

CITY OF TUCSON, ARIZONA
DEPARTMENT OF TRANSPORTATION

ENGINEERING DIVISION
ACTIVE PRACTICES GUIDELINES

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APPROVED BY: *[Signature]* DATE: 2/8/93
City Engineer REVISED: 4/96

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* = THIS REVISION

SUBJECT: ACTIVE PRACTICES GUIDELINES/DESIGN PROJECT CHECKLIST

1.01 PURPOSE

- A. To provide a checklist/tickler file whereby project managers can track the progress of a design project and be reminded of tasks and requirements critical to the timely progression of the project. Although the checklist is basically arranged in chronological order, it is understood that different consultants and different projects may result in those tasks being arranged in a slightly different order.

Upon the submittal of 30%, 75%, and 100% pay requests, the project manager should check that all items of work due to be complete at that stage have been completed. Whether a consultant or in-house design, the project checklist shall be utilized and indicated portions submitted to the Assistant City Engineer/Design at the 30%, 75%, and 100% stages.

1.02 MOBILIZATION

- A. Has Consultant submitted a work schedule?
 B. Has a "Design Coordination Meeting" with Consultant been held?
 C. Are all subconsultants listed by the consultant during the consultant selection process being utilized?

1.03 SURVEY

- A. Did Consultant submit a copy of survey notes?
 B. Has Survey Section supervisor reviewed those notes, and do they conform to the Active Practices Guidelines?

- C. Has a "Field Coordination Meeting" between Consultant and Blue Stake Center been held? (For utility tie down show in Field Book).
- D. Has Consultant submitted a close traverse of area in question for approval? (Before proceeding with culture and cross-sections).

1.04 TRAFFIC STUDY

- A. Has a copy been provided to Traffic Engineering for review?
- B. Does the study justify locations of median openings?
- C. Does the study investigate the need for right turn lanes?
- D. Are new signals (car/pedestrian) needed or should existing ones be eliminated?
- E. Are pedestrian crossings (surface, over, under) needed?

1.05 HYDROLOGY STUDY

- A. Has the City of Tucson Flood Peak Estimator Method been utilized for watersheds under ten square miles and with a time of concentration less than 180 minutes?
 - Has the "Dispersed Flow" and the "Underfit Channel" basin factor been justified?
 - Was aerial reduction of rainfall considered in the estimation of the flood peak?
- B. Were the hydrographs generated by the curvilinear, dimensionless hydrograph methodology?
- C. Are flood peaks on the larger watercourses available through the Floodplain Section and/or do they agree with the Consultant's flood peaks?
- D. If there are sufficient diversions and/or detention/retention, should a flood routing be considered?
- E. If the project impacts a FEMA regulated Floodplain, then an application for a LOMA or LOMR needs to be submitted.

1.06 PAVEMENT DESIGN

- A. Has consultant submitted soils report?
- B. Has consultant utilized the approved Traffic Report?
- C. Is Consultant following 1990 AASHTO Guide and/or following the latest ADOT Manual?

1.07 DESIGN CONCEPT REPORT

- A. Is it called out in scope of work?
- B. Does it include an alternative cross section analysis?
- C. If alternative analysis recommends (and is approved by City Engineer's Office) a different cross-section, or something different from scope, how is consultant compensated?
- D. Does the Preliminary Concept Report include:
 - Alternative analysis?
 - Cost Estimate of Alternatives?
 - Drainage considerations?
 - Design features (bridges, culverts, landscaping, type of area impacted)?
 - Right-of-way considerations?
 - Conclusion?
 - Recommendations?
- E. Has a Design Concept Meeting been held with:
 - Invite: Director of Transportation, City Engineer, Engineering Manager (Design Section), Consultant, Project Engineer?
- F. Final Concept Report?
 - Same as D., include modifications from E.
- G. Circulate Final Report to E.
- H. Negotiate any Change Orders necessitated by approval of report.
- I. Append scope of work.

1.08 DESIGN CONCEPT PUBLIC MEETING

- A. Mailing prepared using standard format?
- B. Has Engineering Division Citizen Participation (C.P.) person selected meeting location, date, and time?
- C. Send notification form and mailing to C.P. at least three weeks prior to meeting.
- D. Meet with consultant to discuss meeting agenda and displays.
- E. Are all options presented--with preferred options and reasoning why?
- F. Is design still flexible so that the public can provide input?
- G. Has a follow-up report been prepared?
- H. Have all affected parties been notified? (i.e., neighborhood groups, environmental groups, Council Office, C.T.A.C., etc.?)
- I. Has the standard handout been prepared and copies made?

- J. Are appropriate staff attending such as Real Estate, Improvement Districts, etc.?
- K. Is a greeter/meeting facilitator attending?

1.09 ARCHAEOLOGICAL AND HISTORICAL CLEARANCE

- A. Has historical resource coordinator been consulted?
- B. If an archaeologically sensitive area, has Arizona State Museum been requested to search their files for known or suspected sites?
- C. Historical/Archaeological Report completed?

1.10 ENDANGERED SPECIES CLEARANCE

- A. Is project area undisturbed or sensitive ecologically or politically?
- B. Has clearance for tummanoc globeberry been obtained?
- C. How is project location identified on Globeberry Map (Ebert's area)?
- D. Has biological consultant been contacted?
- E. Contract for biological surveys and study.
- F. If clear, proceed with project.
- G. If not clear, mitigate per study recommendations.

1.11 30% UTILITY SUBMITTAL

- A. Has Consultant notified All affected utilities?
- B. Has Consultant copied Project Engineer with letter and utility receipt?
- C. Has Consultant adhered to utility notification procedure?
- D. Has Consultant provided a summary of utility responses to Project Engineer?

1.12 PROPERTY OWNER UTILITY AND DRIVEWAY COORDINATION

- A. Has Consultant mailed utility and D.W. letters to all owners of record?
- B. Has Consultant provided copies of letters and responses to Project Engineer?
- C. Has Consultant followed up on All non-responses?
- D. Do driveways conform to Chapter 25 and Development Standards? (i.e., sight distance)
- E. Do all openings meet depressed curb versus curb return criteria?

1.13 WATER SYSTEM DESIGN

- A. Has Tucson Water provided a cost breakdown?
- B. Has the cost breakdown been checked and returned?
- C. Has Tucson Water delineated cost sharing on water relocation plans per May 9, 1989 memo?
- D. Has a copy of water relocations and upgrades been given to the Improvement District Section?
- E. Is pot holing required?
- F. Have specifications been provided by Water Department?
- G. Have plans been signed by Water Department?

1.14 SANITARY SEWER DESIGN

- A. Has cost sharing breakdown been determined per IGA with P.C.W.M.D. and "Active Practice Guidelines" for Sanitary Sewer cost sharing?
- B. Are manhole adjustments vs. reconstructions identified?
- C. At 75% Design Utility Meeting, or at that stage in the design process, meet with P.C.W.M.D. and C.O.T. Field Engineering to reach agreement on sewer cost sharing per I.G.A. with County.
- D. Can all properties be serviced by sewer in future without cutting pavement?
- E. Is P.C.W.M.D. sign-off required?

1.15 30% SUBMITTAL TO CITY

- A. Has consultant participated in a 30% Concept Review meeting with City staff?
- B. Has consultant utilized bluestake for design?
- C. Has more than 30% of time been utilized? If so, alert Consultant with letter of concern.
- D. Public Meeting?
- E. Project Manager is to provide a Design Concept Report Summary of at least a paragraph, but less than a page in length.
- F. Has consultant submitted blue-line copies of plans adhering to "Active Practices Guidelines? (Drafting Standards)

Initial

Date

*** Checklist to this point to be submitted at 30% design completion.

1.16 HYDRAULIC REPORT

- A. Storm Drain System:
 - Has the 10-year event criteria been met? If not, why?
 - Was a clogging factor included in the catch basin sizing?
 - Were the pipes sized by normal or pressure flow analysis?
- B. Open Channel System:
 - Has the 100-year even criteria been met? If not, why?
 - Are the interim watercourse policies being followed?
 - Is a HEC-2 water surface profile being prepared?
 - Do the results from the HEC-2 run meet the FEMA criteria for a LOMA/LOMR?
 - Considerations: freeboard, transitions, energy dissipation, curves, confluences, and minor local drainage.

1.17 STORM SEWER PLANS

- A. Are manholes out of wheel travel paths?

1.18 75% SUBMITTAL TO CITY

- A. Horizontal and vertical control in conformance with approved survey?
- B. Plans conform to traffic, hydrology, and concept reports as approved?
- C. 30% utility comments correctly addressed?
- D. Complete "S" Drawings, Right-of-Way Plans, and start assessment diagram.
- E. Time versus percent complete analysis - letter of concern of appropriate.
- F. PS& E - 75% plans sent to Construction Inspection section, Survey section, Floodplain section, Development Services.
- G. Has a response been obtained from each section in PS &E?
A response must be obtained.

1.19 LANDSCAPING PLANS

- A. Has Interim Watercourse Policy been addressed?
- B. Have the Parks Department criteria for median and parkway landscaping been utilized?
- C. Have Landscape Concept Plans been reviewed by Parks Department?

- D. Are proposed plants on list of low water use plants mandated by the A.D.W.R.?
- E. Are water and electric service clearly shown?
- F. Is an approval line needed for Parks Department?
- G. Does the landscape treatment blend well with neighboring sections?

1.20 LIGHTING PLANS

- A. Have "Active Practice Guidelines" been utilized for selection of pole type?
- B. If a "Lighting Only" project, have sidewalks been included in all areas?
- C. Have requirements of scope been adhered to?

1.21 RIGHT-OF-WAY PLANS

- A. Have Right-of-Way Plans been checked by Development Section?
- B. Do Right-of-Way Plans adhere to "Active Practices Guidelines"?
- C. Have Legals been prepared by Development?
- D. Have Legals, Title Reports, Construction Plans (5-sets) and Right-of-Way Plans (5 sets) been submitted to Real Estate with memo addressing whether this is a partial or total submittal per Right-of-Way Acquisition Active Practices Guidelines?
- E. Has the Consultant addressed all necessary Right-of-Entry, drainage, and Temporary Construction Easements?
- F. Are they shown on plans?
- G. Do we have Mayor and Council authority to acquire?
- H. Is resolution number on Right-of-Way Plans and "S" Drawings?

1.22 75% UTILITY SUBMITTAL

- A. Has Consultant notified All affected utilities?
- B. Has Consultant copied Project Engineer with letter and utility receipt?
- C. Have "Active Practices Guidelines" for Utility Notification been followed?
- D. Has Consultant provided a summary of utility responses to Project Engineer?

Initial

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*** Checklist to this point be submitted at 75% design completion.

1.23 90% SUBMITTAL TO CITY

- A. Has Consultant addressed the proper connection of existing tailwalks and driveways with proposed improvements?
- B. Has Sun Tran been consulted regarding Bus Pullouts and Bus Shelters?
- C. Has Consultant turned in Final Drainage Study?
- D. Has Consultant resolved all utility conflicts?
- E. Has Consultant turned in Curb Cut Status Report?
- F. Have positive barriers been designed adjacent to open drainageways?
- G. Are there any chain link fences in project? In view of policy against chain link fences, are there alternatives?
- * H. Has there been a "plans-in-hand" PS &E with Consultant, Project Engineer, and Field Engineer as specified in scope? Have 90% plans, specifications, cost estimate, and copies of 90% comments been submitted to PS &E review team (Construction Inspection, Survey [Survey Section Supervisor - notice of PS &E only], Floodplain, Development sections, Streets Division, Traffic Engineering, Consultant, Affected Utilities, any other impacted City staff, Tucson Water, Pima County Wastewater Management)?
- * I. PS &E and field review (within 2 weeks after plan is sent).
- * J. Has an office PS &E been held to check quantities, unit prices and bid items? (Project Manager and two additional staff)

1.24 QUANTITY TAKEOFF AND COST ESTIMATE

- A. Has a separate Cost Estimate been prepared for Improvement District items?
- B. Are all item descriptions and unit breakdown consistent?
- C. Is format of Cost Estimate consistent with Standard format?
- D. Does the Lighting Cost Estimate separate traffic signal costs, which are non-assessable items?
- E. Are manhole adjustments and manhole reconstruction in bid items?
- F. If primarily developer financed, include \$200 plans review fee to Pima County Wastewater Management along with 2 1/2% inspection fee.
- G. Are fire hydrant markers (R.P.M.'s) included?

- H. If primarily developer financed, include \$200 plans review fee to Pima County Wastewater Management along with 2 1/2% inspection fee.
- I. Is a lump sum traffic control included?

1.25 SPECIAL SPECIFICATIONS

- A. Has the current City format been utilized?
- B. Have All Special Specifications been included?

1.26 100% SUBMITTAL TO CITY

- A. Has Consultant turned in original Mylars or Photo Mylars?
- B. Has Consultant turned in Cost Estimate and Special Specifications?
- C. Has Consultant turned in original Right-of-Way drawings including Aerial Photos?
- D. Has Consultant turned in Original Drawings with all required approval?
- E. Has Consultant turned in All Field Books adhering to City Standards and devoid of markings on the binders?
- F. Has Consultant turned in original (24" x 36" vellum) cut/fill sections with enough DATA so that they could be modified by City Personnel?
- G. Has Consultant turned in all utility correspondence/documentation?
- H. Has Consultant turned in all property owner correspondence/documentation?
- I. Has Consultant turned in all other pertinent correspondence/documentation?
- J. Have all appropriate signatures/approvals been obtained?

Initial

Date

*** Checklist to this point to be submitted at 100% consultant design completion.

1.27 FINAL PLANS TO UTILITIES

- A. Have utility relocation scheduling requirements been accounted for in the lead time provided to utilities?
- B. Does Construction Start Date specified in Utility letter match project schedule? (If not, provide explanation.)
- C. If plans are not signed, is indemnification included?

- D. Are All affected utilities being notified?
- E. If indemnified plans are provided, are any changes contemplated which may affect utility moves?

1.28 FINAL PUBLIC MEETING

- A. Mailing prepared using standard format?
- B. Handout prepared?
- C. Has Engineering Division Citizen Participation (C.P.) person selected meeting location, date and time?
- D. Send notification form and mailing to C.P. approximately three weeks prior to meeting.
- E. Meet with consultant to discuss meeting agenda and displays (if applicable).
- F. Are all options presented--with preferred options and reasoning why?
- G. Has a follow-up report been prepared?
- H. Have all affected parties been notified? (i.e., neighborhood groups, environmental groups, Council Office, Office of City Clerk, C.T.A.C., etc.)

1.29 IMPROVEMENT DISTRICTS

- A. If protested out, have utilities been informed?
- B. Has Resolution of Intention been prepared for Improvement Districts?
- C. Has assessment diagram been completed?

1.30 ADOT PROJECTS

- A. Any A.D.O.T. project - let City Surveyor review so all monumentation is not removed.

Initial

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*** Checklist to this point to be submitted at 100% design completion.