State of Ohio

Department of Transportation

~

Innovative Contracting Manual

2/1/2006

Copies of this manual and reference materials may be obtained at:

Ohio Department of Transportation
Division of Construction Management
1980 W. Broad St.
Columbus, Ohio 43223
Phone: (614) 466-3598
Web site: http://www.dot.state.oh.us/construction/

Table of Contents

Notes:

Introduction

This manual describes ways to select innovative contracting methods for use on Ohio Department of Transportation construction projects. Innovative contracting methods differ from conventional contracting methods by their means of motivating Contractors to provide quality transportation facilities while minimizing travel delays and maintaining a competitive bidding process. This manual will assist designers and districts in selecting innovative methods to achieve the goals of reduced traffic congestion and time to project completion.

The primary means of influencing Contractor performance is by the use of incentives and disincentives, and liquidated damages. It is important to use liquidated damages, and incentives / disincentives correctly. They are NOT interchangeable.

Incentives compensate the Contractor for the time that identified critical work is completed ahead of schedule and disincentives assess a deduction for the time the Contractor overruns the time allowed. Their use is primarily intended for those critical projects where traffic inconvenience and delays are to be held to a minimum. The incentive and disincentive amounts are based upon engineering analysis of items such as traffic safety, traffic maintenance, and road user delay costs. They can be calculated as weekly, daily, hourly, 15 or 5 minute periods.

Liquidated damages are the daily amount set forth in the contract to be deducted from the contract price to cover additional costs incurred by ODOT because of the Contractor's failure to complete the contract work within the number of days specified. The ODOT liquidated damages are set biannually by the ODOT Office of Accounting and are shown in the C&MS 108.07.

The following innovative methods allow for Incentive/ Disincentive payments:

Incentive/Disincentive Contract: Establishes an incentive payment to the Contractor for each day that critical work is completed ahead of the completion date and a disincentive for each day / hour or smaller interval that critical work is completed after the completion requirements. The incentive and disincentive amounts do not have to be the same amount. The maximum amount of the incentive payment is shown in a proposal note and may NOT be over 5% of the contract value.

Lump Sum Minus Contract: Establishes a large lump sum incentive for the Contractor that is paid if a specific completion date is met. If the completion date is not made, the incentive is reduced by a fixed amount for each time period until the Lump Sum incentive reaches zero. This method, similar to Incentive/ Disincentive, would typically be used on projects where the emphasis is on the Contractor to provide innovative solutions to minimize construction time to meet a challenging completion date.

The following innovative methods set a number of days without using an incentive:

A+B Contract: Establishes an “A” portion of the contract to be bid as normal bid items, and a “B” portion to be bid as the number of days the Contractor can complete the project. The “B”

number is multiplied by the daily user cost given in the contract and added to the "A" portion to determine the low bid. A+B Contracts allow ODOT to have a bidding procedure that allows the Contractor to control the completion date.

Work Day Contract: Establishes a set number of construction days to complete a project or portion of a project after the notice to proceed is issued, but allows the Contractor scheduling flexibility based on the definition of Work Day.

Lane Value Contract: Establishes a Disincentive amount for each hour/ or smaller interval that a high priority lane is restricted. The Disincentive amounts do not have to be the same amount for each lane or ramp configuration. The Contractor is held accountable for the delays caused by any planned traffic restrictions on specific critical lanes.

Window Contract: Establishes a set number of construction days to complete a project or portion of a project that may be used between the notice to proceed date and the completion date listed in the proposal. The window allows the Contractor maximum flexibility in setting the construction period, and reduces occasions where the road is closed and no work is underway.

The following innovative method can shorten the overall time for design and construction without using incentives.

Design-Build Contract: Establishes a single contract to design and construct a project based on an ODOT provided scope of services. This method allows the Contractor to begin construction before the final design has been completed, and saves time in project administration. Payments are usually made in lump sum items that correspond to the logical work units (buildable units) of the project.

The last three techniques can be selectively used in combination with other techniques.

Warranties: Establishes a time period and performance requirements for specific construction items. These specifications can be used on selected projects in accordance with the warranty guidelines, and in conjunction with other contracting methods.

Value Engineering in Construction: Allows the Contractor to propose alternative designs at a cost savings (and/or a time savings on select projects). This incentive method can be used on any project, but not in conjunction with some of the other innovative contracting methods. The approved savings are shared equally between the Contractor and ODOT.

Unauthorized Lane Use: Establishes a Disincentive amount for each hour/ or smaller interval that a high priority roadway segment is restricted by the Contractor due to any circumstance not planned for in the contract. This note may be used in combination with other innovative contracting methods.

Innovative Method Selection

The following table indicates what innovative methods would be appropriate for various typical project types. Although a method may be permitted on a project type, the district must perform some critical analysis to determine if a potential innovative contracting method is truly appropriate for the specific project. Warranty and Value Engineering techniques can be used in combination with most of the listed innovative contracting methods to promote a contractor innovation.

For the purposes of project selection, project monitoring and quality assurance reviews only the methods listed in the following Innovative Contracting Methods Matrix are considered "Innovative Contacting Methods". Other methods, such as optional bids, project joining, descriptive Maintenance of Traffic plan notes, VECP, and Warranty specifications, while desirable, are not considered "Innovative Contacting Methods" for the purposes of this manual.

Innovative Contracting Methods Matrix

	A+B and D/B Contracts	Incentive / Disincentive Contracts	Lump Sum Incentives Contracts	Work Day Contracts	Lane Value Contracts	Window Contracts
New Construction - Relocation	Yes	Yes	Yes	No	No	No
Major Reconstruction	Yes	Yes	Yes	No	Yes	No
Major Widening	Yes	Yes	Yes	No	Yes	Yes
Minor Widening	Yes	Yes	Yes	Yes	Yes	Yes
New Bridge / Bridge Replacement	Yes	Yes	Yes	Yes	Yes	No
Two-Lane Resurfacing & Overlays	Yes	No	No	Yes	Yes	Yes
Four-Lane Resurfacing & Overlays	Yes	Yes	Yes	Yes	Yes	No
Bridge Rehab., Repair & Widening	Yes	Yes	Yes	Yes	Yes	Yes
Bridge Painting	Yes	Yes	Yes	Yes	Yes	Yes
Crack Sealing	Yes	No	No	No	No	Yes
Culvert Construction, Reconstruction or Repair	Yes	Yes	Yes	Yes	Yes	Yes
New Interchange	Yes	Yes	Yes	Yes	Yes	No
Intersection Upgrade	Yes	Yes	Yes	Yes	Yes	Yes
Guardrail, RPM & Striping	Yes	No	No	No	No	No
Signals & Signage	Yes	No	No	No	Yes	Yes

Warranty and Value Engineering Change Proposal usage

Warranty specifications should be used as often as practical and in accordance with the warranty guidelines listed later in this manual. Warranty specifications can be used in combination with any of the innovative contracting methods, and the value engineering proposal notes.

One of the Value Engineering Change Proposal notes should be utilized on every project that does not include an incentive clause, as described in detail later in this manual.

Project Selection Procedure

The District must follow the Project Selection Procedure to determine which projects qualify to use innovative contracting methods. The purpose of Innovative Contracting methods is to minimize construction time and traveling public delay.

I. Project Criteria. All projects that meet the following criteria shall use an innovative contracting method:

A. Projects on the Interstate or Freeway that have any of the following Ellis work types:

1. Major Reconstruction
2. Major Widening
3. Minor Widening
4. New Bridge/Bridge Replacement
5. Bridge Rehabilitation, Repair & Widening
6. Interchange Upgrade

B. Projects in urban areas with high volumes.

C. Projects that complete a gap in a significant highway system.

D. Major reconstruction or rehabilitation on congested locations as defined by the Office of Planning Congestion Model.

E. Projects on any system that require the complete closure of a road. Typically, a critical bridge out of service and/or a project with a detour.

F. Any project that applies for a Maintenance of Traffic Exception Committee exception.

G. Projects on any system that will significantly impact commercial businesses, school transportation or emergency medical response/access.

H. Projects with little or no impact to traffic are **not** considered.

II. Organization and Responsibilities

A. The District Production Administrator

1. The District Production Administrator shall coordinate with the District Planning/Program Administrator and Highway Management Administrator in the review of all current projects under development to determine if Innovative Contracting Methods should be used. Candidate

projects will be identified by requirements listed in “I. Project Criteria” above.

2. After a candidate project is identified, the District Production Administrator shall coordinate with District Planning/Program Administrator, Highway Management Administrator and Central Office Program Manager (when applicable) to determine what contracting method(s) will be used on the project. The Program Manager will be notified of possible Incentives offered so they can be properly budgeted for.

3. When the method selection is complete, the District Production Administrator shall submit an "Innovative Contracting Notification Form (ICNF)" (see appendix) along with the plan package submittal. The District Production Administrator shall coordinate the development of the Innovative method selected with District Planning/Program Administrator, and Central Office Program Manager (when applicable).

4. The District Production Administrator shall keep the ELLIS system up-to-date with the innovative method selection as appropriate. The District Construction Engineer will keep the CMS system up-to-date with Incentive and Disincentive payments as appropriate.

B. The Division of Construction Management

1. The Division of Construction Managements Innovative Contracting Coordinator will be responsible for creating and maintaining a data base containing information about every project that uses innovative contracting. The Coordinator will be responsible for monitoring and evaluating the projects, and updating this manual and specifications as required.

2. The Division of Construction Management will use the completed project information to continually improve the "Innovative Contracting Manual” and produce Quality Assurance Reviews.

Innovative Contracting Proposal Note Language and Designer Notes

PN 120 - 01/20/2006 - Work Day Contract

The Contractor shall complete the project in the number of Work Days shown in the Work Day Contract Table located on plan page _____. The Contractor shall be assessed liquidated damages according to 108.07 per day for each day or a portion of each day traffic is restricted subsequent to the opening to unrestricted traffic,

A Work Day is defined as any calendar day, except Saturdays, Sundays, Department specified holidays, and the period from December 1 to April 30, both dates inclusive, on which weather or conditions not under the control of the Contractor will permit Work to proceed for at least 8 hours of the day engaged in performing the critical items of work.

The Contractor shall not begin work until the work start date listed in the Work Day Contract Table, or other mutually agreed upon date.

Extension of contract time will be for Work Days and calculated in accordance with C&MS 108.06.B, 108.06.C, and 108.06.D.

The Completion Date for this Contract is the number of Work Days added to the work start date shown in the Work Day Contract Table. The Contractor shall have completed the work on or before the calculated Completion Date; otherwise the Engineer shall proceed as provided in C&MS 108.07 or 108.08.

If added work impacts the critical path, the Engineer will extend the completion date by adding to the number of Work Days.

The Engineer will provide the Contractor a weekly statement showing the work days charged and the work days remaining on the Contract.

PN 120 - 01/20/2006 - Work Day Contract - Designer Notes:

For use with the 2005 C&MS.

Purpose and Benefits

Work Day Contract sets the number of construction days to complete a project. After the notice to proceed is received for the contract, the clock starts. Actual Work Days are determined weekly to eliminate disputes. (CPM scheduling should be called out for Work Day Contracts over 60 days.)

Contract Administration: A Work Day Contract allows the Department to more efficiently administer and staff the project by determining when the project begins and the number of days until completion. This method demands a great deal of knowledge about the construction of a project.

Time Savings: Work Day Contracts set the number of days to complete the project. This method can reduce or eliminate the project down time by specifying the number of days to complete the job. It will not save construction time; however, it will better define the construction time.

Project Knowledge: The Department will have more knowledge regarding the project's construction sequence. This knowledge will allow the Department to schedule the project around local events as well as to inform the traveling public of traffic changes.

Criteria for Selection

- The project construction time must be known in order to determine the project Work Days.
- The project should be free from time delay issues such as utility conflicts, right-of-way acquisition or other unresolved issues.
- The project should have tight time constraints.
- Not recommended for projects spanning a winter shutdown period.

Project Types

Small to Mid-Size Projects - Projects for which a definite number of Work Days can be determined. (Supply and delivery issues must be considered in determining the number of Work Days.)

Requirements / Conditions for use

May include CPM schedule, PN 107.

Note Variables that must be filled in:

1. Work Day Contract Table with number of Work Days to complete the project (Must be included in the Plans General Notes)
    A. Work start date
    B. Work Days allowed

Plan note to be included in the General Notes (with sample language):

Work Day Contract Table

Work Start Date	Work Days Allowed
6/20/2007	*60*

PN 121 - 01/20/2006 - Incentive/Disincentive Contract

The Contractor shall complete all critical work and safety items according to the Incentive/ Disincentive Contract Table located on plan page _____. In the event the Contractor impedes the flow of traffic subsequent to the opening to unrestricted traffic, the Contractor shall be assessed a disincentive according to the Incentive/ Disincentive Contract Table.

Critical work is shown in the Incentive/ Disincentive Contract Table.

Critical work is defined as having the designated section of work open to unrestricted traffic as shown in the table, or the entire project if not otherwise listed.

Unrestricted traffic is defined as all traffic lanes being available for use at their final design width with all markings, RPM's, and safety features installed, along with no restrictions within 2 feet of the edge line on the shoulders.

Incentive/Disincentive Amount:
The Contractor will be paid an Incentive or will be assessed a Disincentive according to the Incentive/ Disincentive Contract Table.

Extensions of time will be for calendar days and calculated in accordance with C&MS 108.06 except as follows: no extensions of time will be granted for delays in material deliveries (unless such delays are industry wide), labor strikes (unless such strikes are area wide) and inclement weather except in cases of area flooding, blizzard conditions, damaging wind or local tornado damage.

PN 121 - 01/20/2006 - Incentive/Disincentive Contract - Designer Notes:

For use with the 2005 C&MS

Purpose and Benefits

Incentive/Disincentive provisions are intended to motivate the Contractor to complete the work or a critical portion of the work on or ahead of schedule. It allows the owner/agency to compensate a Contractor a fixed amount of money for each time period the identified critical work is completed ahead of schedule and assess a deduction for time period the Contractor overruns the completion date. The owner determines the time required for the project or portion of the project. The I/D amounts are based upon assessing traffic safety, traffic maintenance and road user delay costs.

Time Savings: Incentive/Disincentive if used properly can shorten the impact or delay to the road users during construction.

Congestion: Incentive/Disincentive contracts allow the Department to shorten the lane closure duration in order to lessen the congestion time. Short duration I/D can be used when time periods less than a day are desired, such as by the hour, 15 minute, or 5 minute increments.

Criteria for Selection

- The project or a portion of the project results in a significant delay or impact to the road users. The road user delay cost can help determine the Incentive/Disincentive amounts. (Interstate Lane Closures are typical projects for Incentive/Disincentive.)
- The Department must have a good understanding of the construction time needed to complete the Incentive/Disincentive portion of the project.

Project Types

All time sensitive projects
Small Projects - bridge projects or bituminous resurfacing
Mid-Level Projects- Interstate resurfacing, or minor rehabilitation.
Mega Projects- Corridor reconstruction or interstate rehabilitation.

Requirements / Conditions for use

- May include PN 107 (CPM schedule).
- Do not include PN 103 or PN 104 (Value Engineering Change Proposal)
- A Prebid Meeting may be held at the Districts discretion.
- The incentive payments shall not exceed more than five per cent of the total contract amount unless the Director or his designee determines that the work is so critical that a higher percentage is warranted.
- The incentive and disincentive amounts are based upon assessing traffic safety, traffic maintenance and road user delay costs.
- The incentive amount does not have to equal the disincentive amount.
- There shall not be a cap on the accruing daily disincentive amount unless the Director or his designee expressly authorizes such a cap.

Note Variables that must be filled in:

1. Incentive/Disincentive Contract Table with detailed information must be included in Plan General Notes.
    A. Description of Critical Work
    B. Completion Date
    C. Time Period
    D. Disincentive $ per time period
    E. Incentive $ per time period
    F. Maximum Incentive [Maximum of 5% of contract amount]

Note to be included in the Plans General Notes (with *sample language*):

Incentive/Disincentive Contract Table

Description or Location of Critical Work	Completion Date	Time Period	Disincentive $ per time period	Incentive $ per time period	Maximum Incentive $
2 Lanes of FRA IR 71 NB from MM99 to MM101	*99/99/2006*	*Day*	*$20,000*	*$10,000*	*$200,000*
Ramp from IR 270 NB to SR 161 EB	*99/99/2006*	*Hour*	*$1000*	*$1000*	*$10,000*
All other work to final inspection	*99/99/2007*	*Day*	*$1000*	*$1000*	*$10,000*

PN 123 - 01/20/2006 - Lump Sum Minus Incentive - Proposal Note

The Contractor will be paid a Lump Sum Incentive as designated in the Lump Sum Minus Incentive Contract Table located on plan page _____ for completing the work before the completion date(s). The Lump Sum Incentive will be decreased by the Disincentive amount shown in the Lump Sum Minus Incentive Contract Table for each day that the Contractor does not have the items of critical work completed until the Lump Sum Incentive reaches zero.

In the event the Contractor impedes the flow of traffic subsequent to the completion of any listed critical work the Contractor shall be assessed liquidated damages as per C&MS 108.07 for each day or a portion of each day traffic is restricted.

Critical work is shown in the Lump Sum Minus Incentive Contract Table.

Critical work is defined as having the designated section of work open to unrestricted traffic as shown in the table, or the entire project if not otherwise listed.

Unrestricted traffic is defined as all traffic lanes being available for use at their final design width with all markings, RPM's, and safety features installed, along with no restrictions within 2 feet of the edge line on the shoulders.

Extensions of time will be for calendar days and calculated in accordance with C&MS 108.06.

PN 123 - 01/20/2006 - Lump Sum Minus Incentive - Designer Notes:

For use with the 2005 C&MS.

Purpose and Benefits

Lump Sum Minus Incentives are similar to incentive/disincentive provisions discussed earlier, however, it establishes a large lump sum incentive for the Contractor, if a specific project or critical item of work is completed on time or ahead of schedule. Lump Sum Minus allows for time extensions due to weather days. The Lump Sum Incentive is decreased by the Disincentive amount for each time period the Contractor over runs the completion date for the section until the Lump Sum Incentive reaches zero. After the Lump Sum Incentive is reduced to zero, the Contractor is assessed Liquidated Damages as per C&MS 108.07.

Time Savings: A large incentive allows the Contractor to spend dollars to be innovative in all aspects of the contract to meet an aggressive completion date. The Contractor's innovative methods and aggressive schedule allows the project to be completed on or ahead of schedule.

Criteria for Selection

- The project is a high profile project having significant user delays, or other local impact.
- The project will be difficult to complete within the incentive time. (e.g.: a two year project complete in one season.)

- The project is large in dollar amount. (The incentive is typically 5% of the contract. The dollar amount must be enough to entice the Contractor to complete the project ahead of schedule.)
- The project is free from complicating issues such as utility conflicts, right-of-way acquisition or other unresolved issues. These issues may cause delays that may cause the Department to pay the Contractor the incentive payment even if they don't complete the critical work ahead of schedule.

Project Types

All time sensitive projects,
Small Projects - bridge projects or bituminous resurfacing
Mid-Level Projects- Interstate resurfacing, or minor rehabilitation.
Mega Projects- Corridor reconstruction or interstate rehabilitation.

Requirements / Conditions for use

- May include PN 107 (CPM schedule).
- Do not include PN 103 or PN 104 (Value Engineering Change Proposal)
- A Prebid Meeting may be held at the Districts discretion.
- The lump sum incentive payment shall not exceed more than five per cent of the total contract amount unless the Director or his designee determines that the work is so critical that a higher percentage is warranted.
- The Disincentive amounts are based upon assessing traffic safety, traffic maintenance and road user delay costs.

Note Variables that must be filled in:

1. Lump Sum Minus Contract Table (Must be included in the Plans General Notes)
    A. Description of Critical Work
    B. Completion Date
    C. Lump Sum Incentive allowed (Maximum of 5% of contract amount)
    D. Disincentive

Note to be included in the Plan General Notes (with *sample language*):

Lump Sum Minus Contract Table

Description or Location of Critical Work	Completion Date	Lump Sum Incentive $	Disincentive per Day
2 Lanes of FRA IR 71 NB from MM99 to MM101	*6/25/2006*	*$10,000*	*2000*
Ramp from IR 270 NB to SR 161 EB	*06/15/2006*	*$10,000*	*1000*
All other work to final inspection	*05/15/2007*	*$1000*	*500*

PN 124 - 01/20/2006 - A + B Bidding- Proposal Note

Description:
As part of section 103.01 of C&MS, "Award and Execution of Contract - Consideration of Proposals" this contract requires the Contractor to stipulate the number of "Calendar Days of Contract Time for Opening to Unrestricted Traffic." The bidder shall establish the number of calendar days to complete all work necessary to open [_____]1 to unrestricted traffic, which shall include all work, inclusive of safety items, necessary to open all lanes to unrestricted traffic. This number of calendar days shall be shown in the proposal in the list of bid items under Part B [line __, Page __]2. The extended price (amount column) shall not be paid to the Contractor as a part of the total payment for this project.

Maximum Number of Days:
[____]3 days is the maximum number of calendar days that will be considered for the number of "Calendar Days of Contract Time for Opening to Unrestricted Traffic."

Consideration of Bids:
The product of the specified number of calendar days multiplied by the Disincentive of [$_____]4 per day shall become part of the Contractor's total bid for the purpose of determining the low bidder only.

Each bid submitted shall contain the total of the following two parts:
Part A - Dollar amount of the items of work.
Part B - Product of the number of "Calendar Days of Contract Time for Opening to Unrestricted Traffic" multiplied by [$____]4. Bidder's Total = Part A + Part B

The lowest bidder's total of these two parts, as verified by the Department, will determine the lowest bid for award consideration.

Total Contract Amount:
The product of the number of calendar days multiplied by [$_____]4 (the Part B Total) shall not be used or paid to the Contractor as part of the final payment. The total contract amount will be based on the items of work as totaled in Part A, any adjustments as determined by the provision of Section 100 of the C&MS, any earned incentive and any assessment of disincentive and/or liquidated damages.

It will not be necessary for the proposal guaranty to include the amount of Part B. The Part B total will not be used in the calculation to determine the Contractor's net prequalification amount.

The net classification for this project was determined using the total of Part A.

In C&MS 624, Mobilization, Subsection 624.04, Basis of Payment, the total original contract amount will be only the total of Part A. The subcontracting limitation will be based on the total of Part A. Any other reference in the plans and specifications to the total contract amount will be considered to be the total of only Part A, and will not include Part B (the product of the number of "Calendar Days of Contract Time for Opening to Unrestricted Traffic" multiplied by [$____]4).

Contract Time:

The number of calendar days to complete the work to be performed under this contract for opening to unrestricted traffic will be that specified by the Contractor in the Proposal for the bid item of "Calendar Days of Contract Time for Opening to Unrestricted Traffic" which days, including any days based on an approved extension of contract time, shall be the end of opening to unrestricted traffic time. The final project completion will be an additional [___]5 days. The date for the beginning of the contract time will be the date traffic is restricted but no later than [___]6. The calendar days for opening to unrestricted traffic shall NOT be longer than [___]3 days. No adjustment of the contract time date will be allowed for delays in execution of the contract caused by the Contractor. Examples of such Contractor caused delays include, but are not limited to: a) failure to provide insurance, b) failure to secure the required percentage of approved DBE subcontractors.

Because of the interference and inconvenience to motorists, it is essential that this work be completed as quickly as possible once work begins. The Department has determined that this interference and inconvenience will result in a disincentive of [$___]4 per calendar day which the Contractor's established contract opening to unrestricted traffic time has been used as a basis for comparison of bids and award of contract. Should the Contractor fail to open to unrestricted traffic in the time stipulated by the Contractor in the proposal or within such time granted by an approved extension of time, the Contractor shall be assessed a disincentive of [$___]4 per calendar day which will continue to be assessed until all lanes, ramps, and bridges are open to unrestricted traffic. All work inclusive of safety items shall be completed before opening to unrestricted traffic as defined above.

The Contractor will be paid an incentive of [$ ___]4 for each calendar day the project is opened to unrestricted traffic before the published open to unrestricted traffic date, not to exceed an amount equal to [$ _____]7.

If the Contractor fails to complete the project by final project completion, liquidated damages will be assessed in accordance with Section 108.07 of the C&MS. However, if a disincentive period extends beyond final project completion, the Contractor will be assessed either the disincentive amount or the liquidated damages specified in Section 108.07, whichever is greater, but shall not be assessed the sum of both.

In the event the Contractor impedes the flow of unrestricted traffic subsequent to the opening to unrestricted traffic, the Contractor shall be assessed the daily disincentive amount for each day traffic is restricted.

Extension of contract time will be for calendar days and calculated in accordance with the policy on Postponement of Contract Completion Dates and Waivers of Liquidated Damages, policy number 512-001 (P), part I.D.

No extensions of time will be granted for labor disputes unless it can be shown that such disputes are industry wide.

Conflicts:
To the extent that there are conflicts between the Special Clauses for A+B Contracting and the Construction and Materials Specifications, the Special Clauses shall govern.

PN 124 - 01/20/2006 - A + B Bidding- Proposal Note - Designer Notes

For use with the 2005 C&MS

Purpose and Benefits

Cost-plus-time bidding, more commonly referred to as the A+B method, involves time, with an associated cost, to determine the low bidder. Under the A+B method, each bid submitted consists of two components:

- The "A" component is the traditional bid for the contract items and is the dollar amount for all work to be performed under the contract.
- The "B" component is a "bid" of the total number of calendar days required to complete the project, as estimated by the bidder, multiplied by a factor set by the owner prior to the bid. (Calendar days are used to avoid any potential for controversy with work days.)

The bid for award consideration is based on a combination of the bid for the contract items and the associated cost of time, according to the formula:

(A) + (B x Disincentive/Day)

This formula is used to determine the lowest bid for award and is not used to determine payment to the Contractor. The Contractor's estimate for the completion of critical work bidding method can be an effective technique to significantly reduce these impacts. (CPM scheduling is a requirement for A+B Contracts over 60 days in length.)

Time Savings: A+B Bidding is used to motivate the Contractor by minimizing construction time on high priority and high usage projects. This encourages Contractors to finish early by (1) offering bonuses for early completion and (2) assessing disincentives for late completion.

Project Scheduling: A + B Bidding allows the Department to have the project schedule bid.

Criteria for Selection

- The project has traffic restrictions, lane closures, or detours that result in high road user delay costs.
- The project has safety concerns or significant negative impacts to the local community or economy during construction that warrant expediting the project.
- The project is relatively free of utility conflicts, design uncertainties, or right-of-way issues that may impact the award date or critical project scheduling.
- The project has generated sufficient public interest that demands completion of the project as quickly as possible.
- The Department seeks Contractor expertise to schedule and facilitate an early completion.

Project Types

All projects

Requirements / Conditions for use

- Must include PN 107 (CPM schedule).
- Do not include PN 103 or PN 104 (Value Engineering Change Proposal)
- A Prebid Meeting may be held at the Districts discretion.

Note Variables that must be filled in:

1. Description of what has to be open to unrestricted traffic
2. Line and page number of Part B in proposal
3. Maximum Calendar Days
4. Disincentive
5. Additional Calendar days for completion
6. Possible start date window
7. Maximum incentive amount

PN 127 - 01/20/2006 - Lane Value Contract:

The Contractor shall be assessed Disincentives as designated in the Lane Value Contract Table located on plan page _____ for each unit of time the described Critical Lane/Ramp is restricted from full use by the traveling public within the restricted time period. The Disincentives will be assessed for all restrictions of the critical work.

Critical work is shown in the Lane Value Contract Table.

Critical work is defined as having the designated sections open to unrestricted traffic as shown in the table, or the entire project if not otherwise listed.

Unrestricted traffic is defined as all traffic lanes being available for use with temporary safety features in place.

PN 127 - *01/20/2006* - Lane Value Contract – Designer Notes

Purpose and Benefits

A Lane Value Contract establishes a Disincentive that is assessed to the Contractor for each time interval that a critical lane or ramp is restricted. The Disincentive amounts do not have to be the same amount for each lane or ramp configuration. It allows the Department to allocate road user costs based on dense traffic or other high value areas. The Disincentives are assessed for each time period the specific lane / ramp is restricted. The Contractor will pass on the minimum assessments they feel are required to get the high priority lane or ramp open. This encourages the Contractor to focus work on highest priority lanes.

Time Savings: If used properly the construction time for specific areas will be decreased.

Congestion: Lane Value Contracts allow the Department to minimize the lane closure duration in order to lessen the congestion time. Also lane closures can be held to a minimum, this is the most restrictive note the Department currently uses and allocates road user costs based on delays to a very large number of traveling public as the Disincentives.

Criteria for Selection

- This project is of a complex nature and has high traffic volume

Project Types

Complex and high traffic volume projects- A construction project with areas that are critically important to remain unrestricted.

Note to be included in the Plan General Notes (with *sample language*):

Lane Value Contract Table

Description of Critical Lane/Ramp to be maintained	**Restricted Time period**	**Time Unit**	**Disincentive $ per time unit**
2 Lanes of FRA IR 71 from MM99 to MM101	*06:00 – 19:00*	*Each Hour*	*$10,000*
Ramp from IR 270 NB to SR 161 EB	*06:00 – 19:00*	*Each Hour*	*$1000*

PN 128 - 01/20/2006 - Unauthorized Lane Use:

The Contractor shall be assessed a Disincentive as designated in the Unauthorized Lane Use Table located on plan page _____ for each unit of time a Critical Lane/Ramp is closed by the Contractor's action while not otherwise permitted by the contract. The Disincentive will be for any lane closures caused by the Contractor during times and locations not specifically permitted by this contract.

PN 128 - *01/20/2006* - Unauthorized Lane Usage - Designer Notes:

For use with the 2005 C&MS.

Purpose and Benefits

The Unauthorized Lane Usage provision is similar to plan notes for traffic control that assess high dollar damages to very high volume critical areas. The provision establishes a Disincentive that is assessed if for any reason the Contractor closes, extends a lane closure into a non-allowed time or section, hourly or 15 minute intervals. The Disincentive is based on engineering analysis of delay and road user costs directly associated with the reduced capacity caused by lane reductions. The Disincentive amounts do not have to be the same amount for each roadway segment or ramp configuration. This note may be used in combination with other innovative contracting notes. Unplanned interruptions to traffic will be minimized, and the Contractor assessed proportionally if the method is set up properly. Unauthorized Lane Use provisions will allow the Department to minimize unforeseen lane closures in order to lessen the congestion time.

Criteria for Selection

- The project is a high profile project having significant user delays.
- The critical work areas are able to be completed in the times given, but road user costs escalate dramatically if the critical areas are closed during other times.

Project Types

Complex and high traffic volume projects – A construction project with areas that are critically important to remain unrestricted.

Encourages the Contractor to focus work on the highest priority lanes, and to not interrupt critical road segments.

Requirements / Conditions for use

A Prebid Meeting may be held at the Districts discretion.

Note Variables that must be filled in:

1. Unauthorized Lane Usage Table (Must be included in the Plans General Notes)
    A. Description of Critical Lane/Ramp
    B. Unit of Time
    C. Disincentive

Note to be included in the Plan General Notes (with *sample language*):

Unauthorized Lane Use Table

Description of Critical Lane/Ramp to be maintained	**Time Unit**	**Disincentive $ per time unit**
2 Lanes of FRA IR 71 from MM99 to MM101	*Each Hour*	*$10,000*
Ramp from IR 270 NB to SR 161 EB	*Each 15 minutes*	*$1000*

PN 129 - 01/20/2006 - Window Contract:

The Contractor has the number of calendar days designated in the Window Contract Table located on plan page _____ in which to complete all items of critical work. The Contractor may begin anytime after the notice to proceed date and must complete the critical work within the calendar days designated in the Window Contract Table or by the completion date listed in the proposal, which ever comes first.

Critical work is shown in the Window Contract Table.

Critical work is defined as having the designated section of work open to unrestricted traffic as shown in the table, or the entire project if not otherwise listed.

Unrestricted traffic is defined as all traffic lanes being available for use at their final design width with all markings, RPM's, and safety features installed, along with no restrictions within 2 feet of the edge line on the shoulders.

Extensions of time will be for calendar days and calculated in accordance with C&MS 108.06.

PN 129 - 01/20/2006 - Window Contract - Designer Notes:

For use with the 2005 C&MS.

Purpose and Benefits

A Window Contract establishes a set number of construction days to complete a project or portion of a project between the award and project completion date. The Contractor determines when to begin construction and has the flexibility of scheduling project work time minimizing overall construction time. If used properly the overall time of construction will be decreased. Window Contracts allow the Contractor flexibility in project scheduling in order to minimize the construction time and costs. This contract should NOT be used when significant MOT requirements are described in the plan.

Criteria for Selection

- The project is lower profile having some user delays.
- The project is of short duration construction.
- The project completion date does not have to be tightly controlled.
- There is no incentive, nor disincentive (except L/D for time overruns)
- Early fall completion dates are recommended, (stay away from end of season work)

Project Types

Simpler and shorter duration projects – A construction project without complex issues such as utility, right of way, or other complicating scenarios. This note allows for time extensions due to weather per 108.06.

Requirements / Conditions for use

A Prebid Meeting may be held at the Districts discretion.

Note Variables that must be filled in:

1. Window Contract Table (Must be included in the Plans General Notes)
2. Description of Critical Work
3. Calendar days to complete the critical work

Note to be included in the Plan General Notes (with *sample language*):

Window Contract Table

Description of Critical Work	**Calendar Days to Complete**
All 448 paving and guardrail work	*20*
All work on project (including work listed above)	*30*

Design-Build Contracts

Purpose and Benefits

Design-Build is the process by which a single contracted entity provides both the design and construction under a single contract between the agency and the Design-Build (D/B) Contractor. (CPM scheduling is a requirement for Design-Build Contracts)

Time Savings: Compared to traditional contract procurement, time is saved when the project construction begins during the design level services. Design-Build assigns the design and construction to a single party, allowing some construction work to begin before the final design is completed.

Responsibility: Design-Build provides singular responsibility (single point of contact for quality, cost, and schedule from inception through construction).

Errors & Omissions: Design-Build reduces or eliminates change orders and claims due to "errors and omissions."

Innovative: Design-Build allows the Contractor maximum flexibility in the selection of innovative designs, materials, and construction techniques. Innovation by the Contractor, in project scheduling, and design will allow for the early completion of the project.

Expertise: Design-Build provides expertise not available in-house (Example- Intelligent Transportation Systems).

Criteria for Selection

- The project has a clearly defined scope, design basis, and performance requirements. [Rehabilitation projects are only suitable if the scope clearly defines the amount of the existing conditions to be untouched.]
- The project is free from complicating issues such as utility conflicts, right-of-way acquisition, hazardous materials, wetland and environmental concerns, or other unresolved issues.
- The project is an emergency project or a project with tight time constraints.
- The project involves a significant design effort with the potential to save time and money in the design phase.
- The project requires expertise not available in-house.
- The project has room for innovation in the design and construction efforts.

Project Types

Small Design-Build Projects - Resurfacing, culvert replacement, noise wall.

Mid-Level Design-Build Projects- Interstate reconstruction, or rehabilitation, widening, replacement or construction of simple bridges.

Mega Design-Build Projects- Corridor reconstruction.

Warranties

Purpose and Benefits

A warranty is a guarantee of the integrity of an individual's work that carries with it the responsibility to repair or replace deficiencies. Highway construction warranties, however, are for a specific work item. They are generally provided for a period of time and are only for items which the Contractor has full control over. Long-term maintenance is not normally included.

Quality: Warranties are to guarantee the quality and durability of selected work items for a specific period of time after construction, resulting in lower life-cycle costs.

Warranty: The Warranty Coordinator will assure the new Warranty Guidelines are consistent. Warranties lower the owner risk by providing assurance that the Contractor will correct early failures due to poor materials or workmanship that may have gone unnoticed during construction. This reduces or eliminates unnecessary costs of early maintenance due to poor performance. Warranties also induce a higher concern for quality by Contractors, designers, and suppliers of transportation facilities and systems. Warranties encourage the development of better testing equipment and techniques for construction projects and reduce inspection and contract administration responsibilities for the owner.

Guidance: The District must follow the Policy 27-002(P), Implementation and Administration of Warranty Provisions, and the guidelines in this document.

Criteria for Selection

- The warranted work element is entirely within the Contractor's control and is measurable.
- Work items have material and workmanship performance attributes or failure thresholds which can be explicitly defined in the specification and measured in the field.
- Aspects of the design, or other factors not under the Contractor's control, will have minimal impacts on the warranted work during the warranty period or can be distinguished from the warranted work.
- The project may have opportunities to develop and incorporate innovative technologies in materials, equipment, and construction processes.
- Existing project conditions must be well defined.
- Performance requirements must be clearly defined. Monitoring methods and acceptable thresholds for these requirements must also be defined.
- Construction quality parameters and acceptance criteria must be clearly defined.

Project Types

Asphalt -New and Major Rehabilitation (see SS 880) - 7 years.
Asphalt - Preventive maintenance and minor rehabilitation (see S 1059) - 3 years.
New Bridge Deck (see SS 892, SS 893 or SS 894) - 2 years.
Painting Bridge Steel (see SS 885) – 5 years.
Concrete - New and Major Rehabilitation (see SS 884, SS 896) - 7 years.
Chip Seal, Micro Surfacing, (see SS 882) - 2 years.
Hot in Place Recycling (see SS 886) – 3 years.
Microsurfacing (see SS 881) – 2 years

Concerns

- The use of warranties without adequate technology or processes to handle the contracts may lead to an increase in disputes and costly litigation. This could harm the long-term adoption and potential benefits of using warranties.
- Owners are unsure of their ability to administer contracts with warranties and to enforce them over an extended period of time. The length of the warranty period required to catching deficiencies caused by poor material or construction is of particular concern.

Warranty Specification Guidelines

In order to assure success of the warranty program, ODOT must apply warranty specifications to the proper projects. These guidelines are intended to clarify application and reduce the chances for disagreements during the warranty period. Failure to follow these guidelines may lead to disagreements in the future and could void the warranty or harm the warranty program.

Below please find a list of available warranty specifications contained in this document. Questions regarding this document should be directed to the Key Person(s) listed. The latest version of warranty specifications can be found online at:
www.dot.state.oh.us/construction/OCA/Specs/SSandPN2005/default2005.htm

Item	Spec	Period (Years)	Application	Key Person (s)	
Asphalt	880	7	New and major rehabilitation	Aric Morse Dave Powers Lloyd Welker	614.995.5994 614.275.1387 614.275.1351
	1059	3	Preventative maintenance and minor rehabilitation		
Bridge Deck	892, 893, 894	2	New Bridge deck Concrete	Scott Leblanc	614.644.6628
Bridge Paint	885	5	Painting of Structural Steel	Scott Leblanc	614.644.6628
Concrete Pavement	884, 896	7	New and major rehabilitation	Aric Morse Lloyd Welker	614.995.5994 614.275.1351
Chip Seal	882	2	Preventive maintenance	Aric Morse Dave Powers Lloyd Welker	614.995.5994 614.275.1387 614.275.1351
Hot In-place Recycling	886	3	Surface courses		
Microsurfacing	881	2	Preventative maintenance		

Bridge Deck Warranty Application Guidelines

The warranty covers three different types of possible defects. These defects are alligator or map cracking, scaling, and spalling. These three defects are the result of actions under the control of the Contractor and are independent of the design of the deck.

The following items apply to all bridge deck warranty specifications:

1. Must be used on all priority system routes.
2. Must be used for projects with average daily traffic (ADT) greater than 30,000.
3. Requiring the Contractor to provide a warranty does not relieve ODOT from the responsibilities of performing proper inspection.

The maximum warranty period is only 2 years while bridges are designed to last much longer then this period.

Supplemental Specification 892

QC/QA Concrete for New Bridge Decks with Warranty
This is intended for new bridge decks.
The pay description is:

Item 892 QC/QA Concrete Class _____Superstructure (Deck) with Warranty

Supplemental Specification 893

Class S Concrete for New Bridges Decks with Warranty
This is intended for new bridge decks.
The pay description is:

Item 893 Class S Concrete for Bridge Deck with Warranty

Supplemental Specification 894

High Performance Concrete for New Bridges Decks with Warranty
This is intended for new bridge decks.
The pay description is:

Item 894 High Performance Concrete for Bridge Deck with Warranty

Structural Steel Paint Warranty Application Guidelines

The warranty covers any of the following conditions that are discovered within the specified warranty period.

- The occurrence of visible rust or rust breakthrough, paint blistering, peeling, scaling or un-removed slivers.
- Paint applied over dirt, debris, blasting debris, or rust products not removed during blast cleaning.
- Material deficiencies, application deficiencies, incomplete coatings, or coating thicknesses outside the thickness limits specified in the paint system specifications.
- Damage to the coating system caused by the Contractor while removing scaffolding, forms, or performing other work.

The following items apply to all structural steel paint warranty specifications:

- Must be used on all projects that call for painting of structural steel.
- Requiring the Contractor to provide a warranty does not relieve ODOT from the

responsibilities of performing proper inspection.

The maximum warranty period is only 5 years while bridges are designed to last much longer then this period.

Supplemental Specification 885

Painting of Structural Steel with Warranty

This is intended for all painting of structural steel.
The pay descriptions are:

Item	Unit	Description
885	Square Foot (Square Meter) Lump Sum	Surface Preparation of Existing Structural Steel, with Warranty
885	Square Foot (Square Meter) Lump Sum	Field Painting of Existing Structural Steel, Prime Coat, with Warranty
885	Square Foot (Square Meter) Lump Sum, Pound (Kilogram)	Field Painting Structural Steel, Intermediate Coat, with Warranty
885	Square Foot (Square Meter) Lump Sum, Pound (Kilogram)	Field Painting Structural Steel, Finish Coat, with Warranty
885	Man Hour	Grinding Fins, Tears, Slivers on Existing Structural Steel
885	Each	Final Inspection Repair

Pavement Warranty Application Guidelines

Requiring the Contractor to provide a warranty does not relieve ODOT of its responsibility to apply the proper pavement rehabilitation strategy. Pavements which require full depth repairs in a non-warranty situation require those same repairs under a warranty. The warranty does not hold the Contractor responsible for the condition of the existing pavement. Failures during the warranty period which were the result of the existing conditions are still ODOT's responsibility and not the Contractor's. To prevent these sorts of failures, ODOT must specify the proper treatment(s) of the existing pavement and base so the Contractor has the opportunity to provide a pavement which will last through the warranty period. Failure to follow these guidelines may lead to disagreements in the future and could void the warranty.

The following documents are to be followed for all pavement warranty projects, where applicable:

1. Policy 515-002 (P), Pavement Design and Selection Process (Pavement Policy)
2. Pavement Design & Rehabilitation Manual (Pavement Manual)
3. Pavement Preventive Maintenance Program Guidelines.

The recommended minimum project length for pavement warranties is one lane-mile.
The following pages detail guidelines for application of each of the pavement warranty specifications and supplements.

Supplemental Specification 880

Asphalt Concrete with Warranty *(7 year)*

The following items apply:

1. Restricted to new pavement, pavement replacement, and major rehabilitation (Rubblize and Roll, and Crack and Seat).
2. Must be used on all projects that have a continuous pavement length greater than 1 mile.
3. May not be used on urban routes with forced stop conditions along the mainline.
4. Must be structurally designed for a minimum 20 year life.

Plan development is intended to be done in a timely manner in order to sell the project within the time frame assumed in the pavement design calculations. Contract documents must include the Design Designation and all pertinent information necessary for a successful contract.

A project file containing all pavement design information must be kept on file in the District office until the end of the warranty period. This file must include all traffic information, ESAL calculations, deflection data and analysis, all pavement history performance information, and any other design information used in the design and analysis of the pavement.

The warranty requirements for rutting are waived within 200' of the end of a ramp if the pavement depth is tapered down. Districts should consider following the High Stress Guidelines, Appendix B of the Pavement Manual, and specifying non-warranted material in these locations.

Typical Sections will show assumed lift thicknesses and step widths according to Section 103 of the Pavement Manual. A note must be included in the General Notes stating; “Lift thicknesses and step widths shown in the plan are for quantity estimation only and are not required lift thicknesses for actual construction.”

The pay description is:

Item 880 Asphalt Concrete (7 year warranty).

Supplemental Specification 884

Concrete Pavement with Warranty

The following items apply:

1. Restricted to new pavement, pavement replacement, and major rehabilitation (Unbonded Concrete Overlay).
2. Must be used on all priority system routes.
3. Must be used for projects with average daily traffic (ADT) greater than 30,000.
4. Must be used on all projects that have a continuous pavement length greater than 1 mile.
5. Must be structurally designed for a minimum 20 year life.

Plan development is intended to be done in a timely manner in order to sell the project within the time frame assumed in the pavement design calculations. Contract documents must include the Design Designation and all pertinent information necessary for a successful contract.

A project file containing all pavement design information must be kept on file in the District office until the end of the warranty period. This file must include all traffic information, ESAL calculations, deflection data and analysis, all pavement history performance information, and any other design information used in the design and analysis of the pavement.

Plans must show the entire concrete pavement, mainline, shoulders, ramps, etc., as Item 884. Typical sections must specify the locations and types of longitudinal joints. Transverse joints and intersection details are not necessary. All Standard Drawings for concrete pavement are still required.

This Item may be placed on an asphalt base or an aggregate base. When an asphalt base is used, a minimum of 4 inches Item 301 or 302 Bituminous Aggregate Base on 6 inches of Item 304 Aggregate Base is required. When aggregate base is used, a minimum of 6 inches of Item 304 Aggregate Base is required.

It is up to the Department to specify the base to be used.
The warranty specification allows the Contractor to choose reinforced or plain (451 or 452) concrete pavement.

The pay item description is:

Item 884 Portland Cement Concrete Pavement (7 year warranty)

Supplemental Specification 896

QC/QA Concrete Pavement with Warranty

The following items apply:

1. Restricted to new pavement, pavement replacement, and major rehabilitation (Unbonded Concrete Overlay).
2. Must be used on all priority system routes.
3. Must be used for projects with average daily traffic (ADT) greater than 30,000.
4. Must be used on all projects that have a continuous pavement length greater than 1 mile.
5. Must be structurally designed for a minimum 20 year life.

Plan development is intended to be done in a timely manner in order to sell the project within the time frame assumed in the pavement design calculations. Contract documents must include the Design Designation and all pertinent information necessary for a successful contract.

A project file containing all pavement design information must be kept on file in the District office until the end of the warranty period. This file must include all traffic information, ESAL calculations, deflection data and analysis, all pavement history performance information, and any other design information used in the design and analysis of the pavement.

Plans must show the entire concrete pavement, mainline, shoulders, ramps, etc., as Item 884. Typical sections must specify the locations and types of longitudinal joints. Transverse joints and intersection details are not necessary. All Standard Drawings for concrete pavement are still required.

This Item may be placed on an asphalt base or an aggregate base. When an asphalt base is used, a minimum of 4 inches Item 301 or 302 Bituminous Aggregate Base on 6 inches of Item 304 Aggregate Base is required. When aggregate base is used, a minimum of 6 inches of Item 304 Aggregate Base is required.

It is up to the Department to specify the base to be used.
The warranty specification allows the Contractor to choose reinforced or plain (451 or 452) concrete pavement.

The pay item description is:

Item 896 QC/QA Concrete Pavement (7 year warranty)

Supplement 1059

Asphalt Concrete Surface Course Warranty Requirements

This Supplement requires the Contractor to provide a 3 year warranty. Standard specification items are used in the plans for all pavement materials, i.e. 446, 448, etc.
The following items apply:

1. Must be used on all priority system preventive maintenance projects that qualify for thin hot-mix overlay, as defined in the Pavement Preventive Maintenance Program Guidelines.
2. May be used on all general system preventive maintenance projects that qualify for thin hot-mix overlay, as defined in the Pavement Preventive Maintenance Program Guidelines.
3. Must be used on all priority system minor rehabilitation projects, designed in accordance with Pavement Design and Rehabilitation Manual.
4. May not be used on urban routes with forced stop conditions along the mainline.
5. May be used on two-lane routes for non preventative trial projects with prior approval from the Office of Pavement Engineering.
6. The warranty shall only be applied to current items listed in the item master as approved by Central Office.

To qualify for minor rehabilitation, the projected PCR must be between 55 and 75 in the year construction is to take place. PCR projection equations are given in Section 100 of the Pavement Manual. Projects which do not qualify for preventive maintenance nor have been designed in accordance with the minor rehabilitation requirements are not eligible for a warranty.

Where preventive maintenance or minor rehabilitation is set up to address medium or high severity rutting as defined in the PCR manual, considerations of milling must be in accordance with High Stress Guidelines, Appendix B of the Pavement Manual.

The warranty requirements for rutting are waived 250' prior to a forced stop control (i.e. stop sign, traffic signal, etc.). Districts should consider following the High Stress Guidelines, Appendix B of the Pavement Manual, and specifying non-warranted material in these locations.

Typical pavement items such as full depth repair or milling must be specified in the plans as they have always been. The warranty requirements do not require the Contractor to perform any work not specified in the plans nor do they hold him responsible for any failures resulting from existing conditions.

Typical sections will specify each layer of asphalt and the thickness according to Section 404 of the Pavement Manual. SS 1059 Warranty only applies to the surface course. For the warranted layers, only the surface pay item description will change.

Examples of pay items are:

Item 446, Asphalt Concrete Surface Course, Type 1H with Supplement 1059 Warranty

Item 448, Asphalt Concrete Surface Course, Type 2, PG 64-28 with Supplement 1059 Warranty
Item 442, Asphalt Concrete Surface Course, 12.5 MM, Type A (446) With Supplement 1059 Warranty etc.

Supplemental Specification 881

Micro-Surfacing with Warranty

This Item requires the Contractor to provide a 2 year warranty. The following items apply:

1. Must be used on all preventive maintenance projects that qualify for micro-surfacing, as defined in the Pavement Preventive Maintenance Program Guidelines.
2. This Item can be used on minor rehabilitation projects which do not require a structural overlay (see Pavement Design and Rehabilitation Manual).

Projects which do not qualify for preventive maintenance nor have been designed in accordance with the minor rehabilitation requirements are not eligible for a warranty.

High stress locations are not candidates for micro-surfacing and must be treated in accordance with High Stress Guidelines, Appendix B of the Pavement Manual.

The guidelines for using micro-surfacing with warranty are essentially the same as the preventive maintenance guidelines for conventional micro-surfacing. With warranty, however, it is more important that proper pavements be selected and the existing pavement is properly prepared, otherwise the warranty could be voided.

The pay item descriptions are:

Item 881 Micro-Surfacing with Warranty, Single Course
Item 881 Micro-Surfacing with Warranty, Multiple Course

Supplemental Specification 882

Chip Seal with Warranty

This Item requires the Contractor to provide a 2 year warranty. The following items apply:

1. Must be used on all preventive maintenance projects that qualify for chip sealing, as defined in the Pavement Preventive Maintenance Program Guidelines.
2. Restricted to two-lane routes, with less than 2500 ADT.
3. Projects which do not qualify for preventive maintenance are not eligible for a warranty.

It is very important that pavements be selected in accordance with the Pavement Preventive Maintenance Guidelines; otherwise the warranty could be voided.

The pay item descriptions are:

Item 882 Single Chip Seal with Warranty
Item 882 Double Chip Seal with Warranty

Supplemental Specification 886

Hot In-Place Recycling with Warranty

This Item requires the Contractor to provide a 3 year warranty. It may be used on multi-lane or two-lane facilities. There are no traffic volume restrictions.

The following items apply:

1. This Item can be used on minor rehabilitation projects which do not require a structural overlay (see Pavement Design and Rehabilitation Manual).
2. This Item can be used as a preventive maintenance treatment where the project qualifies for any of the preventive maintenance applications as defined in the Pavement Preventive Maintenance Programs Guidelines.
3. May not be used on urban routes with forced stop conditions along the mainline.

Projects which do not qualify for preventive maintenance nor have been designed in accordance with the minor rehabilitation requirements are not eligible for a warranty.
High stress locations are not candidates for Hot In-Place Recycling and must be treated in accordance with High Stress Guidelines, Appendix B of the Pavement Manual.

Hot in-place recycling is not an appropriate treatment on pavements with an existing surface course consisting of an Item 404 or Item 448 Type 1 mix if the current truck traffic calls for a heavy traffic volume mix design.

The pay item description is:

Item 886 Hot In-Place Recycling with Warranty

Value Engineering in Construction

Purpose and Benefits

The Value Engineering in construction incentive allows the Contractor to submit Value Engineering Change Proposals which lower the project cost or offer a time savings in construction without altering the essential functions and characteristics of the project. If the proposal is accepted by the Department, the Contractor and Department share equally in the cost savings.

Cost Savings: The Contractor's innovative methods are rewarded by providing an incentive of half of the value engineering savings value to the Contractor.

Cost and Time Savings: In addition to the Cost Savings listed above, the Contractor's innovative methods and aggressive schedule allows the project to be completed ahead of schedule.

Criteria for Selection

Criteria for selecting: Value Engineering in Construction

- All projects will include a Value Engineering Cost Savings in Construction note, EXCEPT those that contain the Value Engineering Cost Savings and Time note, or those that contain the any of the following Innovative Contracting provisions:
  - Incentive/Disincentive,
  - Design Build,
  - Lump Sum Minus Incentive
  - A+B Bidding.

Criteria for selecting: Value Engineering Cost Savings and Time Savings:

- This note may be included on major bridge, major new, and four or more lane divided projects.
- Close consideration of the project completion date must be made when selecting this note.
- Do Not include this note on Projects that contain any of the following Innovative Contracting provisions:
  - Incentive/Disincentive,
  - Lump Sum Minus Incentive
  - Design Build,
  - A+B Bidding.

Project Types

All projects except those already having the listed innovative contracting notes can benefit.

PN 103 - 1/7/1998 - VECP - Construction Costs

The Department will consider the Contractor's submission of a Value Engineering Change Proposal (VECP) which will reduce project costs. The purpose of this provision is to encourage the use of the ingenuity and expertise of the Contractor in arriving at alternate plans, specifications or other requirements of the contract. Any savings will be shared equally between the Contractor and the Department. The Contractor's costs for development, design and implementation of the VECP are

not eligible for reimbursement. The VECP must not impair any of the essential functions and characteristics of the project such as service life, reliability, economy of operation, ease of maintenance, safety and necessary standardized features. The submission of the value engineering change proposal shall conform with the current Guidelines on Value Engineering Change Proposals adopted by the Director. Acceptance of a VECP is at the sole discretion of the Director.

PN 103 - 1/7/1998 – VECP - Construction Costs - *Designer Notes:*

This note should be included on all projects that do not have PN 104 or certain innovative contracting notes. For additional information on the policy and application of this note contact the Office of Construction Administration at (614)752-5273.

PN 104 – 1/7/98 – VECP - Construction Costs & Time

The Department will consider the Contractor's submission of a Value Engineering Change Proposal (VECP) which will reduce project costs and/or construction time. The purpose of this provision is to encourage the use of the ingenuity and expertise of the Contractor in arriving at alternate plans, specifications or other requirements of the contract. Any savings will be shared equally between the Contractor and the Department. The Contractor's costs for development, design and implementation of the VECP are not eligible for reimbursement. The VECP must not impair any of the essential functions and characteristics of the project such as service life, reliability, economy of operation, ease of maintenance, safety and necessary standardized features. The submission of the value engineering change proposal shall conform with the current Guidelines on Value Engineering Change Proposals adopted by the Director. Acceptance of a VECP is at the sole discretion of the Director.

PN 104 - 1/7/1998 – VECP - Construction Costs & Time - *Designer Notes:*

This note may be included on major bridge, major new, and four or more lane divided projects. Projects which have any type of Incentive clause are not eligible for Value Engineering Change Proposal Costs and Time. Close consideration of the project completion date must be made when selecting this note. The District Production Administrator shall determine when this note is necessary. For additional information on the policy and application of this note contact the Office of Construction Administration at (614)752-5273.

Appendixes

Innovative Contracting Notification and Tracking Form			
Part I			
Project PID -			
Project County, Route, Section -			
Project Type -			
Project Description - (Bridge Size, Work length, Work involved)			
Proposed Innovative Method(s) -			
Project Estimate -			
Approval -	**DHMA:**	**DCE:**	**DPA:**
Part II			
Project Number -			
Innovative Method -			
Daily Bonus -			
Daily Deterrence -			
Maximum Bonus -			
Completion time -			
Contract Amount -			
Part III			
Project Number -			
Innovative Method(s) -			
Total Bonus or Deterrence Amount Paid -			
Days of Early or Late Completion -			
Final Contract Amount -			
Return completed form to ODOT Central Office, Division of Construction			

Calculating Road User Costs

ROAD USER COSTS WITH NO LANES CLOSED

- Required information - Number of vehicles exiting a work zone in given period of time. Maintenance of Traffic (MOT) design that maintains the pre-construction number of lanes (i.e., no lanes are dropped), but traffic is shifted.
- See online spreadsheet here for automated calculation: www.dot.state.oh.us/construction/
- Concepts - This MOT strategy maximizes traffic flow through a work zone. Of all of the MOT concepts, this strategy produces a situation that is most similar to a free flow condition.
    A. Calculation Procedure
        1. Define the per hour passenger car and truck user cost (for FY 2002 - $17/hr for cars and $31.5/hr for trucks is accepted).
        2. Calculate the length of the work zone.
        3. Using the Office of Technical Services - Traffic Survey Report on ODOT's Intranet, determine the Average Daily Traffic for the section closest to the work zone in question.
        4. The Traffic Survey Report provides passenger car and truck (B&C) breakdowns.
        5. Define the free flow speed and the work zone speed.
        6. Determine the amount of time (in seconds) it will require for one vehicle to travel the length of the work zone in a free flow condition.
        7. Determine the amount of time (in seconds) it will require for one vehicle to travel the length of the work zone during construction (i.e., reduced speed limit).
        8. Subtract the step 7 results from the step 6 results. This number equals the delay incurred by one vehicle traveling through the work zone.
        9. Divide the step 8 results by 3600 seconds (3600sec = 1hr). This number is the percentage of one hour that one vehicle is delayed.
        10. Multiply the step 9 results by the user cost for passenger cars and trucks (B&C). This number is the actual user cost incurred by one passenger car and truck (typically this number is very small).
        11. Multiply the step 10 results by the appropriate ADT (passenger cars or B&C trucks) of vehicle from step 4.
        12. Add the two step 11 results. The sum is the user cost (passenger cars and trucks) per day.
        13. Multiply the step 12 results by the number of days the work zone will be in place. The product is the total user cost for the construction period.

ROAD USER COSTS WITH LANE(S) CLOSED

- Closing of a lane(s) in a work zone. MOT design that requires a reduction in the number of lanes (i.e., lane(s) are dropped).
- Concepts - This MOT strategy constricts traffic flow through a work zone by reducing the number of lanes. It can potentially produce delays.
- Calculation Procedure
    1. Define the per hour passenger car and truck user cost (for FY 2002 - $17/hr for cars and $31.5/hr for trucks is accepted).
    2. Define the work zone configuration (i.e., 3 lanes merged to 2 lanes, 2 lanes merge to 1 lane, etc.).
    3. Using the Office of Technical Services - Traffic Survey Report on ODOT's Intranet, determine the Average Daily Traffic for the section closest to the work zone in question.
    4. The Traffic Survey Report provides passenger car and truck (B&C) breakdowns.
    5. If hourly counts for the area being analyzed are available, they should be utilized in the analysis.
    6. Define the free flow speed and the work zone speed.
    7. Run the QUEWZ-98 or acceptable alternate program (QUEWZ-98 is a work zone analysis program).
    8. Program QUEWZ-98 or acceptable alternate to calculate the road user cost (this option is available on the first screen).
    9. QUEWZ-98 or acceptable alternate requires a cost adjustment factor. The program is based on the 1990 dollar; therefore, an adjustment must be made. Set the cost adjustment factor equal to 1.4 (this factor will produce the above road user cost for FY 2002).
    10. If hourly counts are available, input the hourly volumes into QUEWZ-98 or acceptable alternate.
    11. If hourly counts are not available, program QUEWZ-98 or acceptable alternate to analyze the defined ADT from step 4 (QUEWZ-98 or acceptable alternate will distribute the ADT automatically).
    12. QUEWZ-98 or acceptable alternate produces an output file that defines hourly road user cost and a total road user cost per day.
    13. Multiply the step 12 results by the number of days the work zone will be in place. The product is the total road user cost for the construction period.

DETOUR

- Complete closure of a roadway and rerouting of traffic around the construction area. MOT design that requires traffic to divert to another route.
- Concepts - This MOT strategy diverts traffic flow around a work zone by forcing traffic on to another roadway. The traveling public incurs long delays and potentially the largest road user cost.
- **Calculation Procedures on Non-Freeways:**
    1. Define the per hour passenger car and truck road user cost (for FY 2002 - $17/hr for cars and $31.5/hr for trucks is accepted).
    2. Calculate the length of the detour.
    3. Using the Office of Technical Services - Traffic Survey Report on ODOT's Intranet, determine the Average Daily Traffic for the section closest to the area of detour in question.
    4. The Traffic Survey Report provides passenger car and truck (B&C) breakdowns.
    5. Define the free flow speed and the area of detour speed.
    6. Determine the amount of time (in seconds) it will require for one vehicle to travel the length of the work zone in a free flow condition.
    7. Determine the amount of time (in seconds) it will require for one vehicle to travel the length of the detour.
    8. Subtract the step 7 results from the step 6 results. This number equals the delay incurred by one vehicle being detoured.
    9. Divide the step 8 results by 3600 seconds (3600sec = 1hr). This number is the percentage of one hour that one vehicle is delayed.
    10. Multiply the step 9 results by the road user cost for passenger cars and trucks (B&C). This number is the actual road user cost incurred by one passenger car and truck.
    11. Multiply the step 10 results by the appropriate ADT (passenger cars or B&C trucks) from step 4.
    12. Add the two step 11 results (road user cost for passenger cars and trucks). The sum is the total road user cost per day.
    13. Multiply the step 12 result by the number of days the detour will be in place. The product is the total road user cost for the construction period.

- **Calculation Procedures on Freeways:**
    1. Calculate Road user costs as for non-freeways, then add to this cost the cost calculated in step 2.
    2. Apply the QUEWZ program (see instructions for Road User Costs with Lane(s) Closed) to the detour route, at the point along the detour route where the capacity is lowest if not consistent along the entire length. Use 1800 vehicle/hour/lane as the capacity. Include in the volume the normal traffic using the route plus the detour traffic. Add this Road User Cost to the cost calculated in step 1 above to give the total road user cost on a freeway detour route.

Code of Federal Regulations, Sec. 635.413 Guaranty and warranty clauses

[Title 23, Volume 1]
[Revised as of April 1, 2004]
From the U.S. Government Printing Office via GPO Access
[CITE: 23CFR635.413]

[Page 182-183]

TITLE 23--HIGHWAYS

CHAPTER I--FEDERAL HIGHWAY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

PART 635_CONSTRUCTION AND MAINTENANCE--Table of Contents

Subpart D_General Material Requirements

Sec. 635.413 Guaranty and warranty clauses.

The STD may include warranty provisions in National Highway System (NHS) construction contracts in accordance with the following:

(a) Warranty provisions shall be for a specific construction product or feature. Items of maintenance not eligible for Federal participation shall not be covered.

(b) All warranty requirements and subsequent revisions shall be submitted to the Division Administrator for advance approval.

(c) No warranty requirement shall be approved which, in the judgment of the Division Administrator, may place an undue obligation on the Contractor for items over which the Contractor has no control.

(d) A STD may follow its own procedures regarding the inclusion of warranty provisions in non-NHS Federal-aid contracts.

(e) In the case of a design-build project, the following requirements will apply instead of paragraphs (a) through (d) of this section.

(1) General project warranties may be used on NHS projects, provided:

(i) The term of the warranty is short (generally one to two years);

(ii) The warranty is not the sole means of acceptance;

(iii) The warranty must not include items of routine maintenance which are not eligible for Federal participation; and,

(iv) The warranty may include the quality of workmanship, materials and other specific tasks identified in the contract.

(2) Performance warranties for specific products on NHS projects may be used at the STD's discretion. If performance warranties are used, detailed performance criteria must be provided in the Request for Proposal document.

(3) The STD may follow its own procedures regarding the inclusion of warranty provisions on non-NHS Federal-aid design-build contracts.

(4) For best value selections, the STD may allow proposers to submit alternate warranty proposals that improve upon the warranty terms in the RFP document. Such alternate warranty proposals must be in addition to the base proposal that responds to the RFP requirements.

[60 FR 44274, Aug. 25, 1995, as amended at 67 FR 75926, Dec. 10, 2002]

Code of Federal Regulations, Sec. 635.102 Definitions

[Title 23, Volume 1]
[Revised as of April 1, 2004]
From the U.S. Government Printing Office via GPO Access
[CITE: 23CFR635.102]

[Page 160-161]

TITLE 23--HIGHWAYS

CHAPTER I--FEDERAL HIGHWAY ADMINISTRATION, DEPARTMENT OF TRANSPORTATION

PART 635_CONSTRUCTION AND MAINTENANCE--Table of Contents

Subpart A_Contract Procedures

Sec. 635.102 Definitions.

As used in this subpart:

Incentive/disincentive for early completion as used in this subpart, describes a contract provision which compensates the Contractor a certain amount of money for each day identified critical work is completed ahead of schedule and assesses a deduction for each day the Contractor overruns the incentive/disincentive time. Its use is primarily intended for those critical projects where traffic inconvenience and delays are to be held to a minimum. The amounts are based upon estimates of such items as traffic safety, traffic maintenance, and road user delay costs.

Liquidated damages means the daily amount set forth in the contract to be deducted from the contract price to cover additional costs incurred by a State transportation Department because of the Contractor's failure to complete the contract work within the number of calendar days or workdays specified. The term may also mean the total of all daily amounts deducted under the terms of a particular contract.

Ohio Revised Code References

Please be advised that ODOT is currently working with the legislature to reflect current industry practices in the ORC.

§ 5517.11 Program for combining design and construction elements of project into single contract.

Notwithstanding section 5517.01 of the Revised Code, the director of transportation may establish a program to expedite the sale and construction of special projects by combining the design and construction elements of a highway or bridge project into a single contract. The director shall prepare and distribute a scope of work document upon which the bidders shall base their bids. Except in regard to those requirements relating to providing plans, the director shall award contracts under this section in accordance with Chapter 5525 of the Revised Code. For each biennium, the total dollar value of contracts made under this section shall not exceed two hundred fifty million dollars.

§ 5525.11 Contract upon a unit price basis.

The director of transportation may enter into any contract authorized by law upon a unit price basis. Where a contract is entered into upon a unit price basis, the Contractor shall state in his bid the sum for which he offers to perform each unit of each different kind or class of work, and upon completion the quantities of each kind of work shall be measured and the Contractor paid only for the quantities of work actually performed by him. Where the director elects to enter into a contract upon a unit price basis he may include in the estimate such reasonable sums as he deems necessary to cover variations in the actual quantities of work as compared with the estimated quantities. In the event the actual compensation earned by the Contractor exceeds the estimate, any such excess shall be paid from any funds of the Department of transportation which may be expended upon the improvement in question. In the event the actual compensation earned by the Contractor is less than the estimate, the saving shall inure to the benefit of the state.

§ 5525.20 Incentive and disincentive provisions for critical construction projects.

(A) Subject to division (B) of this section, the director of transportation may include incentive and disincentive provisions in contracts he executes for projects or portions or phases of projects that involve any of the following:

(1) A major bridge out of service;
(2) A lengthy detour;
(3) Excessive disruption to traffic;
(4) A significant impact on public safety;
(5) A link that completes a segment of a highway.

(B) No such provisions shall be included in any particular contract without the prior consent of the municipal corporation, or, if outside a municipal corporation and off the state highway system, the prior consent of the board of county commissioners of the county, in which the bridge, detour, disruption, impact, or link will be located or occur.

(C) If the director decides to include incentive and disincentive provisions in such contracts, he shall make those provisions part of the bid proposal issued by him pursuant to this chapter and shall also adopt rules, in accordance with Chapter 119 of the Revised Code, governing

the formulation and use of those provisions. The rules shall be equivalent in scope, content, and coverage to the regulations the federal highway administrator issues concerning the use of such provisions in state contracts.

As used in this section, "incentive and disincentive provisions" means provisions under which the Contractor would be compensated a certain amount of money for each day specified critical work is completed ahead of schedule or under which he would be assessed a deduction for each day the specified critical work is completed behind schedule.

§ 5525.25. Pavement and other warranties.

(A) For each fiscal year, not more than one-fifth of the department of transportation's capital construction projects shall be bid requiring a warranty as specified in the bidding documents and in division (B) of this section.

(B) A warranty period under this section shall be:

(1) Not more than seven years, for pavement in the case of new construction;

(2) Not more than five years, in the case of pavement resurfacing and rehabilitation;

(3) Not more than two years, in the case of pavement preventative maintenance, bridge painting, pavement markings, raised pavement markers, guardrail, and other project items as determined by the director.

This section does not apply to contracts the director makes on behalf of a political subdivision.

Ohio Administrative Code References

Please be advised that ODOT is currently working with the legislature to reflect current industry practices in the OAC.

5501:2-7-01 Definitions.

(A) "INCENTIVE/DISINCENTIVE CLAUSE" - is a contract provision which compensates the Contractor a fixed amount of money for each day identified critical work is completed ahead of schedule and assesses a deduction for each day the Contractor overruns the time allotted for the completion of identified critical work.

(B) "CONTRACT TIME" - is the total time established for the completion of all contract work.

(C) "INCENTIVE/DISINCENTIVE TIME" - is the time established for the completion of all identified critical work. The incentive/disincentive time and contract time may be the same when traffic impact exists for the full duration of the project. The incentive/disincentive time may be for a shorter period of time than the contract time when traffic is impacted only during a certain phase or phases of contract work.

(D) "INCENTIVE/DISINCENTIVE DAILY AMOUNT" - is the fixed amount of money paid to the Contractor for each day identified critical work is completed ahead of schedule and the amount of money deducted from the contract price for each day the Contractor overruns the time allotted for the completion of identified critical work.

(E) "LIQUIDATED DAMAGES" - is the daily amount of money established in the contract to be deducted from the contract price for additional costs, other than the disincentive daily amount, incurred by the Department due to the Contractor's failure to complete all contract work on time.

5501:2-7-02 Determination of incentive/disincentive time.

Prior to including incentive/disincentive provisions in a contract, the director shall conduct an engineering analysis in order to determine realistic critical and non-critical time frames. The time frames, including critically identified work phase or phases, shall be clearly set out in the construction contract. The analysis should involve a review of industry past performance or a critical path method schedule.

5501:2-7-03 Determination of incentive/disincentive daily amount.

Prior to including incentive/disincentive provisions in a contract the director shall calculate on a per project basis a daily incentive/disincentive amount considering: construction engineering inspection costs, Departmental traffic control costs and maintenance, detour and road user costs. The incentive daily rate may equal the disincentive rate.

5501:2-7-04 Maximum incentive/disincentive amount.

The director shall not pay more than five per cent of the total contract amount in incentive payments unless he determines that the work is so critical that a higher percentage is warranted. There shall be no cap placed upon the accruing daily disincentive amount unless expressly authorized by the director.