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Title: GUIDELINES FOR THE USE OF TIME-RELATED CONTRACT PROVISION			
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SUPERSEDED ISSUANCES

This EI supersedes EI 85-35 and EI 86-33, INCENTIVE/DISINCENTIVE CLAUSES.

EFFECTIVE DATE

This EI is effective immediately.

BACKGROUND

An increase in the number of infrastructure repair contracts in the Department's construction program, coupled with increasing traffic volumes has created the need for new ways to mitigate the impacts of construction on the public. A + B bidding, incentive/disincentive specifications, and lane rental type provisions are intended to encourage Contractors to more actively manage their work schedule and, when necessary, to adopt innovative and aggressive scheduling and construction management processes that will shorten the construction duration and reduce inconvenience to the public.

PURPOSE

The purpose of this EI is to transmit the attached guidance on the time element of construction and the use of time-related contract provisions. Guidance is provided in the following two areas:

Standard Specification Time-Related Contract Provisions

- Start and completion of work
- Estimating contract time
- Engineering and Inspection charges
- Liquidated damages
- Interim milestone dates with liquidated damages,

Special Time-Related Contract Provisions

- A+B bidding,

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- Incentive/disincentive provisions,
- Lane rental

Time-related contract provisions provide a way for the Department to establish time-related expectations and goals for the Contractor's construction activities and/or the speed of the construction operations. Each of these provisions has its own unique application and will be discussed separately.

This EI supersedes all previously issued interim guidance on A+B and Lane Rental. These guidelines supplement guidelines provided in Chapter 16 of the Highway Design Manual, MAINTENANCE OF TRAFFIC DURING CONSTRUCTION, EI 91-01, METHOD OF TRAFFIC MAINTENANCE DURING CONSTRUCTION and EI 96-027, NIGHTTIME CONSTRUCTION.

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**GUIDELINES FOR THE USE OF TIME- RELATED
CONTRACT PROVISIONS**

GUIDELINES FOR THE USE OF TIME-RELATED CONTRACT PROVISIONS

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GUIDELINES FOR THE USE OF TIME- RELATED CONTRACT PROVISIONS

These guidelines supplement guidelines provided in Chapter 16 of the Highway Design Manual, MAINTENANCE OF TRAFFIC DURING CONSTRUCTION, EI 91-01, METHOD OF TRAFFIC MAINTENANCE DURING CONSTRUCTION and EI 96-027, NIGHTTIME CONSTRUCTION, and supersedes EI 85-35 and EI 86-33, INCENTIVE/DISINCENTIVE CLAUSES.

I. GENERAL

NYSDOT policy initiatives have been established to emphasize the need to assess traffic impacts due to construction, and develop and implement ways to minimize those impacts, such as:

- Mandatory phased construction
- Temporary roadways and bridges
- Off-site detours
- Work hour restrictions, i.e., off-peak hours, nighttime, weekends
- Lane closure restrictions
- Special scheduling provisions

An increase in the number of infrastructure repair contracts in the Department's construction program, coupled with increasing traffic volumes has created the need for new ways to mitigate the impacts of construction on the public. A+B bidding, incentive/disincentive specifications, and lane rental type provisions are intended to encourage Contractors to more actively manage their work schedule and, when necessary, to adopt innovative and aggressive scheduling and construction management processes that will shorten the construction duration and reduce inconvenience to the public.

The purpose of this EI is to provide guidance on the time element of construction and the use of time-related contract provisions. Guidance will be provided in the following two areas:

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- Interim milestone dates with liquidated damages,

Special Time-Related Contract Provisions

- A+B bidding,

- Incentive/disincentive provisions,
- Lane rental

Time-related contract provisions provide a way for the Department to establish time-related expectations and goals for the Contractor's construction activities and/or the speed of the construction operations. Each of these provisions has its own unique application and will be discussed separately.

II. STANDARD SPECIFICATION TIME-RELATED CONTRACT PROVISIONS

A. Start and Completion of Work

All projects include the standard specification requirements regarding starting and completing the work. Contractors are required to begin work within 10 days of the effective date of the Agreement, unless the consent of the Department is given in writing to begin at a later date, and complete all work by the contract completion date. Section 108-PROSECUTION AND PROGRESS of the Specifications, contains requirements for project scheduling, assessment of liquidated damages and/or engineering charges for failure to complete the contract on time, and conditions for extending the completion date. Changed condition clauses also allow for adjusting time requirements.

B. Estimating Contract Time

The basis for all time-related contract provisions is NYSDOT's estimate of the time to complete the project. The timing of the letting and award, and the relationship to seasonal weather, or other restrictions, must be considered when establishing time periods for the completion of work. Restriction on lane closures, work hours, and the use of overtime, and the time required to fabricate and deliver material, etc., also affect when a project can be completed. Additionally, Utility, Railroad and/or other third party work needs to be addressed.

The amount of time specified to complete a project or project phase may have an impact on cost and other factors. If contract time is too short, bid prices may be higher, quality and safety requirements may be more difficult to enforce, and time-related disputes or claims may increase. Some contractors may be eliminated for lack of insufficient resources and equipment, or resources from one contract may be diverted to another at the expense of the first contract. On the other hand, contractors may be more likely to look for innovative ways to complete the project on time, resulting in increased productivity rates.

If the contract time is too long, the public may be subject to additional user-delay costs, businesses may be affected, and costs for inspection may increase due to lower Contractor productivity. Contractors may also bid more work than they can handle and would not be under sufficient pressure to develop innovative ways to expedite the work.

The goal of the Designer is to attempt to recognize these factors and obtain an appropriate balance among the tradeoffs. A reasonable contract time would be based on a highly qualified contractor working a regular 8 hour day 5 day week schedule and would balance project and inspection cost, quality, safety and user costs. The schedule for most NYSDOT projects should be based on this average condition. In fact, the Standard Specification, Section 110-03, OVERTIME DISPENSATION REQUIREMENTS FOR NON-FEDERALLY AIDED CONTRACTS, requires the Contractor to base the bid on working a normal work schedule.

For critical projects or project phases where traffic inconvenience and delays are to be held to a minimum, A+B bidding or I/D provisions should be used to accelerate the construction duration. Contract time estimates for these accelerated projects should be based on a highly qualified contractor working extended or extra shifts with additional workers for six or seven days a week. Refer to the discussion on time determination in Section III for additional guidance related to accelerated schedules..

It is beyond the scope of this guideline to provide instruction for estimating contract time. Formal guidelines are currently being developed and will be issued in a subsequent instruction. A good reference on this subject is NCHRP Synthesis 215, *Determination of Contract Time for Highway Construction Projects*.

C. Engineering and Inspection Charges

When the contract completion date is not met, the additional cost for construction inspection and engineering may be charged to the contractor. Section 108-04 of the Standard Specifications informs the Contractor that such charges may be incurred. The method used by NYSDOT to assess these charges is by force account procedures, i.e., the Contractor is charged the actual incurred engineering and inspection costs. Procedures used for calculating these amounts are contained in Section 108 of the Contract Administration Manual, MURK Part 1A.

D. Liquidated Damages

Liquidated damages (LD) provisions are intended to recover costs to the general public and the Department associated with the Contractor's failure to complete the project on time. These provisions are developed in accordance with FAPG 23 CFR Sec. 635.127, AGREEMENT PROVISIONS REGARDING OVERRUNS IN CONTRACT TIME. Federal guidelines require that LD amounts, as a minimum, shall recover the estimated additional engineering and inspection costs. However, since these costs are handled separately for NYSDOT contracts, they are not calculated and included in the liquidated damages amount.

Construction time periods associated with LD provisions should be based on average conditions as discussed in B. above, i.e., an highly qualified contractor working regular

hours. If a project or project phase must be completed at an accelerated schedule, A+B bidding or an I/D provision should be used. Setting a tight completion date and assessing LD's if they don't finish on time is a negative approach to acceleration. A tight but achievable schedule with an incentive for early completion is a more positive approach and has proven to be more effective.

Liquidated Damages are not intended as a penalty, and the word "penalty" shall not be used in any special notes associated with LD amounts.

There are two ways to determine LD amounts for construction contracts.

- Section 108-03 FAILURE TO COMPLETE WORK ON TIME of the Standard Specifications, provides a Schedule of Liquidated Damages by contract size. The rates contained in that table include average LD amounts and are appropriate for most projects. This table was developed as an alternative to calculating LD amounts on a project to project basis.
- For projects greater than \$10 million, and for projects where the LD amounts from Section 108-03 do not represent the potential damages associated with not completing a project on time, the Designer must calculate LD amounts in accordance with the following guidelines and include the appropriate amount in a special note in the contract.

Calculating LD Amounts

Liquidated damages amounts may include the following:

- Road user costs which include time costs associated with driver delay, accident cost based on an estimated accident rate during construction, and vehicle operating costs associated with delay. When calculating road user costs the appropriate traffic volumes must be used. For example, if lanes can only be closed at night, nighttime traffic volumes must be used to determine the LD amounts. LD amounts associated with road user cost can be calculated using the current version of NYSDOT's Highway User Cost Accounting Micro-Computer Package (HUCCA) issued by the Planning and Strategy Group. (When using HUCCA to calculate costs for analysis and comparison of M&PT alternatives, a reduction of the amount calculated is applied in accordance with EI 91-01. When using HUCCA to calculate LD amounts, 100% of the cost amount calculated may be used.)
- The cost of State related traffic control such as dedicated police services agreements can be added to completion date LD amounts, if police services are required for the whole contract duration. If they are required for a particular phase of construction, they can be added to any interim milestone LD amounts. LD amounts associated with dedicated police agreements can be estimated in

accordance with EI 93-30, DEDICATED POLICE SERVICES ON DEPARTMENT CONSTRUCTION PROJECTS.

- Maintenance costs related to winter shutdowns, maintaining detours, etc. LD amounts associated with maintenance should be estimated on a project by project basis with assistance from the Regional Maintenance Group.
- Temporary Easement/Occupancy costs associated with renting these areas may be included if they are required for the total contract duration. LD amounts associated with temporary easements/occupancies should be estimated on a project by project basis with assistance from the Regional Real Estate Group.
- Other direct costs to the Department not included elsewhere that can be estimated and documented.

Costs attributed to disruption of adjacent businesses shall not be included in LD amounts.

The Department does not currently have a standard procedure to reasonably estimate the anticipated costs associated with disruption of adjacent businesses. The Designer may submit a project specific request to include these costs to the Design Quality Assurance Bureau. Such requests must include documentation to support the increase and must be submitted with sufficient lead time for FHWA or other reviews.

Liquidated damages amounts must be reasonable, based on rational cost analysis, and documented in the project records. It would be unfair to the Contractor if the amounts specified for LD are excessive and don't represent the true cost of failure to complete the work on time. Excessive and unjustifiable LD amounts would also be difficult to defend should the Department find itself in litigation with a Contractor.

When adjusting the Section 108-03 LD amount, the following wording should be included in a special note:

"Due to unique characteristics of this project, the amount of liquidated damages for this contract shall be \$_____ per calendar day and shall replace the amount shown in Standard Specification Section 108-03. All other requirements of Section 108-03 of the Standard Specifications shall remain in effect for this contract."

LD's may also be used to recover user delay costs associated with hourly lane closure requirements which can be included in special notes.

E. Interim Milestone Dates with Liquidated Damages

There are occasions when it is not necessary to complete a certain phase or phases early but the work must be completed on time (additional cost to accelerate is not warranted). If a contract contains one or more phases that must be done by a certain interim date(s),

special associated LD amounts should be identified for each phase. The LD amounts could be from Table 108-01 if appropriate, or they could be calculated for each phase.

EXAMPLE 1 - If a contract contains multiple work locations and the work is to be done in a certain order or within certain time frames, milestone dates should be specified with site specific LD amounts. This could be viewed as separate contracts by the same Contractor, each with its own start and completion date. When considering this type of note, be careful not to severely restrict the Contractor's operations such that their efficiency is reduced. This could escalate the cost. It may be more advantageous to allow a Contractor to work at multiple sites concurrently.

EXAMPLE 2 - If a contract contains a phase or phases that must be completed before an event that results in increased traffic, such as the State Fair, track season, vacation season, school season, etc., milestone dates with LD may be warranted. If the amount of time specified in the contract is reasonable and the traffic disruption is minimal before the event, there is really no need to expedite the work. When traffic increases as a result of these events the traffic disruption could then become intolerable. An LD amount that reflects the impact on the user will encourage the Contractor to finish on time without significantly increasing costs associated with expediting the work.

EXAMPLE 3 - A phase of a project is to be completed and open to traffic before winter. Additional costs for plowing snow, impact on safety, and any other costs must be considered when determining the LD amounts.

If an additional margin of safety is needed during any of these situations, the milestone date could be adjusted ahead slightly, or a modest incentive based on the calculated user delay cost may be included. Whether to use an LD or I/D clause requires some judgement by the Designer and depends on the nature of the problem. The Designer's estimate of the Contractor's schedule of operations must be considered when making such decisions. If the time period is tight, an incentive may be in order. If there is more than enough time to complete a phase and an incentive is offered, the Contractor would most likely get the maximum incentive with minimal additional effort.

III. SPECIAL TIME-RELATED CONTRACT PROVISIONS

In addition to the standard specification time-related contract provisions, the following are available, when applicable, and are added to a contract by special notes in the proposal.

- A+B Bidding
- Incentive / Disincentive (I/D) provisions.
- Lane Rental.

These types of provisions are used to either accelerate a project or project phase, or in the case of lane rental, to encourage better use of time during lane closure conditions. One or

more of these provisions may be included in a contract.

In discussing I/D provisions, a clear distinction needs to be made between the intent of I/D provisions and the purpose of liquidated damages. Although they have similar mechanisms, the function of each is different. The primary function of LD is to recover costs associated with the Contractor's failure to complete the project on time. On the other hand, an I/D provision is intended to motivate the Contractor to complete the work on, or ahead of, schedule. An I/D provision for early completion is defined as a contract provision which compensates the Contractor for each day that identified critical work is completed ahead of schedule and assesses a deduction for each day that completion of the critical work is delayed. Its use is primarily intended for those critical projects where traffic inconvenience and delays must be held to a minimum.

There are two ways to introduce an I/D provision into a contract.

- By A+B bidding
- By an I/D special note, (Standard I/D)

A. A+B Bidding

The Department first introduced A+B Bidding on a trial basis in 1994. A+B bidding is a method of awarding a project based on both cost and time. Each bid submitted consists of two parts:

- The A portion of the bid is the sum bid for the contract work items.
- The B portion of the bid is the time in calendar days proposed by the bidder to complete the project or a portion of the project, multiplied by a daily road user cost determined by the Department.

The contract is awarded based on the sum of the A portion and the B portion of the bid. The contract amount after award is limited to the A portion of the bid.

A disincentive provision is incorporated into the contract (based on road user costs) should the Contractor fail to complete the work in the length of time bid. An incentive provision is also included to pay for acceleration costs and to reward the Contractor for earlier completion.

The following attachments explain how the A+B method of bidding works and how payments or deductions are made.

- Special Note: Provisions for A+B Bidding
- Specification, Item No. 91698.93M INCENTIVE PAYMENTS AND DISINCENTIVE ASSESSMENTS FOR B PORTION WORK.

Experience has shown that A+B bidding is an effective way to reduce construction induced congestion and delays by allowing the cost of work and time to be balanced through the open competitive bidding process. Benefits of A+B include:

- encourages potential Contractors to develop even more detailed well thought out plans in order to bid on the time to complete a project or project phase. Since the time bid by each Contractor is based on their own capabilities to perform the work, the more efficient Contractors can generally bid shorter times.
- encourages Contractors to schedule their operations to maximize the efficiency of their work crews and equipment in order to meet the time bid.
- encourages Contractors to work overtime, double shifts and at night to reduce construction time.
- encourages Contractors to develop innovative ways to reduce construction duration at the lowest cost during bid preparation and during construction.
- road user costs and inconvenience are minimized.
- reduces the number of congestion related complaints from the road users and local communities.
- congestion related pollution and environmental impacts are reduced.

Guidelines for Developing A+B Provisions

Some of the guidance below is based on guidelines for the development and use of I/D provisions, contained in FHWA Technical Advisory T 50180.10 titled Incentive/Disincentive for Early Completion, dated February 8, 1989.

1. Project Selection

The use of A+B provisions is primarily intended for critical projects or project phases where traffic inconvenience and delays must be held to a minimum. User delay costs or public benefit must be significant enough to warrant construction acceleration. If NYSDOT staff and the Contractors staff are working double shifts and/or overtime to complete a project or phase and there is no apparent user delay or reason to expedite the work, Contractors, NYSDOT staff, and the public, may question why they are rushing to finish. This is not cost effective or good for morale. It must be emphasized that A+B provisions should not be used routinely. Generally, the use of these provisions should be limited to those projects or project phases that would severely disrupt highway traffic. As a guide, user delay and other documented delay costs should be at least \$3,000 per day to warrant the use of

incentive provisions.

The following characteristics are associated with projects appropriate for A+B bidding:

- high traffic volume facilities generally found in urban areas,
- projects that will complete a gap in a significant highway system,
- major reconstruction or rehabilitation on an existing facility that will severely disrupt traffic,
- major bridges out of service,
- projects with lengthy detours of high volumes of traffic,
- projects which have preconstruction level of D or worse, and
- projects with high accident locations (included in the PIL list) which may be exacerbated by non standard features during construction.

A+B bidding may be used for projects or phases which produce user delay costs less than \$3,000/day if extraordinary concerns exist such as interference with public events or significant public interest and benefit. However, the reasons must be documented, approved by the Regional Director, and made a part of the project records.

When selecting projects for A+B bidding, the total B portion of the bid must be an amount large enough to influence the bidding. If a very large project has a very short B portion completion time, the time element may have little impact on the overall results of the bidding. For example, a \$30,000 B portion (10 days X \$3,000/day) would have minimal effect on a \$20 million project (A portion) due to its small percentage of the total A+B bid. On the other hand, a \$1,250,000 B portion (250 days X \$5,000/day) on a \$5 million project (A portion) would provide a significant incentive to a Contractor to reduce the number of days bid because the B portion, as a percent of the total A+B bid, is significant.

2. Project Development

It is essential that a project's suitability for A+B bidding be identified during the early stages of project development. This allows for full deployment of resources needed to properly design and coordinate the project. During the development of A+B projects, extra effort should be made to ensure that the design, specifications, schedule, etc., are compatible and appropriate for the project. A field change to correct mistakes in plans can be very costly in both time and money on an A+B project. The plans and specifications should indicate any unusual conditions or restrictions the Contractor may be required to work under, such as prohibiting jack hammering, pile driving or heavy equipment operation during the night due to noise problems.

During the preconstruction phase of the project, all affected parties (e.g., local officials, police, Regional functional groups, businesses, schools, utility companies, railroads, etc.) should be involved in the project development. It is essential that designers work closely with the Regional Construction Group regarding schedules, wording of special notes, etc.

Pre-design field reviews are essential since "as built" plans or old construction plans may not be reliable, due to maintenance operations or field changes not recorded on the plans. Also, a pre-bid meeting may be necessary to discuss the I/D phase and any unusual features of the project with prospective bidders.

a. **Special Note: Description of B Portion Work**

The contract must clearly define what constitutes the start and the completion of the B portion work. Both may differ from the start or completion of the project. For example, the B time might not begin until a detour is implemented, a bridge closed or traffic is otherwise impacted. This allows the Contractor time to fabricate and deliver steel, obtain mix design approval, do other pre-construction planning, etc. However, it is necessary to define in detail what is expected of the Contractor. This can be done through the plans and by detailed description in the special provisions. Work to be completed must be clearly stated. Completion of items such as paving up to, and including, top course, signing, lighting, signals, striping, curb, shoulder, etc., should be addressed. Off-road items such as landscaping, sidewalks or other items that could be performed without disrupting traffic should also be addressed. If the intent is to get the roadway open to traffic as soon as possible, off-road items may be excluded from the B portion work.

Counting days for the B portion work can begin with the lane closure or event that results in user delay, or with the award notification, or with a combination thereof.

a.1 **Begin B portion work with lane closure or event that results in user delay**

Under this condition, B portion work begins with an event such as closing a bridge or the first lane closure(s) and ends with an event, i.e., when the bridge is reopened or all work requiring lane closures is complete.

This is the preferred method of starting the B portion work if the goal is to minimize user delay associated with a certain situation. The Contractor should be allowed the flexibility to prepare for the lane closure period and select a start date that will result in the shortest period of time, within the overall time limits of the contract.

Bridge replacement projects with an off-site detour are ideally suited for this situation. The counting of B portion work days should start when the Contractor closes the bridge to traffic and end when the bridge is reopened to traffic. This encourages the Contractor to take care of all shop drawing submittals, ordering and delivery of materials, and other preparatory work such that the timing of the closure is based on the critical path of the actual construction. If the B portion work starts with the award notice, the Contractor may close the bridge earlier than necessary, resulting in additional user delay. One thing to consider in this situation is the

amount of time that can be allowed before starting the B portion work. If the Contractor waits too long before starting the work, the time bid may end after the contract completion date or some other milestone date. If the B portion work must be complete by a certain date, then the Contractor must be informed in the contract what the consequences are for not completing the work by that date. One option is to indicate in the special note that the disincentive period will begin on a certain date regardless of the time bid. In other words, if the Contractor fails to begin the work in time to complete by the milestone or contract completion date, all incentive payments must be forfeited.

a.2 Begin "B" portion work with award notification

In some cases, the goal is to achieve the B portion milestone date as soon as possible, by having the Contractor mobilize and begin working immediately. The starting point could then be tied to the notification of contract award, FORM CONR 349c or 350c, the Contractor's official notification that the contract has been signed by the Comptroller. A copy of the form, which is distributed by the Contract Management Bureau, and a description of the award process is contained in section 103-01 of the Contract Administration Manual. Standard wording in the special note for this situation could be:

"The counting of consecutive calendar days for the B portion work shall begin 10 calendar days after the date shown on the notification of contract award, CONR 349c or CONR 350c as applicable to the contract."

The 10 day period (or whatever number of days is appropriate) is not meant to be a day that any physical work begins; it is an agreed date to begin counting.

A sample description of B portion work using this method is shown as Exhibit B.

a.3 Begin "B" portion work with either an event that results in user delay or tied to award notification.

This option still gives the contractor the flexibility desirable in a.1 while also allowing the Department to demand the B portion work begin within a reasonable time period. Standard wording in the special note for this situation could be:

"The counting of consecutive calendar days for the B portion work shall start on the earlier of the following dates 1) 60 calendar days after the date shown on the notification of contract award, CONR 349c or CONR 350c as applicable to the contract, 2) when the Contractor first restricts traffic...."

Again the 60 day period (or whatever number of days appropriate) is not meant to be a day that any physical work begins; it is an agreed date to begin counting.

b. Multiple B Phases

Periodically, projects include multiple phases with varying degrees of user delay. Furthermore, projects may not be completed in one season, but the roadway must be fully open for the winter months.

For example, assume Phase 1 of a project is "pave westbound" and phase 2 is "pave eastbound", and the project is let early enough to allow the Contractor to complete both phases in one season. If the user delay is the same for each direction and we want both phases completed in one season, separate B portions may not be required.

If this same project is let late in the season and both phases are in the same B portion work and can not be done concurrently, some Contractors may bid one season, while others may bid 2 seasons. A Contractor that bids one season would have a significantly lower B portion bid because they are not including the winter months within their bid. The one season bid may require late season paving. If there are any significant increases in the B portion work during construction of Phase 1, the Contractor would most certainly request an extension of time which would result in the performance of Phase 2 in the second season.

The need for multiple B portions must be determined on a project-specific basis in consideration of the problems and objectives of the situation. All options must be considered when developing the description of the B portion work. A general guide is to tie the B portion work to the user delay. If there is no user delay during the winter, this period should not be included in the B portion work. If the user delay for westbound is different than eastbound, they should be separate B portions. If the roadway is closed or restricted during the winter with a measurable user impact, the winter should be included in the B portion time frame.

A sample description of B portion work using this method is shown as Exhibit C.

c. Utilities and Railroads

Utility, Railroad or other third party work within the B portion requires additional effort by designers and construction staff in order to minimize potential for delays. If possible, arrangements should be made to have this third party work done prior to the start of B portion work. If this is not possible, special notes must be included in the contract describing the time frames allowed for any Utility, Railroad or other third party agreement. It is essential that these time frames be consistent with the description of B portion work and the Designer's schedule. Conflicts between these third party schedules and the time specified for the B portion work must be avoided. Underground utilities within the B portion phase should be located with the highest possible degree of accuracy if there is contract work that could potentially interfere

with these utilities. A quality level "A" rating for underground utilities should be achieved during design and indicated on the contract plans. (Refer to EI 96-052, UNDERGROUND UTILITY LOCATION LABELING CONVENTION.)

d. Overtime Special Note for B Portion Work

A special note on overtime is required on all A+B projects so that all Contractors can prepare their bids based on the same information relative to overtime restrictions. Since the intent of the A+B bidding process is to minimize the duration of construction, the Contractor's work hours or the use of overtime **should not be** overly restricted. For most A+B projects, the Contractor should be allowed to work 60 hours per week per work shift, i.e., 5 - 12 hour days or 6 - 10 hour days.

If there are no reasons to restrict work hours or the use of overtime for a project, the Designer should include the Special Note Overtime for B Portion Work which includes the following statement:

"The application shall not request more than 60 hours per week per each work shift. The 60 hour weeks may be either 6 - 10 hour days or 5 - 12 hour days."

If there are reasons to restrict overtime to less than 60 hours per week, or if 6 day weeks should not be allowed, the reasons should be documented in the project records and the special note modified accordingly.

If there are reasons to exceed a 60 hour work week, the Designer must document the reasons and seek concurrence from the Regional Construction Engineer and the Construction Division. The Construction Division will contact the Department of Labor to ensure that the reasons to exceed a 60 hour work week are sufficient to obtain Department of Labor approval.

Keep in mind that the Contractor can work multiple straight time shifts on any project without the need for approval from the Department of Labor.

e. Special notes regarding time restrictions

If the contract contains work hour restrictions, milestone dates or other time restrictions, consideration must be given to the location of these requirements. Restrictions in various special notes, on different plan sheets, and in several specifications could lead to confusion. Consider combining time restrictions in a separate special note and appropriate cross references.

3. Determination of Incentive/Disincentive Amount

To be effective in accomplishing the objectives of I/D provisions, the I/D amount must be

sufficient to encourage the Contractor to develop innovative ideas, and ensure the profitability of meeting tight schedules. If the incentive payment is not sufficient to cover the Contractor's extra costs, then there is no incentive to accelerate production, and the I/D provisions will not produce the intended results.

- a. The daily I/D amounts must be developed in accordance with the same procedures used to calculate daily Liquidated Damages amounts. Refer to section II. C. 2. above. Engineering judgment may be used to adjust the calculated daily amount downward to a final daily I/D amount that provides a favorable benefit/cost ratio to the traveling public, and still motivates the Contractor. The daily I/D amount shall never be increased above the calculated amount.
- b. Incentive Cap - A cap on the amount of incentive paid under A+B provisions is required for budgeting and other fiscal reasons. The maximum number of days of incentive for each incentive period shall be limited to 10 % of the number of days estimated by the Engineer rounded to the nearest whole day. In addition, the sum of all incentives for a single contract shall be limited to 5% of the Engineer's estimated contract amount. Although this cap limits the number of days of incentive payment, keep in mind that the Contractor must bid on the time in order to get the project, and it is to their advantage to bid fewer days in order to be the lowest bidder. The daily cost disincentive will also encourage completion on or ahead of schedule.

4. B Portion Work Time Determination

When determining the maximum duration for the B portion time period, the Designer must consider to what extent, and at what cost, construction can be compressed from a normal construction schedule. Normal construction time is generally based on a highly qualified Contractor working five days a week, eight hours a day, while an accelerated time should be based on the performance of the same Contractor working extended or extra shifts with additional workers for six or seven days a week. However, the use of a continuous seven-day workweek is cautioned against, because extended periods of work without days off may result in reduced efficiency and morale, and high turnover rates for both Contractor and inspection personnel. The maximum duration for the B portion time period should be based on an accelerated but achievable work schedule. If the completion date is impossible to meet, the Contractor will not even try to earn the incentive. In fact, unreasonable completion dates may discourage potential bidders from bidding.

To accurately determine the B portion time period, Designers should develop a schedule, ideally using the critical path or some other quantitative method. This will ensure that the maximum duration specified is achievable, and that any other time related contract provisions are incorporated and consistent, i.e., utility schedule, railroad involvement, seasonal limitations, work restrictions, etc.