

TAB B-11

SURFACE WATER PROCEDURES

1. Prior to Retaining the Design Professional:

Depending on the nature of the project and site, an independent surface water study (as a precursor to the surface Water Report described below) may be required and completed prior to the start of the project for the purpose of understanding site issues, budgeting, or other needs.

2. Project Design Process:

The Design Professional's scope of work will require compliance with the surface water standards found in **TAB-C** and **TAB-E** of this Manual of Design & Specification Standards. As a result of project specific design guidelines identified in the independent surface water study above, surface water requirements may be developed which call for unique surface water features or other special requirements. The *University of Arizona Surface Water Working Group* will be available to review these standards and guidelines with the Design Professional.

The project design should be informed by the most current university comprehensive campus drainage study, project specific site development guidelines, The *University of Arizona Manual of Design and Specification Standards*, site soils tests, and other regulatory considerations. These resources shall guide the preparation of a *Surface Water Report* and design solutions, as required in the project scope of work and described in ~~#3~~ below. The *University of Arizona Surface Water Working Group* is available to the Design Professional throughout the project to discuss and provide guidance on detailed surface water design solutions.

The Design Professional is responsible for insuring that all applicable sub-consultants understand the studies, plan sets, details, and specifications each sub-consultant will need to prepare in order to meet these standards. Sub-consultant fees should appropriately reflect the work necessary to meet these standards.

During the first design stage where site development concepts are being investigated there should be a demonstration of how existing drainage impacts the site along with conceptual options for how surface water may become an integral part of the project design. At each subsequent plan review phase the submittal set shall include designed surface water elements which are responsive to the *Concepts and Mitigation* section of the *Surface Water Report* described below and are developed to a level of design commensurate with the rest of the project.

Appropriate soils tests will be completed as early in the design process as possible to inform the final surface water design solutions. These tests shall include measures needed to understand the suitability of the soil for the infiltration needed for retention/detention, in addition to structural and other characteristics.

3. Surface Water Report

During the first design stage where site development concepts are being investigated, a draft *Surface Water Report* will be prepared by the Design Professional. The report will have two main components: an *Existing Conditions Analysis* section, and a *Concepts and Mitigation* section.

Existing Conditions Analysis: this report section analyzes and documents existing surface water conditions on the project site. The form and methods used for this report should conform in general to City of Tucson standards, e.g., use the format of the City's "Standards Manual for Drainage Design and Floodplain Management in Tucson" to create a Drainage Statement, Hydrology Report, or a Drainage Report. Technical analyses shall be built on the University's most recent Comprehensive Campus Drainage Study hydrology model.

Concepts and Mitigation: each subsequent draft of this report section should include increasing specificity and technical documentation on proposed surface water features and mitigation which emerge

from the initial vision/concepts. This report section shall include, at a minimum, the following two elements:

- Surface water vision and concepts for the project, presented in narrative and graphic form, conveying how surface water may be incorporated in the project design. Evaluation of required, recommended, and anticipated surface water features shall be included, along with topics such as defining finished floor elevations relative to flood levels and evaluating other surface water sources in the vicinity for potential use within the project site. The final Report shall include a water budget for the proposed landscape, including an analysis of water sources available to meet the budget. Proposed concepts and features shall come from a collaborative process involving all applicable team members. At a minimum this should include the project's Landscape Architect, Civil Engineer, and the Project Architect.
- Assessment of anticipated surface water impacts of the project on the surrounding area (the site proper and at least ¼ mile beyond the site limits) and likely mitigation needed. Maps should indicate how the site/project interfaces with its own and adjacent watersheds.

4. Surface Water Report Submittals

Each draft of the *Surface Water Report* will be reviewed by departments represented on the *University of Arizona Surface Water Working Group*. Another copy will be provided to the University of Arizona for transmittal to the City of Tucson stormwater section staff for their review. This is considered a courtesy review, although upon evaluation of City of Tucson comments, the University of Arizona may request such comments be incorporated into the design plans. Following is a summary of each report draft:

- First Draft: The first draft of the *Surface Water Report* shall be included with the project's first concept design submittal. The surface water conditions, concepts, features, and mitigation described within the report are to be included in the presentation to PADRAC. All subsequent PADRAC project presentations and submittal sets shall include these surface water elements developed to a level of design commensurate with the rest of the project.
- Second Draft: A second draft of the *Surface Water Report* shall be due with the schematic design submittal set. This draft shall include updated/refined graphic and narrative descriptions of surface water concepts, features, and mitigation.
- Final Report: The final version of the *Surface Water Report* shall be submitted with the construction document submittal and will include updated modeling and analysis of designed features and mitigation. An executive summary is to be provided which includes, among other information, a statement from the project Civil Engineer noting in both technical and layman's terms ways in which the project design varies from and/or meets City of Tucson standards.