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COMMENTARY ON THE 2023 EJCDC CONSTRUCTION MANAGER AT RISK SERIES DOCUMENTS

Prepared By



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TABLE OF CONTENTS

	Page
1.0 Introduction to the EJCDC Construction Manager at Risk Series Documents	1
1.1 The EJCDC Construction Manager at Risk Series	1
1.2 Engineers Joint Contract Documents Committee	1
1.3 EJCDC's Guiding Principles	4
1.4 Development and Content of the Construction Manager at Risk Series	4
1.5 Defined Terms	4
1.6 Cross-References and Abbreviations	5
1.7 Pagination	5
2.0 Overview of Construction Manager at Risk Project Delivery	6
2.1 CMAR Defined	6
2.2 Role of Owner's Advisor	6
2.3 Contracting with the CMAR	7
2.4 Considerations when selecting CMAR as a Project Delivery System	8
2.5 Project Phases and Participant Responsibilities	11
3.0 Contractual Structure and Compensation for CMAR Agreements	14
3.1 Contract Structure	14
3.2 Cost Management	15
3.3 Preliminary Costs	16
3.4 Proposal Costs	17
3.5 Agreement Costs	22
3.6 Compensation Structure	22
4.0 Documents for Initiating Development of the CMAR Selection Requirements and Contract Documents	25
4.1 Introduction	25
4.2 CMAR-050, Selection Procedures and Construction Contract Documents	25
4.3 CMAR-051, Letter from OA to Owner Requesting Instructions Concerning Bonds and Insurance	26

4.4	CMAR-052, Owner’s Instructions to OA Concerning Bonds and Insurance.....	26
5.0	Documents for Selecting a Construction Manager at Risk	27
5.1	Overview of the CMAR Selection Process.....	27
5.2	CMAR-111, Advertisement of Request for Qualifications	28
5.3	CMAR-200, Request for Qualifications	30
5.4	CMAR-210, Statement of Qualifications	34
5.5	CMAR-400, Request for Proposals	35
5.6	CMAR-422, Proposal	38
5.7	CMAR-510, Notice of Award	40
6.0	Agreement between the Owner and Engineer for Professional Services	40
6.1	CMAR-500, Agreement between Owner and Engineer for Professional Services (When Owner Retains a Construction Manager at Risk).....	40
6.2	CMAR-500, Exhibits to the Agreement between Owner and Engineer for Professional Services (When Owner Retains a Construction Manager at Risk)	42
7.0	Agreement between Owner and Owner’s Advisor	43
8.0	Agreement between Owner and Construction Manager at Risk.....	44
8.1	Overview of the CMAR Agreement Process	44
8.2	Owner’s Advisor and Engineer	46
8.3	Scope of CMAR Services.....	46
8.4	Performance of the Authorized Work	46
8.5	Guaranteed Maximum Price	47
8.6	Contract Times	47
8.7	Liquidated Damages.....	48
8.8	Special Damages	48
8.9	CMAR-525, Agreement Exhibit A	49
8.10	CMAR-525, Agreement Exhibit B	49
8.11	CMAR-545, Work Authorization	53
9.0	Amending the Contract Documents	54
9.1	Amending the Contract Documents and Work Authorizations	54
9.2	CMAR-940, Work Change Directive	54
9.3	CMAR-941, Change Order	54
9.4	CMAR-942, Field Order	55
9.5	CMAR-943, Contract Amendment	55
10.0	General Conditions	55

10.1	CMAR-700, Standard General Conditions of the Construction Manager at Risk Contract.....	55
10.2	CMAR-800, Supplementary Conditions of the Construction Manager at Risk Contract	56
10.3	Required Supplementary Conditions	57
10.4	Insurance Requirements	58
11.0	Bonds	60
11.1	CMAR-430, Proposal Bond	60
11.2	C-610, Performance Bond, C-612, Warranty Bond, and C-615, Payment Bond	61
12.0	CMAR Contract Administration	61
12.1	CMAR-625, Certificate of Substantial Completion of the Work	61
12.2	CMAR-626, Notice of the Acceptability of the Work	62
13.0	Cost Management for CMAR Contracts.....	62
14.0	Construction Subcontract	64
	Exhibit A—2023 EJCDC Construction Manager at Risk Series Documents	1
	Exhibit B—EJCDC Definitions and Terminology for CMAR Series Documents.....	1
1.0	General Conventions.....	1
1.1	Use of Defined Terms.....	1
1.2	Terms Defined in the CMAR-700, General Conditions	1
1.3	Terms Defined in CMAR-200, Request for Qualifications.....	8
1.4	Terms Defined in C-612, Warranty Bond	16
	Exhibit C—Construction Manager at Risk Process.....	1
	Exhibit D—Construction Manager at Risk Selection Process.....	1

Editor's Note

The contributing authors and the editors of this Commentary are members of the Engineers Joint Contract Documents Committee (EJCDC). The comments and opinions expressed here are intended to assist the reader and provide the perspective of the individual authors and editors; there is no intent to modify or supplement the content of the other 2023 EJCDC Construction Manager at Risk Series Documents, as published. The views stated should not be taken as legal advice or counsel, and do not represent an official position of the full EJCDC committee regarding any specific topic.

COMMENTARY ON THE 2023 EJCDC CONSTRUCTION MANAGER AT RISK SERIES DOCUMENTS

1.0 INTRODUCTION TO THE EJCDC CONSTRUCTION MANAGER AT RISK SERIES DOCUMENTS

1.1 The EJCDC Construction Manager at Risk Series

The Engineers Joint Contract Documents Committee (EJCDC) develops, publishes, and updates standard contract documents for the design and construction of engineered projects. The EJCDC Construction Manager at Risk Series (CMAR-Series) Documents comprise 28 documents, including this Commentary, for use in establishing and administering the contractual relationships between a project owner (Owner) and a Construction Manager at Risk (CMAR). EJCDC also provides as part of this series contract documents for the contractual relationships between the Owner and the Owner's Advisor (OA), the Owner and the Engineer, and the CMAR and its Subcontractors. A complete list of these documents, as published in January 2023 and including this commentary is shown in CMAR-001, Exhibit A.

This Commentary discusses the content and use of EJCDC's CMAR Series Documents. Construction Manager at Risk contracts share many common contractual elements and procedures with the Design-Bid-Build (DBB) method of project delivery for which EJCDC's Construction Series (C-Series) documents are developed. The C-Series documents include a comprehensive commentary in EJCDC C-001, Commentary on the 2018 EJCDC Construction Documents (2018). Rather than repeating the information included in the C-Series commentary, this commentary will focus on those elements and procedures that are unique to the CMAR project delivery and reference the C-Series where appropriate.

1.2 Engineers Joint Contract Documents Committee

The members of EJCDC represent a major cross-section of the professional design and construction community. The EJCDC documents are prepared with the active participation of representatives of project owner groups, contractors, professional liability insurers, surety and insurance experts, the engineering and design community, design-builders, construction managers, construction lawyers, and other project stakeholders, all of whom are active participants in document development and revision.

EJCDC at www.ejcdc.org is administered and supported in equal measure by the following national sponsoring organizations:

- A. American Council of Engineering Companies (ACEC) at www.acec.org.
- B. American Society of Civil Engineers (ASCE) at www.asce.org.
- C. National Society of Professional Engineers (NSPE) at www.nspe.org.

The EJCDC documents are primarily used on contracts between governmental entities and are intended for projects principally designed by engineers, including public infrastructure; stormwater, water and

wastewater treatment and conveyance facilities; other utility work; solid waste handling and processing facilities; transportation projects; production and processing facilities; electrical projects; plumbing and fire protection projects; engineered instrumentation, controls, and information technology projects; site development work; environmental remediation projects; street, curb, and gutter work; tunneling and excavating projects; and similar applications.

EJCDC publishes the following document series:

- A. Construction Series (C-Series)—Documents in this series include contracts for construction under DBB and design-negotiate-build project delivery methods. The series includes:
 - 1. Bidding/solicitation documents for selecting a Contractor;
 - 2. Agreement between the Owner and Contractor;
 - 3. Construction Subcontract;
 - 4. General and Supplementary Conditions;
 - 5. Bonds;
 - 6. Administrative forms; and
 - 7. A commentary.
- B. Construction Manager as Advisor Series (CMA-Series)—This family of documents, adapted from the C-Series and other EJCDC document families, is intended for projects involving an owner-hired Construction Manager serving alongside the Owner-hired Engineer. The CMA-Series includes:
 - 1. Solicitation documents;
 - 2. Agreement between the Owner and Contractor;
 - 3. Construction Subcontract;
 - 4. Agreement between the Owner and Construction Manager as Advisor;
 - 5. A scope of professional services for the Owner—Engineer agreement when the Owner engages a Construction Manager as Advisor;
 - 6. General and Supplementary Conditions;
 - 7. Bonds;
 - 8. Administrative forms; and
 - 9. A commentary.
- C. Construction Manager at Risk Series (CMAR-Series)—Documents in this series were developed for the CMAR project delivery system and consist of:
 - 1. Solicitation Documents, including a model advertisement for Request for Qualifications, Request for Qualifications documents, Request for Proposals, and Proposal Security;
 - 2. Agreements between:
 - a. The Owner and the Engineer when the Owner engages a CMAR,
 - b. The Owner and the Owner's Advisor when these services are provided by an entity other than the Owner or the Engineer, and

- c. The Owner and CMAR, including form for issuing Work Authorizations for each Work Package;
- 3. General and Supplementary Conditions;
- 4. Bonds;
- 5. Administrative forms; and
- 6. This commentary.
- D. Design-Build Series (D-Series)—Documents in this series include:
 - 1. Solicitation documents;
 - 2. Agreements between:
 - a. Owner—Design-Builder for Design-Build,
 - b. Owner—Design-Builder for Progressive Design-Build,
 - c. Owner—Owner’s Advisor,
 - d. Design-Builder—Engineer Subconsultant, and
 - e. Design-Builder—Subcontractor;
 - 3. General and Supplementary conditions;
 - 4. Bonds;
 - 5. Administrative forms; and
 - 6. A commentary document.
- E. Engineering Series (E-Series)—Documents in this series focus on agreements for professional services between the Owner and the Engineer and various subconsultants and subcontractors to the Engineer. Documents include:
 - 1. Owner—Engineer agreements for different project types;
 - 2. Subagreements between Engineer and other design professionals;
 - 3. Subagreement between the Engineer and a subcontractor furnishing labor and materials (non-professional services);
 - 4. Teaming Agreements;
 - 5. Peer Review Agreements;
 - 6. Engineer as Program Manager Agreement; and
 - 7. A commentary.
- F. Procurement Series (P-Series)—This family of documents is for the direct purchase of products by an Owner as Buyer and a Seller for furnishing and delivering products, and providing special services associated with the installation and initial operation of the products furnished. Agreements include provisions for assignment of the procurement contract to a constructor retained under documents developed using a document series for construction of the Project. The series includes:

1. Solicitation documents;
 2. Agreement between Buyer and Seller;
 3. General and Supplementary Conditions;
 4. Bonds;
 5. Administrative forms; and
 6. A commentary.
- G. Public-Private Partnership Documents (P3-Series)—EJCDC publishes an agreement between a public owner and a private entity (sometimes called a “concessionaire”) to partner in a long-term contract for providing public improvements. The P3-Series Documents include optional provisions for financing, operating, and maintaining the public improvement.
- H. Narrative Series (N-Series)—In addition to its various commentary documents, EJCDC publishes certain narrative-style guidance documents, including the Uniform Location of Subject Matter, developed jointly with the American Institute of Architects and the Construction Specifications Institute.

1.3 EJCDC’s Guiding Principles

EJCDC’s overall mission is to develop, publish, and maintain high-quality standard design and construction contract documents; to promote the use of the documents in the engineering profession and construction industry; and to provide guidance and information to users of EJCDC’s documents. EJCDC strives to identify, acknowledge, and fairly allocate risks, using a balanced approach that assigns a specific risk to the party best able to manage and control that risk. EJCDC’s publications are written to be objective and fair to all parties; to recognize and respect the parties’ separate interests, capabilities, and roles; and to contribute to the continual improvement of professional engineering services and construction contracting practices throughout the United States. It is the intent of EJCDC that its documents be thorough, practical, and evenhanded.

1.4 Development and Content of the Construction Manager at Risk Series

EJCDC has written the CMAR-Series documents with the input of organizations and individuals with substantial knowledge and practical experience in design and construction using collaborative project delivery. EJCDC considers legal and legislative developments while preparing and updating its documents. The content, terminology, and allocations of responsibility and risk in the CMAR-Series documents are coordinated within each respective document, with other documents of the CMAR-Series, and with EJCDC documents other than the CMAR-Series, such as the E-Series and C-Series documents. The CMAR-Series documents also serve an important administrative function by establishing practical, orderly, and standard procedures for soliciting proposals, CMAR selection, contract formation, commencement of construction, progress payments, changes during construction, resolution of claims and disputes, completion of the project, and many other routine yet vital elements of the construction process.

1.5 Defined Terms

This Commentary and the Guidelines for Use, Guidance Notes, and Notes to Users in EJCDC’s CMAR-Series Documents use the defined terms presented in the CMAR-Series documents. Definitions are included in the General Conditions, Proposal Requirements, and various agreements between parties. These definitions are included with this Commentary for reference as CMAR-001, Exhibit B—EJCDC Definitions and Terminology for CMAR Series Documents.

This commentary also employs the terminology and definitions set forth in CMAR-700, 1.02 Terminology for commonly used terms such as “furnish,” “install,” “provide,” “perform,” “day,” and “defective.” While these terms are not defined terms that require initial capital letters, they have the indicated meaning when used in the Proposal Documents or Contract Documents.

Within this Commentary and elsewhere in EJCDC’s CMAR-Series Documents, the titles of individual documents are indicated using initial capital letters, whether the full title is indicated or when using one of the shorthand titles listed in Paragraph 1.6 of this Commentary.

“Division 00 documents” is also a term used frequently in this Commentary, but it is not a defined term. This term refers to the project’s proposal and contractual documents. The term “Division 00” is from the Construction Specifications Institute’s (CSI) MasterFormat® document. Division 00 is defined as the written elements of a set of construction documents comprising introductory information (such as seals and certifications and a table of contents), proposal requirements, contracting requirements (described in this Commentary), and addenda. Documents in the CMAR-Series documents are all Division 00 documents.

1.6 Cross-References and Abbreviations

This Commentary includes numerous cross-references to specific provisions of various CMAR-Series and C-Series documents and cross-references to other parts of the Commentary itself. For brevity’s sake, a shorthand approach is used for such cross-references, typically comprised of the EJCDC document number and the paragraph number within that document, without “EJCDC” or the word “Paragraph.” For example, a reference to Paragraph 1.01 of the General Conditions is cited as “CMAR-700, 1.01”; a reference to Paragraph 1.6 of this Commentary would be “CMAR-001, 1.6.” This Commentary may sometimes cite provisions of the General Conditions simply by using a “GC” with the paragraph number, such as “GC, 2.01.” References to provisions of the Supplementary Conditions include as part of the paragraph designation the prefix “SC”: thus, a reference to Paragraph SC-4.05 of EJCDC’s Supplementary Conditions would be “CMAR-800, SC-4.05.” Where an entire article is cross-referenced, the word “Article” is included.

Occasionally, this Commentary includes references to specific provisions in documents in other EJCDC document families. In such cases, the full EJCDC document number and title will typically be indicated. Where the follow-on text includes repeated citations to provisions of that document, a shorthand system similar to that indicated above may be used. Thus, a reference to Paragraph 6.01.E of EJCDC E-500-2021, Agreement between the Owner and Engineer for Professional Services, may be abbreviated as “E-500, 6.01.E.” Unless a reference is made to a specific edition (year published) of an EJCDC document, the reference will be to the latest editions of the EJCDC series prior to publication of this commentary.

Where reference is made to a non-EJCDC published document, the first reference to the document will include the entire title and edition, such as “the American Institute of Architects’ AIA® A312TM—2010, Performance Bond and Payment Bond,” and subsequent references to same document include only an acronym for the organization name, document number, and edition; e.g., “AIA A312-2010.” Where a third-party document is formally indicated with copyright or trademark designations, such designations are used in this Commentary only in the first citation of the associated document or reference.

1.7 Pagination

The Construction Specifications Institute (CSI) MasterFormat is a commonly used format for organizing, numbering, and titling the written documents in the Contract Documents. In accordance with MasterFormat, Specifications are in Divisions 01 through 49. The content of the individual documents of Division 00 are typically not in accordance with CSI’s SectionFormat®, which applies to the organization of Specifications.

In general, the documents that comprise the Proposal Documents (defined in CMAR-200, 1.01.A.1), such as Project-specific documents developed from CMAR-111, CMAR-210, CMAR-400, CMAR-422, and CMAR-430 relate only to the process of selecting the CMAR. These Proposal Documents are not Contract Documents and apply only to the selection process. For that reason, the Contract Documents should not rely on any of these selection process documents and must be able to stand on their own. This is even more crucial in a CMAR contract in which many of the contract details, including cost and time, are not established as fixed amounts at the time Proposals are received and the initial contract is awarded. See C-001 for more details on pagination and the use of CSI format.

2.0 OVERVIEW OF CONSTRUCTION MANAGER AT RISK PROJECT DELIVERY

2.1 CMAR Defined

Construction Manager at Risk is a collaborative project delivery system that engages the Project's builder early in the process to work with the Owner and the Engineer to develop the project it will later construct. For governmental entities the construction manager-at-risk method is often defined as:

“A delivery method by which a governmental entity contracts with an architect or engineer for design and construction phase services and contracts separately with a construction manager-at-risk to serve as the general contractor and to provide consultation during the design and construction, rehabilitation, alteration, or repair of a facility.”

While other definitions may be similar, there are many variations of CMAR, depending on whether the project is a building or one of the projects designed by the Engineers discussed in Paragraph 1.2. The variation most used by governmental entities to construct infrastructure projects follows the method sometimes referred to as Construction Manager/General Contractor (CM/GC.) In CM/GC the CMAR provides Preconstruction Services and Procurement Services, referred to together as CMAR Services, for a fee and later constructs the project as elements are adequately designed to enable procurement or construction to begin. The specific characteristics for CMAR are defined by the Contracts between the entities involved, and applicable Laws and Regulations.

2.2 Role of Owner's Advisor

The OA, in service to the Owner, supports CMAR procurement and coordination among all parties during the preconstruction and procurement periods. The OA will typically provide contract administration and quality-control services and may also provide support during the construction start-up/commissioning of the project. The OA may be an employee of the Owner, the Engineer, or an independent Construction Manager as Advisor. Employing an Engineer or an independent Construction Manager as Advisor to serve as the OA is typical on projects where the level of effort may be significant, or if the Owner does not have the in-house expertise needed to manage a significant CMAR project. Regardless of who employs the OA, the individuals selected must have the experience and skills required to successfully support the CMAR project.

It is anticipated that the OA will prepare the documents that comprise Division 00 and will work collaboratively with the Engineer to develop Division 01 documents that provide the details for contract administration and Site management. The Engineer will design the project working collaboratively with the Owner, the OA and the CMAR; however, the Engineer as Engineer of record retains the ultimate responsibility and control over the completed design. The definitions of the practice of engineering, geology, and architecture, as set forth in the various Laws and Regulations governing the practice of the associated design disciplines, typically omit the preparation of Division 00 documents for construction

projects. Thus, it is not mandatory, from a professional practice standpoint, that the design professional prepare the Project's Division 00 documents. Since the Documents in Division 00/01 define how construction projects will be managed, it is important that the OA lead, or at least participate, in the development of these documents.

Regardless of which entity or individual prepares all or part of the project's Division 00 and Division 01 documents, it is especially important that these documents be coordinated among each other and with the Drawings and Specifications. It is important for the Engineer to receive drafts of the project's Division 00 and Division 01 documents as early as possible so that the Specifications and Drawings can be appropriately coordinated with Division 00 and Division 01 documents. CMAR-700, 3.01, Intent, indicates that all the Contract Documents are complementary and together compose the Contract; it is highly recommended that, in the preparation of the construction documents, conflicting requirements be avoided to the greatest extent possible, to reduce the potential for misinterpretations and disputes through collaboration between the Owner, the OA, the Engineer, and the CMAR. Contracts with these four entities should be coordinated to define the roles of each.

When the OA and the Engineer prepare the project's Division 00 and Division 01 documents, it is important that they do not undertake tasks that are outside of their professions, licensures, areas of expertise and experience, and insurance coverage. Division 00 documents address some subjects that are outside the expertise and experience of the OA or the Engineer, or other design professionals, such as insurance, bonds, indemnification, and other risk management matters. The OA or the Engineers should not provide legal, insurance, bond, or risk management advice outside their expertise to the Owner or others. The OA is advised to send draft Division 00 documents to the Owner for review, comment, and direction, together with a recommendation that the Owner have the documents reviewed by qualified legal counsel experienced with procurement of construction services and the contents of construction contracts; and by bond/insurance consultants, risk managers, financial advisors, and others with appropriate expertise.

2.3 Contracting with the CMAR

In Figure 1, the solid lines indicate a written agreement between the parties. The Owner has separate agreements with the CMAR, the OA, and the Engineer. This arrangement allows the Owner to maintain a direct contractual relationship with the Engineer while gaining the benefits of the CMAR delivery process. The CMAR contracts directly with Suppliers and Subcontractors. Dashed lines represent responsibilities between the CMAR and the OA, and between the OA and the Engineer that exist as requirements of the Agreements the Owner has with the CMAR, the OA, and the Engineer. While there are no direct contracts between the CMAR, the OA, and the Engineer, the agreements the Owner has with these three entities should explicitly require that these three parties agree to work collaboratively in the CMAR delivery process, particularly in the design and procurement phases. Changes in the scope of services for one of the entities must be coordinated with the scope of services for the other entities to avoid creating gaps or unintended overlaps in services provided.

The CMAR joins the project team early in the design phase, typically no later than when the preliminary design report is in final draft. Involving the CMAR early in the design process allows the Owner, the OA, Engineer, and CMAR to work collaboratively in developing the project design; developing procurement

strategies; identifying and managing risk; controlling cost and schedule; and managing quality, safety, and other considerations important to the project team.

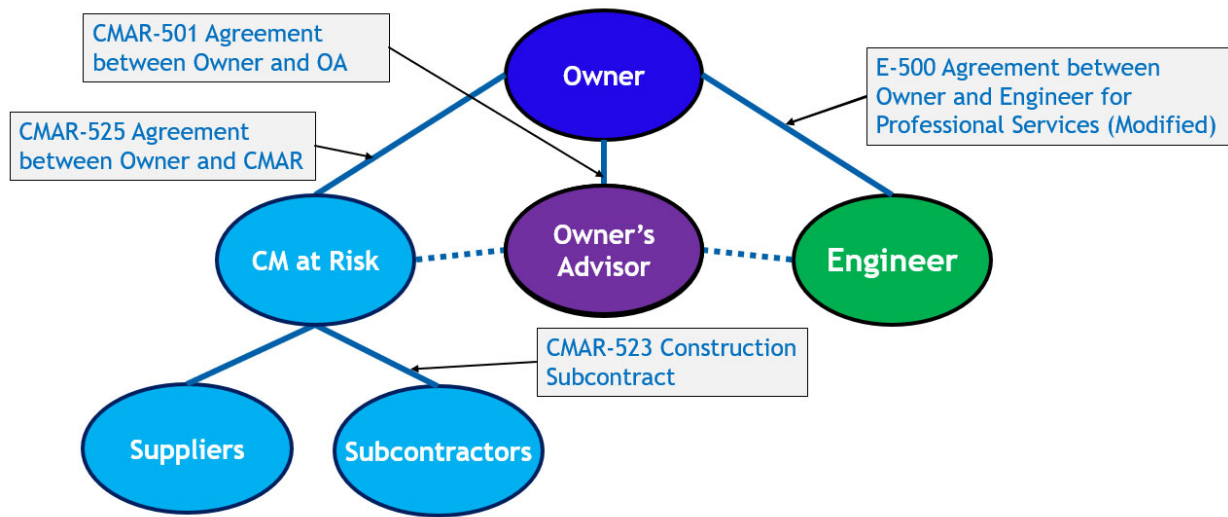


Figure 1 Contract Structure and Agreements

CMAR, unlike DBB, is not a linear process and is structured contractually for early procurement of key equipment and materials, early Work Packages, quicker approval processes for Work Authorizations, and other features that help with managing market conditions such as cost escalation and supply chain issues.

Laws and regulations enabling the CMAR vary significantly from state to state and may impose requirements on both the procurement of a CMAR as well as contracting restrictions. For example, some states do not allow cost factors to be considered in the selection and ranking of proposers. Cost factors are negotiated after the CMAR has been selected. Other states may either allow or require that cost factors be considered or may require that all subcontracts be competitively bid to ensure that competition is incorporated into the contracting process. Some states do not specifically state that CMAR can be used, but rather state that any project delivery system may be used if specific requirements set forth in the Laws and Regulations are met.

Laws and regulations, other than those for procurement, may stipulate requirements that contracts with subcontractors and suppliers be competitively bid, may stipulate whether the CMAR is allowed to submit a bid for self-performed work, or may stipulate a minimum or maximum percentage of work that can be self-performed by the CMAR without soliciting competitive bids. In some states the CMAR may be allowed to step in to complete work if a subcontractor defaults without the need to obtain competitive bids for the work of the defaulting subcontractor. It is important to know exactly what is required by the Laws and Regulations for CMAR before using CMAR in any given state.

2.4 Considerations when selecting CMAR as a Project Delivery System

Owners should consider the advantages and disadvantages of each project delivery method when determining which project delivery method to use. Delivery methods have different characteristics, and characteristics which might be significant for a particular project may be less significant on another. It is important to identify the drivers for each project so the delivery methods best suited to address the drivers identified for the project can be selected.

CMAR has both advantages and challenges when compared to other project delivery systems, but it is not always the best choice. It is important to look at project drivers and other factors when selecting a project delivery system.

Relationships in CMAR are formed early in the life of the project. The Owner has a direct contract with the Engineer which can have advantages to the Owner, more than just the comfort of working with Engineers they selected and trust. This also provides a separation between the Engineer and the CMAR, which can be viewed as providing checks and balances when key design decisions must be made. The Owner also has a single point of responsibility for procurement of equipment and materials and constructing the project. With these checks and balances in place, one of the greatest advantages of CMAR comes from the ability of the Owner, Engineer, and CMAR to collaborate on the entire project. Working collaboratively can also foster innovation as the Engineer and the CMAR combine knowledge to find the best and most economical way to build the project. One of the OA's most important roles is to foster and manage this collaborative effort from the beginning of the project.

The Owner has more control over the selection of subcontractors. Should the Owner or the CMAR prefer a different subcontractor, changes in subcontractor mutually acceptable to both the CMAR and the Owner can be made to accomplish the goals of each. For example, a water utility implementing a new Disadvantaged Business Enterprise (DBE) program, worked with the CMAR to select DBE firms which did not submit the lowest bid. The Guaranteed Maximum Price (GMP) was adjusted for the additional cost to change subcontractors to meet the Owner's new DBE participation goals. One of the greatest strengths of CMAR comes from picking the CMAR based on qualifications and collaborating early in the project.

The cost management process is greatly enhanced by having the entity responsible for building the project directly involved in helping manage project costs. One of the first tasks of the CMAR is to review the preliminary estimate for construction of the project to determine that it is realistic. Maintenance and updating the project budget moving forward allows the Owner and the Engineer to have more confidence that realistic cost information is considered when making key design decisions and helps all members of the project team understand the impact of design changes on the cost of the project. While value engineering efforts can happen in facilitated workshops, it is just as likely that cost saving ideas can be explored at any time in the design. A distinct advantage of using CMAR is the ability to design to a hard budget number. In lieu of designing the project and later estimating the cost of the designed project, the CMAR and the Engineer can collaborate with the Owner to determine how to get the best project for the money available.

Because CMAR is not a linear process like DBB, contracting it provides flexibility that enhances the ability of the CMAR to improve the time required to complete the project. Once engaged, the CMAR can develop a more comprehensive and realistic schedule based on its proposed Work Packages, delivery times for key materials and equipment based on purchase orders, and its means and methods for construction. One of the advantages of CMAR is that, with the CMAR on board early in the project, the CMAR can manage the purchase of long lead items so the Owner does not have to do so for the sake of the project as with a DBB project, leaving the responsibility for purchasing and managing the delivery, installation, and start-up of long lead items to the CMAR and allowing the CMAR to manage the risk of having equipment delivered when needed. Work packages for key materials and equipment can expedite the fabrication of these items and help lock in prices when cost escalation is a concern. Work packages for construction of certain project elements can be started as soon as the design for these items is complete. Early Work Packages for site preparation, concrete structures, and other features of construction that can be defined early in the design of the project can be started while the overall project design is being completed, allowing significant savings in time.

Some of the greatest advantages in using CMAR as a project delivery method result from collaborative efforts in identifying potential risk and developing risk mitigation strategies. In the past, the most common way for Owners to manage risk was to attempt to contractually allocate all risk to the builder. Builders include cost in their bids to cover perceived risk, which was ultimately paid by the Owners, even when the risk event does not occur. Claims often resulted from pushing risk on builders that they could not control, again posing a financial risk to the Owner. Owners have learned that pushing all the risk to the builder can be costly, and it is better to collaboratively manage the risk.

Having the CMAR directly involved in the design through constructability and value engineering reviews not only provides a better design, but it should also reduce the claims that can occur when the contractor only has a limited time to review a set of bid documents to prepare its bid. While the CMAR is not expected to identify design issues, it can identify areas where the design documents do not provide adequate detail to allow the project to be bid and constructed properly. The CMAR has adequate time to better understand the design intent and is obligated to provide comments on these items during the design phase.

Risk management workshops are conducted when using CMAR project delivery and have the advantage of CMAR participation in a deliberate effort to identify risk elements and collaborate with the Owner and the Engineer to develop appropriate risk mitigations strategies for each. In risk management workshops, typically facilitated by the OA, each member of the risk management workshop can identify the risk they see based on their experience and role in the project. Risk elements can be assigned to the entity best suited to manage the risk through specific strategies that can be incorporated into the contract documents.

CMAR project delivery is not without challenges. CMAR requires a more complex process to select the CMAR, which will be described in more detail in Paragraph 5.1. The most significant challenges for CMAR are in pricing and paying for work, because the cost and contract administration effort is a level above that required for the typical DBB project. Since more expertise is required to manage the project, the Owner may need to engage the Engineer or an independent consultant to provide the services of the OA if expertise is not on the Owner's staff. More involvement is required of the Owner in terms of making decisions and participating in collaborative efforts. For some projects, there can be little return on investment for the additional cost and effort. If the CMAR relationship is not meeting expectations, or the GMP is not acceptable, the Owner may choose to terminate the CMAR relationship and proceed with constructing the project using a DBB contract. Selecting a different CMAR to complete the project provides little value since, at this point, the design will be complete, and all the benefits of the collaborative process should be embodied in the documents.

Looking at both the advantages and disadvantages helps identify situations when CMAR provides little benefit over a traditional DBB project. If more control of contractor selection is all that is desired, other methods such as prequalification of bidders or the use of competitive sealed proposals, if allowed by Laws and Regulations, can provide for selection of contractors based on qualifications. Projects that primarily consist of a single type of construction (e.g., pipelines or roadways) are typically not good candidates for CMAR. A CMAR for this type of work may choose to self-perform the work. Even if CMAR is required to submit a bid for Work Packages, other contractors may be reluctant to submit a bid if it is perceived that the CMAR has an advantage. An exception to this may be made when drivers for CMAR apply. For example, if a water line requires phasing of construction and coordination for continued operation during construction, the CMAR may be justified to meet these challenges. Simple projects, projects for which time is not a critical factor, or unit price contracts typically do not merit the additional efforts required for CMAR projects. It is better to use the DBB process when the lowest cost is submitted by a responsive and responsible bidder if cost alone will be the deciding factor in awarding the contract.

Not all CMAR projects have been successful, and it is beneficial to understand where CMAR projects tend to go awry. Experience with CMAR project delivery indicates that root causes for failures to meet expectations include:

- CMAR Services do not meet expectations
- Use of CMAR contingency is not well defined
- The cost model is not well defined
- Risk profile and mitigation strategies are not well developed
- The Owner's Team (OA and Engineer) fail to treat the CMAR as a contractor when Work Authorizations or GMP are set

In almost every instance, these issues can be traced back to poorly written contracts or treating the CMAR contract like a DBB contract.

2.5 Project Phases and Participant Responsibilities

The typical CMAR project delivery process consists of several phases or steps which are shown in CMAR-001, Exhibit C-Construction Manager at Risk Process. In the first step the Owner will select an entity to design the project and at the same time determine if the OA services will be provided by staff, the Engineer, or an independent consultant. The Engineer will begin development of the Preliminary Design Report (PDR), and the OA will prepare CMAR Proposal Documents. The goal of the CMAR selection process is to have the CMAR under contract at the time the PDR will be in its final draft.

Once CMAR—Owner Agreements are in place, the CMAR becomes a member of the Project Team and begins providing CMAR Services as defined in the Agreement. Typical CMAR preconstruction services include the following:

- Prepare and maintain budgets for construction costs
- Develop and maintain project schedules
- Develop procurement strategies
- Provide constructability, operability, and design coordination reviews
- Provide value engineering suggestions/recommendations during the design phase
- Help identify and allocate risks/develop risk management strategies
- Develop testing and quality-control requirements
- Develop safety policies and procedures
- Prepare the Construction Management Plan

One of the first tasks of the CMAR is to review the draft PDR to determine if, based on its previous experience and knowledge of the current construction market, the project, as defined in the PDR, can be constructed for the Owner's preliminary budget and within the period provided in the preliminary schedule. If the CMAR's evaluation of the budget and schedule indicates that the project cannot be constructed within the budget and anticipated schedule, the Owner and the CMAR may mutually agree to:

- Increase the Owner's construction budget

- Revise the scope of the project to reduce the cost of construction
- Abandon the project and terminate the agreement

The Owner and the CMAR will develop a project budget that will provide the framework for cost management throughout the project. The CMAR will maintain the project budget and scheduling effort for the duration of the project, working with the Owner, the OA, and the Engineer to adjust as needed.

The CMAR, OA, Engineers, and the Owner will continue to collaborate as work on the design progresses. Value engineering workshops may be conducted to not only make budget revisions to help bring the cost within budget but also seek to increase project value while considering impacts on both design and construction. Cost estimates will be prepared by the CMAR and can reflect actual cost for suggested changes.

Constructability, operability, and design coordination reviews improve the quality of the design and the ability to construct the project. Claims can also be reduced. When builders are given a brief period to review drawings and specifications to prepare a bid, assumptions are made and there is a limited amount of time to gain information on points that may not be clear. The CMAR will have an opportunity to review the documents, ask questions, and offer input during the design.

As soon as this task is complete, the CMAR should develop its procurement strategy identifying Work Packages to acquire long lead items, phases for early construction Work Packages, and the schedule for project completion. These decisions must be coordinated with Engineers that will prepare Work Authorizations that include the drawings and specification for each Work Package. This effort can create additional efforts for Engineers, and these efforts must be taken into consideration in the development of Work Packages. Owners should be prepared to compensate Engineers for effort outside their original scope of design, procurement, and construction phase design services, understanding that this additional effort should help the project be completed within budget and on schedule.

When design is completed on a Work Package, the CMAR will solicit bids from subcontractors and suppliers as appropriate. Working in accordance with applicable Laws and Regulations, and the terms and conditions of the contract, the CMAR will enter into contracts for purchasing equipment and materials and performing the work. Where Laws and Regulations require that all Work Packages be competitively bid, CMAR will advertise for bids, conduct bid openings, and select the low bid from bidders that are responsive and responsible. If allowed, the CMAR may submit its own bid, which should be submitted by the CMAR before receipt of other bids. All bids are opened in accordance with legal requirements, but in some instances, the bid may not be publicly opened and read aloud. The CMAR and the OA will determine which bids or combinations of bids provide best value for the Owner. If a Guaranteed Maximum Price has been set by contract, and the Owner determines that a bid other than the low bid provides best value, they may direct the CMAR to award the subcontract to a bidder that was not the low bid and adjust the GMP accordingly. Once successful bidders have been determined, the CMAR will award contracts to begin fabrication and delivery of equipment and materials or begin construction on the Work Package. The CMAR will work to optimize bid cost to bring the project within the Owners budget and may choose to rebid packages to bring the project within budget. When contracts are awarded, the CMAR assumes the role of general contractor and will manage its own resources and subcontracts as they would for a DBB project.

The most significant differences between the contract administration of a DBB project and a CMAR contract are in developing the Owner's Budget, authorizing Work Packages, and making payment for the work as it is completed. During preconstruction, the CMAR will determine the Work Packages to be used to construct the work and estimate the cost of each. The cost for CMAR Services, Construction Support

Cost and the Cost of the Work with CMAR fee, and the CMAR contingency are used to develop the Owner's Budget for the project. The CMAR is responsible for meeting the Owner's budget established for the project. This budget may represent the GMP, but it will more likely serve as the guiding document as the design progresses to the point where a GMP can be set. While a GMP can be set at any point, the CMAR contingency will be larger if set early in the design phase to cover details yet to be determined as the design progresses. This Owner's Budget includes a tabulation of the numbers for the original budget and methods to track actual cost to the original budget as the Cost of the Work is determined for each Work Package. It is anticipated that actual cost will vary from the original estimate, and these variances are used to manage the budget as the cost for each new Work Authorization is determined. The Owner's Budget and the GMP should be treated as a bubble in that cost savings on Work Authorization should be made available for the CMAR to balance cost overruns, so long as the budget or GMP is not exceeded. The CMAR must cover any cost exceeding the GMP, which is the "at risk" factor for the CMAR. The Owner's Budget may be adjusted as the design progresses if scope changes are made that are mutually agreeable to the Owner and the CMAR.

With CMAR, proposals and negotiated changes are used to establish the Contract. Work Authorizations are issued for each Work Package. Work packages and their associated authorizations can be for early procurement of equipment and materials, fast-track construction, the entire project, or the various combinations of the Work Authorizations, depending on the project. Work Authorizations might even include allowances for cost that cannot yet be determined as for a DBB project.

Since the design has not yet been completed, proposals typically include a stipulated amount for CMAR Services and Construction Support Costs. The Cost of the Work is submitted by the CMAR and is subject to an "open book" process that provides an audit trail of the cost expended by the CMAR to complete the work. The CMAR Fee can be a stipulated sum, a percentage of the Cost of the Work completed for each category of work, or a percentage of the total Cost of the Work. The method of calculating the CMAR Fee is set forth in the contract.

The guaranteed maximum price for a Work Authorization can be set at any time the project is adequately defined to determine a cost, including contingencies for the unknown elements. GMP amounts can be converted to a stipulated amount for the Work Authorization if the Owner and the CMAR agree. This stipulated sum for the work can be managed the same way a lump sum or unit price contract is managed for a DBB. The CMAR may be entitled to a change in the GMP if the scope of the work changes to include work not included in the GMP.

As work progresses, payments are made for the Cost of the Work completed for each payment period, including the CMAR fee. Interim payments are made for Construction Support Cost in accordance with the Contract. Use of funds from the CMAR Contingency are also tracked each month.

Contract modifications for a CMAR contract are still made using Change Orders, Field Orders, and Work Change Directives; however, these are now applied to Work Authorizations instead of the Contract as a whole. Work Packages included in a Work Authorization can be closed out individually, allowing release of retainage for each package, final payment to subcontractors and suppliers contributing work to each Work Authorization, and better management of bonds and insurance. This difference can be significant to small Subcontractors and Suppliers because the retainage is not held until the end of the project, thereby providing more competition and lower cost to Owners.

Project closeout for a CMAR project is similar to a DBB project except that closeout efforts are done for each Work Authorization, with the project closeout for the final project related to the completed project.

3.0 CONTRACTUAL STRUCTURE AND COMPENSATION FOR CMAR AGREEMENTS

Traditional DBB construction contracts follow a linear process, with clear demarcations for the design phase, procurement phase using competitive sealed bids or competitive sealed proposals, and a construction phase. The design is prepared by the Engineer without the involvement of the Contractor, procurement services are provided by the Owner and Engineer to engage a single contractor to build the project, and the construction phase where the selected contractor builds the project. The DBB project typically includes a single bid package for the entire project. Variations may require that equipment be prepurchased for installation by the Contractor, or that multiple prime contractors be selected for the different building trades (multi-prime contracting).

The CMAR method of delivering projects evolved to provide added value by involving the Contractor early in project development. Value is added by (1) having the Contractor involved in the design phase of the project, such as constructability reviews, advice on material availability and selection, estimating and scheduling, assessment of risk factors and mitigating strategies, and development of procurement strategies; (2) taking advantage of early procurement of materials and equipment, especially in volatile markets; and (3) working with the Engineer and Owner to start construction before the design of the entire project is complete. While some owners are able to accomplish the goals for early procurement of materials and equipment using procurement contracts and fast-tracking construction by issuing multiple construction contracts, they must take on the role of construction manager and the responsibility for coordinating multiple contracts, something which poses a risk to owners, and which few owners have the experience to do well. The CMAR project delivery method provides an opportunity to involve the builder responsible for the project in the design phase and have a single entity experienced in managing construction responsible for procurement and construction of the Project.

A different contracting and compensation model is needed to support CMAR. This structure needs the flexibility to authorize Work Packages for the different procurement efforts and phasing of work which occur over the life of the project. The compensation model must be flexible enough to allow payments to be made for each of these Work Packages and for other work that may not be completely defined at the time Work Packages are authorized.

3.1 Contract Structure

Work on a CMAR project needs to be authorized in parts called Work Packages. To accomplish these staged authorizations, the Contract between the Owner and CMAR (Contract) is amended as each Work Package is authorized. The vehicle for accomplishing this is a Work Authorization.

The first Work Authorization is typically issued for Preconstruction Services, allowing the CMAR to begin providing advisory services; planning for construction; and developing strategies for procurement of Work Packages for equipment, materials, or construction. This authorization is frequently submitted to the governing body of the Owner for approval at the same time as the Contract. The Agreement can be written to authorize Preconstruction Services as part of the Contract, avoiding the need for the first Work Authorization; however, using a Work Authorization instead of authorizing Preconstruction Services with the Agreement allows better tracking of cost within the Work Authorization structure. While the Agreement or first Work Authorization may include authorization for the cost and fees for Procurement Services, it is often best to use a separate Work Authorization for Procurement Services because these depend significantly on the procurement strategy developed during Preconstruction Services. The subsequent Work Authorizations may be for one or more Work Packages individually, in groups, or for the project as a whole, depending on the procurement strategies the CMAR recommends and the Owner approves.

Modifications to the scope of work in each Work Package, as described in a Work Authorization, is made by Change Order, Field Order, or Work Change Directive as is typically done for the Contract in a DBB project. This allows each Work Authorization to be administered as an individual project contributing to the completion of the whole project.

When the project includes designated Milestones, it is recommended that all Work Packages related to the designated Milestone be included in a single Work Authorization. If all Work Packages required for the Milestone Work Authorization are not designed to the point where costs can be determined, these Work Packages should be added to the Work Authorization for the Milestone by Change Order when they are available. This allows each Work Authorization to be closed out under Partial Utilization provisions of the GC and enables administration of each Work Authorization as an independent, self-contained project with regard to retainage, bonds and insurance, and other administrative requirements.

3.2 Cost Management

While the contract price for a traditional DBB project is established when the contract is awarded, the contract price for a CMAR project may not be known until the project is complete. This is because, unlike a traditional project, the design is in the preliminary design phase, and any estimate of the cost will be based on broad assumptions that cannot be refined until the design progresses further. Several approaches may be taken in authorizing, pricing, and compensating the CMAR, depending on each project. One of the greatest advantages of a CMAR project is the ability to move forward as the design is completed by purchasing long lead equipment and materials, starting on early work packages while the design is progressing. This helps shorten the time for construction and can have a significant advantage in cost savings when prices are escalating. On other projects, the Owner and the CMAR may choose to work collaboratively in developing the design and wait until the design effort is nearly complete before the Owner issues a single Work Authorization to the construction of the completed design. Most projects will fall somewhere between these two scenarios. The method of compensating the CMAR for completing this work depends on when the Work Authorizations are issued and the method of compensation agreed to for each. The method of compensation can be different for each Work Authorization.

The compensation model for CMAR contracts consists of several cost components. These cost components are defined as follows:

- A. CMAR Contingency Allowance—An allowance used to reimburse the CMAR for costs due to unforeseen causes, unintentional errors, or events that cannot specifically be anticipated at the time Work Authorizations are issued, as set forth in the CMAR-525, Article 8.
- B. CMAR Fee—The component of the Guaranteed Maximum Price that supplements the CMAR's compensation for the Cost of the Work, consisting of either a fixed fee (a stipulated price or lump sum amount) or a percentage of the Cost of the Work, as set forth in the Agreement.
- C. CMAR Services Price—The combined amount for Preconstruction Services (Paragraph K) and Procurement Services (Paragraph L).
- D. Construction Support Costs (CSC)—Construction Support Costs, sometimes referred to as General Conditions costs or indirect costs, are the costs associated with construction of the project that are not directly related to building the Project. The direct costs associated with building the Project referred to as Cost of the Work (COW) are described in more detail in the following Paragraph E. Cost of the Work is authorized by Work Authorizations issued for construction of Work Packages, which have a well-defined scope. The cost for Work

Authorization may be the result of subcontract packages which are bid, perhaps even by the CMAR, and have a known price at the time the Work Authorization is issued.

- E. **Contract Price**—The money that the Owner has agreed to pay the CMAR for performance and completion of the CMAR Services and the Work, in accordance with the Contract Documents. The Contract Price may be subdivided into component parts based on authorized CMAR Services and Work Authorizations. The Contract Price includes the CMAR's compensation for CMAR Services, Construction Support Costs, Cost of the Work, the CMAR Fee, CMAR Contingency Allowances, and the Owner's Contingency Allowance.
- F. **Cost of the Work (COW)**—The sum of eligible costs incurred by CMAR for the performance of the Work, as allowed by the Cost of the Work provisions set forth in the Agreement. Cost of the Work as a defined term does not include Construction Support Costs.
- G. **Estimated Cost of the Work**—An estimate of the Cost of the Work prepared by the Owner for use (a) during the CMAR selection process in evaluating Proposals submitted in response to the Request for Proposals and (b) during the early stages of the Contract in calculating an Estimated Guaranteed Maximum Price until the design has progressed to the point where the Owner and the CMAR can mutually agree upon a Guaranteed Maximum Price.
- H. **Estimated Guaranteed Maximum Price**—A preliminary Guaranteed Maximum Price calculated on the basis of the Estimated Cost of the Work. This is a non-binding price used on an interim basis for comparison or estimation of the Owner's Construction Budget until the design has progressed to the point that a Guaranteed Maximum Price for the Work is established, or a Guaranteed Maximum Price for a portion of the Work is established by issuance of a Work Authorization by the OA.
- I. **Guaranteed Maximum Price (GMP)**—The maximum amount to be paid by the Owner to the CMAR for the sum of the Construction Support Costs, plus Cost of the Work, plus the CMAR Fee, all as set forth in the Agreement.
- J. **Owner's Construction Budget (Budget)**—The amount budgeted by the Owner to pay the CMAR to perform and complete the Work in accordance with the Contract Documents. This amount includes compensation for Cost of the Work, the CMAR Fee, and Construction Support Costs, but does not include compensation for CMAR Services.
- K. **Preconstruction Services Price**—The total amount to be paid to the CMAR for the Preconstruction Services described in the Scope of the CMAR Preconstruction Services CMAR-525, Exhibit B.
- L. **Procurement Services Price**—The total amount to be paid to the CMAR for providing the Procurement Services described in the Scope of the CMAR Procurement Services CMAR-525, Exhibit B.

For the purposes of this discussion of CMAR cost management, the various cost elements are briefly presented below in the order in which they are prepared during the life of the project:

3.3 Preliminary Costs

- A. The OA will prepare a Preliminary Owner's Budget based on the Estimated COW and an estimated cost for CMAR Services, Construction Support Cost, CMAR Fee, and CMAR Contingency. This Preliminary Owner's Budget can be compared to the total cost for similar projects as adjusted for project location, price indices, and other comparisons of historical costs. This preliminary budget is used for planning purposes and is refined by the OA

throughout the Project with assistance from the CMAR as more data become available. The Preliminary Owner's Budget is reviewed by the CMAR as one of its first tasks in Preconstruction Services and adjusted for proposed cost for CMAR Services, Construction Support Costs, CMAR Fee, and CMAR contingency of the selected CMAR. This Owner's Budget becomes the benchmark for the Project. Each subsequently issued Work Authorization will have a cost, and this cost is compared to the Owner's Budget to determine that the Project is progressing as planned and that the overall project cost will fall within the Owner's Budget.

The Preliminary Owner's Budget is provided to prospective proposers in the Advertisement or Request for Qualifications. This budget number gives prospective proposers an idea of the size of the project so they can determine if the project is within their bonding capacity and if they have the resources to complete the project.

- B. The Estimated COW does not include CMAR Services, Construction Support Costs, CMAR Fee, or CMAR contingencies, all of which are developed by the CMAR and submitted with its proposal. Providing the Estimated COW in the Request for Proposals allows a side-by-side comparison of the relative cost submitted by Proposers responding to the Request for Proposals as part of a two-step selection process. If an Estimated Guaranteed Maximum Price (Estimated GMP) is to be used to evaluate the relative cost for different Proposers, the Estimated GMP for each is calculated by adding the amount for Construction Support Costs to the Estimated COW with CMAR Fee and CMAR Contingency and other designated Contingency Allowances. See Table 1 in CMAR-422, Exhibit A. These Estimated GMPs are used to compare the relative differences in the proposed cost of the various Proposers. This Estimated GMP is for comparison only and is not binding. The Guaranteed Maximum Price will be developed later when the design becomes more refined.

3.4 Proposal Costs

- A. CMAR Services cost is the total amount proposed by CMAR candidates for Preconstruction Service and Procurement Services based on the Scope of Work for CMAR Services in the Agreement. The Work Authorization for Preconstruction and Procurement Services is not included in the GMP for several reasons:
- These services may or may not be subject to taxation based on local Laws and Regulations.
 - These services are typically not subject to retainage.
 - Bonds are not required for these services.
 - Insurance requirements for this phase are different than for Work Packages, which include construction. Builder's Risk Insurance would not be required since nothing is being constructed; however, professional liability insurance related to these services might be required.
 - Fees should be separated to make it possible to determine whether adequate effort is anticipated for these services during the selection process.
 - Separate fees provide a clearly defined termination cost if the Owner elects to take an off ramp.

Preconstruction Services can be authorized in the first Work Authorization and Procurement Services in the second. One of the tasks included in the CMAR's scope for Preconstruction Services is to develop procurement strategies for the Construction Management Plan. If the procurement strategies increase the number of proposed Work Packages, this requires an amendment to contracts for both the Owner and the CMAR, and the Owner and the Engineer. The CMAR should be able to demonstrate that the benefits to the project justify the additional costs for the increased effort by the CMAR and the Engineer associated with this change in the number of Work Packages.

Services for Preconstruction Services are separate from Procurement Services since each represents a potential termination point in the Agreement. Should the Owner be unhappy with the CMAR at the end of the design phase, it might opt to terminate the agreement and use the Contract Documents, developed with the contributions of the CMAR, to procure a contractor for the project using a competitive sealed bid, competitive sealed proposal, or negotiated contract method of procurement.

If the Owner elects to continue with procurement of construction contracts through the CMAR but is unable to come to a mutually agreeable Guaranteed Maximum Price for the project with the CMAR, the Owner may elect at that point to terminate the Agreement or simply elect to not authorize Work Authorizations for construction of the project. Having separate Work Authorizations with an established fee for each provides a clear basis for compensating the CMAR if these off-ramps are used.

In a fast-track approach to the project, construction of portions of the project, purchase of goods and materials in advance of construction, or purchase of equipment in advance of installation may be ongoing before Preconstruction Service and Procurement services are complete. Therefore, flexibility must be built into the system to allow authorization of Work Packages by executing subsequent Work Authorization for each new Work Package.

- B. Construction Support Costs, the indirect costs associated with project management, contract administration, and managing the project site, present one of the most significant challenges in managing a CMAR project for the Owner's Project Team. While traditionally treated like a Cost of the Work, these costs are typically not well defined, and determining these costs on a monthly basis and in final audit costs at the end of the project can be daunting. These costs are not determined by bid or transparent pricing, and Owners rely on a review of these costs to determine if they are eligible or in some cases even fair. Owners accustomed to managing lump sum or unit price contracts find managing the Cost of the Work plus a fee difficult and time consuming by comparison. Paying for these costs, which vary significantly on how the CMAR chooses to manage the project, can also present disputes over whether the cost incurred is a CSC, cost of the work, or an overhead cost. Cost for project management and contract administration may apply to periods of time when no actual construction is undertaken or when multiple Work Authorizations are active at once. These costs are not determined by bids and fixed costs as is the case with the Cost of the Work. Accounting for these costs can be time consuming and increase administrative cost for both the Owner and the CMAR when these overhead costs are compensated based on actual cost.

The approach taken in the EJCDC documents is to allow the CMAR to present these costs in its initial proposal and then manage these costs as a lump sum item. CSC consist of costs that apply to or benefit the project as a whole and are not easily associated with Work in a specific Work Authorization. In general, costs that can be associated solely with Work in a specific

Work Authorization are treated as Cost of the Work, to which the CMAR applies the CMAR Fee. The intent is to establish an encompassing liquidated price for Construction Support Costs, and therefore avoid voluminous submittals of itemized costs, disputes about whether an item is included, and so forth. The CMAR submits its cost in its Proposal for Construction Support Costs, which are classified as either Fixed Construction Support Costs (FCSC), which occur only once for the duration of the project, and Time Sensitive Construction Support Costs (TSVSV), which depend on project duration. The costs to mobilize, set up, and demobilize would be paid only once and are considered to be FCSC. The amount paid each month for an office trailer leased for the project would be an example of a TSVSV. A general list of what is to be included in the Construction Support Costs is provided in the Agreement, which can be modified for each project. In a two-step selection process, the CMAR submits its list of FCSC and TSVSV proposed costs as part of the Proposal process. Separate tabulations are submitted for FCSC and TSVSV. These costs are based on Division 00 and 01 specifications, which are included in the CMAR solicitation and Construction Period specified in the Proposal. Examples of FCSC and TSVSV are shown in Table 2, Examples for Fixed and Time Sensitive Construction Support Costs.

This approach to managing Construction Support Costs differs from the methodology used in the past on some CMAR projects for which CSC are either submitted as Cost of Work items or as a percentage of the Cost of Work. Disputes regarding CSC are typical when the project costs are escalating because these costs can be difficult to report directly, and the methodology used to account for these costs may be difficult to understand, depending on how they are documented and reported.

Advantages of using this CSC approach include:

- Costs are predetermined when the Proposal is submitted and are included in the Agreement as a known value.
- Payments are made on the predetermined amount for both FCSC and TSVSV.
- The amount for TSVSV establishes the amount to be paid for time extensions that are caused by the Owner's Project Team (Owner, OA, and Engineer; "OPT") or if the OPT and the CMAR agree on an extended period for construction.
- Costs are not subject to the same open book scrutiny as COW and are not subject to competitive procurement as is required for COW.
- CSC are typically not apparent in the CMAR's internal accounting process, even with access to open book records.
- There is no need to "prove up" labor multipliers that may be used for items like small tools, safety, or other costs.
- Costs are separated from Work Authorizations and make costing simpler when multiple Work Packages are in play.
- Fixed rates are set for Key Personnel for project activity and do not need to be prorated on the basis of active Work Authorizations.

Table 2: Examples for Fixed and Time Sensitive Construction Support Costs

Fixed Construction Support Costs	Time Sensitive Construction Support Costs
Asset management data	Coordination meetings and reporting
Concrete barriers	General cleanup during construction
Construction water (including testing)	Leased space for materials
Cranes and hoisting (may be COW)	Maintenance of haul roads
Drinking water	Office cleaning
Field engineering (planning and layout)	Office equipment - computers and IT equipment
Final cleaning	Office equipment - reprographics
Graphic documentation (photos and videos)	Office facilities - CMAR
Graphic reproduction related to fixed costs	Office facilities - Owner's team
Gravel for staging, laydown, and parking	Office pest Control
Haul roads	Office solid Waste
Hazardous Environmental Conditions mitigation and management	Office supplies
Key personnel	Office utilities - electricity
Materials storage	Office utilities - internet Services
Materials testing and inspections	Office utilities - telephone Services
Meetings - partnering session	Office utilities - wastewater
Meetings - preconstruction conference	Office utilities - water
Mobilization/demobilization	Quality management
Operation and maintenance manuals	Safety
Operation instructions and training	Schedules
Patent fees and royalties	Site maintenance, equipment and labor
Permits	Site sanitation
Professional design services	Site security
Project signage	Spoils removal
Record Documents	Stormwater pollution prevention
Shop Drawings and Submittals	Superintendence
Site fencing	Solid waste management
Small tools	
Start up and commissioning	
Subcontractor management	
Subsurface utility investigations	
Taxes	
Warranties and bonds	

- C. Cost of the Work is the sum of costs incurred for the performance of the Work as allowed by the Agreement. The Cost of the Work applies to Work Authorizations and any Change Orders issued to modify the Work Authorization after the Work Authorization is issued. Cost of the Work does not include costs for CMAR Services or Construction Support Costs. Cost of the Work typically consists of the following costs:
1. Payroll costs for constructing the project, excluding
 - a. payroll costs for CMAR Services,
 - b. payroll costs associated with Construction Support Cost, or
 - c. overhead, profit, and other markup, which are included in the CMAR Fee;

2. Costs for equipment and materials to be incorporated into the Work;
3. Costs for consumable equipment and materials, such as concrete formwork, small tools, and other consumable supplies that are used to construct the project, but are not incorporated into the Work;
4. Costs for subcontracts;
5. Construction equipment costs; and
6. Supplemental costs as defined by the Agreement.

Since the project is not yet designed, the CMAR bases its proposal cost on the basis of an Estimated Cost of the Work provided by the OPT in the Request for Proposals. See Paragraph 5.6.

- D. The CMAR Fee is the amount paid to the CMAR as compensation for its overhead, profit, or other markup. The amount for the CMAR Fee is proposed by the CMAR in its proposal. The CMAR Fee may be a fixed fee (a stipulated price or lump sum amount) or a percentage of the Cost of the Work. For DBB projects, preconstruction services are not part of the Contract, and procurement services are absorbed by the contractor as part of its overhead as they compete for the project, write subcontracts, and purchase equipment and materials after the contract is awarded. Since Procurement Services costs are part of the CMAR Services, the CMAR should not include these costs in overhead and profit markups as they would for a DBB project. The CMAR Fee may be subject to negotiation with the selected CMAR, and the agreed-to CMAR Fee is incorporated into the Agreement.
- E. The CMAR Contingency Allowance is the amount included in the Contract Price as an allowance for the sole use of the CMAR to cover unanticipated costs, subject to provisions included in the Agreement. If the Owner's Budget appears to have significant unknown factors, the CMAR Contingency Allowance may be higher to account for unknown details. The CMAR Fee is applied to Costs of the Work for authorized expenditures from the CMAR Contingency Allowance. The CMAR Contingency allowance may be proposed as a percentage of the COW, and the final amount agreed to will be incorporated into the Agreement. The amount proposed for the CMAR Contingency Allowance may reflect the desired margin of return as profit and may be an indicator of the perceived risk in the project. The Agreement provides specific allowable uses for the CMAR Contingency Allowances. These provisions must be well defined to avoid disputes over what constitutes an acceptable use of the allowance. The Owner retains unused allowance amounts. The contract may include cost savings provisions where a portion of the unused is returned to the CMAR. This can create a potential conflict of interest if not managed properly.
- F. The CMAR Proposal may include Product Allowances or other Contingency Allowances as for a DBB project.
- G. The GMP is the maximum amount to be paid by the Owner to the CMAR for Construction Support Costs; the Cost of the Work and related modifications to Work Authorizations, if any; the CMAR Fee; and the amount of the CMAR Contingency or Product Allowances. The GMP does not include the cost for CMAR Services or the Owner's Contingency Allowance. Because the COW is not well defined during the proposal process, the Estimated GMP in the proposal is based on the Estimated COW provided by the OPT.

- H. The Owner may stipulate an Owner's Contingency Allowance to be included in the Contract Price for the sole use of the Owner to cover unanticipated costs. This amount is not part of the GMP, and the use of these funds can only be accessed by the CMAR when authorized to do so by the Owner.
- I. The Contract Price is the total amount that the Owner has contractually obligated for completion of the CMAR Services and the Guaranteed Maximum Price authorized to date for Work to be completed in accordance with the Contract Documents and as modified in accordance with the provisions of the Contract. The Owner's Contingency Allowance is also included in the Contract Price. The Contract Price is the amount approved by the Owner's Governance and is thus available to pay costs without further action by Governance unless the GMP is increased.

3.5 Agreement Costs

- A. In general, the Proposal costs described in Paragraph 3.4 are incorporated into the Agreement. The Proposal costs may be modified as a result of negotiations with the selected CMAR. The Agreement should not rely on the Proposal costs and clearly reflect any modifications resulting from negotiations. The Agreement costs establish the basis for compensation in accordance with Agreement provisions.

3.6 Compensation Structure

A. CMAR Services

Compensation for CMAR Services, which include both the preconstruction phase and procurement phase services, is on either a lump-sum basis or is a not-to-exceed amount based on stipulated billing rates. Billing rates are established with the Proposal. Compensation is based on the Scope of Services for CMAR Services described in Exhibit A of the Agreement. Exhibit B of the Agreement provides the cost structure for these fees. These same billing rates would apply to Additional and Special Services as well, when authorized by a Contract Amendment.

B. Construction Support Costs

The daily rate for FCSC is calculated by totaling the cost for FCSC and dividing that cost by the number of days in the specified Construction Period. The CMAR will calculate the amount due for each Application for Payment by multiplying the daily rate times the number of days in the Application Period. If the project is completed ahead of the number of days in the specified Construction Period, the CMAR is allowed to apply for the entire amount of FCSC since these costs are fixed and not time sensitive. If the project takes longer than the number of days in the specified Construction Period to complete, payment is capped at the total for FCSC regardless of the number of days to complete the project, since these costs are fixed (one-time) expenditures.

A daily rate for TSCSC is calculated by totaling the cost for TSCSC and dividing that cost by the number of days in the Construction Period. The CMAR will calculate the amount due for each Application for Payment by multiplying the daily rate times the number of days in the Application Period. If the project is completed ahead of the number of days in the specified Construction Period, the CMAR is not allowed to apply for the amount remaining for TSCSC since these costs are time sensitive. If the project takes longer than the number of days in the specified Construction Period to complete, and these delays are attributable to actions

of the OPT, payment is made for TSCSC at the calculated daily rate for TSCSC regardless of the number of additional days required to complete the project. The CMAR will bear the cost for late completion of construction if this is due to causes within the CMAR's control (CMAR is at risk for these costs) but is allowed compensation for Time Sensitive Construction Support cost compensable delays under the terms of the General Conditions.

C. Cost of the Work and CMAR Fee

Compensation for Cost of the Work is made based on documented cost incurred in construction of the project as defined by the Agreement. These costs are substantiated by payroll records, invoices for payment to subcontractors for work performed and suppliers for materials and equipment, equipment rental agreements or run time reports, and they are subject to review under the "open book" provisions of the Agreement. The CMAR fees, as defined by the Agreement, are applied to the Cost of the Work.

If compensation for Work is converted to a lump sum amount for the Work Package, no records are required for Cost of the Work, other than those required to substantiate the value of Work complete and the value of stored materials. Access to open records is no longer required to process periodic payments. These records are; however, subject to the audit requirements of the Contract.

D. Contingency Allowances

Contingencies may be in the form of designated allowances (e.g., cash allowances or extra work unit price items) or contingency allowances.

1. Designated allowances may be included in the contract for "known-unknowns," and should be restricted for use on the specified work element. These may be included in the Request for Proposals or may result from negotiations with Proposers and are included in the Contract as Product or Other Contingency Allowances. These costs are included in the Estimated GMP and Estimated Contract Price. Designated contingency allowances in the Request for Proposals are often identified in risk management exercises involving the Owner, the OA, and the Engineer while preparing the Preliminary Design Report. After the CMAR has been selected and as the design moves from concept to final design, other risk elements may be identified. At that point other designated allowances may be developed and incorporated into Work Authorizations either as a line-item allowance or as extra work unit price items. Compensation for these designated contingency items is made for actual costs, and unused amounts in designated contingency allowances are credited back to the Owner by Change Order when each Work Authorization is closed out or by Contract Amendment when the project is closed out. The OA will provide written administrative authorization for the use of these allowances with the Owner's consent.
2. The Owner's Contingency Allowance is included in the Contract Price and is intended to be used at the sole discretion of the Owner to cover unanticipated Change Proposals submitted by the CMAR, Owner-directed changes in the scope of the Work, or any other unanticipated cost for which the Owner is responsible. These funds can only be accessed by the CMAR when authorized by the Owner by Work Authorization or the Owner's Contingency Allowance Authorization. This amount is included in the Contract Price approved by the Owner's governance. The OA issues written authorization to use contingency allowance funds, which typically only require approval by the person (or

persons) within the Owner's organization designated to have authority to authorize the use of the allowances included in the Contract. It is recommended that this authority be retained by the Owner as may be required by Laws and Regulations.

Although not a part of the Contract, the Owner should also consider creating an Owner's Reserve Fund. This fund is not included in the Agreement and is held in reserve by the Owner to cover costs exceeding the Owner's Contingency Allowance. These funds may be used to adjust the Owner's Contract Budget when costs for the project exceed the original and will likely require approval of the Owner's governing body.

3. CMAR Contingency Allowance—The CMAR Contingency fund is for the exclusive use of the CMAR while executing the Work to reimburse the CMAR for Cost of the Work for unanticipated issues, or details which could not reasonably have been anticipated at the time the Work Authorizations are authorized. The agreement should provide specific directions for the types of situations for which contingency allowance funds can be used. The Agreements should also identify any types of cost for which the contingency allowance funds cannot be used to allow the CMAR to recover its losses from these situations. The allowance is typically established as a percentage of the Cost of the Work and is associated with each Work Package.

The CMAR Contingency Allowance fund should be used to “bank” savings from Work Packages or efforts under the Cost of the Work provisions to cover other future draws in contingency allowance funds. A running total of CMAR Contingency allowance funds should be included in the Application for Payment, so everyone is aware of the current amount of these contingency funds.

Should the cost for a Work Package be converted to a lump sum cost in the Work Authorization, the contingency for that item would no longer be available for that Work Package and would not be returned to the Project Contingency fund.

Unused funds from the CMAR Contingency Allowance belong to the Owner. The Owner should acknowledge the use of these funds, but the use of these funds should be at the CMAR's discretion. This CMAR Contingency Allowance is limited to the prescribed amount, and once exhausted, will no longer provide relief from CMAR cost overruns.

Owners may consider proposals to share cost savings when total draws from the CMAR contingency allowance are less than the amount established for the contingency allowance as an incentive to not make draws against the allowance without due regard to the cost of the project. Cost savings provisions are not recommended by EJCDC for several reasons: (1) the CMAR is paid a fee for preconstruction services to generate cost saving ideas during the design phase, and looking forward to a share of the contingency funds creates a disincentive for the CMAR to give this its best effort; and (2) it provides an incentive for the CMAR to pursue Change Proposals to increase the GMP rather than expend CMAR contingency funds. The Owner should avoid unintentionally creating a conflict of interest, or open room for doubt for the CMAR's intentions.

4.0 DOCUMENTS FOR INITIATING DEVELOPMENT OF THE CMAR SELECTION REQUIREMENTS AND CONTRACT DOCUMENTS

4.1 Introduction

CMAR-050, CMAR-051, and CMAR-052 assist the Owner and the OA in determining requirements for the CMAR selection process and establishing essential contract terms, including Contract Times, liquidated damages, payment provisions including retainage policies, bonds and insurance requirements, and administrative procedures for the project. These project-specific requirements can vary significantly with Owner preferences, the type and complexity of the project, and governing Laws and Regulations. These three documents provide guidance for the Owner and the OA in developing the Division 00 Documents and serve as checklists to promote communication and efficient decision making when developing these documents for a specific project. This effort also documents the Owner's directions regarding these documents.

4.2 CMAR-050, Selection Procedures and Construction Contract Documents

CMAR-050's primary purpose is to obtain the Owner's directions regarding two tasks: (1) preparing or assembling the CMAR selection documents for the specific project—namely, the advertisement and instructions for Statements of Qualifications, Request for Proposals, Proposal form, Proposal Security and other Proposal Documents; and (2) preparing or assembling drafts of the various components of the Division 00 Contract Documents, most notably the Owner—CMAR Agreement, the General Conditions, and Supplementary Conditions.

CMAR-050 also contains a section in which the Owner can provide baseline information about the project (CMAR-050, 1.0) and instruct the OA regarding the basis for the Specifications (Division 01, CMAR-050, 3.6; Divisions 02-49, C-050, 3.7). If this information has already been communicated during the formation of the Owner—Owner's Advisor Agreement, it is unnecessary to address it in CMAR-050. CMAR-050 is not used to convey information regarding bond or insurance requirements; that important task is accomplished using CMAR-051 and CMAR-052.

When the OA's services under the Owner—Owner's Advisor Agreement do not include full construction phase services for the Engineer, CMAR-050 also serves as a prompt for the Owner and the OA to discuss the OA's role in the construction phase, which in turn may have a significant effect on how the project's Proposal Documents and Contract Documents are drafted.

Also, if not already established in the Owner—Owner's Advisor Agreement's scope of services, CMAR-050 serves as a basis for documenting the source documents to be used in preparing the project's Division 00 documents (e.g., EJCDC CMAR-Series documents, the Owner's custom Division 00 documents, or other documents), the Specifications, and the basic organizational format to be used for documents prepared.

CMAR-050 should be either completed by the Owner and returned to the OA or completed based on the Owner's input in meetings or other communications with the OA. In many cases, it may be necessary for CMAR-050 to be completed over a period of time, as the Owner's preferences in preparing the Division 00 documents are clarified and refined. When this is the case, EJCDC recommends that the project's CMAR-050 be updated as revisions are made to the Owner's directions to the OA, and copies of the updated form and its attachments be saved in the project files of both the Owner and the OA.

The degree of involvement in the CMAR selection and contract drafting processes of the Owner and the OA, respectively, will vary depending on the size and capability of the Owner's professional staff, Owner's retention of an independent OA, or having the Engineer provide the services of the OA under the Owner—Engineer Agreement.

It is important that the Engineer continue to provide services during the construction phase of the project when the OA services are provided by an entity other than the Engineer. These responsibilities are specified in CMAR-500, Agreement between Owner and Engineer for Professional Services (When Owner Retains a CMAR). The selection of the CMAR is the primary responsibility of the OA. The Engineer will prepare or furnish the Drawings, Specifications, Addenda, and other technical documents. The OA will engage with the Owner's staff, the Owner's legal counsel, and risk managers to manage the procurement process.

It is important that the Owner and the OA (1) agree on solicitation procedures, (2) identify the entity that will manage the distribution of Proposal Documents, and (3) identify the specific documents or Contract content to be used in preparing the project's Division 00 documents. Clarity regarding the scope of the Engineer's involvement in the project during construction is also critical. When there is agreement and mutual understanding on these points, the project's Division 00 documents can be prepared efficiently.

It is important that the Owner's legal counsel be consulted regarding the preparation of Procurement and Contract Documents, considering relevant Laws and Regulations.

4.3 CMAR-051, Letter from OA to Owner Requesting Instructions Concerning Bonds and Insurance

EJCDC recommends that the OA request the Owner's instructions on bonds and insurance in a formal written document using language closely based on CMAR-051, thus documenting that the OA has actively sought the Owner's instructions on these important risk management matters. CMAR-051 is in the form of a letter from the OA to the Owner, requesting the Owner's instructions regarding bonding and insurance requirements to be incorporated into the Division 00 documents. The model language of CMAR-051 brings to the Owner's attention the approach taken in EJCDC's CMAR-Series documents with respect to construction project insurance and bonding.

It is advisable for the OA to obtain the Owner's insurance and bonding instructions in writing and scrupulously follow the Owner's instructions. The OA may not have experience with or be qualified to give advice on risk management, insurance, and legal matters, and may not have professional liability insurance coverage for bonding or insurance-related claims. Even if the OA does have the required experience or qualifications, all issues regarding insurance and bonding should be coordinated with the Owner, its legal counsel, and its risk managers.

Because construction risks vary from project to project, and because an Owner's position on risk can, and often does, change over time, the Owner's instructions regarding bonding and insurance requirements should be requested from the Owner for each individual project. EJCDC's recommended practice is that such a procedure should be followed regardless of whether the Owner has a standard set of construction risk-management requirements for all the Owner's construction projects.

The format of CMAR-051 is a reasonably short letter that is intended to be accompanied by copies of (1) CMAR-052, the form to be used by the Owner in responding to the CMAR-051 letter; (2) relevant, specified CMAR-Series or C-Series documents (e.g., the standard performance and payment bonds), and (3) insurance and bond-related excerpts from the Request for Proposals and the Supplementary Conditions (these excerpts are included with CMAR-051, for the user's convenience).

4.4 CMAR-052, Owner's Instructions to OA Concerning Bonds and Insurance

CMAR-052 is a convenient form for use by the Owner or the Owner's risk manager in responding to the OA's request for instructions regarding bonding and insurance requirements for the project's proposal process and the CMAR contract. Because the OAs may not be insurance experts or risk advisors, the model language of CMAR-052 includes an acknowledgment by the Owner that the Owner has not relied solely

on the OA for bonding and insurance advice and includes an indemnification of the OA relative to the Owner's bonding and insurance instructions.

The CMAR-052 document is premised on the Owner using the bonds/insurance excerpts, previously provided to the Owner by the OA, as an attachment to the letter based on CMAR-051, to provide key information, such as required insurance coverage limits, and make desired revisions to the insurance specifications in the excerpts.

The Owner's written instructions to the OA regarding bonding and insurance requirements should be maintained in an accessible location in the project files of the Owner and the OA for later reference as required.

In some cases, especially when the Owner and the OA have a history of working together on multiple capital projects, the Owner may not respond to the OA's request developed from CMAR-051 for each project. In such situations, the Owner may assume, or orally direct, that the OA incorporates the Owner's "usual" insurance and bonding requirements into the Proposal Documents. When this is the case, the OA should, in addition to saving a copy of the OA's written request for the Owner's instructions developed from CMAR-051, consider either (1) sending a written communication to the Owner indicating that, unless the Owner responds otherwise by a specified date, the OA will proceed with incorporating the Owner's "usual" insurance and bonding requirements into the Proposal Documents, attaching a copy of the requirements to be incorporated into the documents, and expressly disclaiming any responsibility for the provisions and coverage types and limits indicated therein, or (2) obtaining oral concurrence from the Owner to use the "usual" requirements, and documenting the Owner's direction in a memo to the OA's project file. In either event, it is advisable for the OA to document that it sought and complied with the Owner's instructions and the basis for the bonding and insurance requirements included in the draft bidding and contract documents.

5.0 DOCUMENTS FOR SELECTING A CONSTRUCTION MANAGER AT RISK

5.1 Overview of the CMAR Selection Process

The CMAR selection process is typically governed by Laws and Regulations, which vary from one jurisdiction to the next. Public-sector projects using the CMAR method of project delivery are typically subject to a heightened level of regulation. The Owner and the OA should carefully review applicable Laws and Regulations when planning for CMAR procurement. In some jurisdictions, for public works projects the CMAR must be selected on qualifications alone, and costs cannot be considered, whereas in other jurisdictions, price can, or in some instances must, be considered in the selection of the CMAR. The CMAR-Series documents provide the flexibility to select the builder using a one-step process when the selection is to be made on qualifications alone, or when cost is to be considered in the selection process, by using a two-step process that emphasizes the candidates' qualifications while also considering proposed prices. The steps for selecting and contracting with the CMAR are shown in CMAR-001, Exhibit D, Construction Manager at Risk Selection Process.

The Owner will advertise its Request for Qualifications (RFQ) using CMAR-111, Advertisement for Request for Qualifications, to invite interested candidate CMAR firms to submit a Statement of Qualifications (SOQ) for review by the Owner and the OA with input from the Engineer. When selection is based on qualifications only, the Owner will select the CMAR from the available candidates based on information in the SOQ. Qualifications Statements submitted by candidates are evaluated in order to rank the qualified respondents. Top ranking respondents, typically no more than three to five, may be interviewed to respond to questions, clarify points not clearly presented in the Statements of Qualifications, and present

the respondent's key personnel. The Owner's selection committee can then adjust its rankings based on information learned from the interviews.

Once ranking is complete, the Owner can begin negotiations with the most highly ranked respondent regarding the structure for compensation and the terms and conditions of the Contract. If the Owner and respondent are unable to come to terms during negotiations, the Owner can close negotiations with the first respondent and open negotiations with the next most highly ranked respondent. Laws and Regulations may not allow negotiations to be reopened with a respondent to prevent the appearance of the Owner bargaining with respondents solely for a lower price. The CMAR begins providing CMAR's Preconstruction Services when the Agreement is signed.

When cost is considered in selecting the CMAR, EJCDC recommends that a two-step process be used. In the first step, the candidates submit Statements of Qualifications in response to a Request for Qualifications. The Owner and its representatives then evaluate the Statements of Qualifications to identify those respondents that are most qualified for the project and create a short list of five or fewer Proposers. A Request for Proposals is issued to these shortlisted candidates to obtain each Proposer's offer for its proposed price for CMAR Services, Construction Support Costs, the CMAR Fee, and CMAR Contingency Allowance. Since the design of the project is in its Preliminary Phase the CMAR usually will not be asked to submit a binding Guaranteed Maximum Price at this point. To allow a comparison of the relative costs of the different Proposers, the proposed costs are applied to the Owner's Estimated Cost of the Work to determine an estimated cost for building the project. The price for CMAR Services is not included in this Estimated GMP.

As soon as the CMAR is under contract, it will begin providing CMAR Services with initial efforts on budget, schedule, and identifying proposed Work Packages. As the design progresses, the Owner authorizes Work Packages, and the CMAR awards contracts to subcontractors or agrees to self-perform stipulated portions of the Work.

5.2 CMAR-111, Advertisement of Request for Qualifications

CMAR-111, Advertisement of Request for Qualifications (RFQ), is a standard form for alerting prospective CMAR candidates and their potential subcontractors of an upcoming project. The model language of CMAR-111 is predicated on the qualifications and value-based selection processes commonly used for CMAR projects.

EJCDC recognizes that advertisements of CMAR projects vary widely in response to the Owner preferences and statutory requirements. EJCDC has prepared CMAR-111 as a guideline for users where discretion is allowed in the preparation of the Advertisement, and as a suggested form that is well coordinated with the associated Request for Qualifications, Request for Proposals, and other related EJCDC documents. Because an advertisement for the project is typically published in a periodical such as a newspaper or construction trade subscription service, the Advertisement is intentionally brief to reduce costs. Detailed instructions for submitting a Statement of Qualifications (SOQ) are included in the Request for Qualification. Include a brief paragraph directing the Proposers to the Request for Qualification where they can find all the information required to prepare and submit a Statement of Qualifications in lieu of including this information in the CMAR-111. Coordinate the details in the Advertisement with the Request for Qualifications to avoid conflicts. While there may be some duplication of information between these two documents, work to keep the Advertisement to only the information required. The Advertisement should contain information sufficient only to:

- Identify the project and the Owner
- Indicate when and where Statements of Qualifications will be received

- Provide a summary of the general types of Work involved
- Provide the construction budget and schedule for the project
- Outline the process to be used to select the CMAR
- Indicate where the Request for Qualifications may be obtained
- Explain the shortlisting process that will identify qualified Proposers and general information about the Request for Proposals when a two-step CMAR selection process will be used
- Indicate whether, where, and when an information conference will be conducted, and whether attendance at the information conference is a condition precedent to submitting a Statement of Qualifications
- Comply with any statutory requirements applicable to the Advertisement
- Indicate the date of the Advertisement

Because the Statement of Qualifications does not include pricing information, a public opening and reading of SOQs may not be required. If local Laws and Regulations require a public meeting for receipt of SOQs, the only information that could be made available would be to announce the names of respondents followed by a public acknowledgment that the SOQs were received at or before the prescribed time for receipt of SOQs.

Information regarding delivery of SOQs is included early in the Advertisement so Proposers can quickly determine the deadlines for submitting the SOQ. The Advertisement should indicate if SOQs are to be submitted in printed or electronic format. This choice will determine if details need to be provided for a physical address for delivery of the printed documents, or it will include the necessary instructions to transmit in electronic format to a project website or designated email address. In either case, the date and time for submission of the SOQ should be stipulated. Proposers should be referred to the Request for Qualifications for details for preparing and submitting the SOQ.

The practice of receiving electronic SOQs is becoming the prevailing practice because of the ease of receiving these documents when a public opening is not required. Electronic documents are more easily distributed to those evaluating proposals. Owners may also consider requesting proposals in electronic format, even when paper copies are required.

The project description should not be too detailed or prescriptive since detailed design is just beginning; however, information required for the Advertisement should be readily available from the preliminary design documents prepared by the Engineer. Other extraneous information, including detailed descriptions of the scope of the Work and topics that are covered in other Proposal Documents, should generally be avoided to reduce the potential for conflicting requirements and to keep the Advertisement short. The description typically consists of bullet points describing the major components of the project.

Providing the Owner's estimated budget helps prospective Proposers determine if they are qualified to offer a proposal for the project; in some cases, local Laws and Regulations may require disclosure of the budget. Providing the budget number gives prospective Proposers ready information needed to determine if they have the bonding capacity to propose for the project and the resources needed to complete the project. Because of the level of uncertainty in this amount at this stage of the project, a range of amounts for the Contract Price may be used instead of a single amount. The anticipated CMAR Contract construction start date and duration will also help prospective Proposers schedule available resources when considering their other projects. It is suggested that the notice to proceed date and duration of construction be provided, or an anticipated date for project completion when a specific date

can be determined. The actual duration of construction will vary significantly based on the length of CMAR Services and the CMAR's plans for procurement and construction.

While the primary location for presenting the CMAR selection criteria (criteria used to evaluate Statements of Qualifications and Proposals) and explaining the process is the Request for Qualifications, governing Laws and Regulations may require providing information regarding the selection criteria and process in the Advertisement. Use the appropriate tables for each process option, making sure to coordinate the contents with the Request for Qualifications and other Proposal Documents. If Laws and Regulations do not require that this information be included in the Advertisement, EJCDC recommends that it be deleted from this advertisement and be provided solely in the RFQ.

5.3 CMAR-200, Request for Qualifications

CMAR-200 is used to invite CMAR candidates to submit a SOQ as part of the process to select the CMAR. The CMAR candidates will respond to this RFQ by submitting a SOQ prepared using the guidelines included in the RFQ and forms provided in CMAR-210, Statement of Qualifications. CMAR-200 has been drafted under the assumption that the Owner has also used CMAR-111. Because different provisions may be included in the Advertisement, it is important to coordinate the details of CMAR-200 with CMAR-111. The requirements of CMAR-200 must also be coordinated with CMAR-210 to avoid conflicts and duplications.

The RFQ is typically open to all prospective CMAR candidates (Proposers); or, if there is a prequalification process, to all prequalified Proposers. If a two-step CMAR selection process is used, the second step (monetary Proposals) is open only to the short-listed Proposers as determined by the Owner. This first step is focused solely on CMAR qualifications so the strict requirements for soliciting and receiving binding monetary Proposals do not apply.

CMAR-200, Article 1 defines terms used during the CMAR selection process; contains instructions to the prospective Proposers regarding preparation and submittal of the SOQ and provides information regarding the CMAR selection process, including the criteria that Owner will use to evaluate the SOQs and establish the short-list of Proposers that will subsequently be invited to submit a Proposal. Definitions provided in CMAR-200, 1.01, are included here since these only pertain to the selection process and are not part of the Contract Documents as defined in the General Conditions. This is the reason definitions associated with the Proposal Documents are included in CMAR-200 and not in the General Conditions.

The project description is included in CMAR-200, 1.02, to tie the SOQ to this specific project. The project description in this paragraph can be more detailed than that included in CMAR-111, which is intentionally brief. This summary should include the overall scope of the project and a general description of the Work to be constructed. Elaborating on the details in the scope of the Work will provide additional information for Proposers to improve the usefulness and relevance of their SOQ. For example, the Proposer may be able to elaborate on experience with construction of similar facilities of the same size and process. Since the design of the project is still in its early stages, this information will be broad and only provide available information. Even if this information is subject to change, it will serve its intended purpose. The project description might also provide other information regarding the Owner's objectives, services to be provided, Diverse Business Enterprise programs, funding agency requirements, or other information used to help the Owner select the best candidates from the responding Proposers.

CMAR-200, 1.03, provides alternate paragraphs to describe the one-step or two-step selection process, depending on the process selected by the Owner and the OA. Paragraph B for the two-step process indicates that five or fewer Proposers will be selected to continue in the selection process by submitting a Proposal. It is important to select only those Proposers that were ranked highly enough in step one to be a viable contender for the project. Five or fewer are recommended for several reasons. The cost to

prepare a Proposal can be significant and it would be unfair to ask candidates not in the running to expend this effort. The smaller number lets those selected Proposers know they are seriously being considered for the project and that they have a better chance of winning the project with a competitive Proposal. Proposers do not like competing against less-qualified Proposers, and if the field is too broad, Proposers may determine that the Owner is more interested in cost than qualifications and refrain from participating in the selection process. From the Owner's perspective, more Proposals require a greater effort to review the Proposals submitted, which takes time and consumes resources. The intent is to pick the most qualified and then consider cost.

CMAR-200, 1.04, describes the process for obtaining Proposal Documents. Instructions on how to obtain these documents are left to the Advertisement to avoid duplication or conflict. Proposers are instructed to obtain and use a complete set of documents when preparing its SOQ and Proposal. A disclaimer is included to place responsibility and use of a complete set of documents on the Proposer. CMAR-200 lists all the potential proposal documents; however, only the Advertisement, Request for Qualifications, and Statement of Qualifications are needed for a one-step process or the first step in a two-step process. Other documents, such as the preliminary draft of the Request for Proposals, Proposal, and Front-End Contract Documents may be provided if these are available.

Adequate detail should be included in the Advertisement and RFQ to allow potential Proposers to determine if their experience and qualifications make them a contender for the project and provide directions on how to prepare and submit a Statement of Qualifications. Because a limited amount of information is required to prepare the documents for the first step, these can be prepared by the OA as one of its first tasks. Since the goal is to have the CMAR on board when the preliminary engineering report is issued, it is important to start this process early. The OA can make preliminary drafts of CMAR-400, CMAR-422, and CMAR-430 and make these available with the Request for Qualifications and complete the final draft of these documents while conducting informational conferences, receiving and reviewing SOQs with the Owner's selection committee, conducting interviews, and other related activities. RFPs may include provisions written specifically to address questions and comments received from prospective Proposers during the RFQ process, including interviews.

CMAR-200, 1.05, provides options for notifying prospective Proposers if an informational conference will be conducted to inform potential Proposers and subcontractors of the project and promote interest in submitting a SOQ. These conferences may be particularly helpful to those preparing a SOQ by providing information about the project, the SOQ requirements, how SOQs will be evaluated, and what to expect in the Proposal phase of the project. While details for the informational conference are typically included in the Advertisement, these can be presented in CMAR-200 to help keep the Advertisement brief. If this is done, the Advertisement should state that an information conference will be conducted and direct prospective Proposers to the RFQ for details.

CMAR-200, 1.06, instructs prospective Proposers to examine the Proposal Documents made available before submitting a Statement of Qualifications and notify the OA if any issues are discovered in the information provided. It is likely that issues discovered will be presented as questions submitted per CMAR-200, 1.08. This paragraph also includes representations by the Proposer that they are aware of the requirements of the Proposal documents, and that the documents provide adequate information to prepare its proposal.

CMAR-200, 1.07, provides information on potential Site visits. Site visits rarely provide a benefit to prospective Proposers preparing a SOQ, especially for "green field" projects. These visits will be more productive if conducted for shortlisted Proposers. Information regarding the location can be provided in the Request for Proposer to allow Proposers to consider site-specific consideration for project layout and

logistics, traffic and access restrictions, and other details that may impact the cost for Construction Support Costs.

CMAR-200, 1.08, provides instructions for submitting questions regarding the SOQ. EJCDC recommends that all questions asked by prospective Proposers be handled from a central source using a process that makes both the questions and the related responses public. The Owner should establish a cutoff time for questions, with no guarantee that a response will be made before SOQs are due for questions not meeting this deadline. The two most common processes are to have the Proposers send questions to a central email point of contact, or to have Proposers post questions on the same website where documents are obtained. Responses should be made public on the designated website. Any response that merits issuing an Addendum item should refer Proposers to that Addendum to avoid confusion between the Addendum and a less formal response to the question. It is recommended that questions and the responses not be included in an Addendum to avoid any chance that responses be construed as modifying or supplementing the Proposal Documents. This information can be made available as an informational document on the procurement website, or by other means. Information regarding Addenda is included in CMAR-200, 1.09.

CMAR-200, 1.10, provides information to prospective Proposers regarding maintaining the confidentiality of the information submitted in the SOQ. Contractors may be concerned that allowing their competitors access to information regarding its resources and financial information in the proposal gives its competitors an advantage when competing for the project and future opportunities. Most governmental entities require Owners to restrict access to these documents while the selection and negotiation process is underway. Once the contract is awarded, Owners must comply with open records requirements of Laws and Regulations, which typically allow access to public records to be restricted only under certain conditions. Paragraph 1.10 includes the requirement that Proposers indemnify the Owner for any issues related to withholding information or from it being released to the Public.

Article 2 discusses the criteria used to evaluate the experience, resources, and responsiveness of the Proposers as presented in the SOQs and interviews, if any. Defining the selection criteria is a key component of the selection process and deserves careful consideration. The RFQ should consider experience with projects like the one for which Proposals are requested.

The Request for Qualifications should define what the Owner will consider to be a similar project. Requirements may be as simple as requiring that the CMAR has completed a specified number of the type of project within a specified time. As an example, the requirement could be that the CMAR is to have substantially completed two water treatment plant projects with a construction cost greater than \$20 million within the last five years. The OA should determine that an adequate number of candidates will be able to meet this requirement. Projects older than 5 years may not include the experience of current staff or changes in market conditions. Consideration should also be given to the size of the project when determining the number of projects. If it takes two years to complete similar projects, it might limit participation to the largest CMARs if the requirement is to have completed 5 similar projects within the last 5 years. Following this same example, consideration might be given to wastewater treatment plants as similar experience since construction for these types of projects have many similar aspects for construction. The point of this effort is to avoid Proposals from companies that cannot meet these requirements, while at the same time, not creating restrictions that will limit competition. While this is helpful, it is not an absolute requirement as for a DBB project because the SOQ process can be used to exclude those Proposers without comparable experience.

The selection criteria are used to score Statements of Qualifications to determine the Proposer to be awarded the Contract when using a one-step process. When a two-step process is used, the ranking of

Proposers, based on the scores assigned to each Proposer's Statement of Qualifications, is used to determine the short list of Proposers that will subsequently be asked in a Request for Proposals to submit a Proposal for the final step of the selection process. The qualifications scores are used together with proposed prices as part of the final CMAR selection criteria.

Evaluation of CMAR candidates is made based on information provided in the SOQ. This information should be tied to specific rating categories that are included in the RFQ. Rating categories should be relevant to the project and should be differentiators. Rating categories that will result in all candidates receiving the same number of points does not help determine which of the respondents represent the "best of the best" for the project. For this reason, the RFQ should be specific as to the information to be provided and should place limits on the amount of information provided, typically requiring the use of specific forms and page limits as set forth in the RFQ and RFP. This facilitates getting respondents to provide information keyed to the specified rating categories and make information project specific. Selection committees do not have an unlimited amount of time to review statements of qualifications, so it is important to require respondents to "get to the point" and demonstrate not only that they are qualified but that they are the most qualified for the project.

The RFQ selection criteria should include the following as a minimum:

- The experience and past performance of the respondent
- The experience and qualifications of proposed key personnel
- The proposer's approach to providing CMAR Services and constructing the project

Although the first two categories may appear to be the same, they are significantly different. The experience and past performance of the proposer will provide information on the respondent, and include information on financial stability, safety record, ability to bond and insure the project, and demonstrate they meet the specified requirement for successfully completing a minimum number of projects in the specified period. This information helps the Owner's selection committee determine if the respondent is a suitable match for the project. The experience and qualifications of the proposed key personnel is equally important. Key personnel for the project are those that have been recognized as having a significant role in the outcome of the project. Key personnel typically include the Project Manager, CMAR Services Manager, Project Superintendent, Quality Manager, and Safety Manager, but they may also include other key roles. As an example, a start-up specialist for a large or complex treatment plant may also be included as key personnel. Key personnel that provided the experience claimed in the first category may no longer be engaged as employees by the company. Likewise, a solid company aiming to improve its capabilities may have recent hires that provide the expertise needed for the project. These two categories should be considered together.

Depending on the size and complexity of the project, the CMAR candidates may engage subconsultants or subcontractors to provide expertise not adequately provided by in-house staff. These key individuals should be treated as key personnel for the purposes of evaluation. If included as part of the CMAR's team, the proposal should include documentation by the CMAR regarding the relationship between the CMAR and the proposed Subconsultant or Supplier and their commitment to the project if awarded the contract.

Information on key personnel should include a listing of all current projects, and other projects to which they will be assigned during the anticipated project. Respondents will want to feature its "A-team" players in the proposal to help win the project. Information provided on current and future assignments will identify conflicts. Respondents should be made aware that the award of the contract is based on the qualifications of the proposed key personnel and that failure to provide proposed key personnel is grounds for termination of the contract for cause. On the other hand, Owners should be aware that the

respondents are pursuing other projects with these same key personnel, so it is important to complete the evaluation as quickly as possible. The Owner should consider allowing respondents to offer a primary and an alternate for each key role in the event the primary key person becomes unavailable.

The respondents' approach to the project should also be a major consideration in the selection of the CMAR. This narrative should describe the respondents' approach to providing CMAR Services, cost management, quality and safety management, and preferred methods for Work Packages and executing the work. The selection committee should not expect detailed descriptions of the approach for constructing the specific projects since the design is not complete, but an approach for constructing similar projects may be provided. This approach may include a preliminary budget; however, this information cannot be definitively provided since the project design is still in progress.

It is important to determine who the likely candidates are when preparing the selection criteria. Just as many Owners may be using CMAR for the first time, there may also be a limited number of contractors with CMAR experiences, especially in a jurisdiction that has just passed enabling legislation to allow CMAR as a project delivery option. Placing too high a score on previous CMAR experience may limit the number of potential Proposers and exclude local contractors which have a good working relationship with the owner. An Owner or OA with significant CMAR experience may be able to support a well-qualified contractor through its first project as a CMAR, but an inexperienced Owner/OA should use caution when awarding the contract to an inexperienced contractor.

5.4 CMAR-210, Statement of Qualifications

CMAR-210 is a form intended to be distributed to prospective CMAR candidates (Proposers) for their use in responding to CMAR-200, RFQ. Proposers will use CMAR-210 to prepare a completed Statement of Qualifications to (1) demonstrate that the Proposer meets the minimum requirements to be considered responsible for the project, such as legal authority to work in the project jurisdiction, required licenses and certifications, and financial stability; and (2) provide evidence that the qualifications of the Proposer are directly responsive to each selection criterion set forth in the RFQ. If a Proposer is a joint venture, CMAR-210, Table 1, requires that each joint venturer submit a Statement of Qualifications. Requiring adherence to a rigid structure for each Proposer allows the members of the Owner's selection committee to correlate the information in each SOQ to the specific selection criterion for each respondent, and consistently and objectively score and rank each Proposer's qualifications. Making CMAR-210 available to Proposers in native format (Microsoft® Word) will allow each Proposer to key the requested information directly into the document from which a PDF file can be created for SOQ submittal, making side-by-side comparisons easier.

The scores and rankings resulting from the direct comparisons of the qualifications of the Proposers allow the Owner and the OA to determine which of the prospective Proposers will be invited to move forward in the selection process. If the selection process used is a one-step, qualifications-only process, the single successful Proposer selected will be issued an RFP asking that they submit price/cost information in accordance with the RFP. The OA and the Owner's selection committee will negotiate with the Proposer to finalize the CMAR Contract. If a two-step selection process is used, the OA and the Owner's Selection Committee will evaluate and rank SOQ and select, based solely on qualifications, to develop a "short list" of candidates that will be asked to submit competitive price/cost information in accordance with the RFP.

The Proposals will be evaluated by the OA and the Owner's Selection Committee, and points will be awarded for each Proposal received in accordance with the published selection criteria for Proposals. These points will be added to the scores previously determined for the SOQ to determine a final total score for Proposers. The OA and Selection Committee can then begin negotiations with the most highly ranked Proposer to finalize the CMAR Agreement. If negotiation with a Proposer proves to be

unsuccessful, then negotiations should be officially terminated, and the OA and the Selection Committee can then begin negotiations with the Proposer with the second-ranked Proposer. The process can be repeated until a contract is successfully negotiated or all efforts are deemed unsuccessful, and the Owner terminates the CMAR selection process.

Before providing the Statement of Qualifications to Proposers, the Owner should determine whether any additional information should be provided to establish qualifications for the specific CMAR Contract. In most cases, the Owner will choose to delete or supplement some of the suggested requested information. If the evaluation categories are revised or supplemented, make consistent changes in both the RFQ and the SOQ forms.

Note that several provisions of the SOQ form require the Proposer to furnish documentation—for example, the Proposer is required in Table 1 to submit evidence of Diverse Business Enterprise certification. If a submission of such evidence is not required, revise the document accordingly, and address changes needed in CMAR-200, 4.06.

5.5 CMAR-400, Request for Proposals

The Owner uses CMAR-400 to request that the selected CMAR Proposer in a one-step process, or the short-listed CMAR Proposers in a two-step process, prepare and submit Proposals using the forms furnished by the Owner for that purpose. The Request for Proposals provides instructions to the Proposers on preparation of the Proposal, requirements, and deadline for submitting the Proposal, and explanation of the price categories in the Proposal.

In the RFQ/SOQ step of the CMAR selection process, Proposers submitted Statements of Qualifications that the Owner ranked based on specified evaluation categories and criteria. From this qualifications-based ranking the Owner determined a short-list, most commonly, no more than five, of the highest-ranking Proposers. The Request for Proposals is issued exclusively to these short-listed Proposers.

A preliminary draft of the RFP document is sometimes included in the initial release of Proposal Documents as an example or preview document. As the selection process progresses, the Owner and the OA may elect to refine the price provisions and may become aware of the necessary changes. The RFP, and the Proposal form, CMAR-422, issued with it should incorporate any such refinements and changes, and then be issued in final form solely to the short-listed Proposers.

Article 1 identifies the project and, when a two-step process is used, names and contact information for Proposers that have been shortlisted and also received the RFP. This list of invited Proposers is provided for the sake of transparency and to inform Proposers of their competition. When the selection is based on qualifications only, CMAR-400, 1.02 can be deleted. If Laws and Regulations allow the Owner to close negotiations when the Owner and most highly ranked Proposer are unable to reach an agreement and open negotiations with the next most highly ranked Proposer, then other Proposers might be listed in the order in which they are ranked.

Article 2 provides instructions for examination of the Proposal documents and the Site. The Proposer will have already reviewed Proposal Documents as part of the RFQ process; however, Proposers will be provided new or revised Proposal Documents in addition to those provided during the RFQ process. These additional documents must include the draft Agreement, General and Supplementary Conditions, General Requirements (Division 01), and other documents required by the CMAR to prepare and submit binding stipulated sums for CMAR Services and Construction Support Costs.

Although Site visits are not required for those submitting an SOQ, a Site visit should be required for those submitting a Proposal. The CMAR certifications in the Agreement are predicated on the premise that the

CMAR did visit the Site and considered all relevant factors regarding the Site in preparing its Proposal. Site visits are more manageable with fewer participants and can provide more time to examine particular issues that might be included in future negotiations. Provisions in Article 2 for Interpretations and Addenda are similar to those for the RFQ.

Article 3 provides instructions for submitting a price proposal for CMAR Services. The proposed cost for CMAR Services should be based on the specific scope of services included in CMAR-525, Exhibit A. This cost, pending any negotiations with the CMAR, becomes binding on the CMAR and becomes part of the Contract. Compensation for CMAR Service should be commensurate with the scope of CMAR Services. Quality CMAR Services pay dividends in reduced construction costs, and the Owner should be wary of CMAR offers to provide these services at a low cost.

Using the cost for CMAR Services in evaluating Proposals is not recommended. These costs are not included in the calculation of the Estimated Guaranteed Maximum Price, which is used to compare projected construction costs for each Proposer. Costs for CMAR Services should only be used to determine if the CMAR clearly understands the scope of CMAR Services included in the agreement and that adequate effort will be made in delivering these services. Payments for CMAR Services are not subject to retainage and may or may not be taxable depending on Laws and Regulations. The services can be billed at fixed billing rates with a not-to-exceed amount or may be billed as a lump sum amount. Should the Owner decide to not move forward with the project with the CMAR, this cost for CMAR Services will determine the total amount to be paid to the CMAR for these services.

Article 4 provides instructions for developing an Estimated GMP, which will be used to compare the cost of construction from each Proposer. The Estimated GMP includes proposed Construction Support Costs, a preliminary estimated Cost of the Work provided by the OA, CMAR Fees, and CMAR contingency. The preliminary Cost of the Work is an order-of-magnitude estimate developed by the OA to be used for comparison of price proposals and is not binding. The CMAR fee may be based on a percentage of the Cost of the Work or a lump sum fee. Fees based on the percentage of the Cost of the Work can be a single percentage applied to all work or may be a different percentage for each classification of work.

Construction support costs (“field overhead” or “general conditions” costs) are those costs associated with and in support of construction that are not directly related to specific construction activities. Construction support cost separates those items that apply to or benefit the project as a whole and are not easily associated with work in a specific Work Package. In general, costs that can be associated solely with work in a specific Work Package are treated as Cost of the Work, to which the CMAR applies the CMAR Fee. The CMAR Fee is not applied to Construction Support Costs. Separating Construction Support Cost from the Cost of the Work makes it unnecessary to allocate costs that are common to the entire project; therefore, tracking itemized costs and disputes about whether an item is included is avoided. This also allows provisions for open book reviews to be limited to Cost of the Work items. Cost to be included in Construction Support Cost are described in the agreement between the Owner and the CMAR.

Construction support costs are typically categorized as fixed Construction Support Costs and time-sensitive Construction Support Costs. Fixed Construction Support Costs are those costs incurred only once over the life of the project. These costs are paid as a lump sum amount with payments made when cost is incurred, or they may be liquidated to a monthly charge for the anticipated duration of the project. Time-sensitive Construction Support Costs are those costs that may increase or decrease if contract times are different than the times specified in the proposal documents. This cost can be converted to a daily rate that can be used to adjust Construction Support Cost for the project duration included in the contract and may also be used for compensable time extensions associated with contract modifications.

The Cost of the Work represents the cost to build the project, exclusive of Construction Support Costs, fees, or contingencies as defined in the Work Authorization for each Work Package. Cost of the work can be placed in one of the following cost categories:

- Labor costs
- Incorporated equipment and materials costs
- Consumable equipment and materials costs
- Subcontractor costs
- Construction equipment costs
- Supplemental costs as defined in the Agreement

Cost of the Work may include bonds and insurance for individual Work Packages if not included in the Construction Support Cost. Cost of the Work excludes the cost included in the CMAR fee, which is intended to cover costs not included in Construction Support Cost, Cost of the Work, or expenditures from the CMAR contingency.

The preliminary GMP includes the CMAR Fee. This fee can be a lump sum amount, but since the project is not yet designed, it is more often presented in the proposal as a percentage of the Cost of the Work. A single fee can be applied to all the Cost of the Work or may have a different fee for each category of work as defined in the agreement. The CMAR fee is multiplied by the preliminary Cost of the Work to determine the total amount of the fee for comparison purposes. The actual fee based on a percentage of the Cost of the Work will increase as work is completed. Although a lump sum fee can be determined for specific Work Packages, it is more likely that the CMAR Fee submitted with the proposal will be used to determine the actual fee earned.

The preliminary GMP should include a CMAR contingency, separate from any Owner's contingency allowance. The CMAR contingency is controlled by the CMAR, although good practice would require that the Owner authorize or acknowledge that these expenditures fall within the eligible contingency cost defined in the agreement since any unused contingency amounts belong to the Owner. Eligible contingency cost and the amount can be revised as risk elements are identified and GMP costs are determined. Eligible contingency cost typically includes:

- Losses due to damage to the work not covered by insurance
- Corrective work if nonconformance is unintended
- Subcontractor defaults
- Overruns in Construction Support Cost not stipulated as a lump sum
- Builder's risk insurance deductibles
- Verified excusable errors in estimates
- Non-compensable overtime and other acceleration costs

Once consumed the CMAR contingency is not replenished, and the CMAR is at risk for all cost exceeding the contingency amount.

Provisions to share unused CMAR contingency allowance, if any, should be carefully crafted to clearly state how this provision is to be applied. Cost sharing provisions can create unintended conflicts of interest

and can lead to unintended consequences if eligible contingency costs are not clearly defined. Provisions for sharing contingency or other funds are included in CMAR-525.

Article 5 provides two optional paragraphs related to the time of completion. Because the project is in the preliminary stage at the time the Request for Proposals is issued, providing a definitive time for completion would be difficult at best. At this point in the project, the schedule will be impacted by the time required to complete the design and provide CMAR Services, the number of Work Packages which will be determined as part of CMAR Services, delivery times projected for key equipment and materials, and other significant factors. The anticipated contract completion dates are typically established as part of the CMAR's Preconstruction Services related to Time Management; while the definitive schedule for Substantial and Final Completion of the CMAR Contract is typically not determined at the time the GMP is established in the Agreement. This more likely option is covered by CMAR-400, 5.01.

In some cases, the Owner may require completion by a certain date to meet financial or regulatory requirements. If the project is to be completed by a stipulated date or stipulated time, this information should be made clear in the Advertisement and the Request for Proposals. By submitting a Proposal, the Proposer is committing to completing the project within the Owner's designated completion date(s). Use CMAR-400, 5.02 when the Owner establishes a designated time for completion of the entire project.

If completion dates are stipulated for a portion of the project to meet specific requirements, intermediate milestones should be defined in specific work packages and authorized as a separate Work Authorization so the CMAR and the Owner can agree to a definitive time for Work described in that Work Authorization.

When a stipulated completion date for the project or portion of the project is set, the Owner should be aware that a completion date set too early may require the CMAR to accelerate construction and increase the Costs of the Work. One of the benefits of collaboration with the CMAR, after the CMAR Contract is underway, is being able to discuss the desired completion dates and the impacts on costs so the Owner can agree to a completion date based on its associated cost. If an acceptable time for completion cannot be established, either as part of Preconstruction Services or when the GMP is established, the Owner may exercise its option to not continue with the CMAR by not authorizing further Work. The Owner should consider the time required to advertise and select a different contractor when making this decision.

5.6 CMAR-422, Proposal

The Proposal is issued by the Owner to the short-listed Proposers in a two-step process. It is used by the selected Proposers to submit pricing information for furnishing CMAR Services and specified elements of the Work. The submitted Proposals provide the Owner and the OA with the information needed to compare proposed prices during the CMAR selection process when price is a consideration in the selection of the Proposer. The information in the Proposal submitted by the successful Proposer will become the basis for the CMAR compensation provisions in the Agreement. In a one-step process, the prospective Proposer, selected on the basis of qualifications alone, will be asked to submit its proposal for consideration and possible negotiations with the Owner.

The Proposal form is used to:

- Identify the project
- Acknowledge receipt of Addenda by the Proposer
- Identify the Tables included in the Proposal as Proposal Exhibit A
- List representations and certifications on which the Proposal is based
- Provide the signature of an authorized representative of the Proposer

The Proposal, as modified to capture the results of the negotiations, if any, will become the basis for compensation included in the Agreement. For this reason, the Proposal should follow the same structure as the Agreement. Exhibit A consists of 4 tables:

- Table 1—Estimated Contract Price: Calculates the Estimated Guaranteed Maximum Price based on the Estimated Cost of the Work and doubles as a summary sheet for CMAR Services, Fixed Construction Support Costs, Time Sensitive Construction Support Costs, and other cost factors provided by the Owner
- Table 2—Compensation for CMAR Services: Provides a structure for Proposing the cost for CMAR Services based on the Scope of Services included in CMAR-525, Exhibit A
- Table 3—Basis of Compensation for Fixed Construction Support Costs: Provides a structure for the CMAR to propose its Fixed Construction Support Cost on the basis of unit prices for each item of Work
- Table 4—Basis of Compensation for Time Sensitive Construction Support Costs: Provides a structure for the CMAR to propose its Time Sensitive Construction Support Cost on the basis of unit prices for each item of Work and calculates a daily rate for extended Construction Support Costs

An example of one way to structure the cost proposal when using CMAR-525 as the basis for the compensation is shown in the version of CMAR-422, Proposal, Exhibit A, Table 1 shown in this paragraph. In this example table, the Estimated Cost of the Work, shown in the blue cell, is provided by the OA since at the time the Request for Proposals is issued, the project design has not yet progressed to the point at which the actual Cost of the Work can be developed. This allows Proposers to calculate proposal cost without having to speculate on the Cost of the Work for a project that is not yet designed. The Estimated COW is used as the basis for compensation by all Proposers to demonstrate the relative cost as compared to other Proposers. Proposers will enter their numbers in the green cells for CMAR Services, Construction Support Costs, and CMAR’S fees and CMAR’s contingency presented as a percentage of the COW.

Table 1: Proposal Costs for CMAR Constructors, Inc.

Compensation for CMAR Services		\$250,000.00
Estimated Guaranteed Maximum Price (used for comparison of proposals)		
Construction Support Costs		
1) Fixed Construction Support Cost		\$1,000,000.00
2) Time Sensitive Construction Support Cost		\$2,000,000.00
3) Total Construction Support Costs (1 + 2)		\$3,000,000.00
Estimated Cost of the Work with CMAR Fee		
4) Estimated Cost of the Work (Provided by the OA)		\$20,000,000.00
5) CMAR Fee	5%	of the Estimated Cost of the Work
6) Cost of the Work with CMAR Fee (4 + 5)		\$21,000,000.00
CMAR Contingency Allowance		
Estimated Cost of the Work (Provided by the OA)		\$20,000,000.00
7) CMAR Contingency Allowance	3%	of the Estimated Cost of the Work
Estimated Guaranteed Maximum Price (3 + 6+ 7)		\$24,600,000.00

The Estimated Guaranteed Maximum Price used as a cost comparison for this project would be \$24,600,000. The amount proposed for CMAR Services can be altered if the scope of anticipated services in the agreement is modified as the result of negotiations between the Owner and the proposer. Costs proposed for Construction Support Cost and percentages proposed for CMAR Fee and CMAR Contingency Allowances would become binding and incorporated into the Agreement, along with any contingency allowances to which both parties agree during negotiations.

Table 1 is structured to allow the COW with the CMAR Fee to be based on a single cost percentage applied to the entire COW, different percentages for each cost classification, or a single lump sum CMAR Fee. It allows several other options for contingencies, allowances, and other cost factors the Owner may want to include in the Contract Price. Table 1 also includes paragraphs for days to complete the project. The times will be provided by the OA for the proposal and will be subject to modification during negotiations on the terms to be included in the Agreement.

5.7 CMAR-510, Notice of Award

CMAR-510, Notice of Award, is used by the Owner to notify the recipient that it is the successful Proposer and is awarded the Owner–CMAR Contract. The Notice of Award also provides instructions on signing and returning the Agreement, furnishing required bonds and insurance documentation, and receiving copies of the Contract Documents.

CMAR-510 as published contains a 15-day deadline for the successful Proposer’s compliance with requirements, such as returning signed copies of the Agreement, and a subsequent 10-day commitment by the Owner to return a fully executed copy of the Agreement to the successful Proposer. The user should revise these time limits to conform with the Owner’s standard preferences or local requirements.

The opening wording of the Notice of Award (“You are notified that Owner has accepted your Proposal dated [date] for the above Contract, and that you are the successful Proposer and are awarded the Contract”) assumes a two-step CMAR selection process whose second step is the submittal of a Proposal. However, when the Owner selects the CMAR using a one-step qualifications-only process, in which the CMAR candidates submit Statements of Qualifications but no Proposal, the user should revise the opening wording, for example, by stating, “You are notified that Owner has evaluated your Statement of Qualifications dated [date] for the above Contract, and that you are the successful Proposer and are awarded the Contract.” Note that the RFQ/SOQ documents use the term “Proposer” to refer to the CMAR candidates, even though no Proposal is requested or submitted at that stage of the selection process.

For additional information regarding the Notice of Award see C-001.

6.0 AGREEMENT BETWEEN THE OWNER AND ENGINEER FOR PROFESSIONAL SERVICES

6.1 CMAR-500, Agreement between Owner and Engineer for Professional Services (When Owner Retains a Construction Manager at Risk)

CMAR-500, Agreement between Owner and Engineer for Professional Services (when Owner retains a Construction Manager at Risk), is a special-purpose edition of E-500, Agreement between Owner and Engineer for Professional Services. CMAR-500 is intended for use by the Owner and the Engineer when the Owner will select and award a contract to a CMAR. The CMAR will provide specified services (e.g., constructability reviews, cost management, and schedule input) during the design phase and will construct the Work. See CMAR-525, Agreement between Owner and Construction Manager at Risk, Exhibit A, Scope of CMAR Services.

The EJCDC CMAR-Series documents also assume that the Owner will use an OA to assist the Owner in retaining a CMAR using a structured selection process, and to provide contract administration duties during the construction process. CMAR-501, Agreement between Owner and OA, establishes the contractual relationship between the Owner and the OA and specifies the OA's scope of services. CMAR-500 defines the scope of the Engineer's role and services in the context of a project in which the OA and the CMAR will also be providing services to the Owner.

CMAR-500 presents fundamental terms and conditions of the contractual relationship between the Owner and the Engineer and addresses the full range of subjects of importance in professional services agreements, including the standard of care, indemnification, ownership of design documents, dispute resolution, and payment procedures. This Agreement also contains definitions of key terms and the signature page. More detailed provisions regarding scope of services, compensation, insurance, and other project-specific issues are contained in the CMAR-500, Exhibits.

The most significant differences between E-500 and CMAR-500 are found in Exhibit A, Engineer's Services. Both E-500 and CMAR-500 contemplate that the Engineer will furnish a full scope of engineering services, but in CMAR-500:

- The OA, rather than the Engineer, takes the lead in preparing the "front-end documents"—Division 00 and the General Requirements of the Specifications (Division 01).
- The Engineer's design-phase duties are expanded to include consideration of input from the OA and the CMAR.
- The Engineer's construction-phase services are reduced to account for the OA's leading role in construction observation and administration of the Owner—CMAR contract.

The standard scope of Engineer's services in Exhibit A of CMAR-500 is intended to be consistent with, and coordinated with, the OA's standard scope of services in CMAR-501, Exhibit A, Owner's Advisor's Services, and with the standard scope of services provided by the CMAR in CMAR-525, Exhibit A. Efforts should be made in the early stages to coordinate the scope of services for the Engineer and the OA to identify unintentional gaps and overlaps in services when editing the respective scopes of services for a specific project. CMAR-050, Article 8, sets forth the process for reconciling any differences, giving due regard to whether any related or complementary changes should be made to the Owner's Advisor's scope in CMAR-501, or CMAR's scope in CMAR-525; and vice versa if scope changes are made in the Owner—CMAR or the Owner—Owner's Advisor contracts.

Another difference between E-500 and CMAR-500 is that CMAR-500 does not contemplate that the Engineer will provide Resident Project Representative (RPR) services. Instead, the Owner will rely on the OA to provide construction observation and field services. As a result, E-500, Exhibit D, Duties, Responsibilities, and Limitations of Authority of Resident Project Representative, is not included in CMAR-500, and provisions regarding compensation of an RPR are not included in CMAR-500, Exhibit J.

CMAR-500 refers in various locations to "Engineer's Subcontractors" and to "Subconsultants." Both are defined terms in Paragraph 7.01.A, as is the term "Subcontractor."

"Subconsultant" replaces the term "Consultant," which had been used in prior editions of the Engineering Series documents and refers specifically to a design firm or similar entity that provides professional services under contract to the Engineer. The Engineer may wish to consider using E-570, Agreement between Engineer and Subconsultant for Professional Services, to engage its Subconsultants.

“Engineer’s Subcontractor” is a term used for a subcontractor that provides general (nonprofessional) services, or materials or equipment to the Engineer. The term is used in E-562, Agreement between Engineer and Engineer’s Subcontractor.

Finally, CMAR-500 refers in a few instances to the term “Subcontractor,” standing alone. This defined term refers to subcontractors of CMAR (in its role as the construction contractor) and is used here just as it is used in CMAR-700, and in the other CMAR-Series documents.

Like E-500 (starting in 2020,) CMAR-500 is published in two parts: (1) the Main Agreement form, and (2) the accompanying CMAR-500 Exhibits document. Each of the exhibits contains Guidance Notes regarding the use and modification of the Exhibit when preparing an Owner–Engineer Agreement for a specific project; see also CMAR-500, 8.01, in which the specific exhibits are identified, incorporated by reference, and included as part of the Agreement.

When finalizing a specific Owner—Engineer Agreement, EJCDC recommends that the user keep the Word files for the two parts (Main Agreement and Exhibits) separate. The two parts have somewhat different underlying styles and formatting. Merging the two parts into a single Word file could result in formatting problems. If the user moves text from one of the two parts to another (e.g., if the user decides to move some or all the contents of one of the exhibits into the Main Agreement), appropriate steps should be taken to preserve the formatting integrity of the receiving document. A better option would be to finalize each part and then combine each of the two separate parts into a single PDF document.

For CMAR projects, the OA works directly with the Owner to gather information to be used in developing the Proposal Documents using CMAR-050, CMAR-051, and CMAR-052. The OA’s specific obligations for selecting the CMAR are established in CMAR-501. While the Engineer’s role will be limited or minimal when compared to a DBB project, the OA and the Engineer should collaborate in developing the final Proposal Documents to be used in selecting a CMAR.

The user should make appropriate revisions to the following provisions if, on a specific project, the Owner itself or the Engineer will take the lead in preparing the Proposal Documents and Front-End CMAR Contract Documents. If the Engineer takes the lead and the Proposal-related services are included under CMAR-500, the relevant Proposal-related scope provisions of CMAR-501 will be useful and can be transferred into CMAR-500, Exhibit A.

6.2 CMAR-500, Exhibits to the Agreement between Owner and Engineer for Professional Services (When Owner Retains a Construction Manager at Risk)

A. CMAR-500 includes the following exhibits:

1. Exhibit A—Engineer’s Services
2. Exhibit B—Deliverables
3. Exhibit C—Amendment to Owner-Engineer Agreement
4. Exhibit D—Reserved
5. Exhibit E—EJCDC CMAR-626, Notice of Acceptability of Work
6. Exhibit F—Electronic Documents Protocol (EDP)
7. Exhibit F—Attachment 1: Software Requirements For Electronic Document Exchange
8. Exhibit G—Insurance
9. Exhibit H—Dispute Resolution

10. Exhibit I—Limitations Of Liability

11. Exhibit J—Payments to Engineer for Services and Reimbursable Expenses

7.0 AGREEMENT BETWEEN OWNER AND OWNER’S ADVISOR

CMAR-501, Agreement between Owner and the Owner’s Advisor, is used by the Owner to retain an OA to serve in an advisory capacity for the delivery of the CMAR project. The services of the OA are rendered in support of all different project delivery systems ranging from DBB to design-build, and for situations in which there are multiple prime construction contractors. OA services can be provided by employees of the Owner, by the Engineer, or by a consultant.

- C-Series documents describe the role of the Engineer as OA in administering a DBB or multiple prime construction contracts. E-500 is used to further define the obligations of the Engineer when providing OA services for DBB or multiple prime construction contracts for the Owner.
- CMA-Series documents describe the role of the OA for a DBB or multiple prime construction contracts when these services are provided by the Owner or a consultant other than the Engineer. The CMA-500 document is used to separate the Engineer/OA responsibilities for a DBB or multiple prime contracts. This document provides the foundation for OA services for the CMAR and Design Build project delivery systems, which assume that these services will be provided by an entity other than the Engineer. CMA-500 provides a description of the role of the Engineer when the Owner retains the services of a Construction Manager as Advisor.
- CMAR-Series documents are based on the premise that the OA services can be provided by employees of the Owner, by the Engineer, or by a consultant. The assignment of the OA responsibilities is made in the Agreement, which identifies the Owner, the CMAR, the OA, and the Engineer. No contract exists between and Owner and its own employees; however, when these services are to be provided by the Owner’s staff, they should be provided in a manner consistent with CMAR-525. The scope of services in CMAR-501, Exhibit A, can serve as a “job description” for the duties of the employee OA. CMAR-525 should be edited to account for any deviations from the roles and responsibilities of the OA. When the Engineer serves as the OA, E-500 should be edited to include any services that are different than the requirements for a DBB contract. CMAR-500 can be used to coordinate the differences in the scope of services when the Engineer provides the OA services for a CMAR contract. CMAR-501 is written assuming that the OA will be provided by an entity other than the Owner or Engineer. CMAR-500 describes the Engineer’s role when the CMAR project delivery system is used and is recommended when the OA is an independent consultant.
- D-Series Documents, particularly for progressive design-build, are similar in many regards to CMAR-Series documents, with the shift in design responsibilities from the Owner’s Engineer to the Design-Builder’s Engineer being the most significant difference. Although CMAR documents are intended to be flexible, it is recommended that the D-Series documents, written specifically for that delivery system, be used for Design-Build projects.

For CMAR projects, the OA’s services include assisting the Owner in retaining a CMAR using a structured selection process, providing direction and leadership in coordinating CMAR Services, and providing contract administration and quality management duties during the construction process. CMAR-501, Exhibit A, presents a typical scope of OA’s services for a CMAR project.

The CMAR-501 document is structured so the Basic Services described in Exhibit A will be authorized as soon as the Agreement is executed. The services identified in Exhibit A as Additional Services must be authorized by Task Order. A standard form for Task Orders is included in CMAR-501, Exhibit B. The Agreement also allows for the authorization of Special Services, which are services that are not anticipated or identified when the Agreement is prepared and thus not listed as Additional Services. Such Special Services are intended to be authorized by an Amendment to the Agreement, included as CMAR-501, Exhibit C.

Although the main body of the Agreement usually will require only limited editing, it is expected that the exhibits will be edited more extensively to state the project-specific agreement of the parties regarding the services to be rendered, the compensation to be paid for those services, and insurance to be provided.

Exhibit A contains examples of tasks that may be provided by the OA. The user should add, delete, or modify items in this Exhibit or provide more detailed descriptions of the tasks consistent with the needs of the project. Coordinate these advisory services with the services to be performed or furnished by the Engineer under its professional services agreement with Owner. See CMAR-500, Exhibit A, for the Engineer's Scope of Services. Some services will be performed jointly, for example, the inspection of the Work to determine Substantial Completion; most services will be conducted by either the Engineer or OA, but not both.

In the typical case, Division 01 of the Specifications, General Requirements, consists predominantly of Specifications concerning administrative and procedural matters but also contains some design-related content. For purposes of the CMAR proposal and selection process, it is important that short-listed Proposers receive a final version of Division 01, General Requirements, that will assist the Proposers in determining prices, especially with respect to Construction Support Costs. The General Requirements will be a Contract Document as noted in CMAR-525, Article 16. OA services should be coordinated with the Preconstruction and Procurement Services provided by the CMAR. See CMAR-525, Exhibit A. The OA typically monitors or reviews the services provided by the CMAR.

The scope of OA services assumes that OA will begin preparing a preliminary draft of the General Requirements promptly after the Effective Date of the OA Agreement. The OA's drafting emphasis will be on preparation of administrative/procedural content. The OA will then obtain the Engineer's input for any design/engineering content to be included in the General Requirements. The OA will take the lead in organizing the final production of Division 01 and distribution to the short-listed CMAR Proposers. See CMAR-500, Exhibit A.

8.0 AGREEMENT BETWEEN OWNER AND CONSTRUCTION MANAGER AT RISK

8.1 Overview of the CMAR Agreement Process

CMAR-525 is modeled closely on both C-525, Agreement between Owner and Contractor for Construction Contract (Cost-Plus-Fee), and CMA-525, Agreement between Owner and Contractor for Construction Contract (Cost-Plus-Fee), borrowing key elements from each. These documents contain many similar provisions. CMAR-525 also borrows concepts and wording from EJCDC's professional services agreements, such as E-500, Agreement between Owner and Engineer for Professional Services, to address the CMAR's Preconstruction Services and Procurement Services obligations.

This Agreement form is drafted to be flexible enough to be used on CMAR projects for contracts with governmental entities, whether awarded through a formal proposal process or as the result of direct negotiations.

The selection process for the CMAR is typically initiated so the CMAR is on board as the Preliminary Design Report is in its final draft stages. The CMAR serves in an advisory role to the Owner, the OA, and the Engineer as the design is being developed, with the focus on matters of cost and time for construction of the project, constructability, material and equipment selections, allocation and mitigation of risks, and procurement strategies. The CMAR also develops strategies to be implemented during construction for contract administration, quality management, site safety, and management of the site.

As soon as the CMAR has assessed the Owner's Construction Budget and anticipated time for construction, it will develop a procurement strategy plan to determine the best way to procure equipment and materials, identify logical Work Packages to expedite construction, and encourage competition by prospective subcontractors and suppliers. The CMAR may recommend that long-lead equipment and materials be purchased in advance, even if such items will be installed by a subcontractor, or that early Work Packages be bid while the design is progressing, all while working to deliver the project within the Owner's budget. To accomplish this build/buy while designing, the Owner may issue Work Authorizations allowing equipment and materials to be purchased and Work to progress before the design is complete. Given that Work will often begin before the design of the project is complete, and Work is authorized in stages, the CMAR agreement must be sufficiently flexible to deal with the uncertainties in determining the cost and time for delivering the project. This obviously requires a great deal of collaboration between the CMAR and the Engineer, the Owner, and the OA, and flexibility not found in a typical DBB construction project.

Unlike the construction contractor in a traditional project covered in the C-Series documents, the CMAR provides Preconstruction Services and Procurement Services, which are typically compensated on the basis of hourly billing rates. Costs for these services are submitted as part of the Proposals but are not part of the scoring process which considers price. It is recommended that these costs not be included in the selection criterion, so Proposers are not encouraged to cut these costs in order to establish a more favorable position during the selection process. These costs are typically not significant compared to the cost of constructing the project, and the costs of these services should be more than recovered by construction cost savings. These costs are part of the Contract Price and are included in Exhibit A as part of the estimated Contract Price.

The cost of construction has three components: Construction Support Costs, the Cost of the Work, and the CMAR Fee. Construction Support Costs, sometimes referred to as general conditions costs, are based on the requirements for managing the project typically covered in Division 00 and in the Division 01 specifications. The CMAR is asked to estimate these costs based on a specified period for construction. These proposed costs are reimbursed on a monthly basis.

Because the project is in the early stages of design when the Owner and the CMAR enter into the Contract, it is not practical to fix the cost of building the project (construction cost) with any degree of certainty. The CMAR is typically asked to propose a CMAR Fee and CMAR Contingency Allowance amount as a percentage of the estimated Cost of the Work in response to a Request for Proposals. The Owner typically provides Proposers with an estimated Cost of the Work and an estimated number of days in the Construction Period, usually developed by the OA, so the Proposers can use this to develop pricing an estimated Guaranteed Maximum Price (GMP). The actual GMP is determined later when the design of the Work is more developed, and the Cost of the Work and time required for construction can be determined with a greater degree of accuracy.

The Owner may, at its discretion, include an Owner's Contingency Allowance to cover unforeseen increases in the scope of the Work in the Contract Price. This contingency allowance is not part of the

estimated GMP but should be included in the Contract Price that will be used to determine the amount for which the Contract will be awarded.

The Contract Price, which is an estimated cost when the Agreement is signed, is the total of the selected CMAR's compensation for CMAR Services, Construction Support Costs, Cost of the Work, the CMAR Fee, CMAR Contingency Allowances, and the Owner's Contingency Allowance, if any. The Contract Price included in this Agreement, calculated in Exhibit B, Basis of Compensation, is based on the amounts proposed by the selected CMAR for CMAR Services, Construction Support Costs, CMAR Fee, and CMAR Contingency Allowance presented in its Proposal as may be modified as the results of negotiations between the Owner and selected CMAR.

Negotiations should be conducted only with the most highly ranked Proposer and be based on changes in scope, terms, and conditions that reallocate risk or other substantive changes. As the Cost of the Work is still to be determined, changes in the Contract Price typically result from changes in the scope of CMAR Services, Construction Support Costs, the CMAR Fee, or the CMAR Contingency Allowance. The Owner may choose to change the Owner's Contingency, if such a change appears to be prudent to increase or decrease the amount set aside for future changes. Should the Owner and the CMAR not be able to agree on any proposed negotiated changes, the Owner and the CMAR may agree to move forward based on the Contract Price based on the costs originally presented in the Proposal, or the Owner may choose to formally terminate negotiations and begin negotiations with the next most highly ranked Proposer. Laws and regulations may preclude the Owner from returning to the previous Proposer. Changes resulting from negotiations should be documented to clearly show the difference in the Contract Documents resulting from negotiations. This may be done using CMAR-943, Contract Amendment form.

8.2 Owner's Advisor and Engineer

The basic drafting assumption is that an engineering firm will serve as the Engineer, and a different firm (or perhaps an individual) will provide the specialized services of the OA on a CMAR project.

If the functions of the Engineer (design and related professional services) and the OA (coordination of services, site representation, contract administration) will be filled by the same entity, enter that entity's name in both Paragraph 2.01 and Paragraph 2.02. The remainder of this document, and other CMAR-Series documents such as CMAR-700, will continue to draw a distinction between the roles of the Engineer and the OA, but if a single entity performs both roles then from the CMAR's perspective it will be working with just one firm.

8.3 Scope of CMAR Services

CMAR Services, as defined in this Contract, include Preconstruction Services and Procurement Services (also defined terms), together with any other services expressly designated as CMAR Services. The Preconstruction Services and Procurement Services needed will vary significantly with the size and complexity of the project. The Contract contains the general terms and conditions associated with both Preconstruction Services and Procurement Services, and any other services expressly assigned to the CMAR, while the detailed scope of work is found in Exhibit A, Scope of CMAR Services.

8.4 Performance of the Authorized Work

For public-sector CMAR projects, the process for selecting subcontractors and suppliers, and even the self-performance of Work by the CMAR, tend to be regulated by Laws and Regulations. Securing competitive construction prices is a goal for all CMAR projects. Meeting applicable requirements and attaining competitive pricing goals for the Work typically require the use of one of two of the following strategies,

and sometimes both: (1) requiring competitive bids for all Work, including Work the CMAR would like to self-perform; and (2) limiting the amount of Work that can be self-performed by the CMAR.

Limiting the amount of self-performed Work can be as simple as specifying a limiting percentage but could also identify specific Work Packages on which the CMAR will not be allowed to self-perform.

As to price competition, some exceptions may be made, with concurrence of the Owner, to allow sole-source subcontracts for specific specialty subcontractors and equipment. Restrictions on the use of sole-source procurements may be dictated by Laws and Regulations. Language has been included that restricts the CMAR to use only the procurement practices allowed by Laws and Regulations for the Owner. While not allowing the CMAR the unfettered ability to procure Work, materials, and equipment as the CMAR would on a private-sector contract, it does provide the same safeguards built into procurement Laws and Regulations and may help the Owner and the CMAR avoid challenges to the procurement process.

8.5 Guaranteed Maximum Price

Setting and developing the GMP is a critical part of the Owner—CMAR Contract. EJCDC recognizes that there are many project-specific factors that will influence how the GMP provisions will be structured and urges the parties to revise and refine these provisions to suit the needs of the project. The OA will typically play a vital role in devising a strategy for GMP and assuring that the contract provisions implement that strategy.

Because the CMAR is selected and because the Owner—CMAR Contract is signed when the design is still in a preliminary stage, it is usually not practical to establish a binding GMP at the outset of the Contract (when this Agreement is signed).

It is common during CMAR projects for the Work to be performed using a series of Work Packages that are authorized over a period of time. For example, the design for initial site work might be completed and the related Work Package authorized while design of the facilities themselves is still in progress. The portion of the GMP related to the site work would be established first, and the GMP would be further developed as more design is completed and the various Work Packages are authorized.

EJCDC generally recommends that binding GMPs, partial or complete, be established before the corresponding design is 100% complete and the Work Package has been bid. The provisions below (*e.g.*, Paragraph 8.10) indicate setting the GMP for the complete project at 90% design completion, but other approaches may be preferable for some projects.

8.6 Contract Times

On the typical CMAR project, at the time the CMAR is selected and the Owner and the CMAR enter into this Agreement, the project has not yet been designed, and a master schedule for completion has not yet been prepared. Under those circumstances, setting a contractually binding construction completion date would be speculative at best and in most cases counterproductive. Forcing a specific project schedule at the time the Agreement is to be signed can increase construction costs for acceleration (artificially forced early completion of the Work, rather than developing and following a schedule that be most beneficial for construction). EJCDC recommends that in the typical situation the parties should use a Contract Amendment to establish specific binding Contract Times; or the terms of a Work Authorization or a Change Order with respect to completion times for specified portions of the Work. The provisions in this Article, and in Article 4 of the General Conditions, would apply to such Contract Times. To follow this recommendation, select either Paragraph 15.01.B or Paragraph 15.02.B, following the instructions in the Notes to User.

Specific binding Contract Times should be established in this Agreement if the Owner has a specific date in which the Work must be substantially complete, or if there are specific Milestones that the CMAR must meet to accomplish the Owner's goals.

In some cases, it may be necessary for the Owner to specify dates for substantial and final completion, such as to meet a regulatory requirement or similar operations date, and the terms of this Agreement should expressly obligate the CMAR to meet those dates. To establish specific completion dates at the outset of the Contract, select either CMAR-525, 15.01.A or 15.02.A, following the instructions in the Notes to User.

In some instances, it may be important that a specific portion of the Work be complete and operational before the entire scope of Work is complete. In this case, a separate Work Package and related Work Authorization should be used for this essential portion of the Work and the Work Authorization should specify a Milestone with damages for late attainment. In some instances, it may be logical to complete other Work associated with the Work Package at the same time, so only a portion of the Work Package may be considered as a Milestone. Provisions for Partial Use in accordance with CMAR-700, 15.05 should be applied (transfer of utilities, insurance, and start of warranties, etc.), if the Work Package, or a portion thereof, is to be accepted for early operation. See CMAR-545, Work Authorization.

8.7 Liquidated Damages

Liquidated damages are commonly used to address unexcused late completion of the Work. Delete CMAR-525, 15.03, Liquidated Damages, if such damages will not be established in the specific Contract.

At Substantial Completion, the Owner is able to use the Work for its intended purpose, by definition; see GC, 1.01.A.53. Achieving Substantial Completion is typically a critical deadline, and the associated damages for missing this deadline may be significant. CMAR-525, 15.03.A.1 is the location for stating a liquidated amount for such damages, usually on a per-day basis.

The subsequent failure to complete the punch list tasks and bring the Work to a complete close by the final completion date may also result in some degree of damages to the Owner, although typically these damages are significantly less than the daily damages for not achieving Substantial Completion on time. Some users may choose to establish liquidated damages only for the failure to achieve Substantial Completion. If that is the case, delete CMAR-525, 15.03.A.2.

If failure to achieve a Milestone on time is of such consequence that the assessment of liquidated damages is warranted for the failure to reach the Milestone on time, then retain and complete CMAR-525, 15.05; if not, delete it. Add additional similar paragraphs for any additional Milestones subject to a liquidated damages assessment. Liquidated damages for Milestones might, in some cases, be additive to liquidated damages for failing to attain Substantial Completion; if so CMAR-525, 15.03.A.3 and 15.03.A.4 should be revised accordingly.

8.8 Special Damages

If liquidated damages are used to address late completion by the CMAR, EJCDC recommends developing daily liquidated damages amounts that comprehensively account for the full range of the Owner's damages, including but not limited to loss of beneficial use; extended financing expenses; costs of additional construction management, engineering, construction observation, inspection, administrative services; and potential fines or penalties. This comprehensive approach is well established and generally enforceable. If the recommended and conventional path is followed, and a comprehensive daily liquidated damages amount has been established in CMAR-525, 15.03, then delete the clause that follows,

CMAR-525, 15.04, Special Damages, and rely solely on CMAR-525, 15.03, Liquidated Damages, to cover the full scope of damage done by late CMAR completion.

Some Owners choose to charge the CMAR that has not completed the Work within the stipulated Contract Times for the Owner's actual costs incurred in lieu of or in addition to liquidated damages. These costs are in specified categories, such as regulatory fines and penalties, or extended construction management, engineering, construction observation, inspection, and administrative services. These charges, referred to as special damages, are levied on top of the specified daily liquidated damages amount. Those users that choose the liquidated damages plus special damages approach may use CMAR-525, 15.03, Liquidated Damages, and CMAR-525, 15.04, Special Damages. These two paragraphs should be revised to reflect the intended scope of the liquidated and special damages. It is especially important if this approach is followed to be certain that the liquidated damages amount does not already include or rely in part on the potential for incurring these very same special damages costs.

For each Milestone, describe the milestone and the requirements that must be met before the Milestone will be considered substantially complete. Specify the date or number of days from the Effective Date of Work Authorization by which the Milestone must be substantially complete. Specify the amount of any associated damages.

Special damages may be used in lieu of the liquidated damages provisions presented if a one-time definable cost, such as a fine or penalty, will be incurred. Modify the language if special damages are to be used.

In CMAR-525, 15.05, use a specific date for attainment of the Milestone if CMAR-525, 15.01, Contract Times–Dates, has been selected; use the number of days from commencement of Contract Times for the Milestone if CMAR-525, 15.02, Contract Times–Days, has been selected.

If the Contract does not include Milestones, delete CMAR-525, 15.05.

8.9 CMAR-525, Agreement Exhibit A

Services are classified as Basic Services, Additional Services, and Special Services. Those services currently shown as Basic Services are those that might apply to any “normal” project. Depending on the size and complexity of the project, services may be moved from Basic to Additional or from Additional to Basic as presented in this Exhibit to meet the needs of the project. As an example, Value Engineering studies, which are more commonly used for larger, more complex projects, is currently listed as an Additional Service. Value Engineering studies can be moved to Article 1 as a Basic Service if it is known when the Agreement is signed that these services will be provided.

Pricing can be obtained for selected Additional Services if the scope of these services can be defined at the time the Agreement is signed. If the scope of an Additional Service cannot be well defined at the time the Agreement is signed, it may be better to determine the compensation for these services when the scope for these services can be better defined. These services can be added as Special Services after the Agreement has been signed. The Owner may choose to establish an Owner's contingency allowance for Special Services so money for these services will be included in the cost for CMAR Services.

8.10 CMAR-525, Agreement Exhibit B

The Agreement Exhibit B, Basis of Compensation, is used to calculate the Estimated Contract Price for the Agreement. Guidance Notes provide information for the Owner and the OA to aid in the preparation of the Agreement Exhibit B. The CMAR will not make any entries in this table. The OA will prepare the Exhibit B to formalize the information from the Proposal of the selected Proposer, with modifications to (1) capture any selected options from alternative proposals or other modifications, (2) incorporate the

results of any negotiations between the Owner and the selected Proposer, and (3) include Owner Contingencies for CMAR Services and for an Owner's Contingency Allowance for construction, if any.

The Estimated Cost of the Work approximates the Cost of the Work, which does not include the CMAR Fee or Construction Support Costs, is prepared by the OA and is used to establish a preliminary Contract amount. The Estimated Guaranteed Maximum Price (GMP) is not binding at the time the Agreement is signed unless the GMP can be established with some degree of certainty. It is anticipated that a binding GMP will not be established when the Agreement is signed or when the initial Work Authorizations are issued; rather the binding GMP will be established later when the project design has been substantially developed. Numbers for the CMAR Fee and CMAR Contingency Allowance are binding and will be incorporated into the Agreement.

The Proposal, Agreement, Work Authorization, and Application for Payment tables, presented as Exhibits, were all developed using Microsoft Excel™ to take advantage of its capabilities to make calculations, logic decisions, and transfer data from one worksheet to the next, within the same Workbook (file). Each Workbook is intended to be consistent with the others in terms of format, content, and protocols for use. One of the benefits of this consistency is the ability to copy information into subsequent tables as the data moves from Proposal to Application for Payment, thus reducing the need for re-keying data.

It is assumed that users of these tables will have a fundamental understanding of Excel; however, some basic instructions on using Excel for this purpose are provided in CMAR-620, Application for Payment.

Like Proposal Exhibit A, the Agreement Exhibit B consists of four tables. Table 1 captures key information regarding the price for CMAR Services, Construction Support Costs, CMAR Fee, and CMAR Contingency. Table 1 serves as a summary sheet for calculations, pulling key numbers from Tables 2 through 4.

Compensation for CMAR Services is calculated in Table 2—Compensation for CMAR Services, and the total amount for these services is transferred to Table 1. Amounts for Construction Support Costs are calculated in Table 3 for Fixed Construction Support Costs and in Table 4 for Time Sensitive Construction Support Costs. The amount for each of these costs are transferred to Table 1 and added together to determine the Total for Construction Support Costs.

Estimated Guaranteed Maximum Price represents the CMAR's cost to construct the Work and consists of the Total Construction Support Cost, the Cost of the Work, CMAR Fee and CMAR Contingency, and other Contingency Allowances. This amount does not include costs for CMAR Services or Owner's Contingency Allowances.

Cost of the Work with CMAR Fee

The actual Cost of the Work is not known at the time the Agreement is signed and will not be determined until the design has progressed to a point when a more definitive and binding cost can be determined. The Owner, typically through its OA, determines the Estimated Cost of the Work (Estimated COW) amount to be used to calculate an Estimated Guaranteed Maximum price using the CMAR Fee, Construction Support Costs, and CMAR contingency from the selected Proposal.

Depending on negotiations between the Owner and selected Proposer, modifications may be made to the Estimated COW, contingency allowance amounts, and other factors that may impact the Estimated GMP.

The Cost for CMAR Services and the Owner's Contingency are added to the GMP to determine an Estimated Contract Price. This is the amount for which the Contract will be awarded. At the option of the Owner, the Contract Award might be based on CMAR Services, and the Estimated Guaranteed Maximum Price might be established later when the design of the project has progressed to the point where a better

estimate of the cost is determined. At that mutually acceptable point, a more definitive GMP can be established, and the Contract Price can be fixed by issuing a Contract Amendment.

The CMAR Fee as proposed by or negotiated with the CMAR is typically calculated as a percentage of the Estimated Cost of the Work or may be a stipulated sum. The amount of the CMAR Fee in the Agreement is based on the fee structure presented in the Proposal and is based on either one, or combination, of the following:

- CMAR Fee is calculated as a single fixed percentage of the Estimated COW per CMAR-525, 7.01.A.
- CMAR Fee is calculated as different percentages applied to specified Cost of the Work categories per CMAR-525, 7.01.B.
- CMAR Fee is a stipulated fixed fee per CMAR-525, 7.01.C.

This structure will follow the same method for CMAR Fee selected by the Owner and the OA in preparing the Proposal form.

CMAR Contingency Allowance and other Contingency Allowances

The amount for the CMAR Contingency Allowance is typically calculated as a percentage of the Estimated COW. Enter the proposed or negotiated percentage where designated. This percentage will be multiplied by the Estimated COW to calculate an amount for the CMAR Contingency allowance. A percentage is typically used since the Cost of the Work has not yet been established.

In some instances, the OPT may identify other specific contingency allowances for use outside of the CMAR Contingency Allowance. These other contingency allowances should be described in the Agreement together with discussion of the allowances' intended uses, and identification of restrictions on their use. The amount for each such contingency should be added where indicated in Table 1 to include it in the Estimated Contract Price.

The OPT may identify other specific cash allowances in accordance with CMAR-700, 13.01. These should be added where indicated in Table 1 to include them in the Estimated Contract Price.

The total amount for the CMAR Contingency Allowance plus all other contingency allowances is calculated for use in calculating the Estimated GMP.

Contract Times is defined as the estimated number of days to reach Substantial Completion and the estimated number of days to reach Final Completion as proposed by or negotiated with the CMAR are entered in the Table 1 section for Contract Times. This is typically only a rough estimate for completion days since the scope of the project has yet to be determined. If the Owner elects to do so, it can wait until after CMAR completes its Preconstruction Services before determining schedule days. In this event, The Owner should enter TBD (To Be Determined) in this Table. If the Owner has specific requirement for completion, the maximum number of allowable days can be entered into the Contract Times section, or this can be modified to specify dates instead of days. See CMAR-700, 15.01.

Table 2– Compensation for CMAR Services

Check to see that all tasks identified in CMAR-525, Exhibit A, Scope of CMAR Services, are included in Table 2. Modify Table 2 to add new tasks or delete unused tasks so the Task Numbers and Descriptions are the same as those in the Scope of CMAR's Services.

Enter the names, classifications, and billing rates for the individuals proposed to provide CMAR Services in the table header from the Proposal. These billing rates will be used to determine the value of compensation for Basic and Additional Services based on the number of hours estimated for each task.

Enter the estimated number of hours for each participating individual for each Task in the table. The worksheet will calculate extended amounts for each task, total the amount for Basic and Additional Services for both Preconstruction and Procurement Services, and the total for all CMAR Services. See CMAR-525, 3.04.

The worksheet provides two options for including a contingency amount for Special Services. A contingency amount may be stipulated as a lump sum amount or as a percentage of the Totals for Basic and Additional Services.

When CMAR Special Services cost is a Stipulated Sum, enter the amount in the table.

If CMAR Special Services cost is to be based as a percentage of the Total amount for Basic and Additional Services, enter the percentage in the line for calculating the amount for Special Services to calculate the contingency amount for Special Services.

If the line for the option not selected is deleted, revise the worksheet equation accordingly. See Notes to User in Table 2.

The Total Cost for CMAR Services is transferred to Table 1.

Table 3–Basis of Compensation for Fixed Construction Support Costs

Enter data for Fixed Construction Support Costs in Column A through Column F. Rows can be added as needed. Extended amounts and the Total Lump Sum Fixed Construction Support Costs will automatically be calculated and transferred to Table 1. See CMAR-525, 5.02.

Table 4–Basis of Compensation for Time-Sensitive Construction Support Costs

Enter data for Time-Sensitive Construction Support Costs in Column A through Column G. Rows can be added as needed. Extended amounts and the Total Lump Sum Time-Sensitive Construction Support Costs will automatically be calculated and copied into the appropriate cells in Table 1. See CMAR-525, 5.03.

The Daily Rate for Time-Sensitive Construction Support Costs is calculated in Table 4 for information but is not a component of the Construction Support Costs or the Estimated Contract Price.

Attachment A to this Exhibit provides detailed information for each table in Exhibit B. The tables in Attachment A include a description of each Column or designated Row or cell, their related calculations, and Notes to User on the function of each. Cells are typically locked except when modifying the tables to prevent accidental overwriting of equations or functions. Restrictions allow additional rows to be added as needed for Table 3 and Table 4.

The Exhibit A tables and the tables for each document in Attachment A use color coding and different fonts to help provide direction on completing these tables. The following table provides a summary of those conventions:

- No color is used in cells prepared by the OA.
- Light green indicates cells in which the Proposer or CMAR is to enter data, amounts, or factors in the form of percentages. This color is not used in the C-525, Agreement Exhibit B since the OA will prepare this document.
- Light blue indicates that the cell includes an equation. These cells are normally protected unless changes are being made to the worksheet.
- Light purple indicates cells containing data or amounts that are transferred to Table 1.

- B—Lower-case letters in blue and bold fonts indicate Column designators used for instructions. These may not correspond to Excel worksheet Column headings since columns may have been combined for formatting. These correspond to information provided in the tables in Attachment A.
- 3—Numbers in blue and bold fonts indicate Row or cell designators used for instructions. These correspond to information provided in tables in Attachment A.
- Table—Names of other worksheets within the workbook are in blue and bold fonts.
- C a—The capital letter “C” followed by a lower-case letter in blue and bold fonts is an abbreviated designation for a Column, in this example, Column a.
- R 1—The capital letter “R” followed by a number in blue and bold fonts is an abbreviated designation for a Row, in this example, Row 1.
- []—Brackets indicate a place holder where a specific type of information is to be provided.

8.11 CMAR-545, Work Authorization

The Work Authorization is a form used to authorize Work Packages in accordance with CMAR-525. Each Work Authorization can be specific to a single Work Package or may incorporate several Work Packages. The Work Authorization will describe the equipment or materials to be purchased or Work to be completed, how and how much the CMAR will be paid for completion of the authorized Work, and when the authorized Work is to be completed if this Work Authorization is for a specified Milestone. CMAR-943, Contract Amendment, not the Work Authorization, should be used to modify the terms and conditions of the Agreement or other Contract Documents.

A Work Authorization is issued by the OA to allow the CMAR to proceed with the Work described in a specific Work Package. The Work Package comprises the design documents described in CMAR-545, Exhibit A. Exhibit A identifies the Specifications, Drawings, and related appendices, if any, that have been prepared by the Engineer with input from the CMAR and the OA that provide the scope for the Work to be completed under this Work Authorization. The underlying design documents will be signed and sealed by the Engineer or other design professionals of record and are incorporated into the subject Work Packages included in the Work Authorization by reference.

The Agreement is written to compensate the CMAR for Work on a Cost of the Work Plus a Fee basis, primarily because the scope of the Work under the Contract is not well defined at the time the Agreement is signed. Because the scope of what is to be purchased or constructed is better defined when a Work Authorization is issued, allowing for more specific pricing, it may be easier to use a lump sum or unit price method of compensation than the prescribed Cost of the Work Plus a Fee method. Therefore, the Work Authorization form allows the Owner and the CMAR to convert the compensation for the authorized Work to a stipulated amount, either a lump sum or stipulated unit prices. It would be best to avoid using a stipulated amount as the basis for compensation if the authorized Work has a relatively high degree of associated risk or uncertainty. Provisions are made in the Work Authorization for one, or a combination of methods for compensating the CMAR for the authorized Work.

Time for completion of the Work in a Work Authorization can also be better defined at the time the Work Authorization is prepared, but both the Owner and the CMAR are typically more concerned about completing the entire scope of the Work on time, rather than being concerned about the completion status of a single Work Authorization. Because the Contract may have several Work Authorizations active at the same time, imposing time limitations on any one Work Authorization may be impractical. The exception is when a certain portion of the Work is needed by the Owner in advance of the completion of

the entire scope of Work. It is suggested that if a specific portion of the Work is needed in advance of the whole project, that this portion of the Work be established as a Milestone, subject to delay damages if that Milestone is not met. The delay damages for missing the Milestone should apply only to the Milestone and must not duplicate the delay damages that are assessed for a failure to substantially complete the Work as a whole.

9.0 AMENDING THE CONTRACT DOCUMENTS

9.1 Amending the Contract Documents and Work Authorizations

Making modifications to the CMAR Contract Documents is in most regards similar to the procedures used for DBB documents and the user should consult C-100 for a more thorough discourse on C-940, Work Change Directive, C-941, Change Order, and C-942, Field Order. The primary difference between these C-Series documents is that the CMAR counterparts to these documents are used to modify the Work Authorization, which defines the scope, basis for compensation, and associated Contract Times, instead of the Contract Documents. The Contract Amendment is defined as: “a document signed by the Owner and the CMAR which modifies the terms and conditions of the Contract, including but not limited to modifications of the time or compensation provisions of the Agreement and the scope of CMAR Services.”

9.2 CMAR-940, Work Change Directive

The Work Change Directive is used by the OA, on behalf of the Owner, to order additions, deletions, or revisions in the Work to proceed without waiting until the Owner and the CMAR have agreed upon the impact, if any, of these changes on Contract Price, Contract Times, or both. See CMAR-700, 11.03. The additions, deletions, or revisions will apply to Work that has been authorized within the scope of a specific Work Authorization.

The Work Change Directive document is unilateral in nature and does not require the CMAR’s signature. The Owner, the OA, and the Engineer should maintain documentation of the transmittal of a Work Change Directive to the CMAR.

Because, by definition, Work Change Directives involve changes to the Work, EJCDC presumes that all Work Change Directives must be supported by Engineer’s recommendation. See CMAR-700, 1.01.A.62.

Although the General Conditions do not require any estimates of the impact of the ordered change on the schedule or Contract Price, such estimates are considered good practice and are commonly provided. The estimates may serve as a starting point for determination of schedule and cost impacts.

For additional information regarding CMAR-940, see the discussion regarding C-940, Work Change Directive in C-001, 7.4.

9.3 CMAR-941, Change Order

The Change Order is used to modify a Work Authorization. Changes to the Contract, including changes made by Change Order, are addressed in CMAR-700, Article 11. In most cases the Contract modifications will be changes to Work that has been authorized within the scope of a specific Work Authorization. Modifications that change the amount authorized for the Work Authorization or the Contract Times must be made by Change Order.

Options are provided to designate whether the Work Authorization to which the Change Order applies has been designated as a Milestone. Unless the Work in the Work Authorization has been designated as a Milestone, no change is made in the Contract Times, and the CMAR is to complete the Work on the complete project by the Substantial Completion date designated in the Agreement. If the Work in the

Work Authorization has been designated as a Milestone, and the Change Order will impact the completion date for the Work in the Work Authorization, then the completion dates for the Work Authorization should be modified in a Change Order. Work in Work Authorizations designated as Milestones are typically for completion of some part of the project that provides a beneficial use to the Owner if completed on time. Milestone Work Authorizations may include provisions for delay damages, typically in the form of delay damages to compensate the Owner for losses incurred as the result of late completion of the Work in the Work Authorization. If the Change Order increases the Work in the Work Authorization that will result in a later completion, the completion dates should be modified to change the dates for Substantial and Final Completion, so the CMAR is not subject to damages for these impacts.

Most Change Orders require the Engineer's recommendation. See CMAR-700, 11.01. Many publicly funded projects require that Change Orders be approved by the funding agency (such as the Rural Utilities Service). For projects that do not require such approval, the user may delete the funding agency approval block or indicate "Not Applicable."

For additional information regarding CMAR-941, see C-001, 7.5.

9.4 CMAR-942, Field Order

The Field Order is issued by the OA, with the Engineer's authorization, to order minor changes to the Work that do not change the Guaranteed Maximum Price or Contract Times. Changes to the Contract, including changes made by Field Order, are addressed in CMAR-700, Article 11. The Contract modifications will be changes to Work that has been authorized within the scope of a specific Work Authorization.

A Field Order is signed by the OA and the Engineer. The OA should maintain documentation of the transmittal of a Field Order to the CMAR. For additional information regarding CMAR-942, see C-001, 7.6.

9.5 CMAR-943, Contract Amendment

CMAR-943 is a document used to modify the terms and conditions of the Contract, including modifications to the time or compensation provisions of the Agreement and the scope of CMAR Services. CMAR-943 is not used for making changes in the Work or to a Work Authorization. Changes to the Contract are addressed in CMAR-700, Article 11. CMAR-700, Article 1 provides definitions of Contract Amendment and other change-related terms.

A Contract Amendment must be signed by the Owner and the CMAR. Because Contract Amendments do not make changes in the Work, the Engineer's recommendation is typically not required. For such typical Contract Amendments that do not require the Engineer's recommendation, the user may delete the "Recommended by Engineer" block or indicate "Not Applicable."

Many publicly funded projects require that Contract Amendments be approved by the funding agency. The user may delete the funding agency approval block or indicate "Not Applicable" for projects that do not require funding agency approval.

10.0 GENERAL CONDITIONS

10.1 CMAR-700, Standard General Conditions of the Construction Manager at Risk Contract

CMAR-700, Standard General Conditions of the Construction Manager at Risk Contract, is the foundation document for the CMAR-Series. The General Conditions define the basic rights, responsibilities, risk allocations, and contractual relationship of the Owner and the CMAR and establish how the Contract is to be administered.

The Contract between the Owner and the CMAR is fundamentally a construction contract; however, in addition to its construction obligations the CMAR also is responsible for providing specified Preconstruction Services, for example, providing information regarding constructability to the Engineer during the design phase and Procurement Services, which include identifying qualified Subcontractors and bringing them under contract. These CMAR Services are described in CMAR-525. The General Conditions contain many construction-specific provisions, for example, the differing site conditions clauses; they also contain general clauses that are applicable to the CMAR Services as well as to construction, for example, the indemnification clause.

CMAR-700 is based on and organized in the same manner as EJCDC C-700, Standard General Conditions of the Construction Contract. Users familiar with C-700 will find that the substance, wording, and risk allocations of that document are carried over into CMAR-700 whenever appropriate. The distinctions between the two documents most often involve procedural matters, such as the payment application process in Article 15; for example, in C-700, applications for payment are submitted to the Engineer, but in CMAR-700, such applications are submitted to the OA. For additional information regarding CMAR-700, see C-001, 6.3.K.

Although it is permissible to revise the Standard EJCDC Text of CMAR-700 (the content beginning at Page 1 and continuing to the end), it is common practice to leave the Standard EJCDC Text of CMAR-700 intact and unaltered, with modifications and supplementation of CMAR-700's provisions set forth in CMAR-800, Supplementary Conditions of the Construction Manager at Risk Contract. If the Standard Text itself is revised, the user must comply with the terms of the License Agreement, Paragraph 4.0, Document-Specific Provisions, concerning the tracking or highlighting of revisions.

The term "Standard EJCDC Text" for CMAR-700 refers to all text prepared by EJCDC in the main body of the document. Document covers, logos, footers, instructions, or copyright notices are not Standard EJCDC Text for this purpose.

During the drafting or negotiating process for CMAR-700, it is important that the two contracting parties are both aware of any changes that have been made to the Standard EJCDC Text. Thus, if a draft or version of CMAR-700 purports to be or appears to be an EJCDC document, the user must plainly show all changes to the Standard EJCDC Text, using Track Changes (redline/strikeout), highlighting, or other means of clearly indicating additions and deletions.

If CMAR-700 has been revised or altered and is subsequently presented to third parties, such as potential bidders, grant agencies, lenders, or sureties, as an EJCDC document, then the changes to the Standard EJCDC Text must be shown, or the third parties must receive access to a version that shows the changes.

Once the document is ready to be finalized and, if applicable, executed by the contracting parties, it is no longer necessary to continue to show changes to the Standard EJCDC Text. The user may produce a final version of the document in a format in which all changes are accepted, and the document at that point does not need to include any Track Changes (redline/strikeout), highlighting, or other indication of additions and deletions to the Standard EJCDC Text.

10.2 CMAR-800, Supplementary Conditions of the Construction Manager at Risk Contract

The standard fundamental provisions affecting the rights and duties of the parties appear in the General Conditions. Language to modify the fundamental relationships between the parties, supplement the framework set forth in the General Conditions, or change the language of the General Conditions, should appear in the Supplementary Conditions. Examples of this are a change in CMAR's Site responsibilities, and a supplemental clause specifying the details of insurance coverages and limits for the project.

Price terms, monetary terms such as liquidated damages clauses, and completion dates should all be set forth in the Agreement and should not be included in the Supplementary Conditions.

The text in this document suggests contract language for some commonly used Supplementary Conditions. Most of the suggested Supplementary Conditions are accompanied by Guidance Notes that discuss the purpose or usage of the Supplementary Condition. These Guidance Notes are often just the first step in determining whether to use the Supplementary Condition, and if so, whether revisions are needed to suit the specific project. The drafter should bear in mind that most contractual provisions have important legal consequences. Consultation with legal counsel before finalization of any amendment or supplement is recommended.

There are Guidance Notes and Notes to User within the Supplementary Conditions. These should be read and followed, then removed when the document is finalized. See Guidance Notes Paragraph 4.4, Finalizing a Specific Project's Supplementary Conditions, and Paragraph 6.0, Editing This Document.

Many sets of supplementary conditions examined by EJCDC contain typical or "boilerplate" provisions that have accumulated like moss over the years, appear to have no practical significance for the particular project, and may produce unintended and surprising legal consequences. Such provisions are usually there because someone saw similar terms in other contract documents and it "sounded good." Selecting contract terms in that manner is not recommended. Provisions of the Supplementary Conditions should address a particular point in the General Conditions or cover a particular topic. The Supplementary Conditions should not be a repository for general language of vague meaning for which another location cannot be readily found. See Guidance Notes Paragraph 3.0, Organization of Information.

This Supplementary Conditions document assumes a general familiarity with the other Construction Manager at Risk (CMAR Series) or Construction Series (C-Series) documents prepared by EJCDC and, when drafting language, specific attention to them is encouraged. Standard documents or prescribed forms issued by governmental bodies and other owners may differ materially from the documents of EJCDC, so careful correlation of any amending or supplementing language is essential. The practice of stating that any provision in one document that is inconsistent with another is superseded, or that one document always takes precedence over another in the event of a conflict in language or requirements, is sometimes necessary, but generally discouraged. The resulting legal consequences of such provisions are frequently difficult to decipher and may be very different from what was anticipated.

The EJCDC General Conditions use carefully chosen language and set forth the basic responsibilities of the parties with respect to fundamental matters and legal consequences. Their provisions should be altered only where mandated by the specific requirements of a given project and the consequences of any modification are thoroughly understood.

Caution should be exercised when making any change to the standard documents. They have been carefully prepared. Terms are used uniformly throughout and are consistent with the terms in other EJCDC documents. Their provisions have been carefully integrated and are dependent on one another. A change in one document may necessitate a change in another, and a change in one paragraph may necessitate a change in other language of the same document. No change should be made until its full effect on the rest of the General Conditions and other Contract Documents have been considered.

10.3 Required Supplementary Conditions

Several provisions of the General Conditions expressly indicate that essential project-specific information will be set out in a corresponding Supplementary Condition. For example, CMAR-700, 6.03.A, indicates that the specific requirements for insurance to be carried by the CMAR will be stated in the Supplementary

Conditions. Every EJCDC-based construction contract should include, at a minimum, the following Supplementary Conditions, edited for the specific project:

- Paragraph SC-5.03—concerning reports and drawings of subsurface and physical conditions at the Site that contain Technical Data
- Paragraph SC-5.06—disclosing reports and drawings regarding Hazardous Environmental Conditions at the Site, and identifying any Technical Data in those reports and drawings
- Paragraph SC-6.03.D—identification of individuals or entities as additional insureds
- Paragraph SC-6.03—identifying specific insurance coverage requirements

Other suggested Supplementary Conditions are required under specific circumstances. These include:

- Paragraph SC-4.05—modifications to provisions for delays in the CMAR's progress
- Paragraph SC-6.01—provisions related to performance and payment bonds, warranty, and other bonds
- Paragraph SC-6.02—provisions for a different rating for insurance providers, or alternative forms of insurance coverage
- Paragraph SC-6.04—specific provisions related to builder's risk insurance
- Paragraph SC-7.16—identification of the Owner's safety program
- Paragraph SC-8.02—provisions regarding coordination with others working at or adjacent to the Site
- Paragraph SC-15.09—provisions prescribing longer time for the correction period
- Paragraph SC-17.01—identification of a dispute resolution process for the project

Although these Supplementary Conditions may be required to supplement their corresponding General Conditions, the drafter may modify the wording and content of the proposed Supplementary Condition as needed.

10.4 Insurance Requirements

Specifying CMAR's Insurance, including coverage limits, is a required Supplementary Condition, because it is the location for specifying the insurance policies, coverages, and endorsements to be maintained by the CMAR, other than builder's risk and other property insurance, which are addressed in SC-6.04, and for specifying the minimum coverage limits. However, not all components of SC-6.03 will be used for the specific Contract that is being drafted, and many parts may need to be modified or revised to meet specific insurance requirement objectives. Consultation with risk managers, insurance specialists, and legal counsel is a necessity.

The information set forth in this Supplementary Conditions, and in all other contractual provisions regarding bonds and insurance, is typically provided by the Owner, either directly or through written instructions given to the OA. See CMAR-051 and CMAR-052.

The user should refer to the following points with respect to specific features of SC-6.03, including categories of insurance with unique features such as Umbrella or Excess Liability insurance (SC-6.03.K), or that are required only under specific circumstances, such as Railroad Protective Liability insurance (SC-6.03.O):

Deciding Whether to Require Umbrella/Excess Insurance

SC-6.03.K, Umbrella or Excess Liability, is a standard insurance provision that requires the CMAR to carry an Umbrella or Excess Liability policy. Some Owners do not require that the CMAR carry Umbrella/Excess insurance, perhaps viewing the decision to obtain and maintain Umbrella/Excess, and the specific amount of Umbrella/Excess coverage, as risk management choices best left to the CMAR; and presumably in such cases the Owner accepts that the primary policies, most importantly Commercial General Liability (CGL), as specified, will provide adequate protection.

If the Owner revises the standard terms by deleting the requirement that CMAR provide Excess or Umbrella liability insurance, then the Owner may wish to consider requiring in SC-6.03.G, Commercial General Liability—Form and Content, that the general aggregate limits under SC-6.03.I, Commercial General Liability—Minimum Policy Limits, be maintained fully available for this Contract by obtaining and maintaining a Designated Construction Project General Aggregate Limit endorsement, or equivalent.

The optional Supplementary Condition SC-6.03.L, Using Umbrella or Excess Liability to Meet Commercial General Liability and Other Policy Limit Requirements, is used to contractually authorize the common practice in which a project owner allows the contractor (in this case the CMAR) to meet the required minimum policy limits for commercial general liability and other primary liability policies by attributing a portion of Umbrella/Excess coverage to the underlying policy or policies. For example, if the Contract requires \$5 million in CGL coverage; SC-6.03.L specifies, in the brackets in the last sentence, that a minimum of \$3 million of the Umbrella must remain unattributed to any underlying policy; and the CMAR has a CGL policy of \$3 million and a \$10 million Umbrella policy, then \$2 million of the Umbrella could be attributed to the CGL, to meet the \$5 million CGL minimum. Under that example, such attribution would still leave a “balance” of \$8 million under the Umbrella, thus satisfying the requirement that a minimum of \$3 million of the Umbrella remain unattributed to any underlying policy.

For cases using SC-6.03.L, Using Umbrella or Excess Liability Insurance to Meet Commercial General Liability and Other Policy Limit Requirements, it is important to fill in the brackets in the last sentence, specifying the unattributed balance that is the appropriate amount for the specific Contract.

Not all Owners will choose to allow an Umbrella/Excess policy to provide partial satisfaction of a primary liability policy coverage requirement, preferring the simpler approach of requiring the CMAR to provide an underlying policy, most notably CGL, in the full amount specified. When this is the preference, do not include SC-6.03.L, Using Umbrella or Excess Liability Insurance to Meet Commercial General Liability and Other Policy Limit Requirements.

Combining the CMAR’s Pollution and Professional Liability Policies. Contractor’s Pollution Liability Insurance in SC-6.03.M and Contractor’s Professional Liability Insurance in SC-6.03.N are presented as two distinct required policies. However, Contractor’s Pollution Liability and Contractor’s Professional Liability policies are sometimes sold as a hybrid or combined policy. After consulting with its risk managers, the Owner may wish to supplement the two provisions with a statement indicating that the CMAR may provide such a combination policy as an acceptable alternative to providing two separate policies, at a stated policy limit for the combination policy.

Railroad Protective Liability Policy

If any portion of the Work will take place within 50 feet of railroad-owned or controlled property, the railroad company will likely require that the CMAR obtain a railroad protective liability policy. Use Paragraph SC-6.03.O below if such a policy is required.

A railroad protective liability policy is for the benefit of the railroad company, not the CMAR or the Owner, providing the railroad with protection from both liability and property damage it incurs because of the CMAR's construction activities. The railroad protective policy is site-specific and applies only when work is in progress; it does not include completed operations coverage.

The standard coverage includes bodily injury or property damage that arises out of the acts or omissions of railroad employees, to the extent the acts or omissions are related to or in connection with the CMAR's activities. The coverage of physical damage to property should apply to real and personal property that is owned or leased by the railroad, including rolling stock, tracks, trestles, buildings, and structures.

The railroad will usually have specific requirements for the railroad protective policy, including per-occurrence and aggregate policy limits, coverages, and the formal names of the railroad and other related insureds. In most cases the railroad will require indemnification from the CMAR in addition to the insurance policy. The Owner or other drafter should include all known railroad requirements here or elsewhere in the Contract, if the requirements are known at the time the Contract is drafted.

Unmanned Aerial Vehicle Liability Insurance

The use of aerial drones on construction projects is increasingly common. If there is a possibility that the CMAR will use drones on the specific project, the Owner may wish to include SC-6.03.P, Unmanned Aerial Vehicle Liability Insurance.

Other Required Insurance

If the Owner or its insurance advisors or risk managers have identified other insurance policies that the CMAR should obtain and maintain, based on the Owner's or project's specific needs, identify the required policies and minimum policy limits at SC-6.03.Q. Note that Builder's Risk insurance is separately addressed in GC/SC-6.04.

11.0 BONDS

11.1 CMAR-430, Proposal Bond

CMAR-430, Proposal Bond, is a form intended to be used by a qualified surety to issue a bond that a Proposer seeking to be awarded the CMAR Contract will submit with its Proposal. The Proposal Bond provides assurance that Proposer will enter into the CMAR Contract with the Owner if the Owner awards the contract to Proposer. If Proposer is the apparent successful Proposer but refuses to accept the award of the CMAR Contract and does not duly enter into the contract and provide the required performance and payment bonds, then under this Proposal Bond the Proposer, or its surety, forfeits the penal sum of the bond. This allows the Owner to recover the specified monetary amount regardless of the actual damages associated with the Proposer's failure to enter into the contract with the Owner and furnish the performance and payment bonds.

The provisions of CMAR-400, Request for Proposals, regarding Proposal security govern the Proposal Bond. CMAR-400, 6.01 as published indicates that:

"A Proposal must be accompanied by a Proposal Bond in an amount equal to **[number]** percent of Proposer's Estimated Guaranteed Maximum Price. The Proposal Bond must be issued by the surety that will subsequently provide Performance and Payment Bonds. Use the Proposal Bond form included in the Procurement Documents."

When using CMAR, performance and payment bonds are not essential until the CMAR begins building the project. Although performance and payment bonds may be procured by the CMAR for the entire project

when the Contract is executed, CMAR documents allow the CMAR to defer procuring performance and payment bonds until a Work Authorization is issued for procurement of equipment and materials, or construction of all or a portion of the work. The Proposal Bond form in Paragraph 2 requires an express written commitment by the Surety to issue such performance and payment bonds when this Work Authorization is issued by the Owner. The Proposal Bond must be issued by the same surety that will provide performance and payment bonds in order for this commitment to be made by the Proposal Bond Surety. Without this written commitment, the Proposal Bond must remain in effect until the performance and payment bonds are provided. Confirm requirements for timing of the delivery of performance and payment bonds with applicable Laws and Regulations, recognizing that in many states, bonding requirements were written for DBB project delivery where performance and payment bonds are required with the signed contract.

The terms and conditions of CMAR-430 are very similar to C-430, Bid Bond–Penal Sum Form. For additional information regarding C-430, see C-001 3.6.A.

11.2 C-610, Performance Bond, C-612, Warranty Bond, and C-615, Payment Bond

Performance and Payment Bonds must be in force when the CMAR receives its first Work Authorization for procurement of equipment and materials, or construction of all or a portion of the work. Recognizing that at this point in the Project the CMAR is assuming the role of general contractor, EJCDC did not create separate performance, payment, or warranty bonds for the CMAR. Warranty bonds may be procured at the same time as performance and payment bonds or may be delayed until later in the project when costs are better defined.

For additional information regarding C-610, C-612, or C-615, see C-001, 5.2, 5.3, and 8.1, respectively.

12.0 CMAR CONTRACT ADMINISTRATION

12.1 CMAR-625, Certificate of Substantial Completion of the Work

The Certificate of Substantial Completion of the Work is used by the OA to notify the CMAR and the Owner that as of the date stated, the OA, in consultation with the Engineer, has found that the CMAR has achieved Substantial Completion of the Work. CMAR-625 also sets forth the requirements for final completion of the Work, including completion of punch list items.

The General Conditions contemplate a two-step Substantial Completion process in which the OA first issues a preliminary Certificate of Substantial Completion of the Work to the Owner for its review and later issues a final Certificate of Substantial Completion of the Work to the Owner and the CMAR. CMAR-625 may be used for both issuances; indicate the status of the specific Certificate by selecting the “Preliminary” or “Final” checkbox. See CMAR-700, 15.04.

The General Conditions require a determination of Substantial Completion of a portion of the Work, with respect to such portion’s use or occupancy by the Owner, under specified circumstances. See CMAR-700, 15.05.A. CMAR-625 should be used for such a Substantial Completion determination process. CMAR-625 includes checkboxes to designate if the Certificate applies to (1) All Work, (2) All work for a specified Work Authorization, or (3) specific portions of the Work as identified in the Certificate.

The General Conditions also contain provisions regarding the determination of completion of the specific portion of the Work authorized by a Work Authorization. See CMAR-700 15.05.B. CMAR-625 should be used for such a Substantial Completion determination process.

Because the Engineer is responsible for determining if the project is acceptable and consistent with the intent of the Contract Documents, this Certificate is approved by the Engineer and then issued to the CMAR by the OA working in its administrative capacity.

For additional information regarding CMAR-625, see C-001, 7.2.

12.2 CMAR-626, Notice of the Acceptability of the Work

The Notice of the Acceptability of the Work is used by the OA to notify the Owner and the CMAR that the Engineer has determined that the Work on the completed project is acceptable, and the OA recommends that the Owner make final payment to the CMAR. The Notice is expressly subject to several conditions regarding the limitations of the Engineer's and the OA's review and determinations.

CMAR-626 is the document referred to in CMAR-700, 15.07. It is also an exhibit to CMAR-500, where its purpose is to inform the Owner that the Engineer, as part of its scope of services, will issue such a form upon the CMAR's completion of the Project.

Because the Engineer is responsible for determining if the project is acceptable and consistent with the intent of the Contract Documents, this Certificate is approved by the Engineer and then issued to the CMAR by the OA working in its administrative capacity.

For additional information regarding CMAR-626, see C-001, 7.3.

13.0 COST MANAGEMENT FOR CMAR CONTRACTS

CMAR-620, Application for Payment (Pay App) is used to facilitate periodic progress payments to the CMAR for CMAR Services, Construction Support Costs, Work completed, and for stored materials and equipment (Stored Materials). It also serves as a vehicle for openly sharing project financial information in a consistent manner.

While the Pay App is prepared, maintained, and submitted by the Contractor in a traditional DBB contract, it is recommended that the Pay App form be developed and maintained by the OA for CMAR contracts. The Pay App form will evolve as CMAR's efforts transition from providing CMAR Services to purchasing equipment and materials, entering into subcontracts, and performing Work. The basis for compensation and the Schedules of Values for authorized Work typically will vary with each Work Authorization, change order, and authorized use of contingency funds. The Pay App for the CMAR must be flexible since the basis for payment is more complex and will change with each added Work Authorization. The Schedule of Values for each Work Authorization, including the breakdown of costs, will be determined by the OA and the CMAR, and incorporated into the Pay App forms by the OA for use by the CMAR in submitting requests for payment and required documentation.

In addition to calculating the amount the CMAR has earned during each payment period, the CMAR Pay App provides tools for managing the Contract budget, contingency allowance expenditures, set-offs, and retainage (retention). These additional tables do not directly impact the payment to the CMAR, but they do track current progress on Work Authorizations and the budget for the Contract, while openly sharing this information with the Owner and the CMAR.

For additional information regarding the Application for Payment see CMAR-525; CMAR-700, Article 15; and C-001, 7.1.

CMAR-620 is presented in three parts. The Guidelines for Use, in Microsoft Word, provide detailed instructions on the use of the Pay App forms, which are presented in two separate Microsoft Excel files. Guidelines for Use in CMAR-620 are written to provide information for the Owner and the OA; however,

the information in these Guidelines may be used to assist with preparation of the Division 01 Specification for Application for Payment Procedures (typically, Section 01 29 00 per CSI standards). These documents were created in separate files for ease of use and to allow users to take advantage of the abilities of word processing software for text and spreadsheet software for calculations.

CMAR-620, Exhibit A, provides a Summary worksheet, which serves as the cover for the Pay App and provides documentation for CMAR Services, Construction Support Costs, earned amounts on Work completed and Stored Materials, and the calculations for retainage on the various Work Packages. Worksheets are provided to track the CMAR and the Owner's Contingency Allowances, Setoffs, and the Owner's Budget.

CMAR-620, Exhibit B, provides tools for documenting Cost of the Work amounts and is used as backup documentation to be submitted with the Pay App when payment for Work is compensated on a Cost of the Work basis. These worksheets capture and summarize costs for payroll, equipment and materials incorporated into the Work, equipment and materials consumed in the Work, subcontractors, construction equipment, and other supplemental costs as required by the Contract. Worksheets for Cost of the Work calculations are provided for use by the CMAR and its Subcontractors when they are compensated on a Cost of the Work basis. These same spreadsheets can also serve as documentation for Change Proposals (see CMAR-700, 11.09).

The basis and procedures for payment for CMAR Services are set forth in CMAR-525, Article 3. CMAR Services are typically not subject to retainage, and depending on applicable Laws and Regulations, may or may not be taxed, and they are handled separately from payment for Construction Costs. Because CMAR Services begin before Work Authorizations are authorized, the first Pay App will typically consist of only the Summary page and the CMAR Services worksheet.

Payment for Work performed on Work Authorizations may be based on one or more of the following methods: (1) Lump Sum, (2) Unit Price, (3) Milestone payments, or (4) Cost of the Work. The structure for each Work Authorization may differ, depending on the compensation method selected for each Work Authorization. For example, the Work Authorization for construction of underground utilities may be compensated on a Unit Price basis, whereas payment for a Work Authorization for purchasing equipment and materials may be based on prescribed payment milestones. The Work Authorization to construct the project and install the purchased equipment and materials could be on a lump sum basis or a Cost of the Work basis if the scope of that construction is not yet well defined. Cost of the Work compensation is often used when Work is performed before the design is complete due to the uncertainties in the final scope. When Lump Sum compensation is used, the Application for Payment will become more detailed because the basis for compensation and the associated schedule of values is created to provide a breakdown for involved costs.

In some instances, payment for a Work Authorization could be a combination of these methods. Each method of compensation has advantages and disadvantages depending on the type of Work performed or equipment and materials purchased and the degree of certainty in being able to define the Work. It is suggested that, with the Pay App, the simpler the better, so long as adequate detail is provided. When the scope is better defined, for instance, when 90% of the documents have been prepared for the complete design, Lump Sum compensation with a contingency would be more common.

When Cost of the Work provisions apply to the Pay App, open-book requirements for review of the CMAR's cost are needed. It is also more likely that financial audits will be conducted on the payment process. The payment process should be designed to enable such audits for Work Authorizations based on the Cost of the Work. As an example, tracking invoice numbers for all materials and equipment, not just Stored Materials, may be helpful in building an audit trail and should be considered. Tracking

expenditures from contingency allowances, setoffs, and retainage per Work Authorization should also be included to allow an in-process assessment to be made of progress on completing the project. Cost overruns on a CMAR project should never be a surprise that becomes apparent only as the result of an audit.

14.0 CONSTRUCTION SUBCONTRACT

CMAR-523, Construction Subcontract, is used as the contract between a CMAR and its subcontractors. The Construction Subcontract defines the construction or services to be provided by the Subcontractor and establishes the basis for compensation and the schedule for completing obligations set forth in the Construction Subcontract. Because construction is typically provided in conjunction with the construction activities of the CMAR and other subcontractors, safety, indemnity, and insurance provisions are also covered.

Under its contract with the Owner, the CMAR is responsible for performing CMAR Services, comprising Preconstruction Services and Procurement Services, in addition to the core CMAR obligation to provide or furnish the Work. To the extent that the CMAR delegates any portion of the CMAR Services to a subconsultant, such delegation should be accomplished using a professional services subagreement, not CMAR-523, which is intended for subcontracting construction duties.

The Work to be performed under a specific Subcontract may be defined in one or more Work Packages prepared by the Engineer based on input from the CMAR and the OA. The Work Authorization to be issued by the OA (on behalf of Owner) could consist of a single Work Package for all Work in the Work Authorization, or it could include several Work Packages, depending on the CMAR's construction procurement strategy. The CMAR is typically required to solicit competitive bids for each Work Package and award a subcontract for each Work Package.

An example to illustrate this point is a Work Authorization for a laboratory building at a water treatment plant. The Work Authorization may consist of a single Work Package to construct the entire laboratory building, in which case the CMAR will solicit bids for the single Work Package and enter into a single Subcontract for the laboratory building construction. In the alternative, the CMAR, working with the Engineer, could divide the laboratory Work into several Work Packages for categories such as prepurchase of equipment, construction of the building shell, specialty construction for lab equipment, site work, landscaping, and the various building trades (electrical, mechanical, plumbing etc.). Under this alternative, the laboratory Work Authorization would authorize the various laboratory building Work Packages, the CMAR would solicit bids for each of these various Work Packages, and a Subcontract would be required for each Work Package included in the Work Authorization.

The Construction Subcontract establishes the compensation to which the Subcontractor is entitled. CMAR-523 assumes that the compensation will be either a stipulated sum or stipulated unit prices. If the CMAR intends to compensate the Subcontractor based on cost-plus-a-fee, or on a time-and-materials basis, then the compensation provisions should be revised or replaced. The Cost of the Work provisions of CMAR-525, Agreement, may be a useful source for applicable compensation provisions.

Many construction contractors, including construction managers at risk, prefer to use their own standard subcontract forms and practices. Since the provisions of the Agreement between the Owner and the CMAR will prevail regardless of the CMAR relationship with its subcontractors, many Owners will find this acceptable and allow the CMAR to take care of subcontracting doing "business as usual." However, in the context of a cost-based CMAR contract, it is in the Owner's best interests to encourage or require use of

fair subcontracts that do not drive up the subcontract price, and hence the Owner's costs of construction, with unnecessary risk contingencies.

CMAR-523 is drafted to be consistent with the requirements of the General Conditions and Agreement of the Owner–CMAR contract; if CMAR uses its own subcontract forms, CMAR must ensure that the subcontracts are consistent with the prime contract's requirements.

As a general matter, the Subcontractor will have little direct interaction with either the OA or the Engineer, as those terms are used in other CMAR Series documents. CMAR-523 does not require that these entities be expressly identified, and in most cases refers broadly to the "the Owner's Advisors, Engineers, and Consultants" to ensure reference to all such individuals and entities retained by the Owner.

Since the Subcontractor and the CMAR are very similar to the contract between Contractor and its subcontractors in C-523, Construction Subcontract, C-100 provides useful additional information regarding Subcontracts.

EXHIBIT A—2023 EJCDC CONSTRUCTION MANAGER AT RISK SERIES DOCUMENTS

EJCDC Doc. No.	Document Title	Document Purpose
CMAR-001	Commentary on the 2023 EJCDC Construction Manager at Risk Series Documents	Published in 2026, this document provides guidance and direction on the use of the EJCDC 2023 Construction Manager at Risk Series documents.
CMAR-050	Selection Procedures and Construction Contract Documents—Construction Manager at Risk Series	This document is for use by the Owner and the Owner’s Advisor in determining and documenting the Owner’s process for selecting a Construction Manager at Risk (CMAR), and in establishing the content of the Owner–CMAR contract that will be awarded by the Owner to the successful CMAR firm.
CMAR-051	Letter from Owner’s Advisor to Owner Requesting Instructions Concerning Bonds and Insurance—Construction Manager at Risk Series	CMAR-051 provides a model letter from the Owner’s Advisor to the Owner requesting instructions concerning bond and insurance requirements to be included in the CMAR Contract.
CMAR-052	Owner’s Instructions to Owner’s Advisor Concerning Bonds and Insurance—Construction Manager at Risk Series	This document presents model language for the Owner’s use in providing the Owner’s bond and insurance requirements to the Owner’s Advisor in response to the letter from the Owner’s Advisor prepared per CMAR-051.
CMAR-111	Advertisement of Request for Qualifications—Construction Manager at Risk Series	The Advertisement of Request for Qualifications is a standard form for alerting prospective CMAR candidates and their potential subcontractors of an upcoming project. This document includes guidance in the preparation of the Advertisement for a specific project.
CMAR-200	Request for Qualifications—Construction Manager at Risk Series	The Request for Qualifications (RFQ) is a standard form used to request prospective CMAR candidates to submit a Statement of Qualifications as part of the process to select the Construction Manager at Risk for the CMAR Contract. The CMAR candidates will respond to this RFQ by submitting a Statement of Qualifications prepared using the forms and guidelines included in the SOQ document.
CMAR-210	Statement of Qualifications—Construction Manager at Risk Series	The Statement of Qualifications (SOQ) is a form intended to be distributed to prospective CMAR candidates for their use in responding to the RFQ. The CMAR candidates will use the SOQ form to prepare a completed Statement of Qualifications to demonstrate that they meet the minimum requirements to qualify for the project and provide evidence of their qualifications based on CMAR selection criteria set forth in the RFQ. This structure allows the Owner to make a direct comparison of qualifications to select the CMAR or create a short list of candidates that will be requested to submit a price proposal.

EJCDC Doc. No.	Document Title	Document Purpose
CMAR-400	Request for Proposals—Construction Manager at Risk Series	This document is used by the Owner to request that the short-listed CMAR candidates (Proposers) prepare and submit price-focused Proposals using the forms furnished by the Owner for that purpose. The Request for Proposals provides instructions to the Proposers on preparation of the Proposal, requirements, and deadline for submitting the Proposal, and explanation of the price information to be provided for comparison with other Proposers. This document can also provide a structured approach for obtaining cost information from a CMAR that has already been selected based solely on qualifications.
CMAR-422	Proposal—Construction Manager at Risk Series	The Proposal is the form issued by the Owner to the short-listed Proposers and used by them to submit pricing commitments for furnishing CMAR Services and specified elements of the Work. The submitted Proposals provide the Owner and the Owner's Advisor with the basis for conducting a comparison of proposed prices during the CMAR selection process; subsequently, the contents of the Proposal submitted by the successful Proposer become the basis for the CMAR compensation provisions in the Agreement.
	Proposal Exhibit A—Construction Manager at Risk Series	
CMAR-430	Proposal Bond—Construction Manager at Risk Series	The Proposal Bond is a form intended to be used by a qualified surety to issue a bond that a Proposer seeking to be awarded the CMAR Contract will submit with its Proposal. The Proposal Bond provides assurance that the Proposer will enter into the CMAR Contract with the Owner if the Owner awards the contract to Proposer. If Proposer is the apparent successful Proposer but refuses to accept the award of the CMAR Contract and does not duly enter into the contract and provide the required performance and payment bonds, then under this Proposal Bond the Proposer, or its surety, forfeits the penal sum of the bond.
CMAR-500	Agreement between Owner and Engineer for Professional Services (When Owner Retains a Construction Manager at Risk)	This document is based closely on EJCDC E-500 (2020,) Agreement between Owner and Engineer for Professional Services, for use when the Owner will select and award a contract to a Construction Manager at Risk. The Engineer's scope of services is tailored to coordinate with the related services that will be provided by the Owner's Advisor and the Construction Manager at Risk.
	Exhibits to Agreement between Owner and Engineer for Professional Services (When Owner Retains a Construction Manager at Risk)	
CMAR-501	Agreement between Owner and Owner's Advisor—Construction Manager at Risk Series	This document is used by a project owner to retain an Owner's Advisor to serve in an advisory capacity for the delivery of the project. The Owner typically retains an Owner's Advisor when using the CMAR project delivery method. The OA assists with selecting a CMAR, preparing Contract Documents (not including the design documents, which are prepared by the Engineer), and administering the contract between the Owner and the CMAR.

EJCDC Doc. No.	Document Title	Document Purpose
CMAR-510	Notice of Award—Construction Manager at Risk Series	The Notice of Award is used by the Owner to notify the recipient that it is the successful Proposer and is awarded the Owner–CMAR Contract. The Notice of Award also provides instructions on signing and returning the Agreement, furnishing required bonds and insurance documentation, and receiving copies of the Contract Documents.
CMAR-523	Construction Subcontract—Construction Manager at Risk Series	This Construction Subcontract is intended to be used to form the subcontract between the Construction Manager at Risk and a Subcontractor. Subcontract Work is performed at the project site, often in conjunction with the construction activities of the CMAR and other subcontractors, making the coordination of safety, indemnity, and insurance provisions important.
CMAR-525	Agreement between Owner and Construction Manager at Risk, including Agreement Exhibit A –Scope of CMAR Services	The Agreement is the legal instrument between the Owner and Construction Manager at Risk that binds each to the terms of the contract. This Agreement identifies the parties, the Contract Documents, and establishes the Contract Price and Contract Times. Exhibit A provides a detailed Scope of CMAR Services, whereas Exhibit B provides the details for Contract Price and Contract Times.
	Agreement Exhibit B—Construction Manager at Risk Series	
CMAR-545	Work Authorization—Construction Manager at Risk Series	The Work Authorization is a form used to authorize Work Packages in accordance with the Agreement between the Owner and Construction Manager at Risk. Each Work Authorization details what is to be purchased or constructed (the Work Package), how and how much the CMAR will be paid for completion of the authorized Work, and when the authorized Work is to be completed. Each fully executed Work Authorization is a Contract Document that is essential to the scope of the Work, CMAR’s compensation, and the time for completion.
	Work Authorization Exhibit A—Construction Manager at Risk Series	
C-610	Performance Bond	The Performance Bond is the document in which the Construction Manager at Risk and its surety provide assurances to the Owner regarding the performance and completion of the CMAR’s obligations under the Owner–CMAR contract. The Performance Bond establishes the responsibility of the surety with regard to a default in performance by the Construction Manager at Risk.
C-612	Warranty Bond	A warranty bond, sometimes referred to as a maintenance bond, provides assurance that the Construction Manager at Risk (or if necessary, the surety) will meet the contractual correction period obligations during a specified period of time after construction has been completed. C-612 is intended to be used to provide bonding for a period of time greater than one year after Substantial Completion. A warranty bond is typically not used if the correction period remains the standard one year after Substantial Completion, and the Construction Manager at Risk has furnished a performance bond.

EJCDC Doc. No.	Document Title	Document Purpose
C-615	Payment Bond	The Payment Bond is the document in which the Construction Manager at Risk and its surety commit to making payment to Subcontractors and Suppliers for labor, materials, and equipment provided to CMAR for the benefit of the project and the Owner. This bond form sets forth the obligations of the surety to the Owner in the event CMAR fails to pay a Subcontractor or Supplier.
CMAR-620	Application for Payment—Construction Manager at Risk Series	The Application for Payment is used to facilitate periodic progress payments to the CMAR for CMAR Services, Construction Support Costs, Work completed, and for stored materials and equipment. It was written specifically to address payment on the basis of Work Authorizations and Cost of the Work compensation. In addition to serving as the vehicle for approving periodic payments to the CMAR, it also provides documents for openly sharing project financial information in a consistent manner between CMAR and the Owner.
	Application for Payment, Exhibit A—Construction Manager at Risk Series	
	Application for Payment, Exhibit B—Construction Manager at Risk Series	
CMAR-625	Certificate of Substantial Completion of the Work—Construction Manager at Risk Series	The Certificate of Substantial Completion of the Work is used by the Owner’s Advisor to notify the Construction Manager at Risk and the Owner that as of the date stated, the Owner’s Advisor, in consultation with the Engineer, has found that Construction Manager at Risk has achieved Substantial Completion of the Work.
CMAR-626	Notice of the Acceptability of the Work—Construction Manager at Risk Series	The Notice of the Acceptability of the Work is used by the Owner’s Advisor to notify the Owner and the Construction Manager at Risk that Engineer has determined that the Work on the completed project is acceptable, and the Owner’s Advisor recommends that the Owner make final payment to Construction Manager at Risk.
CMAR-700	Standard General Conditions of the Construction Manager at Risk Contract	The Standard General Conditions of the Construction Manager at Risk Contract is the foundation document for the EJCDC Construction Manager at Risk Series. The General Conditions define the basic rights, responsibilities, risk allocations, and contractual relationship of the Owner and Construction Manager at Risk and establish how the Contract is to be administered.
CMAR-800	Supplementary Conditions of the Construction Manager at Risk Contract	The standard fundamental provisions affecting the rights and duties of the parties appear in the General Conditions. Language to modify the fundamental relationships between the parties, supplement the framework set forth in the General Conditions, or change the language of the General Conditions, should appear in the Supplementary Conditions. Examples of this are changes in CMAR’s Site responsibilities and supplemental clauses specifying the details of insurance coverage and limits for the project.
CMAR-940	Work Change Directive—Construction Manager at Risk Series	The Work Change Directive is used by the Owner’s Advisor, on behalf of the Owner, to order changes described in the Work Authorization to proceed without waiting until Owner and Construction Manager at Risk have agreed upon the impact to Contract Times or CMAR’s compensation.
CMAR-941	Change Order—Construction Manager at Risk Series	The Change Order is used to modify a Work Authorization. Modifications that change the Guaranteed Maximum Price or the Contract Times must be made by Change Order.

EJCDC Doc. No.	Document Title	Document Purpose
CMAR-942	Field Order—Construction Manager at Risk Series	The Field Order documents minor changes to Work that have been authorized within the scope of a specific Work Authorization, provided that such minor changes do not change the Guaranteed Maximum Price or Contract Times. The Field Order is issued to the Construction Manager at Risk unilaterally by the Owner's Advisor (with the Engineer's authorization).
CMAR-943	Contract Amendment—Construction Manager at Risk Series	The Contract Amendment is used to modify the Terms and Conditions of the Owner-CMAR Contract, including modifications of the time or compensation provisions of the Agreement and the scope of CMAR Services. Changes made to Work that has been authorized within the scope of a specific Work Authorizations are made by Work Change Directive, Change Order, or Field Order.

EXHIBIT B—EJCDC DEFINITIONS AND TERMINOLOGY FOR CMAR SERIES DOCUMENTS

1.0 GENERAL CONVENTIONS

1.1 Use of Defined Terms

- A. In EJCDC documents, defined terms provide a way of communicating a concept clearly with a single term or phrase. In the CMAR Series, terms are defined in Request for Qualification, the General Conditions, Agreement between Owner and Owner's Advisor, Agreement between Owner and Engineer, and in C-612 Warranty Bond. New terms would typically be added in the Supplementary Conditions in a Paragraph SC-1.01.
- B. In addition to terms specifically defined, terms with initial capital letters in the Contract Documents include references to identified articles and paragraphs, and the titles of other documents or forms.

1.2 Terms Defined in the CMAR-700, General Conditions

- A. Wherever used in the Proposal Documents or Contract Documents, a term printed with initial capital letters, including the term's singular and plural forms, will have the meaning indicated in the definitions below.
 - 1. Addenda—Written or graphic instruments issued prior to the receipt of Proposals by the Owner which clarify, correct, or change the Proposal Documents or the proposed Contract Documents.
 - 2. Agreement—The written instrument, including its attached exhibits, executed by Owner and Construction Manager at Risk, that sets forth the Contract Price and Contract Times, identifies the Owner, Construction Manager at Risk, Owner's Advisor, and Engineer, and designates the specific items that are Contract Documents.
 - 3. Application for Payment—The document prepared by Construction Manager at Risk, in a form acceptable to Owner's Advisor, to request progress or final payments, and which is to be accompanied by such supporting documentation as is required by the Contract Documents.
 - 4. Change Order—A document which is signed by Construction Manager at Risk and Owner after the Effective Date of a governing Work Authorization and authorizes an addition, deletion, or revision in the authorized Work, an adjustment in the applicable incremental Guaranteed Maximum Price or Contract Times, or other revision to such Work Authorization.
 - 5. Change Proposal—A written request by Construction Manager at Risk, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment in Guaranteed Maximum Price or Contract Times; contesting a decision by Owner's Advisor, in consultation with Engineer, concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the Contract.

6. Claim
 - a. A demand or assertion by Owner directly to Construction Manager at Risk, duly submitted in compliance with the procedural requirements set forth herein, seeking an adjustment of Contract Price or Contract Times; contesting a decision rendered by Owner's Advisor, in consultation with Engineer, concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents, or regarding a Change Proposal; or seeking other relief with respect to the terms of the Contract.
 - b. A demand or assertion by Construction Manager at Risk directly to Owner, duly submitted in compliance with the procedural requirements set forth herein, contesting Owner's Advisor's decision, made in consultation with Engineer, regarding a Change Proposal.
 - c. A demand or assertion by Owner or Construction Manager at Risk, duly submitted in compliance with the procedural requirements set forth herein, made pursuant to Paragraph 12.01.A.3, concerning disputes arising after Owner's Advisor has issued a recommendation of final payment.
 - d. A demand for money or services by a third party is not a Claim.
7. CMAR Contingency Allowance—An allowance used to reimburse CMAR for costs due to unforeseen causes, unintentional errors, or events which cannot specifically be anticipated at the time Work Authorizations are issued, as set forth in the Agreement, Article 8.
8. CMAR Fee—The component of the Guaranteed Maximum Price that supplements the CMAR's compensation for the Cost of the Work, consisting of either a fixed fee (a stipulated price or lump sum amount) or a percentage of the Cost of the Work, as set forth in the Agreement.
9. CMAR Services—Those specific planning, organizational, and advisory services to be performed or furnished by CMAR, consisting collectively of Preconstruction Services, Procurement Services, and any other services authorized by Owner's Advisor and expressly identified in such authorization as CMAR Services. CMAR Services are not part of the Work.
10. Constituent of Concern—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
11. Construction Manager at Risk (CMAR)—The entity that has entered into the Contract with Owner. Under the Contract the CMAR will provide CMAR Services and construct the Work set out in the Drawings and Specifications, as duly authorized, using the Construction Manager at Risk project delivery method.

12. Construction Period—The period from the commencement of Work on the first Work Authorization until Substantial Completion of the Work. This is the number of days for which Construction Support Costs will be compensated.
13. Construction Support Costs—See Agreement, Article 5.
14. Contract—The entire and integrated written agreement between Owner and Construction Manager at Risk concerning the CMAR Services and the Work.
15. Contract Amendment—A document signed by Owner and Construction Manager at Risk which modifies the terms and conditions of the Contract, including but not limited to modifications of the time or compensation provisions of the Agreement and the scope of CMAR Services. A Contract Amendment is not used to make changes in the Work or to a Work Authorization, such changes properly being made in a Change Order or supplemental Work Authorization.
16. Contract Documents—Those items so designated in the Agreement, and which together comprise the Contract.
17. Contract Price—The money that Owner has agreed to pay Construction Manager at Risk for performance and completion of the CMAR Services and the Work, in accordance with the Contract Documents. The Contract Price may be subdivided into component parts based on authorized CMAR Services and Work Authorizations. The Contract Price includes the CMAR's compensation for CMAR Services, Construction Support Costs, Cost of the Work, the CMAR Fee, CMAR Contingency Allowances, and the Owner's Contingency Allowance.
18. Contract Times—The number of days or the dates by which Construction Manager at Risk shall: (a) achieve Milestones, if any; (b) achieve Substantial Completion; and (c) complete the Work and all required services. The Contract Times may be subdivided into component parts based on Work Authorizations and authorized CMAR Services.
19. Contractor—The term "Contractor," if used in the Contract, means Construction Manager at Risk.
20. Cost of the Work—The sum of eligible costs incurred by CMAR for the performance of the Work, as allowed by the Cost of the Work provisions set forth in the Agreement. Cost of the Work as a defined term does not include Construction Support Costs.
21. Drawings—The part of the Contract that graphically shows the scope, extent, and character of the Work to be performed by Construction Manager at Risk.
22. Effective Date of the Contract—The date indicated in the Agreement, on which the Contract becomes effective.
23. Electronic Document—Any project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.
24. Electronic Means—Electronic mail (email), upload/download from a secure project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions,

including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Contract. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.

25. Engineer—The individual or entity that has primary responsibility for preparing or furnishing the Drawings and Specifications and is named as Engineer in the Agreement.
26. Estimated Cost of the Work—An estimate of the Cost of the Work prepared by the Owner for use (a) during the CMAR selection process in evaluating Proposals submitted in response to the Request for Proposals and (b) during the early stages of the Contract in calculating an Estimated Guaranteed Maximum Price until the design has progressed to the point where Owner and CMAR can mutually agree upon a Guaranteed Maximum Price.
27. Estimated Guaranteed Maximum Price—A preliminary Guaranteed Maximum Price calculated on the basis of the Estimated Cost of the Work. This is a non-binding price used on an interim basis for comparison or estimation of Owner's Construction Budget until the design has progressed to the point that a Guaranteed Maximum Price for the Work is established, or a Guaranteed Maximum Price for a portion of the Work is established by issuance of a Work Authorization by the Owner's Advisor.
28. Field Order—A written order issued by Owner's Advisor which requires minor changes in the Work but does not change the Guaranteed Maximum Price or the Contract Times.
29. Final Completion—The point at which the Work is complete in accordance with the Contract Documents, items and documents required by the Contract Documents have been accepted by the Owner, all required services have been completed, and the Contract is ready for final payment.
30. Guaranteed Maximum Price (GMP)—The maximum amount to be paid by Owner to CMAR for the sum of the Construction Support Costs, plus Cost of the Work, plus the CMAR Fee, all as set forth in the Agreement.
31. Hazardous Environmental Condition—The presence at the Site of Constituents of Concern in such quantities or circumstances that may present a danger to persons or property exposed thereto.
 - a. The presence at the Site of materials that are necessary for the execution of the Work, or that are to be incorporated into the Work, and that are controlled and contained pursuant to industry practices, Laws and Regulations, and the requirements of the Contract, is not a Hazardous Environmental Condition.
 - b. The presence of Constituents of Concern that are to be removed or remediated as part of the Work is not a Hazardous Environmental Condition.
 - c. The presence of Constituents of Concern as part of the routine, anticipated, and obvious working conditions at the Site, is not a Hazardous Environmental Condition.

32. Laws and Regulations; Laws or Regulations—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and binding decrees, resolutions, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
33. Liens—Charges, security interests, or encumbrances upon Contract-related funds, real property, or personal property.
34. Milestone—A principal event in the performance of the Work that the Contract requires Construction Manager at Risk to achieve by an intermediate completion date, or by a time prior to Substantial Completion of all the Work.
35. Notice of Award—The written notice by Owner stating that Owner will enter into the Construction Manager at Risk contract with the selected Construction Manager at Risk.
36. Owner—The entity with which Construction Manager at Risk has contracted regarding the CMAR Services and the Work, and which has agreed to pay Construction Manager at Risk for the performance of the CMAR Services and the Work, pursuant to the terms of the Contract.
37. Owner’s Advisor (OA)—The individual or entity named as Owner’s Advisor in the Agreement. The Owner’s Advisor provides services to the Owner, as an advisor and representative.
38. Owner’s Construction Budget (Budget)—The amount budgeted by the Owner to pay CMAR to perform and complete the Work in accordance with the Contract Documents. This amount includes compensation for Cost of the Work, the CMAR Fee, and Construction Support Costs, but does not include compensation for CMAR Services.
39. Owner’s Project Team (OPT)—As used in this Contract, refers to Owner, Owner’s Advisor and Engineer, collectively.
40. Preconstruction Services—Those planning, management, and support services to be performed or furnished by CMAR as set forth in the Scope of CMAR Preconstruction Services Exhibit to the Agreement. Preconstruction Services are separate and distinct from Procurement Services, and from the performance of the Work itself, and are a component of CMAR Services.
41. Preconstruction Services Price—The total amount to be paid to CMAR for the Preconstruction Services described in the Scope of CMAR Preconstruction Services Exhibit to the Agreement.
42. Procurement Services—Those services relating to assembling Work Packages and procurement of construction Subcontractors, Suppliers, and materials and equipment, to be performed or furnished by CMAR as set forth in the procurement-related provisions of the Scope of CMAR Services Exhibit to the Agreement. Procurement Services are separate and distinct from Preconstruction Services, and from the performance of the Work itself, and are a component of CMAR Services.
43. Procurement Services Price—The total amount to be paid to CMAR for providing the Procurement Services described in the Scope of CMAR Procurement Services Exhibit to the Agreement.

44. Progress Schedule—A schedule, prepared and maintained by Construction Manager at Risk, describing the sequence and duration of the activities comprising Construction Manager at Risk’s plan to accomplish the Work within the Contract Times.
45. Project—The total undertaking to be accomplished for Owner by construction managers, engineers, contractors, advisors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the CMAR Services and the Work to be performed under the Contract are a part.
46. Samples—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
47. Schedule of Submittals—A schedule, prepared and maintained by Construction Manager at Risk, of required Submittals and the time requirements for review of the Submittals.
48. Shop Drawings—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for Construction Manager at Risk and submitted by Construction Manager at Risk to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
49. Site—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands or areas furnished by Owner which are designated for the use of Construction Manager at Risk.
50. Specifications—The part of the Contract that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
51. Subcontractor—An individual or entity having a direct contract with Construction Manager at Risk or with any other Subcontractor for the performance of a part of the Work.
52. Submittal—A written or graphic document, prepared by or for Construction Manager at Risk, which the Contract Documents require Construction Manager at Risk to submit to Owner’s Advisor, or that is indicated as a Submittal in the Schedule of Submittals accepted by Owner’s Advisor. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers’ instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether approved or accepted by Owner’s Advisor or Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.

53. Substantial Completion—The time at which the Work, or a specified part thereof, has progressed to the point where, the Work, or the specified part thereof, is sufficiently complete, in accordance with the Contract Documents, so that the Work, or the specified part thereof, can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion of such Work.
54. Supplementary Conditions—The part of the Contract that amends or supplements these General Conditions.
55. Supplier—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with Construction Manager at Risk or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by Construction Manager at Risk or a Subcontractor.
56. Technical Data
- a. Those items expressly identified as Technical Data in the Supplementary Conditions, with respect to either (1) existing subsurface conditions at or adjacent to the Site, or existing physical conditions at or adjacent to the Site including existing surface or subsurface structures, except Underground Facilities, or (2) Hazardous Environmental Conditions at the Site.
 - b. If no such express identifications of Technical Data have been made with respect to conditions at the Site, then Technical Data is defined, with respect to conditions at the Site under Paragraphs 5.03, 5.04, and 5.06, as the data contained in boring logs, recorded measurements of subsurface water levels, assessments of the condition of subsurface facilities, laboratory test results, and other factual, objective information regarding conditions at the Site that are set forth in any geotechnical, environmental, or other Site or facilities conditions report prepared for the Project and made available to Construction Manager at Risk.
 - c. Information and data regarding the presence or location of Underground Facilities are not intended to be categorized, identified, or defined as Technical Data, and instead Underground Facilities are shown or indicated in the Drawings.
57. Underground Facilities—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
58. Unit Price Work—Work to be paid for based on unit prices.
59. Work—The entire construction or the various separately identifiable parts thereof required to be provided under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment

into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents.

60. Work Authorization—A document issued by Owner’s Advisor and signed by Owner and CMAR which identifies and defines new Work Packages and establishes the amount to be paid, times for completion, and any special or supplementary provisions applicable to the authorized Work.
61. Work Package—A specific portion of the Work developed by Engineer and Owner’s Advisor in collaboration with the CMAR and subsequently authorized by a Work Authorization.
62. Work Change Directive—A written directive issued by Owner’s Advisor to Construction Manager at Risk on or after the Effective Date of a governing Work Authorization, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.

1.3 Terms Defined in CMAR-200, Request for Qualifications

- A. Terms used in the Proposal Documents have the meanings indicated in the General Conditions and Supplementary Conditions; however, Proposal Documents are typically not considered to be Contract Documents. It is also likely that potential CMAR candidates may not have access to the General Conditions at the time Statements of Qualifications are prepared. For these reasons, additional terms related to the Proposal process are presented in Request for Qualification, which will be the one of the first documents potential CMAR candidates will receive. Terms defined in the Request for Qualifications have the meanings indicated below:
 1. Proposal Documents—The Advertisement of Request for Qualifications (Advertisement), Request for Qualifications, Statement of Qualifications, Request for Proposals, Proposal, Proposal Bond, and other documents so designated in Paragraph 1.04 of the Request for Qualifications.
 2. Proposer—A Construction Manager at Risk (CMAR) entity that submits a Statement of Qualifications and, if invited to do so in a two-step selection process, submits a Proposal for the CMAR Contract.
 3. Request for Qualifications (RFQ)—The document issued by Owner to prospective Proposers requesting that they submit qualifications and other information to be used by the Owner in ranking Proposers and either selecting the successful Proposer in a one-step selection process or determining which Proposers in a two-step selection process will be invited to submit a Proposal for the CMAR Contract.
 4. Statement of Qualifications (SOQ)—The document submitted to Owner by a Proposer in response to the RFQ, including any completed forms, attachments, and exhibits, to demonstrate experience, competence, and ability to successfully perform the CMAR Services and furnish and complete the Work.
 5. Request for Proposal (RFP)—The document issued directly to the most highly ranked Proposers in a two-step selection process based on evaluations of the submitted Statements of Qualifications, asking each selected Proposer to submit a Proposal for providing CMAR Services and furnishing and completing the Work.

6. Proposal—The document submitted to Owner by a Proposer in response to the RFP, including any completed forms, attachments, and exhibits presenting the compensation (price) terms to be included in the Agreement between Owner and Construction Manager at Risk if the selected Proposer is awarded the CMAR Contract.
 7. Proposal Bond—The surety bond provided by Proposer at the time the Proposal is submitted and held by Owner until the Agreement is executed and the evidence of insurance and bonds required by the Contract Documents are provided.
- B. Terms Defined in CMAR—500, Agreement between Owner and Engineer
1. Addenda—Written or graphic instruments issued prior to the opening of Proposals which clarify, correct, or change the Proposal Documents or the proposed CMAR Contract Documents.
 2. Additional Services—Services which are not included in Basic Services, but which are identified in Article 2 of Exhibit A of this Agreement and may be authorized by Owner pursuant to Paragraph 2.01.C.
 3. Agreement—This written contract for professional services between Owner and Engineer, including all exhibits identified in Paragraph 8.01 and all duly executed amendments.
 4. Basic Services—The services to be performed for or furnished to Owner by Engineer in accordance with Article 1 of Exhibit A of this Agreement.
 5. Change Order—A document which is signed by CMAR and Owner after the Effective Date of a governing Work Authorization and authorizes an addition, deletion, or revision in the authorized Work, an adjustment in the applicable incremental Guaranteed Maximum Price or Contract Times, or other revision to such Work Authorization.
 6. Change Proposal—A written request by CMAR, duly submitted in compliance with the procedural requirements set forth in the CMAR Contract, seeking an adjustment in the CMAR Contract's Guaranteed Maximum Price or CMAR Contract Times, or both; contesting a decision by Owner's Advisor, in consultation with Engineer, concerning the requirements of the Contract Documents or the acceptability of Work under the Contract Documents; challenging a set-off against payments due; or seeking other relief with respect to the terms of the CMAR Contract.
 7. CMAR Contract—The entire and integrated written contract between Owner and CMAR concerning the CMAR Services and the Work.
 8. CMAR Contract Price—The money that Owner has agreed to pay CMAR for performance and completion of the CMAR Services and the Work in accordance with the Contract Documents.
 9. CMAR Contract Times—The number of days or the dates by which CMAR must: (a) achieve milestones, if any, in the CMAR Contract; (b) achieve Substantial Completion; and (c) complete the Work and all required services.
 10. CMAR Services—Those specific planning, organizational, and advisory services to be performed or furnished by CMAR, consisting collectively of Preconstruction Services, Procurement Services, and any other services authorized by Owner's Advisor and

expressly identified in such authorization as CMAR Services. CMAR Services are not part of the Work.

11. **Constituents of Concern**—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint (as defined by the HUD/EPA standard), hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
12. **Construction Manager at Risk (CMAR)**—The entity with which Owner enters into a Contract to provide services and construction.
13. **Constructor**—Any person or entity, not including the Owner’s Advisor, Engineer, or their employees, agents, representatives, or Subconsultants, or Engineer’s Subcontractors, performing or supporting construction activities relating to the Project, including but not limited to the CMAR and its Subcontractors and Suppliers, Owner’s work forces, utility companies, other contractors, design-builders, testing firms, shippers, and truckers, and the employees, agents, and representatives of any or all of them.
14. **Contract Documents**—Those items designated as “Contract Documents” in the CMAR Contract, and which together comprise the CMAR Contract. See also definition of “Front-End Contract Documents” below.
15. **Cost of the Work**—The sum of eligible costs incurred by CMAR for the performance of the Work, as allowed by the Cost of the Work provisions set forth in the CMAR Contract, including construction labor, services, materials, and equipment. Without limitation, the Cost of the Work does not include the cost of performing CMAR Services; Construction Support Costs; the CMAR Fee; the CMAR Contingency; costs of the services of Engineer or other design professionals and consultants; cost of land or rights-of-way, or compensation for damages to property; Owner’s costs for legal, accounting, insurance counseling, or auditing services; interest or financing charges incurred in connection with the Project; or the cost of other services to be provided by others to Owner. Cost of the Work is one of the items comprising Total Project Costs.
16. **Documents**—All documents expressly identified as deliverables in this Agreement, whether in printed or Electronic Document form, required by this Agreement to be provided or furnished by Engineer to Owner. Such specifically required deliverables may include, by way of example, Drawings, Specifications, data, reports, building information models, and civil integrated management models.
17. **Drawings**—That part of the Contract Documents that graphically shows the scope, extent, and character of the Work to be performed by CMAR.
18. **Effective Date**—The date indicated in this Agreement on which it becomes effective, but if no such date is indicated, the date on which this Agreement is signed and delivered by the last of the parties to sign and deliver.
19. **Electronic Document**—Any Project-related correspondence, attachments to correspondence, data, documents, drawings, information, or graphics, including but not limited to Shop Drawings and other Submittals, that are in an electronic or digital format.

20. **Electronic Means**—Electronic mail (e-mail), upload/download from a secure Project website, or other communications methods that allow: (a) the transmission or communication of Electronic Documents; (b) the documentation of transmissions, including sending and receipt; (c) printing of the transmitted Electronic Document by the recipient; (d) the storage and archiving of the Electronic Document by sender and recipient; and (e) the use by recipient of the Electronic Document for purposes permitted by this Agreement. Electronic Means does not include the use of text messaging, or of Facebook, Twitter, Instagram, or similar social media services for transmission of Electronic Documents.
21. **Engineer**—The individual or entity named as such in this Agreement.
22. **Engineer's Subcontractor**—An individual, firm, vendor, or other entity having a contract with Engineer to furnish general services, equipment, or materials with respect to the Project as an independent contractor.
23. **Field Order**—A written order issued by Owner's Advisor which requires minor changes in the Work but does not change the CMAR Contract's Guaranteed Maximum Price or the CMAR Contract Times.
24. **Front-End Contract Documents**—Those Contract Documents whose primary purpose is to establish legal and contractual terms and conditions, typically including the Owner-CMAR agreement, bonds, general conditions, and supplementary conditions. The term excludes the Drawings and Specifications, and any Contract Documents delivered or issued after the effective date of the CMAR Contract.
25. **Laws and Regulations; Laws or Regulations**—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
26. **Owner**—The entity named as such in this Agreement and for which Engineer's services are to be performed. Unless indicated otherwise, this is the same entity that will enter into the CMAR Contract concerning the Project.
27. **Owner's Advisor (OA)**—The individual or entity retained by Owner to provide construction planning services, assist with CMAR selection, administer the CMAR contract, and furnish site representation services, as set forth in a services contract between Owner and Owner's Advisor.
28. **Project**—The total undertaking to be accomplished for Owner by construction managers, advisors, engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up, and of which the services to be performed or furnished by Engineer under this Agreement are a part.
29. **Proposal Documents**—Documents related to the selection of the CMAR, including Advertisements for Requests for Qualifications; Requests for Qualifications; Statements of Qualifications, Requests for Proposals; the Proposal form; and including any attachments such as lists of available Site-related documents and other proposal requirements.
30. **Record Drawings**—Drawings depicting the completed Project, or a specific portion of the completed Project, prepared by Engineer and based on CMAR's record copy of all

Drawings, Specifications, Addenda, Change Orders, Work Change Directives, Field Orders, and written interpretations and clarifications, as delivered to Engineer and annotated by CMAR to show changes made during construction.

31. Samples—Physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and that establish the standards by which such portion of the Work will be judged.
32. Shop Drawings—All drawings, diagrams, illustrations, schedules, and other data or information that are specifically prepared or assembled by or for CMAR and submitted by CMAR to illustrate some portion of the Work. Shop Drawings, whether approved or not, are not Drawings and are not Contract Documents.
33. Site—Lands or areas to be indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of CMAR.
34. Specifications—The part of the Contract Documents that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.
35. Subconsultant—An individual, design firm, consultant, or other entity having a contract with Engineer to furnish professional services with respect to the Project as an independent contractor.
36. Subcontractor—An individual or entity having a direct contract with CMAR or with any other Subcontractor for the performance of a part of the Work.
37. Submittal—A written or graphic document, prepared by or for CMAR, which the Contract Documents require CMAR to submit to Owner’s Advisor, or that is indicated as a Submittal in the Schedule of Submittals accepted by Owner’s Advisor. Submittals may include Shop Drawings and Samples; schedules; product data; Owner-delegated designs; sustainable design information; information on special procedures; testing plans; results of tests and evaluations, source quality-control testing and inspections, and field or Site quality-control testing and inspections; warranties and certifications; Suppliers’ instructions and reports; records of delivery of spare parts and tools; operations and maintenance data; Project photographic documentation; record documents; and other such documents required by the Contract Documents. Submittals, whether or not approved or accepted by Owner’s Advisor or Engineer, are not Contract Documents. Change Proposals, Change Orders, Claims, notices, Applications for Payment, and requests for interpretation or clarification are not Submittals.
38. Substantial Completion—The time at which the Work, or a specified part thereof, has progressed to the point where the Work, or the specified part thereof, is sufficiently complete, in accordance with the Contract Documents, so that the Work, or the specified part thereof, can be utilized for the purposes for which it is intended. The terms “substantially complete” and “substantially completed” as applied to all or part of the Work refer to Substantial Completion of such Work.

39. Supplier—A manufacturer, fabricator, supplier, distributor, or vendor having a direct contract with CMAR or with any Subcontractor to furnish materials or equipment to be incorporated in the Work by CMAR or a Subcontractor.
 40. Total Project Costs—The total cost of planning, studying, designing, constructing, testing, commissioning, and start-up of the Project, including Cost of the Work and all other Project construction, labor, services, materials, equipment, insurance, and bonding costs, allowances for contingencies, costs of services of Owner's Advisor and CMAR, and the total costs of services of Engineer or other design professionals and consultants, together with such other Project-related costs that Owner furnishes for inclusion, including but not limited to cost of land, rights-of-way, compensation for damages to properties and private utilities, including relocation if not part of construction costs, Owner's costs for legal, accounting, insurance counseling, and auditing services, interest and financing charges incurred in connection with the Project, and the cost of other services to be provided by others to Owner.
 41. Underground Facilities—All active or not-in-service underground lines, pipelines, conduits, ducts, encasements, cables, wires, manholes, vaults, tanks, tunnels, or other such facilities or systems at the Site, including but not limited to those facilities or systems that produce, transmit, distribute, or convey telephone or other communications, cable television, fiber optic transmissions, power, electricity, light, heat, gases, oil, crude oil products, liquid petroleum products, water, steam, waste, wastewater, storm water, other liquids or chemicals, or traffic or other control systems. An abandoned facility or system is not an Underground Facility.
 42. Work—The entire construction or the various separately identifiable parts thereof required to be provided by CMAR under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents. Work does not include CMAR Services.
 43. Work Authorization—A document issued by Owner's Advisor and signed by Owner and CMAR which identifies and defines new Work Packages and establishes the amount to be paid, times for completion, and any special or supplementary provisions applicable to the authorized Work.
 44. Work Change Directive—A written directive issued by Owner's Advisor to CMAR issued on or after the effective date of the CMAR Contract, signed by Owner and recommended by Engineer, ordering an addition, deletion, or revision in the Work.
 45. Work Package—A specific portion of the Work developed by Engineer and Owner's Advisor in collaboration with the CMAR and subsequently authorized by a Work Authorization.
- C. Terms Defined in CMAR-501, Agreement between Owner and Owner's Advisor
1. Additional Services—Services which are not included in Basic Services, but which are identified in Exhibit A Article 3 of this Agreement and may be authorized pursuant to Paragraph 2.01.C.

2. Agreement—This Agreement between Owner and Owner’s Advisor, as described in Article 8.
3. Amendment—Written instrument used to modify the Agreement.
4. Basic Services—Specified services to be performed for or furnished to Owner by Owner’s Advisor in accordance with this Agreement, as set forth in Paragraph 2.01.B and in Exhibit A, Articles 1 and 2.
5. Proposal Documents—Documents related to the selection of the CMAR, including advertisements or requests for statements of qualifications; requests for proposals; instructions to proposers, including any attachments such as lists of available Site-related documents; statement of qualifications forms; proposal forms; proposals; and other proposal requirements.
6. Constituents of Concern—Asbestos, petroleum, radioactive materials, polychlorinated biphenyls (PCBs), lead-based paint, as defined by the HUD/EPA standard, hazardous waste, and any substance, product, waste, or other material of any nature whatsoever that is or becomes listed, regulated, or addressed pursuant to Laws and Regulations regulating, relating to, or imposing liability or standards of conduct concerning, any hazardous, toxic, or dangerous waste, substance, or material.
7. CMAR Services—Those specific planning, organizational, and advisory services to be performed or furnished by CMAR, consisting collectively of Preconstruction Services, Procurement Services, and any other services authorized by Owner’s Advisor and expressly identified in such authorization as CMAR Services. CMAR Services are not part of the Work.
8. Construction Manager at Risk (CMAR)—The entity that enters into the Contract with Owner. Under the Contract the CMAR will provide CMAR Services and construct the Work set out in the Drawings and Specifications, as duly authorized, using the Construction Manager at Risk project delivery method.
9. Constructor—Any person or entity, not including the Owner’s Advisor, OA Subconsultants, Engineer, or their employees, agents, representatives, or subconsultants, or Engineer’s Subcontractors, performing or supporting construction activities relating to the Project, including but not limited to the CMAR and all contractors, subcontractors, suppliers, Owner’s work forces, utility companies, other contractors, design-builders, testing firms, shippers, and truckers, and the employees, agents, and representatives of any or all of them.
10. Contract—The entire and integrated written contract between Owner and CMAR concerning the CMAR Services and the Work.
11. Contract Documents—Those items designated as “Contract Documents” in the Contract, and which together comprise the Contract. See also definition of “Front-End Contract Documents” below.
12. Documents—Data, reports, record, forms, record drawings, and other deliverables, provided or furnished in appropriate phases by Owner’s Advisor to Owner pursuant to this Agreement. Documents do not include the Contract Documents, or any other instruments of service prepared or provided by the Engineer or by CMAR.

13. Drawings—That part of the Contract Documents that graphically shows the scope, extent, and character of the Work to be performed by CMAR.
14. Effective Date of the Agreement—The date indicated in this Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed and delivered by the last of the two parties to sign and deliver.
15. Engineer—The entity that has primary responsibility for preparing or furnishing the design, including the Drawings and Specifications, and providing engineering services to Owner, and which is identified as Engineer in Paragraph 1.01.B of this Agreement.
16. Front-End Contract Documents—Those Contract Documents whose primary purpose is to establish legal and contractual terms and conditions, typically including the Owner-CMAR agreement, bonds, general conditions, and supplementary conditions. The term excludes the Drawings and Specifications, and any Contract Documents delivered or issued after the effective date of the Contract.
17. Laws and Regulations; Laws or Regulations—Any and all applicable laws, statutes, rules, regulations, ordinances, codes, and orders of any and all governmental bodies, agencies, authorities, and courts having jurisdiction.
18. Owner's Advisor (OA)—The individual or entity named as Owner's Advisor in the Agreement. The Owner's Advisor provides services to the Owner, as an advisor and representative.
19. Owner's Advisors Subconsultants (OA Subconsultants)—Individuals or entities having a contract with Owner's Advisor to furnish services, materials, or equipment with respect to the Project as Owner's Advisor's independent professional associates, consultants, subcontractors, suppliers, or vendors.
20. Project—The total undertaking to be accomplished for Owner by construction managers, advisors, engineers, contractors, and others, including planning, study, design, construction, testing, commissioning, and start-up.
21. Reimbursable Expenses—The expenses incurred directly by Owner's Advisor in connection with the performing or furnishing of services under this Agreement.
22. Site—Lands or areas indicated in the Contract Documents as being furnished by Owner upon which the Work is to be performed, including rights-of-way and easements, and such other lands furnished by Owner which are designated for the use of CMAR.
23. Special Services—Services that were not contemplated when the Agreement was executed and were not identified in the Owner's Advisor's initial scope of services as Basic Services, Additional Services, or otherwise, which Owner and Owner's Advisor subsequently agree will be added to the scope of Owner's Advisor's services.
24. Specifications—The part of the Contract Documents that consists of written requirements for materials, equipment, systems, standards, and workmanship as applied to the Work, and certain administrative requirements and procedural matters applicable to the Work.

- 25. Task Order—A document issued by Owner stating the scope of services, times for performance of services, and other relevant information for specified Additional Services to be provided by Owner’s Advisor.
- 26. Work—The entire construction or the various separately identifiable parts thereof required to be provided by CMAR under the Contract Documents. Work includes and is the result of performing or providing all labor, services, and documentation necessary to produce such construction; furnishing, installing, and incorporating all materials and equipment into such construction; and may include related services such as testing, start-up, and commissioning, all as required by the Contract Documents. Work does not include CMAR Services.

1.4 Terms Defined in C-612, Warranty Bond

8.0 Definitions

- 8.1 Construction Contract—The agreement between the Owner and Contractor identified on the cover page of this Warranty Bond, including all Contract Documents and changes made to the agreement and the Contract Documents.
- 8.2 Contract Documents—All the documents that comprise the agreement between the Owner and Contractor.
- 8.3 Correction Period Obligations—The duties, responsibilities, commitments, and obligations of the Contractor with respect to correction or replacement of defective Work, as set forth in the Construction Contract’s Correction Period clause, EJCDC C-700, Standard General Conditions of the Construction Contract (2018), Paragraph 15.08, as duly modified.
- 8.4 Substantial Completion—As defined in the Construction Contract.
- 8.5 Work—As defined in the Construction Contract.

EXHIBIT C—CONSTRUCTION MANAGER AT RISK PROCESS

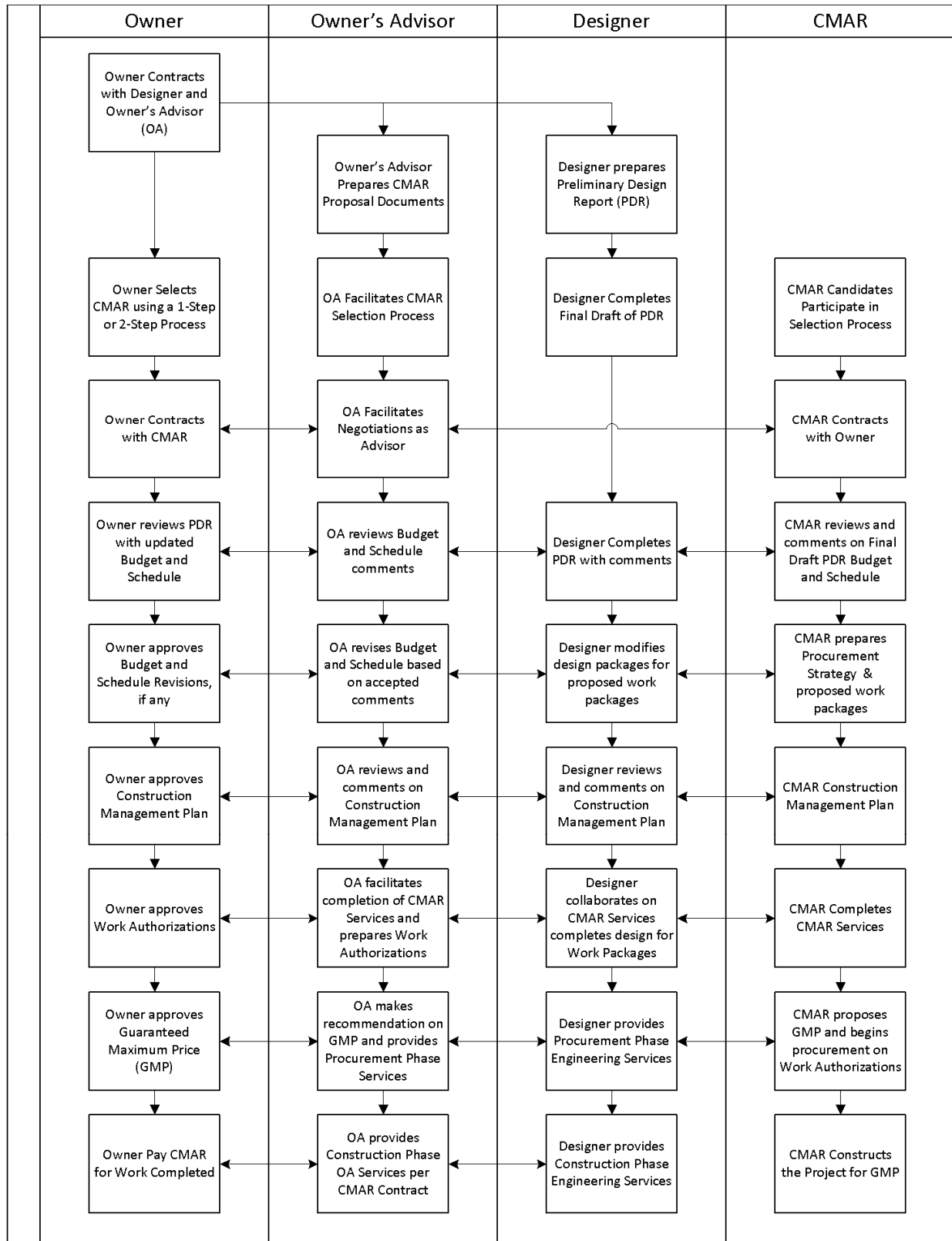


Exhibit C—Construction Manager at Risk Process

EXHIBIT D—CONSTRUCTION MANAGER AT RISK SELECTION PROCESS

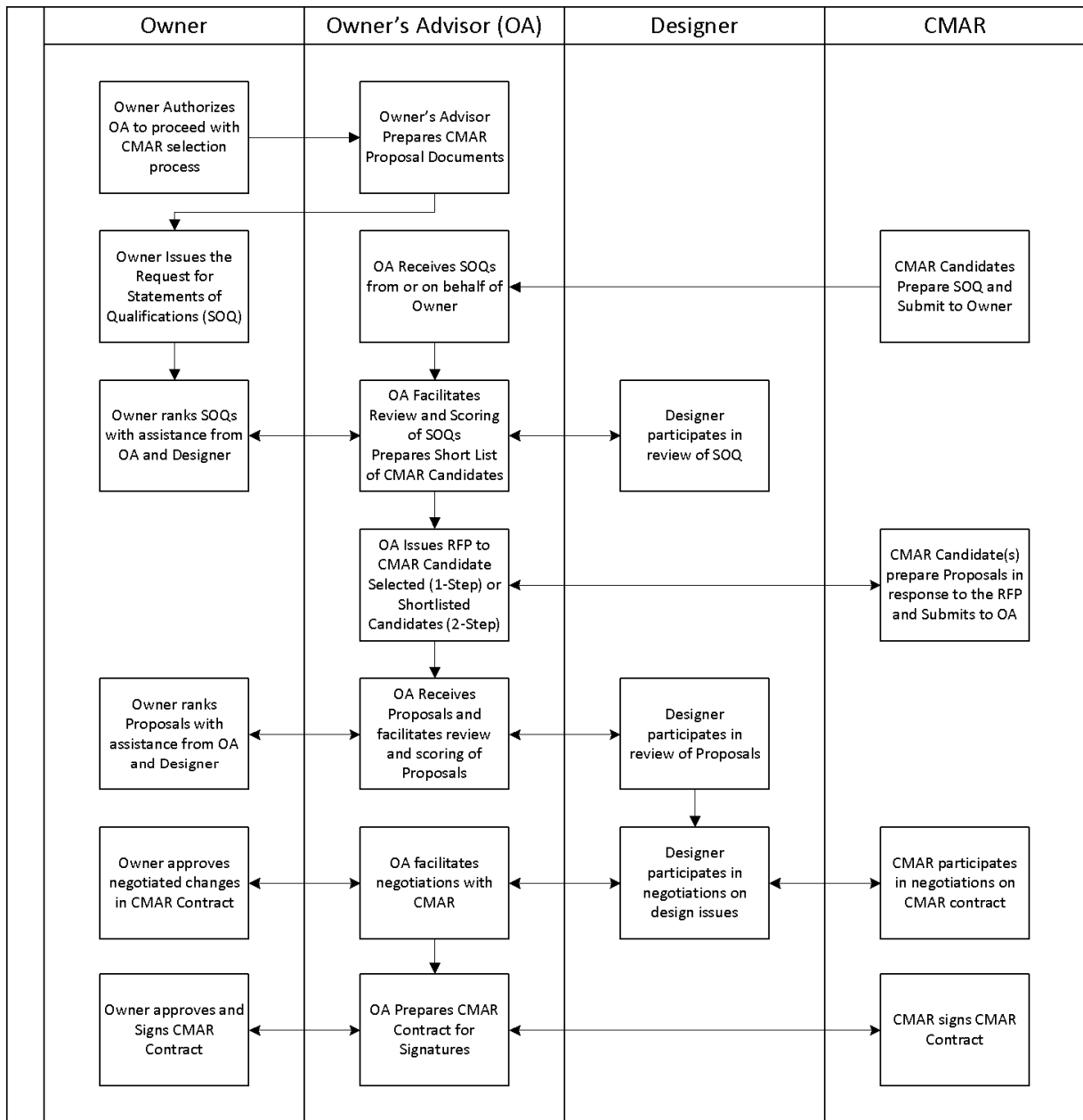


Exhibit D—Construction Manager at Risk Selection Process

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