

CITY OF TUCSON, ARIZONA
DEPARTMENT OF TRANSPORTATION

ENGINEERING DIVISION
ACTIVE PRACTICES GUIDELINES

PREPARED BY:

[Signature]

EFFECTIVE:

11/1/98

APPROVED BY:

[Signature]

DATE:

12/18/97

SUBJECT: CONSTRUCTION COORDINATION (CAPITAL PROGRAM)

A. PURPOSE:

To establish guidelines and procedures for coordinating construction activities that occur within the public right-of-way. These coordination guidelines are intended to facilitate the construction programs for both the Transportation and Water Departments while eliminating unnecessary delays/costs, eliminate or minimize the need for supplemental agreements for additional work, and also minimize the inconvenience to the general public.

B. GENERAL:

Coordination—or the active effort to share information and interact productively with others—should occur in all phases of the development of a project. Each agency or utility can benefit from better coordination. Agencies can construct a better project with fewer delays, while utilities incur fewer damaged facilities and more efficient relocations.

The public generally cannot discern between various construction companies and/or activities within the public right-of-way. However, any disruption in traffic flow, or general inconvenience is perceived to be caused by, or the fault of the "City of Tucson". Therefore, it is important to minimize the disruption to the extent possible, and to keep the disruption to the shortest time period.

In order to minimize disruptions within the public right-of-way, it is important to limit the number of occurrences as well as the duration. To the extent possible, joint contracting is encouraged between two or more agencies or utilities within the same segment of right-of-way. Additionally, the joint contracting of multiple agency/utility work is encouraged to be incorporated to the greatest extent possible within the contract of the larger construction activity.

C. COORDINATION OF WORK:

1. All work that occurs within the public right-of-way shall be coordinated through the Utility Coordinating Committee (UCC) to ensure a continuous, formal exchange of information covering regulations, planning, designing, and scheduling of all construction projects within the public right-of-way. The UCC shall be chaired by an Engineering Division staff member.
2. Permits for construction activities within the public right-of-way shall not be issued until/unless the proposed work has been presented to the UCC for coordination with any/all other affected agencies or utilities.
3. It is the long-term goal to create (via electronic medium) an individual layer or map of each agencies facilities within the right-of-way. Accordingly, each agency or utility that has facilities within the public right-of-way shall prepare and submit to City Engineering a plan that shows all their facilities located within the right-of-way. This plan shall be updated every year.
4. Every agency and/or utility that has an adopted capital improvement program shall submit their five-year schedule of proposed construction to the UCC yearly that will show the proposed construction for every year for the next five years.
5. City Engineering shall submit a copy of each agency's five-year program to every other agency member of UCC. It shall be the responsibility of each member agency to review the five-year plan(s) thus received to identify potential conflicts and joint contracting opportunities with their planned improvement. Any such conflicts shall be identified and immediately brought to the attention of the UCC for appropriate resolution.
6. A minimum of ninety (90) days prior to undertaking any new construction, reconstruction, repaving or resurfacing within the public right-of-way, and in accordance with existing "Utility Relocation Procedures," the Engineering Division shall provide to all UCC members a proposed plan and schedule of the anticipated work. Each receiving agency or utility shall review the plan of proposed work to identify, to the extent possible, any conflicts with their facilities and any planned modifications. Any conflicts so identified shall be

immediately brought to the attention of the agency proposing the work for the earliest resolution possible.

7. Prior to advertising any construction projects for bid, it shall be the responsibility of the proposing agency to furnish to other member agencies of the UCC a copy of the proposed construction plans or drawings. Review and approval from the other member agencies shall be construed as an acknowledgement that no known or prospective conflicts exist at the time of issuance of the plans, nor is scheduled within the five year adopted program. In the case of the Transportation and Water Department, this acknowledgement shall be by an approval signature on the plans.

D. PUBLIC NOTIFICATION:

1. Advanced public notification must be provided to residences, businesses, neighborhoods and affected Council Offices prior to the start of construction in accordance with adopted notification procedures. Construction projects of longer duration will generally require a longer advance notification.

E. PAVEMENT CUT CRITERIA – 5-YEAR MORATORIUM:

Development Standard 3-03.0, which was created at the direction of Mayor and Council establishes a five-year moratorium on cutting of new pavement except for emergency cuts necessary to protect the public health or safety. This moratorium has been uniformly and vigorously enforced throughout the City. In accordance with this policy, all alternatives to pavement cutting must be explored prior to open cuts being allowed. The attached POLICY STATEMENT outlines specific criteria that must be met to substantiate evidence of investigation of alternatives to pavement cutting, as required by this Standard.

F. ESCALATION OF ISSUES:

Each agency or utility is encouraged to establish an "escalation ladder" of responsible staff from within their organization to interact with a similar organizational hierarchy from within Transportation/Engineering to resolve issues at the earliest opportunity and at the lowest level possible. By creating an organizational hierarchy between interacting agencies, the goal (and process) will be in place to resolve all disputed issues in a timely manner at the most appropriate level so that upper management will not need to become involved or intervene between agencies or utilities.



MEMORANDUM

DATE: August 25, 1997

TO: DEVELOPMENT SECTION
ENGINEERING DIVISION

FROM: G. Dewayne Tripp *DT*
City Engineer
Engineering Division
4251

PERMITS & CODES UNIT
FIELD ENGINEERING SEC.

SUBJECT: DEVELOPMENT STANDARD NO. 3-03.0
PAVEMENT CUT CRITERIA--POLICY STATEMENT

The purpose of this policy statement is to augment and clarify those conditions in Development Standard No. 3-03.0 covering pavement cuts. This policy shall not be construed to supersede the language in Standard No. 3-03.0, but shall be used as guidelines to clarify the standard and provide uniformity of interpretation.

As stated in the standard itself: "The goal of this Development Standard is to reduce the number of pavement cuts in City streets and to improve the quality of those pavement cuts which are found to be necessary." This goal can only be met by curtailing cuts in the pavement and requiring jacking/boring as the normal method. References to STANDARD SPECIFICATIONS AND DETAILS AND MANUALS in Development Standard No. 3-03.0 shall be complied with in terms of backfill, compaction, and paving straight-edge tolerances, etc.

BACKGROUND: Blue Stake law requires that utilities be marked for horizontal alignment and pot-holed for depth and exact location within two feet of the marks. Therefore, in many instances, the City must allow the digging of small pot-holes in the streets to determine the precise locations of underground utilities.

Mayor and Council (M&C) has established a moratorium period of five years for cutting major streets & routes consisting of Portland Cement Concrete Paving, Asphaltic Concrete Paving, or Overlay. Strip-paved streets, and specifically designated streets, are also protected under the moratorium. Streets with chip-seals and other surface treatments are not protected. With this M&C Policy, newly paved streets are protected from needless trenching for utilities. Current trenchless technology is now so sophisticated that almost any under-pavement crossing can be performed without trenching. Jacking/boring is the City's preferred method.

GUIDELINES: The following guidelines shall be used as a framework to analyze requests for making pavement cuts on streets which are protected by the moratorium. The guidelines will establish the requirements necessary to support a request to allow trenching. In all cases where a request is made to open trench a street within the moratorium period, a comprehensive report shall be submitted which will explore every feasible alternative to pavement cutting.

PAVEMENT CUT CRITERIA
PAGE TWO
AUGUST 25, 1997

The report shall unequivocally demonstrate the logical best means of providing infrastructure to the site. Detail shall be presented which gives evidence that real efforts have been made exploring alternatives through research of records and site visits to search for abandoned conduits, open drainageways, i.e., box culverts and alternate routes (alleyways or side streets not under moratorium).

Specifically, for the Engineering Division to even consider a request to cut pavement for a crossing on a street protected by moratorium, the submittal shall include:

1. Maps depicting existing infrastructure for at least half mile in each direction for new developments, or a block in each direction for in-fill sites in developed areas.
2. Evidence of contact with abutting property owners for temporary easements giving access to side streets, or possible temporary sharing of service conduits until the moratorium period expires.
3. Feasibility report for redesigning the project to take advantage of existing utility stub-outs, or access to utilities within other streets which are not subject to moratorium periods, (detailed cost analysis, phasing, utilization of long unused utility runs) etc.
4. A signed and sealed report from a geo-technical engineering firm concluding that jacking or boring is impossible or very impractical.
5. Documentation of insufficient room for jacking or boring pits inside City rights-of-way and documentation of efforts to obtain construction easements from neighboring property owners.

The jacking/boring requirement will be waived only if the above criteria are met or exceeded. A documented, detailed cost analysis clearly indicates that points (1-5 above) are cost-prohibitive to the project. The minimum cost differentials shall be as follows:

<u>REMAINING MORATORIUM</u>	<u>COST OVER OPEN TRENCHING</u>
4 Years	10 Times
3 "	8 "
2 "	6 "
1 "	4 "
< 1 Year	2 "

PAVEMENT CUT CRITERIA
PAGE THREE
AUGUST 25, 1997

If open cutting is allowed, the following requirements will apply:

- 1) One (1) sack Aggregate Base Course (ABC) Slurry shall be utilized to fill the trench from top of shading to the bottom of the concrete cap or first lift of asphaltic concrete (whichever applies). The ABC-Slurry shall be composed of ABC material, one sack of Type II Cement per cubic yard, and an appropriate amount of water. The purpose of this material is to create a flowable fill rather than a hard concrete material which cannot be dug. The material shall have an 8" slump and a compressive strength between 40 and 100 psi. When the one (1) sack ABC Slurry is mixed and transported to the site the mixing shall comply with Subsection 1006-4.03. When the one (1) sack ABC Slurry is mixed at the job site, the contractor will submit for the engineer's approval, the method, equipment, and procedure for proportioning and mixing of the ABC Slurry fill.
- 2) Type-2 Trench Patches (Std. Drawing 216), which are less than 25 feet in width, shall be repaved with an extra 1-3/4 inch thickness of asphaltic concrete. All paving removal and replacement shall be at a 10 degree skew to the perpendicular, or normal traffic flow.
- 3) Where an entire section of street is replaced by repaving with self-propelled equipment, knitting the street back together, the new paving thickness shall be at least the same as existing; and the transverse joints shall be at a 10 degree skew to the perpendicular.

Repaving larger sections is encouraged as an effective means to abate damage caused by street cutting. For those trenches which run mostly parallel to street centerline, the entire lane(s) will be replaced with paving equipment. All requirements and details of Std. Drawing 216 and the compaction requirements of the Standard Specifications shall apply. The final analysis should not preclude the use of engineering judgement.

GDT/kd/KKD

cc: Mohammad El-Ali, Project Manager
Kenneth K. Damgaard, Field Engineering

811D4GDT.PCM



MEMORANDUM

Date: November 7, 1997

To: Bruce Johnson
Tucson Water

From: Benny J. Young, P.E.
Assistant City Manager

Antonio C. Paez
Department of Transportation

Subject: Construction Contract Field Changes

Recently, several significant Construction Contract Field Changes involving the Department of Transportation (DOT) and Tucson Water (copies of two memorandums with typical examples of projects requiring major costly field changes are attached) have come to my attention. I agree with the decisions made in the field; however, as I have repeatedly stressed to both the City Engineer and Chief Engineer for Tucson Water, there is a clear need to identify, plan, and coordinate inter-departmentally all required project/improvements and maintenance activities, regardless of whether a project is initiated by DOT or Tucson Water. Such coordination, as early in the project planning and/or design phase as possible, would lessen the aggravation, additional time, and expense incurred through major Construction Contract Field Changes. I know that some work has been done on this, but I am requesting that a formal, documented Coordination Procedure be developed and implemented between DOT and Tucson Water.

The Coordination Procedure is to provide for project coordination and integration of activities between DOT and Tucson Water as appropriate during the planning, design, and construction stages of improvements and/or maintenance activities situated within a common public right-of-way. All Divisions within DOT, (including Engineering, Street Maintenance and Traffic Engineering) and Tucson Water, (including Planning and Engineering, and Operations) that conduct construction and/or maintenance activities within the public right-of-way will be required to comply with the Coordination Procedure.

I request that the DOT Director and the Tucson Water Lead Administrator each assign a lead person to coordinate the preparation of a formal documented Coordination Procedure. A copy of the draft Coordination Procedure is to be submitted to me by December 19, 1997. It is desirable that the procedure be in effect starting January 1, 1998.

BJY:mli:JP

Attachments

cc: G. Dewayne Tripp, DOT Engineering
Wayne A. Casper, Procurement
Bill Vann, Tucson Water
Steve Pageau, Tucson Water
John Nachbar, Deputy City Manager



MEMORANDUM

September 19, 1997

TO: G. Dewayne Tripp *DT*
City Engineer

FROM: Andy McGovern *AM*
Civil Engineer

THRU: Kenneth K. Damgaard *KKD*
Field Engineering Manager

SUBJECT: Authorization for Extra Work (Emergency CO4)
Sixth Avenue - Rodeo Wash to Irvington Road
Job No. 9053 Plan No. I-96-42
Purchase Order No. S83967
Account Nos. 013-405-S318-497, 017-405-S318-497, 034-405-S318-497

Authorization has been given to the Contractor, Granite Construction, to perform additional work on the aforementioned project. The work is described as follows:

REQUEST: Install new 8" water main and 21 service stubs along west side of Sixth Avenue within the project limits. The following bid items will be ADDED to the contract:

Bid Item 8080256, Valve, 6", Box & Cover (4 ea. @ \$700)
Bid Item 8080258, Valve, 8", Box & Cover (4 ea. @ \$800)
Bid Item 8080278, 12" x 8" Tapping Sleeve & Valve, B&C (1 ea. @ \$3,300)
Bid Item 8080426, Pipe, Copper, 2" W/Fittings (700 l.f. @ \$30)
Bid Item 8080599, Miscellaneous Water Pipe Fittings (3500 lbs. @ \$1.50)
Bid Item 8080908, Drain Valve Assembly, Modified (8" Water Main) (1 ea. @ \$350)
Bid Item 8082108, Pipe, Ductile Iron (DI), 8", (Class 350) (40 l.f. @ \$60)
Bid Item 8082306, Pipe, 6" PVC (Class 200) (80 l.f. @ \$50)
Bid Item 8082308, Pipe, 8" PVC (Class 200) (1880 l.f. @ \$42)
Bid Item 8088145, Service Stub, 2" (S) (21 ea. @ \$205)

REASON: Tucson Water has approached staff with a request to install an 8" water main along the Sixth Avenue alignment, including service stubs to all properties. These properties are currently served by a galvanized main which is located along the west property lines. Research done by Tucson Water indicates that a utility easement for this main does not exist. As part of their main replacement program, Tucson Water would like to install this new 8" main along Sixth Avenue. The contractor has been notified and it does not appear that any work stoppage or additional time will be required to construct these improvements.

ESTIMATE: The aforementioned bid items will be added at a total cost of \$125,565.00.

Page 2

IMPACT: This supplemental agreement (CO#4) will increase the existing contract by approximately \$125,565.00, which represents an increase of 6.86%. The total of all supplemental agreements to date is \$107,976, or a 5.84% increase to the base contract of \$1,848,183.00. The current contract amount is now \$1,956,159.00. A cost agreement has been reached which stipulates that Tucson Water will be responsible for 100% of the costs associated with this change order.

pc: Mario Ramirez, Transportation Administration
Tom Bartels, Contract Administrator
Joe Shutler, Field Engineering
Riva Dewitt, Procurement
Tony Tineo, Tucson Water
Project File

PURCHASING

SEP 1997





Tucson Water Department

DATE: August 20, 1997

TO: Wayne A. Casper
Director
Procurement

Bruce Johnson
FROM: Bruce Johnson
Lead Administrator
Tucson Water

SUBJECT: JUSTIFICATION FOR EXTRA WORK
SPEEDWAY/CAMPBELL MAIN REPLACEMENT
PLAN NO. 1-039-269-96

A change of scope for the above mentioned project was defined in a memorandum to you dated July 1, 1997. Since then COT Transportation Dept. has requested we include new pavement overlay for the entire road width, curb to curb, for the entire length of the main replacement and for the portion 2nd st. 3rd st. The request is predicated on the following reasons:

- The same area is scheduled for replacement in the 97-98 fiscal year
- Disruption of Tucson Blvd. should only be once
- Tucson Water contractor, Borderland Constr., is an experienced pavement contractor

Transportation will provide the funds for the pavement replacement beyond what Tucson Water is required to do as part of the main replacement.

The total cost to include the additional paving is estimated not to exceed \$360,000.00, \$60,000.00 more than what was identified in the prior memo.

Per this memo we are requesting approval of a change order for specified work.

RBJ:DR:spdcml

cc: Tom Mundinger, Distribution Design Supervisor
Steve Pageau, Project Manager

Original amount \$59

Coordination Procedure

I. Current Undocumented, Informal Procedure

A. Monthly UCC Meetings - These have been primarily Transportation project updates with the express purpose of clearing utilities in advance of the construction phase. The timeframe for this update usually corresponds to a milestone in the design process, 75% utility for example. The people in attendance may not always be the ones with enough information to identify and resolve a conflict.

B. Plan Reviews

1. Tucson Water submits plans to Transportation for review and approval at the 75% and 100% stages. A copy is also sent to Traffic Engineering.

2. Transportation submits plans to Tucson Water for review and approval at the 30%, 75%, 90%, and 100%.

The problems are the same as above.

C. Sharing Base Maps - This is the most recent addition to the process. The maps include areas where work is ongoing or planned for major programs. This has worked well between Tucson Water, SWG, and Streets for their programs within residential areas.

II. Proposed Additions

A. Enhanced use of CAD, GIS, or any other computer method to share information.

B. Include the planning functions of other areas within Tucson Water and Transportation in whatever process is adopted.

C. Incorporate Maintenance and Operations input into the design review.

D. Share CIP information once the budget process has identified projects that are likely to be constructed in the next two years.