

Work Plan
Special Experimental Project No. 14 (SEP-14)
Minnesota Department of Transportation
Alternate Technical Concepts for Design-Bid-Build Projects
August 17, 2015

Introduction

The Minnesota Department of Transportation (MnDOT) proposes to use an Alternate Technical Concepts (ATC) contracting approach on three Design-Bid-Build (DBB) projects on a trial basis under the provisions of Special Experimental Project No. 14 (SEP 14).

Purpose

It is common for contractors to approach MnDOT after the award of a contract with alternate methods to stage traffic, stage structure construction, or otherwise enhance the constructability of the associated project. The purpose of using Alternate Technical Concepts (ATC) on the coming projects is therefore to allow contractors the ability to propose, and receive approval for, constructability enhancements prior to the placement of bids in order to capture more of the value associated with these ideas in the bid (as opposed to value engineering proposals, where the savings are split post-bid and they may not be feasible to negotiate on fast-moving projects).

Background

MnDOT has a long history of utilizing ATCs on Design-Build (DB) projects. At this point, MnDOT is very comfortable with the ATC process in DB and is of the belief that it adds significant value. It is notoriously difficult to estimate the value of ATCs directly. However, if the costs estimated by the submitting contractors are near accurate, then the costs of these projects are commonly reduced by millions of dollars. On two projects in particular, the Hastings bridge project and Phase 2 of the TH 610 extension, MnDOT is confident that ATC savings easily surpassed \$5 million per project and may have surpassed \$10 million. Many other projects have experienced similar, if smaller savings. Furthermore, several of these concepts increased the quality of the constructed project (i.e. enhanced drainage on the TH 610 project) or introduced new techniques to the state (such as MSE walls).

Proposal

MnDOT proposes to utilize ATCs on DBB projects to reduce costs and, perhaps, increase the quality of the Maintenance of Traffic (MOT) or temporary construction on a project. To do this, MnDOT will utilize a process that is very similar to MnDOT's DB ATC process. The differences are outlined in the attached summary and detailed in the attached specification. In short, MnDOT will allow for roughly six additional weeks of advertisement time and will allow ATCs on temporary items with lump sum bid items only. (MnDOT believes there may be value to the process regarding non-lump sum items, but MnDOT has not yet devised a reliable technique for adjusting quantities or resolving Engineer of Record issues for permanent construction)

DBB ATCs will be utilized on three upcoming projects with the following characteristics:

- 1) Large projects over \$10 million. The size helps to ensure that contractors will be interested in undertaking additional effort (the ATC development) at their cost in order to secure the work.
- 2) Projects with complicated or costly MOT arrangements. It is expected that the majority of the value of this technique will be captured with adjustments to a project's MOT scheme, despite the ability to ATC other elements related to constructability.
- 3) Projects where there is the necessary time (roughly 6 weeks) and qualified staff available to run the process appropriately.

- 4) The north 35 split reconstruction (SP 8280-47) and 35W/Lake St project are likely candidates.

Expectation

MnDOT does not expect that DBB ATCs will have as large of an impact as DB ATCs. The scope of DBB ATCs is considerably smaller to begin with, i.e. temporary construction only, and DBB contractors do not naturally have consultants available to them as they do in DB. That said, MnDOT expects that some contractors will submit ATCs on large projects based on the success of MnDOT's DB ATC program, and it is expected that the benefits of these ATCs will outweigh the effort involved to implement the ATC process.

Evaluation

MnDOT will evaluate the success of this process based on the factors listed below. The evaluation will be included in a report that will be completed within 6 months of the final project's completion or the end of the three-year period, whichever comes first.

1. Industry Reaction: MnDOT will record and track the response from our contracting industry. This will also include an assessment of improvements to the process that may be proposed by industry.
2. ATCs Proposed: MnDOT will assess the number of ATC concepts proposed, the number of concepts approved for further development, and the number of concepts proposed at the time of bidding.
3. Time and Cost Savings: MnDOT will compare the cost of the Engineer's Estimate of the MOT concepts considered during design to the cost of the selected contractor's maintaining traffic scheme. MnDOT will also evaluate any time savings from alternate maintaining traffic schemes proposed.
4. Lessons Learned: MnDOT will provide a summary of any lessons learned throughout the project and will include any items that may be improved for any future projects that propose to utilize the technique.

S-X. CONTACT INFORMATION

When first contacting MnDOT regarding an Alternate Technical Concept (ATC), identify a sole primary contact responsible for receiving ATC-related correspondence MnDOT.

The following individual is the sole MnDOT contact person and addressee for receiving communications about the Project:

{ name }

{ phone number }

{ e-mail }

Do not discuss the Proposal Package, Project, or ATCs with other MnDOT staff or MnDOT consultants involved with the Project before the Contract is awarded or the Project is cancelled, except as expressly authorized in this Proposal or by the Department's contact person named above. Any Bidder engaging in such prohibited communications may be disqualified at the sole discretion of MnDOT.

S-X. 1301 – CONSIDERATION OF PROPOSALS (ATC)

The Provisions of MnDOT 1301 are hereby supplemented as follows:

S-X.1 OVERVIEW

The proposal consideration processes for this Project incorporates the Alternative Technical Concept (ATC) process set forth in this Section X. The purpose of proposing an ATC is to reduce a Bidder's bid price while providing equal or better Project quality.

S-X.2 GENERAL CONDITIONS

The Proposal Package contains everything necessary to bid on the Project without utilizing this ATC provision. But, a Bidder may, at its option, propose ATCs to modify **aspects of the required temporary construction on the Project so long as the permanent design of the Project is not altered. Specifically, a Bidder may submit ATCs related to the work included in the Maintenance of Traffic, Erosion Control, and Temporary Construction lump sum pay items.**

MnDOT will not consider ATC submittals related to the following:

- Any concept which proposes to alter the Project's permanent design or bid item quantities other than the lump sums listed above
- Any concept that requires additional Right of Way, except for temporary easements or right of way belonging to other governmental entities which can be taken in by a commissioner's order.
- Any concept that increases utility conflicts beyond minor adjustments
- Any concept that requires MnDOT to accept the risk that a permitting or environmental documentation change will be approved
- Any concept that deviates from applicable state or federal manuals and standards, unless specifically noted in the ATC

The Bidder is not obligated to include approved ATCs in its bid; the Bidder may submit a bid based upon the original proposal even if MnDOT approved ATCs. Alternatively the Bidder may, at its option, submit a bid based upon the original proposal as modified by its approved ATC(s). The Bidder must submit only one bid; it is not possible to submit one bid based upon the original proposal and another bid with an ATC. In addition, the Bidder may not add any condition to the future use of an approved ATC after MnDOT approves or conditionally approves it; do not incorporate an ATC unless incorporating it exactly as approved or as conditionally approved by MnDOT.

The Bidder will assume the cost and risks of completing the preliminary and final designs associated with their ATCs. All ATCs, along with any associated subsequent construction plans and drawings, must be prepared and signed by personnel appropriate for the work type.

A Bidder may propose a maximum of **three ATCs**. MnDOT will approve all ATCs that are equal or better in quality or effect as determined by MnDOT in its sole discretion. Rejected ATCs and submitted ATCs deemed by MnDOT to not qualify as ATCs are included in the maximum number of ATCs allowed. Each ATC shall contain a single concept, but may contain multiple interrelated parts which are directly linked to a single concept.

S-X.3 SUBMITTAL OF ALTERNATIVE TECHNICAL CONCEPTS (ATC)

Bidders (prime contractors only) may submit an ATC for evaluation to MnDOT's sole contact identified in S-X. All ATCs must be submitted to this contact electronically prior to 1:00 p.m., Central Time, on **MONTH, DAY, YEAR**. This deadline applies only to initial ATC submittals. An ATC that has been revised in response to MnDOT's requests for further information must be resubmitted by the Bidder and received by MnDOT by 1:00 p.m., Central Time, no later than seven calendar days after MnDOT's request for revisions, but not later than two days prior to letting, whichever is earlier.

Include the following with each ATC:

- (a) The name of the Bidder and a number (i.e. Smith Construction ATC #1). Number the first ATC submitted "#1" and increase the number sequentially for subsequent submittals.
- (b) Description. A detailed description and schematic drawings of the configuration of the ATC sufficient to thoroughly describe the change from the original plans and specifications.
- (c) Usage. The locations and instances in which the ATC will be used on the Project, if not clear from the Description.
- (d) Deviations. A listing of the requirements of the contract documents that are inconsistent with the proposed ATC. Broad generalizations will not be approved.
- (e) Analysis. An analysis explaining why the proposed deviations are equal or better in quality and effect in detail sufficient for MnDOT to judge the concept.
- (f) Impacts. A summary of the noteworthy positive and negative impacts of the ATC, which may include a discussion of vehicular traffic, right-of-way, utility conflicts, system maintainability, environmental impacts, community impact, safety and life-cycle Project impacts, project risks, and completion time.
- (g) History. If applicable, a detailed description of other projects where the ATC has been used, the success of such usage, and names and telephone numbers of project owners that can confirm such statements.

If a Bidder wishes to disclose their ATC information to third parties, they are advised to first communicate their intentions to MnDOT in order to discuss the risks of making such a disclosure. All proposed ATCs submitted to MnDOT will be considered "Government Data" as defined in Minnesota Statutes §13.02 (subd. 7). ATCs, whether or not approved, will become public data after the contract is awarded in accordance with Minnesota Statutes §13.591 subd. 3 (a) as "data submitted in response to a request for bids".

S-X.4 EVALUATION OF ALTERNATIVE TECHNICAL CONCEPTS (ATC)

Bidders may request, or MnDOT may offer, one-on-one meetings between a particular Bidder and MnDOT to discuss the Bidder's potential ATCs. MnDOT staff will be available to attend at least one one-on-one meeting; requests to hold additional meetings may or may not be granted. Potential prime contractors must attend all one-on-one meetings related to their bid; subcontractors cannot attend alone. MnDOT reserves the right to request additional information (such as bonding capacity) to ensure that prospective primes are attending.

MnDOT may request additional information regarding a proposed ATC at any time. MnDOT will make reasonable efforts to respond to the ATC in a timely manner. MnDOT's ATC response times or the one-on-one

meetings will not be grounds for a protest. Subject to the Minnesota Government Data Practices Act, MnDOT will use its best efforts to keep all discussions with Bidders regarding ATCs confidential, provided that under no circumstances will MnDOT be responsible or liable to a Bidder or any other party as a result of disclosing any materials, whether the disclosure is deemed required by law, by an order of court, or occurs through inadvertence, mistake, or negligence on the part of MnDOT or its respective officers, employees, contractors, or consultants. Additional information and requirements regarding any one-on-one meetings will be provided by MnDOT.

MnDOT will review each ATC and will respond to the Bidder with one of the following determinations:

- (a) The ATC is approved.
- (b) The ATC is not approved.
- (c) The ATC is not approved in its present form, but is “conditionally approved” by MnDOT. A conditionally approved ATC means that the Bidder must satisfy certain conditions identified by MnDOT. The setting of conditions, and the determination of whether the conditions are met, will be made by the Department in its sole discretion.
- (d) The submittal does not qualify as an ATC but may be included in the Proposal without an ATC (i.e., the concept complies with the baseline contract requirements).
- (e) The submittal does not qualify as an ATC and may not be included in the Proposal. This includes ATCs that identify errors or ambiguities in the contract documents in which MnDOT reserves the right to address in a clarification or addendum.

The Bidder may incorporate any or none of its approved and conditionally approved ATCs into its Proposal. If MnDOT responded to an ATC by stating that it was conditionally approved, those conditions will become part of the Contract Documents.

MnDOT’s approval or conditional approval of an ATC for this Project does not guarantee the ATC concept may be used on any other MnDOT project.

If the Bidder submits an ATC based on a proprietary product, they are solely responsible for meeting the requirements referenced in 23 CFR 635.411.

The Proposal Price must reflect any incorporated ATCs. Except for incorporating approved or conditionally approved ATCs, the Proposal may not otherwise contain exceptions to or deviations from the requirements of the Contract.

The Contractor will have no claim for additional costs or delays, including development costs, loss of anticipated profits, or increased labor or material costs, if an ATC is rejected.

If a Bidder chooses not to submit an approved ATC at the time of bidding, the successful low Bidder may resubmit their approved ATC as value engineering. The fact that it was approved as an ATC shall have no bearing on potential approval as value engineering, and it will be reviewed independently in accordance with MnDOT Specification 1408.

The Department expressly reserves the right to use an ATC submitted for this contract on other contracts administered by the Department.

S-X.5 BIDDING REQUIREMENTS

If the Bidder elects to bid the project with an approved ATC, the Bidder must:

1. Incorporate all costs related to submitted ATCs, including both final design and construction costs, into the appropriate lump sum item(s) listed in S-X.2. Indicate in the Expedite Bid Software electronic bid file (EBS) which ATCs are being submitted on the project. Checkboxes will appear that correspond to each allowed ATC (i.e. “ATC 1”, “ATC 2”, and “ATC 3” if three ATCs are allowed). For each approved ATC to be utilized in the bid and incorporated into the Contract, check “Yes”. For each approved ATC that the Bidder chooses not to use, check “No”. For each ATC that was not approved, check “No”. If any ATC numbers were not utilized, check “No”.

2. Submit all approved and utilized ATCs and their associated ATC Response Forms from MnDOT to biddocsubmittal.dot@state.mn.us prior to letting.

MnDOT may consider an incorrect check box or description to be a minor defect which MnDOT may waive upon explanation from the Bidder and a review of MnDOT's records. MnDOT may reject the bid if the documentation submitted to biddocsubmittal.dot@state.mn.us differs from the documentation that MnDOT viewed and approved prior to letting.

Upon award, ATCs included in the Bidder's proposal will be incorporated into the final Contract documents. The ATC takes precedence over the Special Provisions when statements in the ATC are interpreted, by the Department in its sole discretion, as offering a higher quality than otherwise required by the Special Provisions, Plans and Standard Specifications.

If the Contractor abandons or fails to construct an approved ATC, the Contractor must complete the project utilizing the original design at the awarded cost. No additional payment will be made for this Contractor initiated change.

Alternative Technical Concepts (ATCs) in Design-Bid-Build

August, 2015

Purpose

The purpose of this document is to provide an overview of MnDOT's proposed process for utilizing Alternative Technical Concepts (ATCs) in Design-Bid-Build (DBB) projects. This document describes the process to be utilized for DBB ATCs in generalities; MnDOT will finalize a DBB ATC specification in the near future that includes the exact requirements. It is presumed that a person reading this document is already familiar with MnDOT's Design-Build (DB) ATCs and has a rough understanding of the rationale for utilizing ATCs on DBB projects. MnDOT will not use a shortlisting process for DBB projects which include the ATC specification.

ATC Scope

MnDOT will only allow ATCs on DBB projects for items that can be appropriately bid as lump sums due to the difficulty in adjusting bid items based on ATC changes. Furthermore, DBB ATCs will be focused primarily upon lump sum items and temporary construction to avoid passing Engineer of Record responsibilities for permanent work to a contractor. Some portions of a project's scope or contract that may benefit from DBB ATCs under these conditions include:

- 1) Maintenance of Traffic (MOT)
- 2) Erosion control
- 3) Temporary drainage
- 4) Construction sequencing, if specified
- 5) "Temporary work", categorically
- 6) Start and completion dates (under certain circumstances)

It is recommended that all of the above categories be opened to DBB ATCs on a project utilizing ATCs unless there is a reason not to do so.

Schedule and Process

The following is a proposed schedule for a project utilizing DBB ATCs. The project is developed similarly to any other DBB project (including the preparation of full MOT plans) and it follows the established letting schedules (Process B/PoDI/etc) with below additions/changes:

Before 'baseline' schedule: If the project is a candidate for DBB ATCs, the project team discusses whether DBB ATCs are a good fit for the project with the Office of Project Management and Technical Support (OPMTS). If DBB ATCs are to be used, the baseline schedule is adjusted to include the below and the Project Delivery Section is notified.

- 6-12 months prior to letting:** The AGC is notified that a project will utilize DBB ATCs and they are provided with “one-pager” information and a draft specification. They are also provided the time and place for the “ATC Kickoff” meeting.
- 15-19 weeks prior to letting:** The turn-in package is submitted to the Project Delivery Section including all of the normally-required elements as well as the DBB ATC provision. (15 weeks is for a ‘typical Process B’ project, and 19 weeks is for a PoDI project)
- 11-12 weeks prior to letting:** The ATC Kickoff meeting is held with all interested contractors; they will be informed regarding the DBB ATC submittal process and intentions. Attendance at this meeting is not mandatory to submit a DBB ATC.
- 10 weeks prior to letting:** The project is advertised. Note that this period is 6 weeks longer than the normal DBB advertisement (this 6-week duration may be adjusted based on the complexity of the project and the ‘ATCable’ items). ATCs may be submitted at any time during advertisement, although teams will be strongly advised to wait until after a 1 on 1 meeting. Once an ATC is submitted, MnDOT will strive to respond within 7 calendar days using the DB analysis process. ATCs must provide an **equal or better design** to be approved.
- 8 weeks prior to letting:** 1 on 1 meetings are held with interested teams using the same process and contacts as in DB. The ‘8-week’ date does not need to be held exactly, but it should occur in the first half of the advertisement period.
- 5 weeks prior to letting:** A second round of ATC meetings may be held. These may be scheduled on complicated projects, or they may be held at the request of the Bidders. This date is also approximate.
- 2.5 weeks prior to letting:** The ATC deadline. All ATCs must be submitted to MnDOT prior to this deadline. MnDOT will respond to all ATCs prior to letting.
- Letting:** The contractors submit their bids as normal for a DBB project. Approved ATCs will be incorporated by checking a box in the Electronic Bid System (EBS).

Estimating

Projects utilizing DBB ATCs must have an Engineer's Estimate (EE) prepared. The EE will be prepared using the same process as for all other DBB projects except that ATC savings must be considered. There are two options for adjusting EEs to account for ATCs:

- 1) The EE can be adjusted following letting based upon internal estimates of the ATCs submitted by the Apparent Low Bidder; this would be the same process as has been traditionally utilized in DB.
- 2) An ATC-adjustment 'risk' factor can be added to the estimate prior to letting to account for the likely savings (if any) expected to result from ATCs on the project.

Letting Process

Approved ATCs that the Contractor wishes to incorporate into their bid will be submitted to biddocsubmittal.dot@state.mn.us. The Contractor will indicate this officially by checking "Yes" or "No" in boxes that correspond to the individual ATCs in a new bid file folder in the EBS. The Contracts and Lettings Supervisor will incorporate approved (and re-submitted/'checked') ATCs into the Contract prior to requesting the Contractor's signature for award.

Bid Item Payment

MnDOT recognizes that it may be difficult, at times, to draw a line between temporary and permanent construction. For example, aggregate brought onto the project for a temporary crossover may be moved elsewhere on the project site to complete the permanent construction. In these cases, the permanent quantities will be measured and paid once the materials are placed in their final configuration, regardless of whether they were used for any temporary applications or whether they have a temporary use in their final location. Any costs associated with the temporary placement, transport, or use of the materials will be included as a part of the lump sum payment for the temporary work.

It is anticipated that the temporary lump sum payments will be made to the contractor based on a cost-loaded schedule prepared by the contractor and approved by MnDOT (similar to most construction payments in DB), although it would be possible to pay the lump sums at regular intervals if MnDOT determines that approach is more appropriate for a particular situation.