

A Crucial Step

The Design Development Phase is an essential part of a capital expense roofing project. It generally occurs after an evaluation has been performed, and it must be completed before Construction Documents can be developed. During this phase, most major project decisions will be made.

The Process

The first step of this process is to review and evaluate with the owner the project agenda



and the budget requirements. A site visit is performed to confirm construction and analyze site requirements. Because each roof area is unique with individual characteristics, many

details are verified at the site.

The major considerations for existing conditions include deck material (metal, concrete, wood, etc.), wall termination material (brick, block, wood, metal, etc.), projections, rooftop equipment, slope, and drainage. Exploratory analysis is performed through test cuts. This minimizes the likelihood for unforeseen problems to arise.

During this phase, most major project decisions will be made.

Asbestos testing and deck and structural analyses might also be required during this process.

Current roof conditions are then explored including traffic, drainage, HVAC considerations, and rooftop equipment. Future plans for the roof are also analyzed in regard to building usage, occupation, and changes in any of the above areas. Internal and external considerations for both the construction time frame and the roof life are outlined.

The Solution

Solutions are then proposed for the problem. This could include repairs, restoration, wet insulation replacement, and complete tear-off and re-

Roof system considerations may include:

Decking

- Metal
- Tectum
- Concrete (precast or cast-in-place)
- Gypsum
- Wood

Insulation

- Wood fiber
- EPS
- Fiberglass
- Polyisocyanurate

Slope

- Low slope
- Steep slope

Membrane

- Built-up roofing
- Modified bitumen
- Single-ply
- Conventional
- MRA
- Miscellaneous

The deliverables produced during this phase include outline specifications, budgets, preliminary drawings, schedule confirmations, and administrative criteria.

BENEFITS

Addresses each project uniquely to achieve the right solution that fits within the framework of the client's objectives

Minimizes the probability of unforeseen problems occurring

Produces value engineering as a result of careful consideration of all options

Significantly reduces the potential for expensive design changes at a later stage

Produces a basis for the actual construction documents

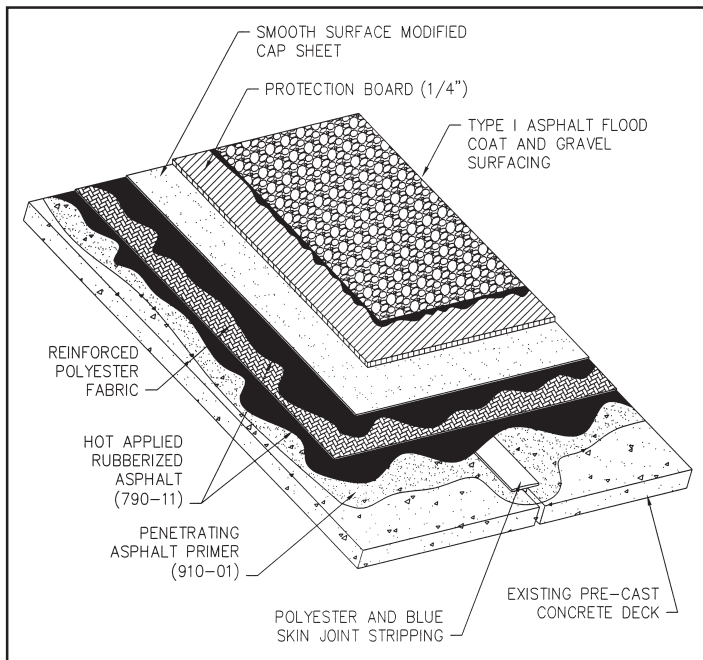
procedures for construction identified and selected.

Roof Selection &

Project Requirements

At this stage, a roof system is chosen. This includes materials, equipment for construction systems, methods, manufacturers, and special requirements. Allowances, alternatives, and unit prices are outlined, and codes and zoning are considered. A preliminary construction schedule is determined. Contract considerations are discussed, including competitive bidding, negotiated contracts, or construction

placement, as well as required roof deck remediation. Alternatives are discussed and analyzed, and performance criteria is determined. If necessary, a life-cycle cost analysis is performed, along with value engineering studies. Preliminary cost estimates are then produced. An initial design is proposed and constructability is analyzed with methods, means, and



Roof System Preliminary Schematic

management. Special considerations for public funding are also discussed at this time. Bonds and insurance requirements are outlined.

The Outcome

Outline specifications are then developed. These later serve as the basis for the construction documents. The other deliverables produced during this phase include the budgets, preliminary drawings, schedule confirmations, and administrative criteria. By thoroughly engaging in this process, the client has significantly reduced the potential for unforeseen conditions and expensive design changes at a later stage. ■

Total Building Envelope Management SolutionSM

www.structuretec.com

(800) 745-7832