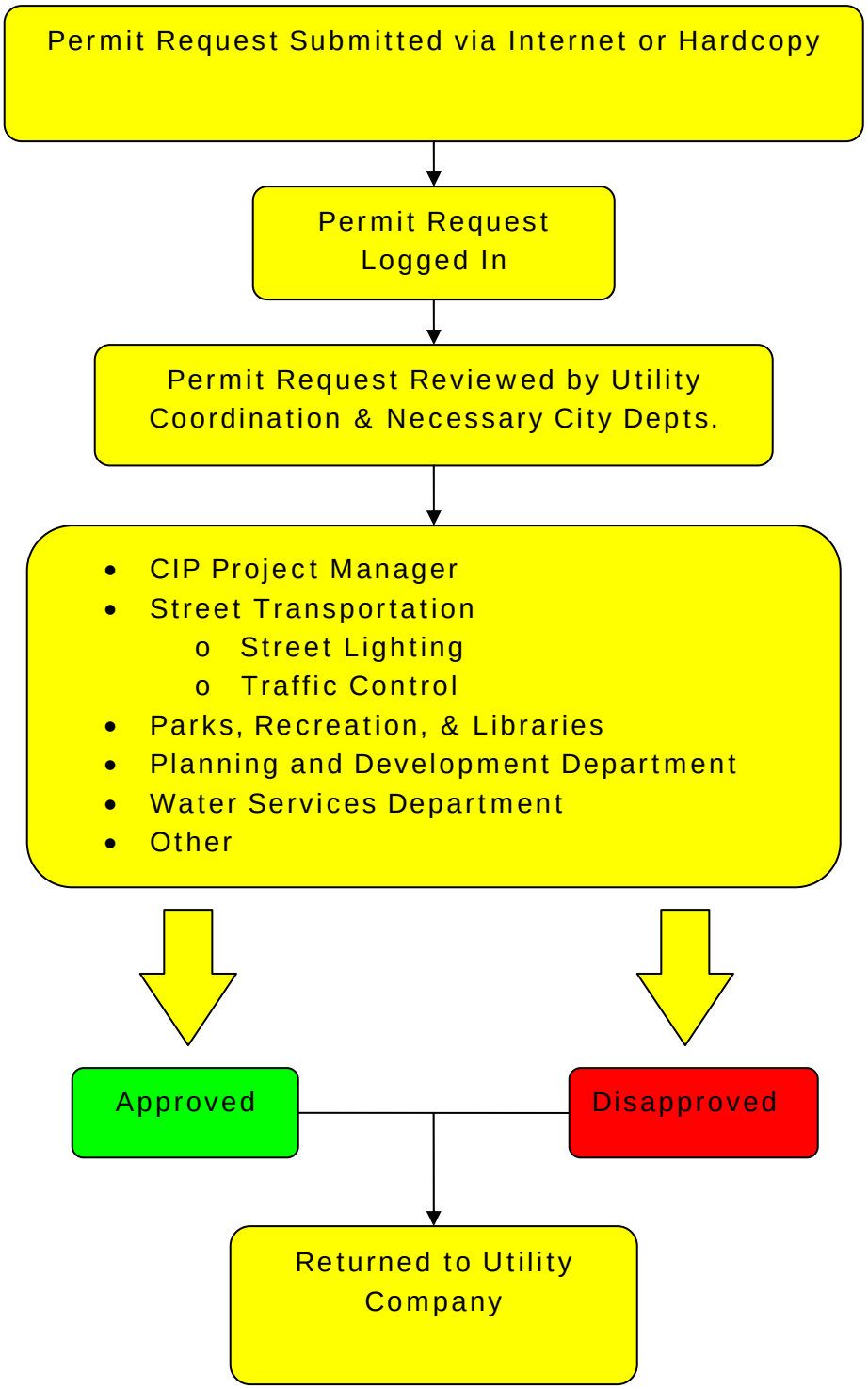


EXHIBIT "B"

MINIMUM COVER REQUIREMENTS FOR PROPOSED UTILITIES IN THE PUBLIC RIGHTS- OF- WAY

ITEM	DESCRIPTION	MINIMUM COVER
1 – Power	0-600Volt Include Street Light	24"
	601 - < 69KV Less	30"
	>/= 69KV	42"
2 – Gas	Services	24"
	Mains	36"
3 – Manholes (APS)		36"
(SRP)		
4 – Telecommunications including fiber optics	Services Major / Collectors	36"
	Services Residential	24"
	Trunklines [(a)]	48"
5 – CATV	Coaxial Collector & Residential	24"
	Major	36"

(a) To include fiber optic cable providing telecommunications serviced by connecting regions or states or by connecting central offices within a metropolitan area.

NOTE: These are the minimum cover requirements for work in the City of Phoenix rights-of-way. Work in undeveloped rights-of-way should be designed to account for any future grade changes. Depths must meet the minimum cover after any change in the grade of the right-of-way. The Street Transportation Director may authorize deviations from these standards under unusual and compelling circumstances.

EXHIBIT "C"

PLAN REVIEW CHECKLIST

The purpose of this checklist is to offer comments on the plans submitted for approval for a utility construction permit. This checklist serves to minimize redline comments on the plans and to maintain consistency among plan reviewers. Plan approval and issuing utility permits depend on compliance with Administrative Procedure 5.1.

PLAN REQUIREMENTS

- ❑ EXISTING AND PROPOSED RIGHTS-OF-WAY AND ADJACENT EASEMENTS WITH DIMENSIONS. RIGHT-OF-WAY LINES SHALL BE LABELED "RW" OR "ROW"
- ❑ DIMENSIONED TIES TO MONUMENT LINES IN STREETS AND TO PROPERTY LINES IN ALLEY AND EASEMENTS.
- ❑ IDENTIFY AND DIMENSION PAVING IMPROVEMENTS. A TYPICAL DETAIL IS SUFFICIENT FOR EVERY RIGHT-OF-WAY ON PLAN. DETAIL SHOULD INCLUDE LIP-OF-GUTTER, CURB, BACK OF SIDEWALK, AND FRONT OF SIDEWALK IF NOT ADJACENT TO THE CURB.
- ❑ IN AREAS WITH NEW DEVELOPMENT ALL EXISTING AND PROPOSED PAVING IMPROVEMENT SHOULD BE SHOWN.
- ❑ A SCALE OR DIMENSION ADEQUATE TO DEPICT RELATIONSHIPS AMONG THE PHYSICAL FEATURES WITHIN THE CONSTRUCTION SITE AND TO IDENTIFY POTENTIAL CONFLICTS. SCALE SHOULD BE NO SMALLER THAN 1"=40'.
- ❑ ALL EXISTING AND/OR PROPOSED FACILITIES THAT THE PROPOSED CONSTRUCTION WOULD CROSS AND/OR PARALLEL WITHIN THE LIMITS OF THE RIGHT-OF-WAY.
- ❑ STORM DRAINS, SANITARY SEWER LINES, WATER LINES, OVER 12" IN DIAMETER SHALL BE DRAWN TO SCALE. ALL CONDUIT SYSTEMS OVER 12" IN DIAMETER OR WIDE SHALL BE SHOWN TO SCALE IF PROPOSED CONSTRUCTION IS WITHIN 2' OF EXISTING CONDUIT SYSTEM.
- ❑ LOCATIONS AND LIMITS OF PROPOSED CONSTRUCTION. CLEARLY DIFFERENTIATE BETWEEN CITY OF PHOENIX AND OTHERS' RIGHTS-OF-WAY.
- ❑ AERIAL AND UNDERGROUND UTILITY CROSSINGS AT A 90 DEGREE ANGLE TO THE ROAD CENTERLINE.
- ❑ CURRENT TOPOGRAPHY SHOWING WHAT EXISTS IN AREA OF PROPOSED CONSTRUCTION THAT WOULD BE AFFECTED BY THAT PROPOSED CONSTRUCTION.
- ❑ VICINITY MAP INDICATING MAJOR CROSS STREETS.
- ❑ NORTH ARROW, PREFERABLY WITH NORTH UP OR TO THE RIGHT.
- ❑ A LEGEND SHOWING ALL SYMBOLOGY USED ON PLAN.
- ❑ BLUE STAKE NOTE OR SYMBOL.
- ❑ STREET NAMES
- ❑ COMPLETED TITLE BLOCK
- ❑ UTILITY COMPANY LOGO AND JOB NUMBER
- ❑ CITY OF PHOENIX GENERAL NOTES FOR UTILITY CONSTRUCTION **(EXHIBIT D)** AND/OR APPLICABLE COUNTY NOTES.
- ❑ TRENCH DETAIL SHOWING WIDTH AND DEPTH AND NUMBER OF CONDUIT OR PIPE. DEPTH SHALL BE IN ACCORDANCE WITH THE REQUIREMENTS IN "EXHIBIT B".
- ❑ STATION ALL BRASS CAPS AND MONUMENTS IF INDICATED ON PLANS.
- ❑ LINEAR TRENCH FEET IN ROW AND PRIVATE PROPERTY ON PRINT.
- ❑ JOINT TRENCH MUST IDENTIFY ALL COMPANIES IN TRENCH.
- ❑ VARIANCE LETTERS FOR CLEARANCE LESS THAN SIX-FEET FROM WATER AND/OR SEWER MAINS AND THREE-FEET FROM SERVICES; INCLUDES PRIVATE DRIVES PER CITY OF PHOENIX STANDARD DETAIL P1020-2
- ❑ ALL PROPOSED EQUIPMENT DETAILS SHOWN AND DIMENSIONED ON PLAN SUCH AS PEDESTALS, TRANSFOMERS & PADS, SWITCHING CABINETS, MANHOLES, ETC.

PROFILE REQUIREMENTS

❖ *MAJOR STREET TO MAJOR STREET OR MAJOR STREET TO COLLECTOR STREET*

- ALL INTERSECTIONS RETURN CURVE TO RETURN CURVE AND COLLECTOR STREET REQUIREMENTS.
- ELEVATIONS TAKEN FROM EXISTING SURFACE GRADE AT INTERVALS OF 100' OR LESS IN THE SAME ALIGNMENT AS PROPOSED CONSTRUCTION.
- CONTINUOUS LINE ON THE PLANS THROUGHOUT THE PROJECT.
- FINISH AND/OR NATURAL GRADE PROFILE IF IT IS IN THE PROPOSED CONSTRUCTION.
- ALL EXISTING AND PROPOSED FACILITES THAT THE PROPOSED CONSTRUCTION WOULD CROSS.
- STORM DRAINS, SANITARY SEWER LINES, WATER LINES OVER 12" IN DIAMETER SHALL BE SHOWN DRAWN TO SCALE. ALL CONDUIT SYSTEMS OVER 12” IN DIAMETER OR HEIGHT SHALL BE SHOWN TO SCALE IF PROPOSED CONSTRUCTION IS WITHIN 2’ OF EXISTING CONDUIT SYSTEM.
- A VERTICAL SCALE, SPECIFIED, WHICH ADEQUATELY DEPICTS INSTALLATION OF EXISTING FACILITIES. 1” = 2’ OR 1” = 5’
- ELEVATIONS SHALL BE CITY OF PHOENIX DATUM AND INDICATED ON PLANS.
- HORIZONTAL SCALE ADEQUATE TO IDENTIFY CONFLICTS, NO SMALLER THAN 1" = 40' IS ACCEPTABLE.

SPECIAL REQUIREMENTS

- MINIMUM OVERHEAD CLEARANCE SHALL BE 18'.

- THE MAG STANDARD SPECIFICATIONS AND DETAILS, INCLUDING CURRENT CITY OF PHOENIX SUPPLEMENTS WILL BE FOLLOWED FOR THE INSTALLATION OF BOTH UNDERGROUND AND OVERHEAD FACILITIES. PERMITS FOR OVERHEAD LINES MUST COMPLY WITH ANY AGREEMENTS WITH LICENSED OR FRANCHISED UTILITY COMPANIES.

ABOVE GROUND STRUCTURES

❖ ALL STRUCTURES HEIGHTH, WIDTH, LENGTH MUST BE DIMENSIONED.

CABINETS UNDER THREE-FEET IN HEIGHT.

- NO STRUCTURE TO EXCEED 36-INCHES IN HEIGHT IN FRONT YARD OF RESIDENTIAL HOMES.
- DIMENSIONS OF STRUCTURE.
- EIGHTEEN INCH SETBACK FROM BACK OF SIDEWALK TO FACE OF STRUCTURE.
- FLUSH TO SIDEWALK ELEVATION IF ADJACENT TO SIDEWALK.
- PAD SIZE AND LOCATION IN DETAIL.

CABINETS OVER THREE-FEET IN HEIGHT.

- NO FRONT YARD PLACEMENT OF STRUCTURES OVER 36-INCHES IN HEIGHT ALLOWED.
- DIMENSIONS OF STRUCTURE.
- THREE PICTURES (FRONT, LEFT AND RIGHT VIEWS) OF PROPOSED SITE WITH CONE AT PROPOSED STRUCTURE LOCATIONS.
- FOUR PICTURES IF ALONG A REAR YARD IF STRUCTURE COULD POSSIBLY AFFECT SWIMMING POOLS, ETC.
- PAD SIZE AND LOCATION IN DETAIL.
- STRUCTURE CANNOT BE PLACED IN SIGHT-TRIANGLE

EXHIBIT "D"

CITY OF PHOENIX GENERAL NOTES FOR UTILITY CONSTRUCTION

1. All utility construction shall conform to the latest Maricopa Association of Governments (MAG) Uniform Standard Specifications and Details for Public Works Construction, and the City of Phoenix Supplements to MAG.
2. All work performed in the City of Phoenix rights-of-way shall be governed by the latest edition of the City of Phoenix Traffic Barricade Manual.
3. This set of plans was reviewed by the City of Phoenix Utility Coordination Section in compliance with City requirements. However, such review shall not prevent the City from requiring correction of errors found to be in violation of any law, ordinance or City of Phoenix requirement for utility construction in the rights-of-way.
4. The contractor shall have a copy of the approved/stamped construction plans and approved traffic control plan at the project site at all times.
5. All utilities crossing streets must be bored or punched unless permission to open cut has been given in writing by the Street Transportation Director.
6. Before starting any work on a major or collector street, the utility company shall schedule a preconstruction meeting with the City of Phoenix Street Transportation Department's Utility Inspection Section.
7. The City of Phoenix does not warrant any quantities shown on these plans.
8. Utility companies are to coordinate alley work with the Refuse Section.
9. The utility company shall contact the City of Phoenix Street Transportation Department's Utility Inspection Section a minimum of 48 hours in advance of starting work, giving location and permit number in order to schedule inspections.
10. All work requiring asphalt replacement, concrete replacement, or resurfacing alleys in the City of Phoenix right-of-way will require a final inspection with the utility company representative at time of completion.
11. Maintain a minimum six (6) feet horizontal separation and one (1) foot vertical separation from all water and sewer mains, all measurements outside to outside.

WYLIE BEARUP, PE, PHD
STREET TRANSPORTATION DIRECTOR