Insurance and Bond Availability and Risk Quantification Study

Alternatives for Removing Barriers to Small Contractor Participation

Division of Construction

Final Report September 1, 2006

ACKNOWLEDGMENT AND DISCLAIMER

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I ***Executive Summary***

The California Department of Transportation (Department) current construction contract specifications require the construction contractor to indemnify the State of California and place the responsibility for providing various types of insurance over the course of construction and for some period after work has been completed with the construction contractor. In addition, standard contract language requires construction contractors to provide both payment and performance bonds. The indemnification, insurance and bonds specified by the Department are a means to provide a level of risk management across its considerable and wide-ranging construction program[1].

Current contract specifications define the types of insurance coverage required to be maintained by the Contractor, such as, workers' compensation, general liability, umbrella or excess liability and automobile liability insurance as well as the minimum levels of coverage to be provided by the construction contractor at its expense for the specified types of coverage. While the construction contractor is charged with obtaining and maintaining the specified coverage, it must secure general liability and umbrella liability policies that define the State of California and the Department of Transportation as "additional insureds" and stipulate that such insurance shall apply as primary insurance. Finally, under separate provisions of its construction contracts, the Department requires that terms and provisions of the contract, such as the insurance requirements noted above, be included in any subcontracts entered into by the contractor.

Recently, as part of the Department's "Go California" initiative, the Department and the construction community identified a goal of increasing the participation of small businesses in the execution of the Department's wide-ranging

[1] Risk management as used in this report refers to the aspect of the overall systematic process of planning for, identifying, analyzing, responding to and monitoring construction project risk for which the Department requires insurance and indemnification under Section 7-1.12, Indemnification and Insurance, of the Standard Specifications.

construction program, either as prime contractors or subcontractors. This goal was established, in part, in recognition of a need for an increased level of construction industry "capacity" to respond to a significantly greater volume of project work anticipated by the Department over the next several years. As part of the discussions concerning increased industry capacity, the construction community has raised concerns regarding the availability and/or affordability of insurance coverage and bonding for small businesses as a barrier to the goal of increased small business participation.

In an effort to develop a better understanding of the potential barriers faced by small businesses participating in the Department's construction program and to explore a number of alternatives to the current contract structure of insurance coverage and limits, Construction Division management requested that an "Insurance and Bond Availability and Risk Quantification Study" be performed. The scope and the objectives of the study included:

a) evaluating the insurance and bonding availability and affordability issues raised by the construction community.
b) evaluating the range of work performed under the Department's construction contracts from a risk management and quantification perspective[2].
c) exploring the viability of scaling the insurance coverage requirements to the risk profile of the specific parameters of a construction project.
d) reviewing alternative insurance coverage structures for the Department's work.
e) assessing the ramifications of the Department becoming the named insured for general liability only coverage.
f) evaluating use of Certificate of Liability Insurance ACORD forms for verifying insurance coverage.
g) evaluating the Department's specified notice of coverage termination.

[2] Risk assessment, profiling or quantification when used in this report refers to the use and blending of quantitative and qualitative risk factors to arrive at a comparative numerical ranking for each of the identified construction risk attributes associated with the Department's construction projects.

h) assessing the viability of a potential change to the standard subcontracting provisions concerning the applicability of specified insurance coverage and limits and permitting the Contractor to name its subcontractors as "additional insured", and finally.

i) making appropriate recommendations for the Department's consideration in implementing a more proactive risk management policy while lowering the barriers to small business participation.

Following is a summary of the conclusions and recommendations made throughout this report as well as suggestions for the Department's consideration.

Conclusions

- Securing the required insurance coverage and bonding by small, emerging or minority contractors is principally an issue of availability from the insurance and surety markets and not primarily a question of affordability.

- Modeling of the range of work undertaken by the Department from a risk assessment perspective does not result in the ability to lower the currently specified coverage limits as a mechanism to increase participation by small contracting organizations.

- Given the absence of any existing appropriate insurance pool, captive insurer or risk retention group and the impracticality of the Department itself forming such an association or group, limited opportunities appear to exist for such small contracting organizations to become part of groups which would improve their access to required insurance coverage.

- The current structure of insurance coverage effectively makes the Department self-insured for any tort liability that exceeds the limits of the

insurance coverage specified in its contracts, or for which the Department may not be indemnified. Obtaining protection for such exposure would require securing general liability and excess/umbrella coverage directly as the named insured under an owner controlled or contractor controlled insurance program (OCIP or CCIP) or through a separate general liability and excess/umbrella policy. Establishing the Department as the named insured for general liability and excess/umbrella liability only coverage ignores the risk diffusion/premium relationships among the range of coverage associated with a project and/or an organization (i.e. the necessity to couple general liability with workers' compensation coverage) and, based on the undefined nature of the construction projects to be covered would find limited A-rated admitted carrier markets, if any, to provide such coverage for any classification of work (Minor A, Minor B or Major).

- The proposed alternative of the Department securing excess/umbrella general liability coverage over its construction contractor's primary general liability coverage was found not to be viable due to principles of divergent insurance interests and the lack of market interest in underwriting such policies.

- Altering the current contract specifications to "allow" the prime contractor to identify certain subcontractors as additional insured will create a risk management structure at odds with traditional contracting/ subcontracting relationships as well as with traditional insurance coverage practices.

Recommendations

- Modeling of the range of work undertaken by the Department from a risk assessment perspective indicates that an appropriate level of general liability coverage for the significant majority of its work should be $2 million

per occurrence; $4 million combined aggregate and $10 million excess/umbrella. Projects with a unique combination of risk factors would warrant increasing the excess/umbrella limit to $25 million. Projects with lower risk profiles could retain the existing coverage levels of $1 million per occurrence, $2 million combined aggregate and $5 million excess/umbrella.

- The Department should consider expanding the Standard Specification's treatment of required coverage to include the full range of risk protection insurance needed for its projects, with the individual contract Special Provisions providing the guidance on which particular coverage is/are not required. Current Standard Specifications do not appear to adequately address requirements for: Pollution Liability, Asbestos Liability, Lead Liability, Automobile with Pollution Liability, Builders Risk, Owners Protective and Tail Coverage, among others.

- The Department should consider revising the recently issued change to the Standard Specification clarifying the contractor's responsibility to ensure that all of its subcontractors carry sufficient insurance that the contractors deems adequate. The revision should eliminate the phrase "based on the size, duration, and hazards of the subcontracted work." The risks associated with the subcontractor's performance are not a function of the limited scope of a subcontractors work, but rather, are a function of the subcontractors risk experience. Those limits may, in fact, be the same as the contractors.

- The Department should explore the possibility of raising the threshold level of work requiring a bond from the current level of $25,000 to the federally mandated level of $100,000. Such action could effectively lower bond-related barriers to participation in the Department's construction program faced by small contracting organizations.

- To the extent practicable, the Department should consider the active participation of the project's resident engineer (or another experienced member of the construction staff) in pre-contract risk assessment of the overall project to establish the appropriate coverage and levels to be specified by the Department in the Contract Special Provisions.

- The Department should consider establishing a centralized process for the review of insurance policies by trained, knowledgeable staff, following appropriate procedures to review certified copies of policies required by the contract specifications in areas such as carrier, defined limits, additional insured endorsements and the 30-day cancellation notice. Such a centralized or regionalized process would be similar to the current approach taken by the Department in its labor compliance efforts.

- With the increased use of manuscript or non-standard policy forms and endorsements as well as the continued use of Certificate of Liability Insurance ACORD form for documentation of required insurance coverage and endorsements, consideration should be given to education/training for those charged with receipt and handling of the forms to provide the Department with more consistent assurance of having the specified coverage, level, additional insured and 30-day cancellation notice endorsements. This centralized review would be similar to the Department's current approach to labor compliance.

- To significantly increase the number of small, emerging, minority, and disadvantaged business contractors who perform the Department's work either as a prime contractor or subcontractor, assuming that enabling legislation exists, consideration should be given to expanding the Department's currently conceived rolling owner controlled insurance program (ROCIP) to include all projects within a given District, and with local OCIP management at the District level.

- Consideration should be given to implementation of a contractor controlled insurance program (CCIP) on a single project of at least $100 million in construction costs. Such a project's Special Provision should include a bid price credit as an incentive to the prime contractor for proposing under a CCIP alternative as well as incentives to encourage a minimum of small contractor participation in the project.

- The Department should consider establishing a relationship with the Merriwether and Williams organization to provide information on the anticipated volume of work and to explore the viability of a Caltrans' sponsored bond assistance program aimed primarily at the education and development of small contractors with the potential to perform work for the Department under its construction program.

- The Department should consider additional dialogue with both the Landscape Contractors Insurance Services and Trinity E &S Insurance Services organizations to provide information on the projected volume of work and to explore how a Caltrans' affiliation may aid in increasing the population of small contractors able to perform work for the Department under its construction program as the result of access to coverage, at potentially discounted rates due to the anticipated volume, through LCIS and Trinity.

II ***Introduction, Background and Report Organization***

The Department's current construction contract specifications requires the contractor to indemnify the State of California and places the responsibility for providing for various types of insurance over the course of construction and after work has been completed with the contractor. In addition, standard contract language requires contractors to provide both payment and performance bonds. The indemnification, insurance and bonds specified by the Department are a means to provide a level of risk management across its considerable and wide-ranging construction program.

The Department's Standard Specifications require the construction contractor, with certain exceptions, to defend, indemnify and hold harmless the State and its employees from any and all claims arising out of the Contractor's performance under the contract for bodily injury and damage to property [Exhibit 1]. The language of the Standard Specifications on this topic is quite clear and free of any ambiguity and accomplishes a fair and balanced agreement between the Department and its contractors.

Current contract specifications define the types of insurance coverage required to be maintained by the contractor, such as, workers' compensation, general liability, umbrella or excess liability and automobile as well as the minimum levels of coverage to be provided by the construction contractor at its expense for the specified types of coverage. For example, current Standard Specifications define the minimum general liability coverage required as $1 Million for each occurrence and $2 Million general aggregate. In addition, the current minimum umbrella coverage level is defined as $5 Million for construction contracts under $25 Million in value and $15 Million for construction contracts greater than $25 Million in value [Exhibit 1].

While the contractor is charged with obtaining and maintaining the specified coverage, it must secure general liability and umbrella liability policies that include the State of California and the Department of Transportation as "additional insured" and stipulate that such insurance shall apply as primary insurance. The performance bond required by the Department is specified to be in the sum equal to at least one-half of the contract price [Exhibit 2]. Finally, under separate provisions of its construction contracts, the Department requires that terms and provisions of the contract, such as the insurance requirements noted above, be included in any subcontracts entered into by the contractor [Exhibit 3].

Recently, as part of the Department's "Go California" initiative, the Department and the construction community identified a goal of increasing the participation of small businesses in the execution of the Department's wide-ranging construction program, either as prime contractors or subcontractors. This goal was established, in part, in recognition of a need for an increased level of construction industry "capacity" to respond to a significantly greater volume of project work anticipated by the Department over the next several years. As part of the discussions concerning increased industry capacity, the construction community has raised concerns regarding the availability and/or affordability of insurance coverage and bonding for small businesses as a barrier to the goal of increased small business participation. In short, the construction community argues that insurance and bonding availability commensurate with the Department's specified coverage and minimum limits and/or the affordability of such coverage effectively precludes small business participation in the Departments' construction contracts. Lacking the ability to obtain the required insurance coverage or performance bonds would prevent bidding on the proposed contracts entirely. Being able to obtain the insurance coverage and/or performance bonds, but at significant cost, would result in bid prices not likely to lead to contract award under the Department's current procurement policies.

In an effort to develop a better understanding of the potential barriers faced by small businesses to participating in the Department's construction program and to explore a number of alternatives to the current contract structure of insurance coverage and limits, Construction Division management requested that an "Insurance Affordability and Risk Quantification Study" be performed. This study was commissioned to be performed under the Department's Consulting Services Contract 54A0028 with Navigant Consulting, Inc. (NCI). Contract 54A0028 Task Order No. 9 was issued to NCI on January 12, 2006 [Exhibit 4]. The scope of Task Order No. 9, as amended, and the objectives of the study included:

- to evaluate the insurance and bonding availability and affordability issues raised by the construction community,
- to evaluate the range of work performed under the Department's construction contracts from a risk management and quantification perspective,
- to explore the viability of scaling the insurance coverage requirements to the risk profile of the specific parameters of a construction contract,
- to review alternative insurance coverage structures for the Department's work,
- to assess the ramifications of the Department becoming the named insured for general liability coverage
- to evaluate use of Certificate of Liability Insurance ACORD forms for verifying insurance coverage,
- to evaluate the Department's specified notice of coverage termination,
- to assess the viability of a potential change to the standard subcontracting provisions concerning the applicability of specified insurance coverage and limits and permitting the Contractor to name its subcontractors as "additional insured", and
- to make appropriate recommendations for the Department's consideration in implementing a more proactive risk management policy and lowering the barriers to small business participation.

Section III of this report summarizes the approach, observations and recommendations concerning the assessment of insurance and bond availability and affordability issues. The approach to and results of project risk assessment and the risk quantification model development are described in Section IV of the report. Section V covers the various alternative insurance structures, including scaling limits, insurance pools and associations, captive insurers and risk retention groups considered as part of the overall study. The Department's consideration of securing only general liability insurance directly as the named insured is addressed in Section VI of the report. Section VII of the report summarizes information, observations and recommendations concerning the documentation of insurance coverage as well as the notice of cancellation issues raised by Construction Division management. The proposed change in subcontracting specifications to permit the prime contractor to list certain subcontractors as additional insured is addressed in Section VII of the report. Section IX of the report covers some additional observations and suggestions concerning the Department's implementation of an owner control insurance program (OCIP) as it relates to the elements of this study. Finally, all of the conclusions and recommendations described throughout the proceeding sections are recapped in Section X of the report.

III ***Insurance and Bond Availability and Affordability***

Insurance

As noted above, under the existing contract specifications the Department defines the types of insurance coverage required to be maintained by the contractor along with the minimum levels of coverage to be provided by the Contractor at its expense. In addition, the Department requires that terms and provisions of the contract, such as the insurance requirements be included in any subcontracts entered into by the contractor. Current Standard Specifications define the minimum general liability coverage required as $1 Million for each occurrence and $2 Million general aggregate. In addition, the current minimum umbrella coverage level is defined as $5 Million for construction contracts under $25 Million in value. The performance bond required by the Department is specified to be in a sum equal to at least one-half of the contract price. The construction community has raised concerns regarding the availability and/or affordability of such insurance coverage and bonding levels for small businesses as a barrier to the Department's goal of increasing small business participation in its construction program, arguing that insurance and bonding availability commensurate with the Department's specified coverage and minimum limits and/or the affordability of such coverage effectively precludes small business participation in the Departments' construction contracts.

The investigation into the issue of insurance availability and affordability commenced with interviews of Rebecca Llewellyn, owner of Payco Specialties Inc. (Payco). Payco is a roadway and airport striping company located in Chula Vista, California. Ms. Llewellyn has been in the striping business for thirty-one (31) years and currently employs thirteen (13) union employees who operate thirty (30) pieces of equipment doing predominantly striping of airports and streets/highways/freeways. In addition to her ownership of Payco, Ms. Llewellyn acts as chairperson of the California Small Business Committee's (CSBC)

Construction Subcommittee and is a member of the Women Construction Owners and Executives (WCOE). As such, Ms. Llewellyn was uniquely positioned to provide insight into the potential barriers faced by small businesses to performing work for the Department and was knowledgeable, thoughtful, and cooperative in sharing her perspectives on small business' interactions with the Department. To provide additional insight into the regional/local availability and affordability of insurance coverage issue interviews were extended to include Mr. David Garcia, President of Rancho Mesa Insurance, located in El Cajon, who has been a longtime broker in the San Diego area as well as Ms. Jane Benedict at John Burnham and Company, and John Jay at Lockton Company, both located in the San Diego area.

In short, from the small contractor's perspective, as expressed by Ms. Llewellyn, the availability and affordability issue can be best understood as being a function of cost factors, including:

- The absolute cost of obtaining the specified general liability and excess/umbrella coverage may be prohibitively expensive for small contractors. The additional cost of approximately $2,000-3,000 to meet the Department's recently proposed levels of general liability and excess/umbrella coverage can become especially critical on the Department's Minor B contracts and may prove to be the difference between a successful or unsuccessful bid.
- That <u>each</u> subcontractor is required to meet the insurance requirements contained in the general specifications. This results in duplicative insurance costs, coverage levels and limits across the various subcontractor bids to the prime contractor. This results in additive, redundant insurance costs that ultimately drive the Department's cost for the work higher than otherwise necessary.
- In the event that there is a claim, only one coverage and one set of limits will apply and pay on the loss even though all of the subcontractors and the prime contractor have coverage up to the limits contained in the

contract specifications. According to Ms. Llewellyn, there is no benefit to the State from requiring multiple redundant coverage. It is worthy of note, however, that, in fact, in many cases claims result in payments being made by multiple carriers and that gaps stemming from inconsistent coverage levels across organization in coverage can result in additional litigation that ultimately involves the owner.

From the insurance industry's perspective the availability and affordability issue can be best understood as a function of coverage availability, including:

- That the insurance markets for the lower policy limit levels of general liability coverage include national companies such as American International Group (AIG), Zurich and Travelers, as well as regional companies like Insurance Company of the West (ICW).
- For small contractors performing work in the street and highway sector, the insurance markets (i.e. availability) are limited, especially at the higher limits of general liability coverage, such as that specified by the Department. This is due to the disproportionate amount of time and effort necessary to service such an account by the broker/carrier relative to the limited premium generated and the claims potential of the associated construction projects.
- Even more restrictive are the markets for residential construction, including street and road construction for condominiums as well as single family dwellings. These limited markets are a function of the considerable liability exposure associated with potential construction defects and site location impacts on multi-unit projects and the monolithic view of the insurance industry of "construction contractors".
- The San Diego marketplace has been and continues to be primarily, middle market, with a number of local and regional brokers available and accessible to small and medium size contractors. This is unlike a number of larger metropolitan areas where the national brokers are dominant, and market accessibility for small contractors is much more limited.

To gain additional perspective into accessibility and affordability in the marketplace contacts were made with brokers in the two major markets in California, Los Angeles and San Francisco. Todd Miller of HMBD in Long Beach, California specializes in providing insurance coverage to contractors. Confirming the industry perspectives outlined above, Mr. Miller indicated that in the construction marketplace, there are a limited number of insurance company brokers that will underwrite policies for commercial construction contractors, and that very few carriers will underwrite policies for residential contractors, unless there is a contractor-controlled wrap-up. Mr. Miller also offered that, in his opinion, the minimum premium size expected by the brokers was such that many small, emerging contractors will have a difficult time finding a broker who will offer those services. These minimum premium expectations are a function of the rational business perspective of the brokers not to incur costs in servicing an account that will exceed the revenue received for such services, effectively resulting in providing the service at a loss. John Daley, of the California Insurance Center in Walnut Creek, which specializes in surety of small contractors, reiterated the perspective that small contractors have a much more difficult time finding brokers to handle their business because of minimum premium/commission amounts. Michio Nekota of Willis in San Francisco and Mark Hall of Marsh in San Francisco both echoed the observations that small contractors have a difficult time accessing markets because of the limited broker community available to them.

In short, the insurance availability and affordability issue appears to be much more of a challenge of availability than of affordability and suggests that alternative approaches to securing the required coverage will need to be explored if the Department is to achieve its objective of increasing the participation of small businesses in the execution of the Department's wide-ranging construction program as either a prime contractor or subcontractor.

Bonding

The Federal government enacted legislation in 1935, (HO USCG79A-279F) known as the "Miller Act" which currently required bonds on all public works construction contracts over $100,000 in contract value. At its inception, the legislation required contracts over $2,000 to have bonds. This amount was increased to $25,000 under a 1978 amendment to the act. California, as did all other states enacted similar legislation requiring bonding on all state funded, public works projects. In order to be in compliance with the statutory requirements each surety (or bonding company) must renew its application no later than July 1 of every year to receive its certificate of authority from the Treasury Department, U.S. Government. This certification allows the surety company to be treasury listed and to be authorized to provide bonds on federally funded public works projects. Currently, of the over 200 surety companies on the Treasury List, 181 surety companies are licensed to do business in the state of California. Of the top 25 surety companies (in terms of premiums written in the U.S.) 19 are licensed to do business in the state of California. Clearly, there is no lack of a surety market in California.

Although the Federal statute for bonding requirements on federally funded public works projects waives the bonding requirement for work valued below $100,000, states are permitted under what has been termed "Little Miller Act" legislation, to set their own threshold requirement. California's current threshold for bond waiver is between $5,000 and $25,000 for its public works projects. A list of all states and their associated bonding thresholds, promulgated by the American Insurance Association (AIA), is included as Exhibit 5 for reference.

Investigations and discussions with various contractor's association representatives, insurance agents and surety brokers revealed that, although the surety market was tight (i.e. less availability) due to consolidation and overall unfavorable loss experience over the past three years, bonding was still available

to those contractors who have financial strength, a proven track record of performance and the reputation to complete projects on time and within budget. Furthermore, it is clear that securing bonding is still difficult among small, minority and disadvantaged business enterprises. The main reasons for this inability to obtain bonding are a lack of experience and the insufficient financial strength of such small and emerging contractors. There do not appear to be affordability issues associated with securing bonding by those with the requisite profiles.

The State of California has witnessed a significant growth over the past five (5) years in the number of public sector construction projects providing bonding assistance programs to small and disadvantaged contractors in the community. This initiative has received support from both the public and private sectors and has attracted the attention and support of the two main National Trade Organizations, the Surety Association of America (SAA) and the National Association of Surety Bond Producers (NASBP)[3]. Both national organizations are committed to working with the public sector, to offer community outreach and support minority and disadvantaged businesses seeking bonding assistance.

SAA, as a national trade organization, is highly regulated and is the repository for statistical data for rate making overseen by the National Association of Insurance Commissioners (NAIC) throughout the United States and its territories. SAA is closely associated with the National Society of Surety Bond Producers (NASBP) and they jointly support the Surety Information Office (SIO), their trade publication network. SAA has created a model contractor development program which it makes available to interested parties throughout the United States. Over the past several years, Mr. Sam Carridine has undertaken the challenge as Director of Development and Diversity for the SAA in Washington D.C. In this capacity, Mr. Carridine has received the backing and support of this national

[3] The Surety Association of America is comprised of over 100 underwriters engaged in contract surety throughout the U.S. The NASBP is a national trade organization of 472 surety bond producers throughout the U.S., with over 44 surety bond producers in the State of California.

organization to develop bond assistance programs for small, minority and other disadvantaged businesses seeking bonding assistance in pursuit of contract surety on publicly funded construction projects.

The Small Business Association (SBA) works with the SAA and joint ventures with SAA members in offering an SBA bond guarantee program to small and emerging contractors. This program has been in place for thirty (30) years and has fulfilled some of the bonding needs by providing support to the small contracting firms with bonding on projects valued below $2 million.

In addition to the trade organization efforts in this area, Subguard is a risk transfer alternative to contract surety offered by Zurich Insurance which has met with some success among contractors. However, this risk transfer approach does not satisfy the statutory requirements in most states particularly for contractor payment bonds.

On a more local level, project specific surety support programs are offered by the insurance broker, Merriwether and Williams, a mid-sized firm with offices in San Francisco and Los Angeles. The firm is a certified DBE specializing in construction contract risk and was the outgrowth of Aaron Richardson, who brought surety bonding and risk management services to the San Francisco International Airport Expansion during the 1990's. Since its inception the firm has developed personnel and professional skills in the casualty and surety business, offering training and assistance programs to small and emerging contractors that are pursuing public sector construction opportunities throughout the State of California. Small and minority contractors who have enrolled in their bond assistance program and successfully completed their surety course have developed the ability to receive bonding by Treasury Listed Surety companies with a success rate of over ninety percent (90%). Through the competitive bid process Merriwether and Williams has designed and implemented the City of Los Angeles Bond Assistance Program. The firm developed a similar program for the City and County of San Francisco.

Currently, they are working on a program in Alameda County which jointly involves Alameda County and the prime contractor, Hensel Phelps. In each of these programs all potential subcontractors must enroll in the Merriwether and Williams's surety bond assistance program in order to pre-qualify for the bid process. Also each subcontractor must enroll in a money management program provided by a third party administrator.

It is recommended that the Department consider establishing a relationship with the Merriwether and Williams organization to provide information on the anticipated volume of work and to explore the viability of a Caltrans' sponsored bond assistance program aimed primarily at the education and development of small contractors with the interest and potential to perform work for the Department under its construction program, either as a prime contactor or a subcontractor.

Furthermore, it is recommended that the Department explore the possibility of raising the threshold level of work requiring a bond from the current level of $25,000 to the federally mandated level of $100,000. Such action would effectively lower bond-related barriers to participation in the Department's construction program faced by small contracting organizations.

IV *Project Risk Assessment and Model Development*

As noted above, one of the objectives of this study was to assess the viability of scaling the contractually specified insurance coverage based on the specific risk profile of the unique construction contract. This potential modification to the contract's specifications was to be considered as a mechanism for eliminating the barrier to participation in the Department's construction program by small business caused by the insurance availability and affordability issues previously described. Under a scaled or tiered insurance coverage approach, the insurance coverage limits could potentially be lowered to levels that would permit the Department to retain an appropriate risk management position for a given construction project but at coverage levels that may be more available and/or affordable to members of the small business community interested in participating in the Department's construction program.

Oregon DOT's Tiered Approach

As a starting point for the assessment of a scaled insurance coverage structure a review of the State of Oregon's Department of Transportation (ODOT) Insurance Specifications was undertaken at the request of Caltrans. This assessment was aimed at understanding the mechanisms used by ODOT to establish the level of insurance coverage specified for a given construction contract as well as an assessment of the practicality of applying those methods to the Department's construction contracts. It is important to note that the purpose of this review was only for the methodological approach taken by ODOT. The scope of this study does not attempt to compare California tort liability statutes to those of the State of Oregon for the purpose of recommending the structure and limits of insurance to be specified by the Department.

In terms of coverage, under the ODOT Standard Specifications, the contractor is responsible to provide, for the term of the contract, General Liability, Pollution

Liability, Asbestos Liability, Lead Liability, Auto Liability (and Pollution) and Tail Coverage (if applicable) [Exhibit 6]. Tail coverage provides for extending a policy's term to address a claim not reported during the specified term of the coverage. Similar to the Department's Standard Specifications, the ODOT Standard Specifications require that the State is named as an additional insured on the contractor and sub-contractor's policies for activities under the contract and that the contractor has the duty to defend, indemnify and hold-harmless the State in matters arising under its contracts. In contrast to the Caltrans Standard Specifications, the ODOT Standard Specifications do not define insurance limits (levels).

Investigation of the ODOT approach to insurance limit specification revealed that such limits are based upon a unique risk assessment of each construction project. The risk assessment of the construction project is performed by a consultant assigned to the project over the design to bidding phases of the project. The consultant transmits the project risk assessment information to ODOT and ODOT staff enters the data into an automated tool which calculates the appropriate insurance requirements. The resultant insurance limits are then included in the "Special Provisions" of the individual contract bid package.

The criteria used by ODOT for quantifying the risk associated with Commercial General Liability Insurance include the following:

- Number of intersections within the project limits,
- Average daily travel (usage level of project site),
- Functional classification (type of work to be performed),
- Posted speed limit within project limits,
- Number of (total) work zone restrictions over the term of the work,
- Number of Safety Priority Index System Sites within the project limits,
- Bike or pedestrian traffic in the work zone,
- Project length (miles) and
- Primary use of adjacent property (residential, commercial, industrial).

For each of these criteria points are assigned to score the individual project's risk profile. For example projects with fewer intersections score a lower number of commercial general liability "points" while projects with higher speed limits or non-vehicular traffic within the project limits score a higher number of "points". A copy of the basic ODOT risk assessment model is included as Exhibit 7.

Under the ODOT approach the total number of points from the project's risk profile results in an assigned Commercial General Liability limit as follows:

- Score that is < 18= $1M per occurrence-$1M aggregate.
- Score that is 18-35= $1M per occurrence-$2M aggregate.
- Score that is 36-52= $2M per occurrence-$5M aggregate.
- Score that is >52= $5M per occurrence-$10M aggregate.

A subset of the risk assessment criteria described above are used by ODOT establishing the coverage limits to be specified for Automobile Liability insurance. Projects with a score of <45 will have $1M per occurrence specified, and those projects with scores >or=45 will have $2M per occurrence specified in the construction contract's Special Provisions. The specific criteria used to evaluate Automobile Liability levels are shown in the ODOT model included as Exhibit 7.

The criteria used by ODOT for quantifying the risk associated with Pollution Liability Insurance include:

- Asbestos remediation required,
- Lead remediation required,
- Excavation of known HAZMAT site,
- Water present (if any of the above 3 are present),
- Threatened and Endangered species present,
- Active wells impacted and
- Wetland or riparian area.

Similar to the Commercial General Liability limit determination described above, for each of these criteria points are assigned to score the individual project's risk profile. Under the ODOT approach the total number of points from the project's risk profile results in an assigned Pollution Liability Limit as follows:

- Score <25= No coverage needed.
- Score 25-49= $1M per occurrence-$2M aggregate.
- Score 50-75= $2M per occurrence-$5M aggregate.
- Score > 75= $5M per occurrence-$10M aggregate.

Information concerning the type and range of construction contracts undertaken by ODOT as well as the relative frequency of the varying coverage levels across the ODOT construction program over time was not available. However, contact was made with insurance industry professionals in Oregon who, based on experience with the range of insurance coverage provided, did confirm the use of the tier approach by the ODOT. An example was cited of a new highway in a relatively remote, rural location with lower general liability limits than would be specified for a more urban location. The lower limits were clearly the result of a risk assessment process in place at ODOT.

From a methodological perspective the ODOT mechanism appears to be a reasonable approach to defining the necessary levels (limits) of required insurance coverage on a sliding scale. However, in order to address the potential applicability of the ODOT model to the Caltrans construction program analysis was performed on the base exposure of the respective states.

One dimension of an areas base exposure is its population density. The estimated population of California in 2004 was approximately thirty-six (36) million. At that time Oregon's estimated population was slightly over three and one-half (3.5) million, or approximately ten (10) percent of the California level. The land area of California is approximately 156,000 square miles, compared to 96,000 square miles for Oregon. The resulting population density for California is two

hundred and thirty (230) individuals per square mile, compared to only thirty-seven (37) people per square mile in Oregon. In short, California's population density is over six (6) times that of Oregon. The density of the third party liability on a land mass basis is substantially greater in California than in Oregon. In other words, the significantly greater population density of California results in a dramatically higher potential for third party claims.

Another dimension of the base exposure of an area is the size and complexity of its highway system. The total number of miles of roadways for which the Department is responsible is approximately 55,000 lane miles. The total number of lane miles of roadway for which ODOT is responsible only 19,000. From a construction project perspective, much more of Oregon's road work would be considered rural in contrast to a more urban environment in California. California has approximately three (3) times greater roadways and six (6) times the population density of Oregon. Again, the third party liability on a roadway lane mile basis is substantially greater in California than in Oregon. In short, the significantly larger highway system in California results in, yet again, a dramatically higher potential for third party claims.

In sum, the tiered approach to insurance limits may have greater applicability and utilization in Oregon than in California, given the greater number of lane miles that are in less populated areas and thus present less exposure to third parties and less risk to the State.

Caltrans Project's Risk Assessments

The approach to scaling the insurance requirements for a given contract based on the unique risk profile of that project as part of the Department's development of the contract's plans and specifications is similar to the type of pre-bid assessment performed by potential bidders and their insurance carriers. Both endeavors are attempts to ascertain the potential risks in the execution of the project and to

establish a level of insurance coverage that will mitigate or manage those risks. However, as the ultimate application of such a project-unique risk assessment by the Department would have to be applied to a wide range of contract work, it was necessary to develop a view of the potential project risk parameters that encompassed the full range of work undertaken by the Department in all of its construction contracts. Accordingly, the insurance study team met with the task order manager and personnel from both construction and design to identify target projects for evaluation as a representative population of the full range of project parameters encountered in the Department's work throughout the state. A number of characteristics were identified as being those which would define the risk profile of a Caltrans construction project, including:

- Estimated Contract Value,
- Estimated Project Duration,
- Type of Construction (New, Maintenance, Retrofit),
- Alignment (Grade, Subsurface, Aerial, Water Crossing)
- Site Density (Rural, Suburban, Urban),
- Population Density,
- Site Geology,
- Site Topography,
- Utilities Location (Above Grade, Below Grade)
- Environmental Considerations and
- Demolition Requirements.

Based on these general characteristics a team of department personnel from design and construction reviewed the population of ongoing contracts and identified a target project population of thirteen (13) projects. These projects were selected to represent a group of projects having risk characteristics which mirror the full range of work undertaken by the Department throughout its construction program. A summary of the general information for each of the target projects is included in Exhibit 8 for reference.

Following the identification of the target project population an evaluation of each project's scope, location and other characteristics was performed. As noted above the purpose of this evaluation was to identify the most significant attributes of the projects that would influence the overall risk profile of the project in a manner similar to the approach employed by ODOT described above. Based on a review of the target project's contract plans and specifications the identified risk influence attributes fell into three (3) broad categories; Site Characteristics, Contract Quantities and Exposure Base.

The risk influence attributes identified with Site Characteristics included:

- Topography,
- Geology,
- Environmental Considerations,
- Weather Conditions,
- Earthquake Zone and
- Potential for Flood/Mudslides

The risk influence attributes identified with the Contract Quantities included:

- Clearing & Grubbing,
- Site Preparation,
- Demolition,
- Excavation-Earth,
- Excavation-Rock,
- Foundation Systems,
- Street and Road Construction,
- Concrete Structures,
- Rebar,
- Steel Erection and
- Utility Construction.

The risk influence attributes identified with the Exposure Base included:

- Pedestrian Access to the Site,
- Vehicular Traffic within the Site,
- Utilities Above Ground within the Site,
- Utilities Below Ground within the Site,
- Monuments within/adjacent to the Site,
- Tourist Attractions within/adjacent to the Site,
- Attractive Nuisances within/adjacent to the Site,
- Buildings-Residential within/adjacent to the Site,
- Buildings-Commercial within/adjacent to the Site,
- Buildings-Manufacturing within/adjacent to the Site,
- Public Facilities within/adjacent to the Site,
- Rail Facilities within/adjacent to the Site and
- Waterways within/adjacent to the Site.

Each of the target projects were reviewed relative to each of the potential risk influence attributes and scored on a scale of one-to-ten (1-10), with one (1) equating to the lowest severity level and ten (10) equal to the highest severity level. At this stage of the project's risk assessment the relative importance of each of the risk influence attributes was weighted equally.

Subsequent to the initial scoring of the target project's risk profiles site visits were conducted for the purpose of refining the risk profile developed from the contract plans and specifications based on both a better understanding of the conditions under which each project was undertaken and consideration of other factors not evident from the document review. Each of the site visits was conducted with the Department's resident engineer and/or senior members of their staff and included clarification discussions with department and, in some cases, contractor personnel as well as photographic documentation of salient features of the project germane to this study. The results of the risk-profiling of the target projects are included in Exhibit 9 for reference. Copies of the photographs taken as

part of the site visits or provided by the project personnel are included in Exhibit 10 for reference. During the site visits to the target projects, observations made were also used to fine tune the risk influence attributes of projects. A few of those observations are shared here.

The majority of the resident engineers on the projects had considerable experience in the Department's contract administration, averaging over fifteen (15) years of service. As a group, these resident engineers were very knowledgeable of their respective projects from a risk assessment perspective and were very willing to share their thoughts and opinions on subjects covered by the study. The resident engineers were well aware of the insurance coverage requirements defined in the Department's Standard Specifications, and that the responsibility for compliance with these provisions rested principally with the contractor. The Engineers indicated that some level of training in understanding insurance specifications was needed, and suggested that the review and compliance verification process would be better performed as a centralized or district-level function.

For approximately one-half of the projects, the certificates of insurance submitted by the contractors showed a thirty (30) day cancellation notice provision. Follow-up inquiry with the broker (Willis) for one project's prime contractor did confirm that the underlying policy included an endorsement of the thirty (30) day cancellation provision. For the balance of the projects, the certificates included language that the carriers would "endeavor to" provide the contractually specified cancellation notice. Follow-up inquiry with the insurer (Zurich) for one project's prime contractor who provided such language on its certificate revealed that the underlying policy endorsement required only a ten (10) day cancellation notice for non-payment and non-reporting of payroll and a thirty (30) day notice of cancellation for underwriting reasons. Discussion with project personnel on the projects with the "endeavor to" language on the certificates of insurance did not

reveal any action having been taken by the Department to secure the contractually specified cancellation notification obligation.

With smaller contractors acting as primes on Minor B contracts, where they are responsible for the safety of the work, the risk exposure for the Department increases dramatically in situations where the inherent exposure to third party liability remains (i.e. traveling public) in an environment that does not place safety first and foremost. Observations made during the site visits in this study confirmed the general fears inherent in risk influence attributes for small emerging and disadvantaged business contractors. These concerns illuminate the need for the Department to continually be aware of insurance coverage issues, safety functions, risk management principles and the mitigation of loss in general with respect to small contractors.

On one project, plans for proper management of potential environmental impacts were covered by the contractor's Water Pollution Control Plan and Lead-Based Stripe Debris Compliance Plan. While conversations with the contracting organization confirmed that the organization was, in fact, covered for $1 million in pollution liability and $1 million in lead liability, neither of these insurance requirements was specified in the Department's contract. It is recommended that Insurance coverage for these types of hazardous environmental materials or activities should be specified during project planning and development.

Finally, with the exception of <u>one</u> major construction contract, the construction of a maintenance station and laboratory, and <u>one</u> Minor B contract, a fence replacement project, all of the target projects reviewed as part of this study contained liability exposures for the State from third parties, primarily either pedestrian or vehicular traffic. The maintenance and laboratory buildings were being constructed in a remote location, fenced off of the public street and with limited accessibility by either pedestrians or vehicles. The Minor B fence replacement project, while adjacent to a major freeway, was well off of the

roadway, at a lower elevation than the freeway itself and with construction access by an adjacent frontage road, thus requiring no traffic control or lane closure on the main highway. Accordingly, a common characteristic of almost all of the Department's contracts, the presence of either vehicular or pedestrian traffic, would appear to preclude the ability to scale (that is to lower) the specified insurance coverage levels (limits) in those contracts without exposing the Department to significantly greater risk of liability.

Development of Risk Assessment Model

The risk assessment model was developed as a mechanism to assist the Department's project managers, designers, specification writers and construction professionals in identifying hazards and risks to third parties (the general public) which are real and present in the Departments' construction work throughout the State. This model is not intended to explicitly analyze and quantify risk, but rather its function is to identify and assess the hazards most commonly encountered in the types of construction undertaken by the Department. The purpose of the model is to guide the decision makers in reaching conclusions as to the types of insurance necessary to cover the risks inherent in the construction project and to find the optimum limits of coverage for the various types of insurance necessary to adequately protect both the construction contractor and the State. The development of the model was structured to take into account specific site data and project characteristics, including material quantities, associated with the prosecution of the work through project completion. By assessing the various categories of risk and assigning a point value based on the presence and/or degree of such characteristics each individual project can be ranked for risk in terms of a total point value and a strategy for managing that risk can be established. The tool for performing a risk assessment for a given project, including the application of point values for each characteristic is included as Exhibit 11 for reference.

The Department has recently proposed changes to the Standard Specifications to raise the specified level of general liability and umbrella coverage on all of its projects to $2 million, $4 million and $15 million. Based upon the results of applying the risk assessment model to the thirteen (13) projects reviewed as part of this study, it appears that, rather than a single set of limits applied to all of its work, two (2) primary tiers of general liability and excess/umbrella limits should be implemented on the Department's construction contracts. Those tiers are defined based upon total points accumulated and are:

- TIER I-Limits of Liability-Risk Assessment Total Points 89 or less:
  - $1,000,000 for each occurrence (combined single limit for bodily injury and property damage),
  - $2,000,000 aggregate for products-completed operations,
  - $2,000,000 general aggregate. The general aggregate limit shall apply separately to the contractor's work, and
  - $5,000,000 umbrella or excess liability.
- TIER II-Limits of Liability-Risk Assessment Total Points 90 or greater:
  - $2,000,000 for each occurrence (combined single limit for bodily injury and property damage),
  - $2,000,000 aggregate for products-completed operations,
  - $4,000,000 general aggregate. The general aggregate limit shall apply separately to the contractor's work, and
  - $10,000,000 umbrella or excess liability.

In addition to the two primary tiers of insurance coverage outlined above, the risk assessment survey of the 13 projects suggests that, when the project's risk assessment point score exceeds 120 points this would be an indication of the presence of a combination of specific risk factors, such as an extremely complex or large physical scale project, extremely high volume of traffic through the site or the potential for a catastrophic construction failure. Results of this magnitude indicate

that the umbrella or excess liability limit could be increased to $25 million to adequately address the risk severity potential of the project and structure an optimum balance of risk retention and risk transfer by the Department. Such an adjustment to the excess/umbrella limit should be made by project management personnel based on consideration of the presence of such factors and not be made solely on the basis of the estimated cost of construction.

It is worthy of note that, in response to the Department's proposed adjustment to the general liability and umbrella limits of $2 million, $4 million and $15 million, the AGC suggested that, as an alternative, the Department consider $1 million, $2 million, $10 million. The recommended Tier II limits described above would appear to be a reasonable middle ground. In terms of increasing primary and umbrella/excess limits, some construction industry members may argue that increasing the primary limits would result in fewer underwriters and disproportionate premium increases and that maintaining primary limits and increasing the excess/umbrella limits only would yield the same level of protection for the Department. The availability and pricing of primary and umbrella/excess coverage (and the underlying primary limit requirement) depends on a number of factors including the general liability market conditions, respective insurance carrier pricing, and the individual contractor's loss experience and expected losses for the program being quoted. While the affordability and availability of coverage will vary by contractor, from a risk management perspective the Department needs to establish the minimum insurance limits to appropriately manage exposure on its construction work.

Application of the risk assessment model to each of the projects reviewed as part of this study resulted in the following:

- Tier I-$1,000,000 primary, $2,000,000 aggregate, $5,000,000 umbrella coverage:
  - #1. Planting and Irrigation-Truckee 86 points

- ♦ #2. Maintenance Building-Linda 57 points
- ♦ #7. Wetlands-Montara 78 points
- ♦ #9. Reconfigure Intersection-Napa 82 points
- ♦ #10. Repair Deck Joints-San Francisco 88 points
- ♦ #12. Fence Replacement-Lathrop 66 points
- ♦ #13. Rumble Strips-Jamestown 75 points

▪ Tier II-$2,000,000 primary $4,000,000 aggregate, $10,000,000 umbrella coverage:

- ♦ #3. Roadway Rehabilitation-Colfax 92 points
- ♦ #4. Reconfigure Intersection-Coloma 140 points
- ♦ #5. Bridge Interchange-Benicia 157 points
- ♦ #6. Bridge Removal-Carquinez 162 points
- ♦ #7. Roadway Rehabilitation-Oakland 96 points
- ♦ #11. Roadway Expansion-Milpitas 138 points

In addition to the evaluation of the general liability coverage level required through the application of the risk assessment form, it is recommended that a review of the Project Plans and Special Provisions in the pre-PS&E stage be performed in order to identify other potential liabilities so that additional coverage and limits are included in the final specifications for the project. Those additional liabilities include:

- Business Auto Liability:
  - ➢ If the work involves the use of owned, non-owned or rented vehicles the Comprehensive Automobile Liability policy shall cover such use, with a minimum combined single limit of liability for bodily injury or property damage in any one accident of $2,000,000. The policy shall name the department, its officers, employees and agents as additional insured.

- Comprehensive Pollution Liability Insurance:

- If the work involves any potential pollution risk the Pollution Liability Insurance Policy shall cover services rendered by Contractors and/or their subcontractors for onsite cleanup, bodily injury and/or property damage to third parties, contractual liability, and automobile liability for the transportation of materials to and from the project site, completed operations and a severability of interest clause.
- The policy shall be issued on a project specific and occurrence or claims made basis specifically for the project for the services rendered. The policy shall be renewed annually for the duration of the project and for a period of two years following termination of the contract or completion of the project. The minimum limits shall be $2,000,000 each occurrence and $5,000,000 aggregate. The policy shall name the Department, its officers, employees and agents as additional insured.
- When lead or asbestos exposures are identified, a specific coverage endorsement should be added to the liability policy.

- Marine Liability Insurance:
  - If the work involves operations on or over water the Marine Liability Insurance shall cover the contractor or subcontractors marine operations with a minimum limit of $1,000,000 written on an occurrence basis. The policy shall name the Department, its officers, employees and agents as additional insureds.

- Aircraft Liability Insurance:
  - If the work involves thee use of aircraft the Aircraft Liability Insurance shall cover the contractor or subcontractor operations utilizing aircraft with a minimum limit of $1,000,000 written on an

occurrence basis. The policy shall name the Department, its officers, employees and agents as additional insured.

- Owner's Protective Liability Insurance:
  - If the potential exists for specified coverage limits to be exceeded the contractor shall obtain and maintain a separate Owner's Protective Liability Policy with the Department, its officers, employees and agents as named insured. The policy shall remain in force until the completion of the project.
  - While sometimes considered an alternative to being an additional insured, an owner's protective policy is underwritten and provided solely in the name of the owner. An owner's protective policy will defend and pay claims up to the limit of the policy for liability imposed by law arising out of the negligent acts of the named insured which would not be covered under an additional insured endorsement. Coverage under such policies is afforded only during a defined period of time and typically is co-terminated with the completion of the construction contractor's operations.
  - The minimum limits of liability for bodily injury and property damage on a combined single limit for each occurrence and aggregate is $5,000,000.

- Tail Coverage Insurance:
  - If the liability coverage specified in the risk assessment model is written on a "claims made basis" such as environmental impairment, the contractor shall provide "tail" coverage which extends the claims made coverage period for twenty-four (24) months after the completion of the construction contract.

- Builders Risk Insurance:

- If there is a potential risk of direct physical loss during the construction period the Builders Risk Policy shall cover direct physical loss, including, without limitation, flood and earthquake in an amount equal to the original contract value of the work as a whole.
- While it is a provision of the Department's construction contracts that contractors are held responsible for the work and bear the risk of injury, loss or damage until the acceptance of the contract by the Department, this policy would provide the Department with coverage for a specifically identified "occurrence" that under the current contract provisions the construction contractor can seek either State participation in the cost of repair or termination of the contract.

V *Alternative Insurance Structures*

One of the objectives of this study was to assess the viability of scaling the contractually specified insurance coverage based on the modeling of a risk profile unique to a given contract as a mechanism for eliminating barriers to participation in the Department's construction program by small business, either as a prime contractor or subcontractor. As noted in the preceding section, the "modeling" of the Department's typical range of construction contract scope suggests that the most likely levels of commercial general liability insurance coverage to be identified for individual projects will be $2 million per occurrence, $4 million general aggregate and $10 million excess/umbrella.

Discussion with insurance industry professionals confirmed that, given their perspective of underwriting and providing insurance for the risk management of a company as opposed to for a given construction project and that based on the volume of construction work undertaken by contractors at any point in time, firms are most likely to have coverage in place that exceeds both the levels currently specified by the Department and the levels contemplated by the modeling of the Department's construction program. In other words, the industry would appear to be neutral to a tiered insurance structure for the Department's work. The exception to this would, as expected, be the small, emerging, minority contracting organization for which obtaining coverage is, from the insurance community's perspective, not an issue of specified limits, but of financial strength and business acumen to undertake the risk of the work.

Insurance Pools

Given the limited application of maintaining the existing specified insurance coverage levels and the insurance market's neutral response to tiered insurance coverage on a project-specific basis, a review was made of potential alternative insurance structures entailing the use of pools of small businesses combining to

secure the specified levels of insurance required by the Department's contracts. General contact information for the organizations discussed below as well as for other related organizations is included in Exhibit 12 for reference.

Traditionally the concept of an insurance pool is a way of owning an insurance or reinsurance company. Pools or associations generally are formed by several insurers to share risk because losses occur too often or are unusually large or catastrophic. Under this approach a pool or association can also be formed by several unrelated insurers or re-insurers that join together to insure risks that they could not insure individually. One example of such a pool is the Mutual Atomic Energy Reinsurance Pool based in Chicago, which reinsured mutual insurance companies like State Farm and Liberty Mutual. Another example is the American Nuclear Energy Pool that reinsured stock companies like American International Group. This pool was formed to address the catastrophic exposure loss of a nuclear power plant incident. In general, pools can issue a policy as a syndicate or reinsure a single insurer.

Based on the research conducted there were no existing insurance pools identified and/or located in the California insurance marketplace for small road construction contractors. Using models of potential frequency or severity of small contractor loss experience, an actuarial model and evaluation of a pool or association for potential small road contracting organizations in California could be developed. However, it should be recognized that the time, expense and capital associated with forming an insurance or re-insurance company (pool) would be significant.

Captive Insurers

An alternative to an insurance pool is that of a captive insurer. The concept of a captive insurer is for a stock insurance company to be formed to insure the risk of its owner. Captive insurers can make insurance premiums affordable to an

organization or entity. Fundamentally, it is a way to reinsure through the use of a licensed insurance company. State laws vary as to the formation, domicile and use of captives. The captive insurer usually reinsures a primary insurer who charges a fee and retains a small portion of the risk. Captive insurance companies can be formed within certain states or offshore, or alternatively captives can be "rented" for a fee.

Again, based on the research conducted there were no existing captive insurers identified and/or located in the California insurance marketplace for small road construction contractors. The Department could consider the formation of a captive with the Department as the sponsor. However, it is important to note that under such an approach the Department would be potentially underwriting all of the work performed by the contractors doing work for the Department, not just the work done for Caltrans, as the captive's re-insurer. While the captive insurer concept could be investigated further, the Department should not discount the fact that small contractors would be considered the riskiest exposure in the road construction class that would result in both adverse selection and difficult underwriting terms, leading to a highly likely negative financial result for the Department as the sponsor. As noted above there are no existing captives in road construction and, furthermore, Zurich expressed no interest in participating as a fronting company in a Caltrans small contractor captive, should one be formed. Finally, the Department's General Counsel would need to review State statutes and existing Caltrans policy relative to its potential ownership of an insurance/reinsurance entity.

Risk Retention Groups

A Risk Retention Group (RRG) is a liability insurance company that is owned by its members (subscribers), all of whom must have the same or similar liability exposures. The enabling Federal legislation provides for the group to be domiciled in one state, but engage in the business of insurance in all states, subject to certain

specific and limited restrictions. Like a traditional insurer, RRG's issue policies to their members and bear risk. Risk Retention Groups require members to capitalize the company. A primary insurer is not needed to "front" for the risk retention group.

As part of this study the department identified two Risk Retention Groups as possible underwriters of small contractor's insurance coverage, Preferred Contractors Insurance Company and Nations Builders Insurance Services, Inc. It is interesting to note that both of these organizations are located in the San Diego area, which was identified as a middle market for contractor's insurance.

Preferred Contractors Insurance Company, (PCIC), is a newly formed Risk Retention Group. PCIC is owned by a group of insurance agents who merged their books of contractor's business to form the company. The company began writing coverage for their risk subscribers in January 2006 with about $7M in loss reserves and a projected year-end premium level at $15-20M. PCIC retains $100,000 of a loss with reinsurance in the London Market with six syndicates. In the general liability line of business, the loss reserves would appear high given the premium level and the short time that they have been in existence. PCIC will write small street and road construction contractors. They will write $1M general liability limits, $2M aggregate with a minimum $1,000 deductible up to $25,000 deductible depending on underwriting requirements for the individual contractor. PCIC will write a $2M excess/umbrella, but they have no facility or associated facility to write an excess/umbrella policy up to $5M or higher. PCIC's minimum premium size is $1200. In addition, they have a RRG subscription fee of 33% of policy premium, processing fee of $500 per policy, and a policy fee of $175. PCIC would be very interested in writing and servicing small contractors who perform work for the Department as they see the volume opportunity in building their book of business and critical mass.

Within the context of potential alternatives to increase the participation of small, emerging contractors in the Department's construction program, there are a number of concerns with the PCIC organization:

- Being a newly formed organization, the long-term viability and profitability is yet to be determined,
- The firm's reinsurance is in the London Market in the excess/surplus lines market with the syndicates as non-admitted carrier status,
- The ownership by brokers may result in contractor's existing brokers being reluctant to place business with PCIC as they may perceive the competing brokers ownership as a threat to their other business written with the contractor client,
- The policy limits would only meet the proposed Tier I primary limits with no capability to meet the excess/umbrella limits recommended and
- The RRG fees may result in their total net pricing not being competitive with the traditional markets.

Accordingly, it is recommended that the Department monitor activity with PCIC on behalf of their potential smaller contractors, and when this organization demonstrates a record of performance in writing and servicing business profitably for their subscribers, consider establishing a relationship.

Nations Builders Insurance Services, Inc. (NBIS) is a management company wholly owned by over 60 independent shareholders. NBIS manages and operates five entities: 1.) Pro Builders Specialty Insurance Company, (PBSIC) is a Risk Retention Group domiciled in Washington D. C. and is a liability insurance company owned by its 4000 insured firms, 2.) Claims Adjusting Services (CAS) is wholly owned by NBIS and handles claims under policies issued by PBSIC, 3.) Southwestern Casualty Insurance Company (SCIC) is a Washington, DC re-insurer wholly owned by NBIS and acts as a quota share re-insurer of PBSIC, 4.) BCIC Premium Finance Company which finances premium for PBSIC policies and 5.)

Camelback Captive & Risk Management Services Inc., a wholly owned organization of NBIC that provides alternative solutions to the risk management needs of their clients. NBIS writes liability coverage for commercial and residential contractors and subcontractors. Their policy limits are $1M, with a $2M aggregate. They have no umbrella or excess capability at this time. NBIS's subscription fees are $250 up to $10,000 in premium and $500 in excess of $10,000 in premium. NBIS has been writing general liability since 2002 and currently has about $100M in total premium in force.

The current NBIS underwriting guidelines exclude street and road construction due to re-insurance limitations. NBIS also indicated a tendency to avoid contractors who do public works projects. Given the underwriting and treaty re-insurance prohibition and the limited policy limit capability, it is not recommended that Department pursue a relationship with NBIC as a potential writer of small contractor insurance at this time. If their underwriting guidelines should change NBIS should be given further consideration

Given the absence of any existing appropriate insurance pool, captive insurer or risk retention group and the impracticality of the Department itself forming such an association or group, a review was conducted of other organizations that work towards similar objectives for the small contracting community, but are not considered an insurance pool, captive insurer or risk retention group in the traditional meanings of those terms at this time.

Service Providers and Artisan Tradesman Activities (SPARTA)

SPARTA is a program to provide commercial general liability, excess/umbrella liability, professional liability, and non-owned automobile liability coverage to tradesmen, artisans, contractors and tenants who would otherwise not be able to provide the insurance limits needed to successfully bid and compete for public

entity business opportunities. The SPARTA program is underwritten by Essex Insurance Company with Municipality Insurance Services Inc. acting as the managing general agent. The list of SPARTA public entity clients includes the City and County of Los Angeles, the Los Angeles World Airports, the City and County of San Francisco, the County of San Bernardino, the County of San Diego, the San Diego Port and Airport Authority and the County of Santa Barbara.

The underlying concept of the SPARTA program is of public entity sponsorship of the program. The public entity pays an annual deposit of $5,000 plus state tax and stamping fee which acts as a working deposit against the premiums paid by the program participants during the policy year. The unused portion of the deposit is either refunded or rolled over if the public entity wants to continue the program the following year. Under the SPARTA program a master policy is issued and can be accessed by the public entities vendors and contractors. Vendors and contractors are endorsed on the master policy. The policy is issued with Service Providers and Artisan Tradesman as the named insured, with the public entity as the “named additional insured”. Other “additional insured” entities may be added for a $100 fee. For the same $100, general contractors can be added as additional insured in conjunction with projects undertaken by the public entity as long as the contracted work meets the underwriting guidelines for Hazard I and II classifications, and the contracted work does not appear on the prohibited list.

From an underwriting perspective, Hazard Class I-A and I-B are risks that are inherent in leased, rented or space owned or occupied by the public entity. Hazard Class II includes artisan contractors and tradesman that would do work on the construction of buildings of one story. Hazard Class III includes prohibited operations such as street, road or highway construction, paving, re-paving, earthquake retrofitting, and metal work or erection of load bearing structures. From a risk assessment perspective, the vast majority of the Department’s construction work would not be eligible for this program. What might be eligible would be the construction, remodeling and/or repair of the maintenance stations and laboratories

that are physically separated and fenced from the State's roadways. The Department could participate in this program for their non-roadway construction and increase small contractor involvement on that portion of its overall construction program that does not have roadway construction exposures. Initial discussions with the Lili Kotlar, Brokerage Assistant at SPARTA indicated strong interest in having the Department as a new client.

Landscape Contractors Insurance Services, Inc. (LCIS)

The California Landscape Contractors Association (CLCA) formed this insurance brokerage in 1989 to provide their membership with competitive insurance programs. LCIS provides continuing education in the ever changing insurance laws and construction and insurance industry trends. Located in Fresno, the organization has ready access to both northern and southern California contractors. The CLAC contractor members include firms that specialize in both new installation as well as maintenance of landscaping on roads and highways. LCIS targets small contractors with a minimum premium size of $1,000. For example, Amland is a small, minority contractor and a member of the CLCA and a client of LCIS. Amland is the prime contractor on the intersection reconfiguration/traffic signal installation project reviewed as part of the risk assessment model development described earlier in this report.

Discussions with Mike Dunn, Vice President of LCIS indicates that membership cost in CLCA is less than $1,000 per year. Mr. Dunn pointed out that members are principally A-rated companies with very competitive pricing for the higher insurance coverage limits that are required by the Department's construction contracts. In addition, rebates are earned by the members based upon their experience and performance. Additional insured endorsements are provided at no extra premium charge to the members. LCIS has expressed interest in increasing the affiliation with the Department as their contractor membership increases their new installation and maintenance of landscaping on highways and roadways.

Additional dialogue with LCIS should be considered by the Department to provide information on the projected volume of landscape work and to explore how a Caltrans' affiliation may aid in increasing the population of small contractors able to perform work for the Department under its construction program as the result of access to coverage, at potentially discounted rates due to the anticipated volume, through LCIS.

Trinity E & S Insurance Services, Inc.

Contact was made with Tom Gassen, President of Trinity. His firm has a program underwritten by Arch Specialty Insurance Company that targets subcontractor's general liability insurance requirements. While not a captive or pool, Trinity would be very interested in establishing a relationship with the Department that could result in small contractors and/or subcontractors who perform work for the Department being underwritten, on a volume basis, by Trinity and Arch. Additional dialogue with Trinity should be considered by the Department to provide information on the projected volume of work and to explore how a Caltrans' affiliation may aid in increasing the population of small contractors able to perform work for the Department under its construction program as the result of access to coverage through Trinity.

Merriwether & Williams Bonding Assistance Program

As bonding availability and affordability were an integral party of this study, research was done to identify any potential pooling alternatives in this arena. The San Francisco based insurance broker of Merriwether & Williams has a bonding assistance program in place with a number of public entities, such as the City and County of San Francisco and Alameda County. The Merriwether & Williams program's objective is to reach out to small, minority contractors and expand their participation in an owner's construction program. The primary benefit to the public entities who participate in this bond assistance concept is that it expands the pool

of contractors bidding on public entity work and should result in cost savings to the owner due to increased competition for the work. Functionally, the sponsoring public entity provides resources to assist the program with the education, training, pre-qualification, underwriting, placement and monitoring of the surety contracts for small, minority contractors over the life of the public entities participation in the program.

The possibility of a Caltrans Insurance and Bonding Assistance Program was discussed with Ingrid Merriwether and Nancy Owens, both of Merriwether and Williams and was positively received. It is recommended that the Department consider establishing a relationship with the Merriwether and Williams organization to explore the viability of a Caltrans' sponsored bond assistance program aimed primarily at the education and development of small contractors with the interest and potential to perform work for the Department under its construction program, either as a prime contractor or subcontractor.

Contractor Controlled Insurance Program (CCIP)

Another alternative insurance structure worth noting is that of a Contractor Controlled Insurance Program (CCIP). Under a CCIP approach the contract's prime contractor is charged with providing the specified insurance coverage for its organization as well as for all of the subcontractors engaged in the work. Implementation of a CCIP brings the same efficiencies that an Owner Controlled Insurance Program (OCIP) advances including:

- Cost savings (reduced premiums) through bulk procurement (workers' compensation, general liability and other coverage) in the insurance marketplace by a single entity, the prime contractor,
- Broader insurance coverage, terms and limits for all contracting parties including small and disadvantaged contractors who otherwise might not be able to qualify or afford to participate in the project,

- Establishing of clearly defined contractor enrollment procedures and a safety and claims management program for the specific project and
- Additional insured and indemnification provisions as currently required on all of the Department's projects.

Under a CCIP the insurance sponsor, the prime contractor, is the entity at risk and accordingly will seek to actively manage its risk exposure by selecting its subcontractor population based on some form of pre-qualification program, such as past experience with the firms and knowledge of the potential subcontractor's safety practices, credit experience modification in workers' compensation premiums and other factors. The Department could also realize some level of cost savings over the current insurance specifications structure through reduced bid prices. The preponderance of the cost savings associated with a CCIP, however, will accrue to the prime contractor. In order to gain the greatest cost-benefit advantage for the Department, it appears that a CCIP should be implemented on a single project of at least $100 million in construction costs. The CCIP project's Special Provision could include a bid price credit as an incentive to the prime contractor for proposing under a CCIP alternative as well as incentives to encourage a minimum of small contractor participation in the contract. Application of a bid price credit can be viewed as a form of value engineering of the project's scope and cost or as pre-bid cost reduction proposal made by the prospective bidder(s).

The Department may, in fact, have already realized certain cost savings in the form of a lower bid price on a construction project employing a CCIP. Information from the Department indicates that such a program has been implemented on the west portion of the San Francisco to Oakland Bay Bridge project. The $177 million contract value is consistent with the recommendation noted above. Information communicate to the Department by the contractor on the project indicate a low loss ratio and considerable savings having been realized. However, as also noted above, such saving is accruing to the construction contractor and not the State.

VI *The Department as Named Insured*

The scope of this study also included an evaluation of an alternative to the existing contract insurance structure of the contractor (and its subcontractors) providing the types and levels of coverage specified by the Department, namely having the Department directly obtain the general liability and umbrella liability coverage. Under such an alternative rather than the Department being listed as "additional insured" under the contractor's policies, the Department would be the "named insured" under its own general liability and excess liability policies. An evaluation of this alternative required consideration of two factors, current California law and the interest of the insurance community in underwriting such coverage.

Current Structure

The fundamental ability for the Department's current contract structure of indemnification and insurance coverage stems from the State's Civil Code Section 2782 and the State's Insurance Code Section 11580.4 [Exhibit 13]. In short, Section 2782, states that within a public construction contract, no contract term can attempt to transfer liability from the public agency to the contractor for the active or sole negligence of the public agency. Insurance Code Section 11580.04, which deals with additional insured endorsement, allows that in a public construction contract covered by Civil Code Section 2782 (b), that no additional insured endorsement can attempt to impose a duty of indemnity on the contractor for the active negligence of the public agency.

According to the International Risk Management Institute (IRMI), reporting on recent Insurance Service Office (ISO) revisions to the additional insured endorsements, ISO raised the issue of whether such "additional insured" endorsement is to provide coverage *only* for the additional insured's vicarious liability arising out of the named insured's acts or is it to provide coverage for the

additional insured's sole negligence. It appeared to be ISO's intent to stake out middle ground. ISO points out that revised additional insured endorsements will not provide coverage for the additional insured's sole negligence, but will provide coverage for what ISO refers to as the additional insured "contributory negligence". In other words the newly revised additional insured endorsement provides coverage to the additional insured that is broader than just vicarious liability arising out of acts of the named insured.

The newly revised endorsements, which include the most commonly used ISO additional insured endorsements, will provide coverage for the additional insured but only with respect to liability for bodily injury, property damage, personal injury, or advertising injury caused in whole or in part by the named insured's acts or omissions or the acts of omissions of those acting on behalf of the named insured. The phrase "arising out of" has been eliminated. If injury or damage is caused in part by the additional insured and in part by the named insured (or caused in part by others working on behalf of the named insured – such as another independent contractor), coverage does apply to the additional insured. In other words, if the additional insured is concurrently or jointly negligent along with the named insured (or others acting on behalf of the named insured), the revised additional insured endorsement will provide coverage to the additional insured (to the extent of the additional insured's liability). In short, the additional insured does have coverage for their own negligence, but only provided it is in conjunction with the named insured's negligence.

Further, if the named insured (or others acting on behalf of the named insured) is the sole cause of the injury or damage, the additional insured is also covered by the additional insured endorsement (to the extent of the additional insurer's liability). The latter falls under the principal of vicarious liability – and raises a genuine issue as to the extent of coverage, if any, is actually provided to the additional insured. By contrast, if the additional insured is the sole cause of the injury or damage – and the named insured (or others acting on behalf of the named

insured) did not contribute to the injury or damage, the additional insured will not have coverage. As it is the express intent of ISO to eliminate this sole negligence situation, it follows that coverage will not apply to the additional insured. Coverage also does not apply if the additional insured is currently or jointly negligent with a person or organization other than the named insured or someone acting on behalf of the named insured.

Additional Insured v. Named Insured

As the foregoing discussion as addressed, under the Department's existing indemnification and insurance provisions, an additional insured endorsement to a contractor's general liability and excess/umbrella policies does not provide the Department with any coverage for actions or inactions for which the Department would be deemed solely negligent. Only under a structure whereby the Department was the entity securing the general liability and excess/umbrella coverage directly as the named insured would the Department have recourse for defense and indemnification for such negligence.

Market Responses to Named Insured

Part of the assessment of the alternative of the Department as the named insured for general liability and excess/umbrella coverage only on all of its construction projects, which are not included in the currently envisioned workers' compensation and general liability wrap-ups. The basis of this evaluation was obtaining an insurance underwriter's interest in writing such general liability only policies. Zurich Insurance Company was chosen as one representative underwriter for input and feedback as they are an admitted company with an "A" A. M. Best rating. Zurich is a leading international underwriter of property and casualty insurance with a major presence in the construction industry in North America. They are innovative in their underwriting approaches to the marketplace

and have written a number of owner-controlled and contractor-controlled insurance programs. Initial contact was made with Joseph Charszenko, Manager of Home Office Underwriting in New York City to pursue exploration of the Department's named insured alternative. Mr. Charszenko explained that such underwriting decisions are made by territorial profit centers located in the major metropolitan profit centers and suggest that contact be made with the San Francisco Regional Vice President in charge of Construction in the Northwest Region, Soyoung Lee.

Using schedules that defined the Department's state-wide scope of projects, (Major, Minor A and Minor B) and anticipated project timetables, discussions were held with Ms. Lee and Nils Sorenson, Managing Account Executive. After explaining the purpose of the insurance study and the project schedules, Zurich was asked to consider underwriting general liability and umbrella only policies for the Department as the owner and named insured on their state-wide construction program. It was explained that this was not in any way considered a submission, but rather a discussion to determine their interest in underwriting the general liability coverage for the Department's construction program. In addition, it was clarified that the population of projects being discussed did not include those identified to be part of the "District 4 Wrap-Up" program, as Zurich has had some initial communication concerning that program with the Willis Group.

In short, Ms. Lee explained that there were a number of reasons why Zurich would <u>not</u>, at this time, be a market for the Department as a general liability only named insured for its construction program or specific elements of it, including:

- Zurich views the construction liability line of insurance as very volatile. The premium associated with the general liability coverage is in many cases inadequate to cover the potential exposure associated with the work. Zurich underwriting guidelines suggests the writing of the workers' compensation line and the general liability and umbrella liability lines together in order to build a larger premium base upon which to adequately cover potential liability losses.

- Zurich views roadwork as extremely hazardous necessitating project specific controls including scope definition, enrollment controls, safety and claims management as critical elements to a successful underwriting. Zurich would not consider writing general liability for the Department as the owner without such clear project definition, enrollment of contractors and safety and claims programs being implemented. Given the significant number of both large and small construction projects, widely disbursed throughout the state, with an almost infinite combination of contracting organizations performing the work, Zurich perceives a significant lack of control over projects that would result in a level of vicarious liability exposure that is, from their perspective, an underwriting concern.

Both Ms. Lee and Mr. Sorenson expressed some interest in responding to the proposal for the District 4 owner-controlled insurance program. Zurich's strategy in San Francisco, however, centers on contractor controlled insurance programs as the desirable alternative for the Department to achieve its objective of promoting greater small contractor participation in its construction program and acquiring named insured coverage.

A second contact for evaluation of an insurance underwriter's interest in writing a general liability and excess/umbrella policy directly for the Department, for coverage on all of their projects that are not included in the wrap-ups was American International Group (AIG) in New York. Like Zurich, AIG is a leading international underwriter of property and casualty insurance with a major presence in the construction industry in North America. They are a major competitor to Zurich, and have also written a number of owner-controlled and contractor controlled insurance programs. The contact at AIG is Tom Morrissey, Assistant Vice President National Construction Accounts. Mr. Morrissey has held significant AIG nation-wide positions in construction and wrap-ups for over 30 years. He expressed concern over underwriting and policyholder services on a general

liability basis only, given both the large scale and scope of the potential projects under such a wide ranging program as the Department's and the general legal climate. Mr. Morrissey clarified that AIG was not responding to a formal submission, but rather providing an indication of AIG's interest in underwriting the Department as the owner and named insured on their state-wide construction projects.

Securing Excess/Umbrella Coverage by the Department

A variation on the alternative of the Department securing general liability coverage as the named insured, under which, the Department would secure excess/umbrella general liability coverage above its prime contractor procured general liability coverage was also explored. This alternative was proposed by the Department as another potential structure that would result in greater access and participation by small contracting organizations in its construction program by eliminating the need for such firms to secure excess/umbrella coverage at the levels specified by the Department in its contracts.

Consideration of this alternative led to the conclusion that such a structure was, in reality, not a viable option for the Department. There were two principle reasons for this conclusion. First, such an approach would be at odds with the standard insurance industry structure of a common insurance interest securing both primary general liability coverage and excess/umbrella coverage for its operations. While within the insurance marketplace an organization could secure the primary general liability coverage and the excess/umbrella coverage from different brokers and/or underwriters, a single entity is securing the coverage for itself. Providers of excess/umbrella coverage in evaluating the viability of providing the additional level of coverage would be able to make a risk management evaluation of the entity's operations, its primary coverage limits and the potential for exposure to the excess/umbrella coverage. Under the proposed alternative with the Department securing the excess/umbrella coverage over the prime contractor's primary

coverage the single insurance interest concept would be violated. This fracturing of traditional insurance industry structure leads to the second principle reason for this option appearing to be a non-starter, the unlikely potential insurance market interest in providing such coverage. Discussions with insurance industry professionals, described above, confirmed the lack of market interest in providing excess/umbrella coverage directly to the Department.

VII ***Evidence of Specified Coverage and Cancellation Notice Requirements***

Within the Insurance and Indemnification provisions of the Department's Standard Specifications are requirements for the contractor to provide evidence of the specified coverage for General Liability, Automobile Liability and Excess/Umbrella Liability. Evidence in a form "acceptable to the Department" is to be provided at, or prior to, the pre-construction conference for the contract.

A key element in an insurance company underwriting the risk of a contractor is to issue a policy that properly expresses the mutually agreed upon intent of the coverage provided by the insurer to the insured. There are a large number of standard policy forms and endorsements that are available to choose from in preparing a given insurance contract. The nature of standard forms, which are designed to meet the needs of many policy holders, requires that the policy be modified or amended to reflect the unique needs of a particular insured. This is done through what are known as amendatory endorsements.

When there is no suitable standard policy form or endorsements, underwriters might need to prepare what is called a "manuscript endorsement or policy form" to provide the desire contract wording. Underwriters use extreme care in preparing manuscript endorsements, as the intent of the wording, in many cases, has not been tested in the court of law. Changes to standard policies, and manuscript policies and endorsements are closely scrutinized by the insurance company's re-insurers to understand the terms and conditions of coverage.

ACORD (Association for Cooperative Operations Research and Development) is a global, non-profit insurance association whose mission is to facilitate the development and use of standards for insurance, reinsurance and related financial services industries. Affiliated with ACORD are over 1,000 insurance/re-insurance companies and 15,000 agents and brokers. ACORD policy forms, endorsements and certificates of insurance are widely used in the construction industry for

property and casualty insurance coverage. ACORD Certificates of Insurance are used by brokers as a vehicle to communicate policy information and endorsements to interested parties such as those named as additional insured. While termed a "certificate of insurance", such forms are not a substitute for a review of the actual underlying policy and endorsements to confirm that contractually specified coverage and limits have been obtained by the contractor.

As part of the required evidence of having the specified insurance coverage for a given contract, the submitted documentation is to provide that there will be no cancellation, lapse or reduction in coverage without thirty (30) days prior written notice to the Department. The rationale for the 30-day notice requirement is to permit sufficient time for the Department to obtain alternative coverage for the contract scope in the event of the cancellation of the prime contractor's coverage.

The insurance industry standard for cancellation by the carrier for underwriting reasons is 30 days. This is not an issue for contractor compliance with the Department's specifications. The industry standard for non-reporting of payroll or non-payment of premium, however, is 10 days notice of cancellation and, accordingly, in such an event, the contractor will not be in compliance with the Department's specifications.

In certain instances where the insured has demonstrated a compelling need for a certificate of insurance holder or for an additional named insured, the policy holder <u>may request</u> and receive agreement from the insurance company a different notice period for non-report and non-payment cancellation. The ACORD standard wording on the Certificate of Liability Insurance contains this cancellation provision:

"Should any of the above policies be cancelled before the expiration date thereof, the issuing insurer will endeavor to mail __days written notice to the certificate holder named to the left, but failure to do so shall impose no obligation or liability of any kind upon the insurer, its agents or representatives."

As noted above, the broker completes the certificate of liability insurance on behalf of the insured, including the number of day's written notice to the certificate holder. A number of large contractors, such as C.C. Meyers, who perform a significant volume of work for Caltrans have negotiated an endorsement on their policy requiring a 30-day notice period and can readily demonstrate compliance with the Department's specified requirements. Other contractors may or may not adhere to the 30-day notice period requirement leaving their policies with a 10-day notice period and the broker merely enters a 30 day notice period in the certificate of insurance and relies on the "endeavor to mail" phraseology as, effectively, no obligation to comply with the Department's 30-day notice period. In extreme cases, brokers and contractors/subcontractors have been known to inaccurately report certificates of insurance, with the insurance carrier completely unaware of the misrepresentation.

The Department has recently implemented a change to its Standard Specification language to require the successful bidder on its construction contracts to submit a copy of its commercial general liability and excess/umbrella policies (including declarations, amendments, endorsements, etc.) in effect at the time of contract execution along with certificates of insurance for all other required coverage. Such a change is a significant step toward enhancing the Department's ability to monitor compliance with the requirements of its contract provisions. In addition, the Department should consider expanding the requirement to include submittal of certified copies of all policies that evidence the required coverage as well as establishing a centralized or regionalized process for the review of these insurance policies by trained, knowledgeable staff, following appropriate procedures to review certified copies of policies in areas such as carrier, defined limits, additional insured endorsements and the 30-day cancellation notice. Such a centralized or regionalized process would be similar to the current approach taken by the Department in its labor compliance efforts.

VIII *Subcontractors as Additional Insured*

As part of its evolving response to the construction contracting community's concerns with the availability and affordability of insurance coverage the Department is considering a change to the Standard Specifications requirements to permit the prime contractor to exempt certain subcontractors from the requirement of providing their own umbrella or excess liability coverage by having those subcontractors listed as additional insured under the prime contractor's umbrella coverage. A copy of the proposed language to Section 8-1.01, Subcontracting, of the Standard Specifications is included in Exhibit 14 for reference.

The rationale for this proposed change is to eliminate the need for certain subcontractor firms, which would include the class of small, emerging, minority contracting firms seeking work with the Department, from obtaining one form of general liability insurance, which as outlined above, may be difficult to obtain from the insurance market.

Inherent in the current language of Section 7-1.12, Indemnification and Insurance, and Section 8-1.01, Subcontracting, of the Department's Standard Specifications is the premise that Caltrans and the prime contractor enter into a contract to perform a defined scope of work and that the prime contractor must meet the liability coverage limits specified for that work. In addition, the primes' subcontractors are to have the same general liability coverage and limits as the specified for the prime contractor. This approach is to ensure that the risk associated with performing the work as assumed by (and insured by) the party performing the work. The risks which are assumed by a subcontractor on a project for which the Department requires insurance coverage (general liability, excess/umbrella general liability and automobile) are not a function of the limited scope of the subcontractors work, but rather that the subcontractor is participating in the execution of the overall project. Accordingly, all participants in the project are to provide a specified level of insurance to protect the Department from liability

arising from possible injury or damage to a third party, imposed by tort law, statues or contract law.

The intent of the proposed change to the Standard Specifications is to allow the prime contractor, as an option, to reduce the limits provided by a particular subcontractor, by adding that subcontractor as an "additional insured" on the prime contractor's excess/umbrella liability policy. The ability of a subcontractor to obtain such coverage from a prime contractor's excess/umbrella general liability policy as an "additional insured" would be, to say the least, problematic. As a general premise and structure of the insurance industry, the underwriter of the prime contractor's general liability insurance policies (including excess/umbrella) would not provide coverage to a subcontractor for an act arising solely out of the subcontractor's negligence. Coverage for the subcontractor's own negligence would only be provided by the subcontractor's primary general liability and excess/umbrella liability insurance carrier. To the extent that there was a loss that exceeded the subcontractor's primary limit, then the prime contractor's policy could be asked to respond, but only after the subcontractor's policies were exhausted. This resulting "gap" in coverage could result in litigation with the prime contractor and the Department, as additional insured, with the duty to defend and the duty to indemnify as key issues.

To gauge the insurance market interest in adding subcontractors on the prime contractor's general liability and umbrella liability policies, Soyoung Lee of Zurich was asked of her underwriting interest in such a structure. Ms. Lee expressed concern that the prime contractors would be reluctant to add subcontractors as additional insured, as the prime contractor's policies, in many cases, have deductibles and self-insurance retentions that would result in the prime contractor paying for the sub-contractor's claims under such a structure. Zurich's position on this topic appears to be driven by a desire to avoid a compromise of the liability coverage program established for its client, the prime contractor, and that program's relationship to the subcontractor's own liability coverage program as well

as the difficulty of obtaining the historical data on each subcontractor that is necessary in evaluating risk and liability exposure. In fact, from her perspective, prime contractors should be maximizing the coverage limits of their subcontractors and securing additional insured endorsements for the prime contractors on the subcontractor's policies.

Somewhat as a variation on the alternative of subcontractors being an additional insured on the prime contractor's primary general liability policy, the Department recently issued a change to its Standard Specification language to clarify the it is the prime contractor's responsibility to determine the appropriate coverage level required by its subcontractors. Specifically, the revised language requires the "Contractor shall ensure that all of its subcontractors carry sufficient insurance coverage that the Contractor deems adequate based on the size, duration, and hazards of the subcontracted work." As describer earlier, the prior version of the Department's insurance specifications required that the subcontractors were to have the same general liability coverage and limits as the specified for the prime contractor in order to ensure that the risk associated with performing the work was assumed by (and insured by) the party performing the work. These risks *are not a function of a limited scope* of a subcontractors work, but rather are a function of the subcontractor participating in the execution of the overall project. A prudent contractor would, as general rule, not choose to compromise its overall liability coverage program and its relationship with its carrier by knowingly creating gaps in coverage that would expose the prime contractor to direct (uninsured) liability. Accordingly, it is recommended that the Department consider an adjustment to the recently issued change to the Standard Specification language that eliminates the phrase "based on the size, duration, and hazards of the subcontracted work."

Based on the forgoing, it would appear that alternatives to the proposed Standard Specification language change be considered by the Department as part of efforts to increase the participation of small, emerging, minority contractors in its

construction contracting program. One alternative is for the Department to include in their Rolling Owner Controlled Insurance Program (ROCIP) as many projects as possible, thus including prime contractors and subcontractors as named insured with consistent and uniform general liability and umbrella coverage and limits through the insurance acquired directly by the Department as part of its wrap-up program. The other alternative is to expand the application of a contractor controlled insurance program (CCIP) described earlier in this report.

IX ***Observations Concerning Owner Controlled Insurance Program***

This study of the Department's construction contract insurance requirements and the potential barriers faced by small businesses to participating in the Department's construction program has explored a number of alternatives to the current contract structure of insurance coverage and limits including a) the viability of scaling the insurance coverage requirements to the risk profile of the specific parameters of a construction contract, b) alternative insurance coverage structures for the Department's work, c) the ramifications of the Department becoming the named insured for general liability coverage and d) the viability of a change to the standard subcontracting provisions concerning the applicability of specified insurance coverage and limits and permitting the contractor to name its subcontractors as "additional insured".

Based on the general observations made throughout this report including the insurance and boding availability challenges faced by the small contracting community, the lack of viable insurance pools/associations/captive insurers/risk retention groups, the limited opportunity to hold insurance coverage to the existing specified levels, the impracticality of the Department obtaining general liability and excess/umbrella coverage as the named insured or subcontractors being covered as additional insured under the prime contractors policies, the challenges of assuring specified coverage is, in fact, in place and endorsed to meet the Department's requirements and the importance of management of project safety as a foundation for exposure mitigation all suggest that the most practical alternative to the existing approach to risk mitigation and insurance coverage, that would advance the objective of increasing the participation of small contractors in the construction program, is an owner controlled insurance program (OCIP).

Working in conjunction with the Department of General Services (DGS), the Department has moved ahead with a solicitation for insurance broker selection to

provide specific risk management and administrative services for such an OCIP. The "District 4 OCIP" was awarded to the Willis Group of San Francisco in March 2006, and will cover certain projects in the Bay Area and San Mateo County, including the following projects:

Project	Construction Costs
Yerba Buena Island Structure	$273,000,000
Oakland Touchdown No. 1	$212,100,000
Oakland Touchdown No. 2	$ 62,000,000
Devil's Slide Tunnel	$193,191,000
Total	$740,291,000

Simultaneously, the Department has been moving forward in the preparation of another solicitation for insurance broker services for a state-wide Rolling Owner Controlled Insurance Program (ROCIP). Initially, the ROCIP was to cover sixty-eight (68) construction projects in the Department's project delivery program with each individual project having an engineer's estimate in excess of $25 million. These projects were all expected to be initiated within a three year period starting in the second half of 2006 and have an aggregate capital value of approximately $5.2 billion. Recently the ROCIP has been significantly reduced in its anticipated size to an estimated ten (10) projects with an aggregate contract value of $750 million, although still being based on the same minimum threshold for an individual project of $25 million.

This strategic move in dealing with risk by the Department was implemented, in part, to bring about certain efficiencies, including:

- Cost savings through bulk procurement in the insurance marketplace,

- Providing broader insurance coverage, terms, and limits for all contracting parties including small and disadvantage business enterprises and

- Establishing a clearly defined policy for managing and implementing a safety and logs control program, geared to a specific group of projects.

Over the past decade, two federal studies were conducted to assess the value of using Controlled Insurance Programs (CIP) vs. conventional contractor provided insurance programs, The U.S. General Services Administration's "Wrap-up Insurance Study" December 1997 and the U.S. General Accounting Office's, "Advantage and Disadvantages of Wrap-up Insurance for Large Construction Projects". June 1999. Based on the findings and conclusions of these studies, the potential savings which can be realized by an owner/sponsor of large construction projects is estimated to be on the order of one (1) to three (3) percent of the construction contract value. The GAO study examined three state highway projects including the Blue Water Bridge in Michigan, The Central Artery Project in Massachusetts and I-15 Interstate in Utah. This study also examined three mass transit projects in Chicago, Portland, and the Hudson-Bergen Line in New Jersey. All six projects used an OCIP and all six projects reported significant cost savings over the traditional contractor provide approach of insurance procurement. Assuming a conservative level of savings of 1% of contract value, the estimated insurance cost savings for the Department on their two wrap-up programs is summarized below:

Project Description	Contract Value	Estimated Savings
Bay Area/Devil's Slide	$742,291,000	$7,422,910
Statewide Rolling Wrap-up	$750,000,000	$7,500,000

The Department should be commended for taking this initiative as a mechanism to broaden the base of large and small contractor participation in its wide ranging construction program while at the same time bringing cost efficiencies to its contract procurement process. In addition, by implementing these two major wrap-up programs, the Department will be enhancing project wide safety and loss control

procedures to further reduce risk to life, limb and property on its roadway network throughout the state.

One of the major considerations of most owner-controlled insurance programs is having a single, contiguous site in which to establish the project boundaries and establish controls for safety and claims management. From an insurance market perspective, having multiple sites and varying project schedules creates challenges in project management and insurance administration for the owner, broker and insurance carrier. While the construction of the three Bay Bridge access points and the Devil Slide project creates some opportunities for cost savings as a result of safety and claims management, this OCIP also creates some compelling challenges for the Department as a public entity owner, undertaking an OCIP for the very first time with little institutional knowledge and experience in developing an implementing an OCIP. Successful wrap-ups depend significantly on the knowledge, commitment and resource availability of the owner as well as on the commitment of broker, insurance carriers and cooperative contractors.

Given the geographic expanse of the State of California, the diversity of the state's population, its considerable economic base, the Department clearly operates in a dynamic political environment. Achieving the legislation enabling the Department to undertake an owner-controlled insurance program must be recognized as a significant step towards improving the overall risk management of the construction program. On the other hand the general contracting community undoubtedly perceives the Department's OCIP initiative and the cost saving potential for the Department as a major issue and potential drawback to bidding on the Department's work as it obviates a significant profit opportunity that would be based upon their positive loss experience. In addition, subcontractors are likely to have similar issues concerning profit opportunities assuming similar loss experience factors are present. Both primes and subcontractors are likely to perceive the Department's OCIP initiatives as imposing additional administrative burdens and costs.

Discussions with industry professionals as part of this study indicate that the prime contractors and insurance brokers and carriers perceive the Department's various proposals relative to increasing general liability and umbrella limits, pursuing subcontractors as additional insured's on prime contractors policies, and the exploration of being the named insured on a general liability policy, all as efforts ultimately aimed at promoting the viability of the OCIP concept. The insurance industry has indicated that reaction to the Department's proposed higher limits will be higher premiums and consequently decreased access to specified coverage limits. In addition, prime contractors and underwriters have indicated that they will resist small contractors being named as additional insured's on their policies. Finally, underwriters Zurich and AIG may resist writing general liability only policies directly for the Department (as the named insured) because of the vicarious liability potential associated with all contractors doing work for the Department.

In terms of truly increasing significantly the number of small, emerging, minority, and disadvantaged contractors who perform the Department's work, assuming that enabling legislation exists, consideration should be given to expanding the Department's currently conceived rolling owner controlled insurance program. As currently configured the Department's ROCIP with a minimum project size of $25 million effectively precludes a significant majority of the Department's work volume and most certainly precludes the entire Minor A and Minor B contracts, in which many of the small contractors participate as their only form of work with the Department. As an alternative, a possible configuration would be to define all projects within a given District as the OCIP, with local OCIP management at the District level, and with the centralized controls functions done at the state level. Under such a pilot program the small, emerging minority contractor involvement and loss experience could be closely monitored, evaluated and used for considering further OCIP expansion in the future.

X ***Conclusions and Recommendations***

Throughout this report a number of general observations, conclusions and recommendations have been made. All of those have been made relative to one underlying premise, the Department's stated objective to remove barriers faced by small contracting organizations to participating in its construction program, either as a prime contractor or subcontractor. The evaluation of the barriers identified and possible approaches to removing those barriers, at times, led to a broader view of a number of aspects of the Department's risk management approach, as implemented through its construction contract's insurance provisions. Following is a recap of the conclusions and recommendations made throughout the report as well as some more general insurance-related suggestions for the Department's consideration.

Conclusions

- Securing the required insurance coverage and bonding by small, emerging or minority contractors is principally an issue of availability from the insurance and surety markets and not primarily a question of affordability.

- Modeling of the range of work undertaken by the Department from a risk assessment perspective does not result in the ability to lower the currently specified coverage limits as a mechanism to increase participation by small contracting organizations.

- Given the absence of any existing appropriate insurance pool, captive insurer or risk retention group and the impracticality of the Department itself forming such an association or group, limited opportunities appear to exist for such small contracting organizations to become part of groups which would improve their access to required insurance coverage.

- The current structure of insurance coverage effectively makes the Department self-insured for any tort liability that exceeds the limits of the insurance coverage specified in its contracts, or for which the Department may not be indemnified. Obtaining protection for such exposure would require securing general liability and excess/umbrella coverage directly as the named insured under an owner controlled or contractor controlled insurance program (OCIP or CCIP) or through a separate general liability and excess/umbrella policy. Establishing the Department as the named insured for general liability and excess/umbrella liability <u>only</u> coverage ignores the risk diffusion/premium relationships among the range of coverage associated with a project and/or an organization (i.e. the necessity to couple general liability with workers' compensation coverage) and, based on the undefined nature of the construction projects to be covered would find limited A-rated admitted carrier markets, if any, to provide such coverage for any classification of work (Minor A, Minor B or Major).

- Establishing the Department as the named insured for general liability and excess/umbrella liability only coverage on its construction projects ignores the risk diffusion/premium relationships among the range of coverage associated with a project and/or an organization (i.e. the necessity to couple general liability and workers' compensation) and, based on the undefined nature of the projects to be covered would find limited A-rated admitted carrier markets, if any, to provide such coverage for any classification of work (Minor A, Minor B or Major).

- The proposed alternative of the Department securing excess/umbrella general liability coverage over its construction contractor's primary general liability coverage was found not to be viable due to principles of divergent insurance interests and the lack of market interest in underwriting such policies.

- Altering the current contract specifications to "allow" the prime contractor to identify certain subcontractors as additional insured will create a risk management structure at odds with traditional contracting/ subcontracting relationships as well as with traditional insurance coverage practices.

Recommendations

- Modeling of the range of work undertaken by the Department from a risk assessment perspective indicates that an appropriate level of general liability coverage for the significant majority of its work should be $2 million per occurrence; $4 million combined aggregate and $10 million excess/umbrella. Projects with a unique combination of risk factors would warrant increasing the excess/umbrella limit to $25 million. Projects with lower risk profiles could retain the existing coverage levels of $1 million per occurrence, $2 million combined aggregate and $5 million excess/umbrella.

- The Department should consider expanding the Standard Specification's treatment of required coverage to include the full range of risk protection insurance needed for its projects, with the individual contract Special Provisions providing the guidance on which particular coverage is/are not required. Current Standard Specifications do not appear to adequately address requirements for: Pollution Liability, Asbestos Liability, Lead Liability, Automobile with Pollution Liability, Builders Risk, Owners Protective and Tail Coverage, among others.

- The Department should consider revising the recently issued change to the Standard Specification clarifying the contractor's responsibility to ensure that all of its subcontractors carry sufficient insurance that the contractors deems adequate. The revision should eliminate the phrase "based on the size, duration, and hazards of the subcontracted work." The risks associated with the subcontractor's performance are not a function of the limited scope of a

subcontractors work, but rather, are a function of the subcontractors risk experience. Those limits may, in fact, be the same as the contractors.

- The Department should explore the possibility of raising the threshold level of work requiring a bond from the current level of $25,000 to the federally mandated level of $100,000. Such action could effectively lower bond-related barriers to participation in the Department's construction program faced by small contracting organizations.

- To the extent practicable, the Department should consider the active participation of the project's resident engineer (or another experienced member of the construction staff) in pre-contract risk assessment of the overall project to establish the appropriate coverage and levels to be specified by the Department in the Contract Special Provisions.

- The Department should consider establishing a centralized process for the review of insurance policies by trained, knowledgeable staff, following appropriate procedures to review certified copies of policies required by the contract specifications in areas such as carrier, defined limits, additional insured endorsements and the 30-day cancellation notice. This centralized review would be similar to the Department's current approach to labor compliance.

- With the increased use of manuscript or non-standard policy forms and endorsements as well as the continued use of Certificate of Liability Insurance ACORD form for documentation of required insurance coverage and endorsements, consideration should be given to education/training for those charged with receipt and handling of the forms to provide the Department with more consistent assurance of having the specified coverage, level, additional insured and 30-day cancellation notice endorsements.

- To significantly increase the number of small, emerging, minority, and disadvantaged business contractors who perform the Department's work either as a prime contractor or subcontractor, assuming that enabling legislation exists, consideration should be given to expanding the Department's currently conceived rolling owner controlled insurance program (ROCIP) to include all projects within a given District, and with local OCIP management at the District level.

- Consideration should be given to implementation of a contractor controlled insurance program (CCIP) on a single project of at least $100 million in construction costs. Such a project's Special Provision should include a bid price credit as an incentive to the prime contractor for proposing under a CCIP alternative as well as incentives to encourage a minimum of small contractor participation in the contract.

- The Department should consider establishing a relationship with the Merriwether and Williams organization to provide information on the anticipated volume of work and to explore the viability of a Caltrans' sponsored bond assistance program aimed primarily at the education and development of small contractors with the potential to perform work for the Department under its construction program.

- The Department should consider additional dialogue with both the Landscape Contractors Insurance Services and Trinity E & S Insurance Services organizations to provide information on the projected volume of landscape work and to explore how a Caltrans' affiliation may aid in increasing the population of small contractors able to perform work for the Department under its construction program as the result of access to coverage, at potentially discounted rates due to the anticipated volume, through LCIS and Trinity.