Quality Management Services in the Design-Build Environment

Start of Block: Block 1

CONSENT TO PARTICIPATE IN A RESEARCH STUDY (Scroll down to advance the page)

Quality Management Services in the Design-Build Environment Georgia Institute of Technology

You are being asked to be a volunteer in a research study.

Purpose: To develop better understanding of conducting quality management services in the design-build environment for federal-aid highway projects. If you choose to participate, you will be asked to complete a survey about your experiences with the quality management practices in your office and agency. The survey is administered to DOT environmental services staff, or contractors, and should take approximately 15 minutes to complete. Benefits, Costs, or **Risks:** The findings of this study will provide practical guidance of value to DOTs seeking to improve implementation of quality management services in the design-build environment. In addition, participants may identify useful strategies to incorporate into their own individual practices to improve their individual quality management performance. There are no costs to you, other than your time, for being in this study. Participation in this study may carry the possibility of breach of confidentiality in the case of malicious external activity. The risks or discomforts involved are no greater than those involved in daily activities such as email correspondence or user registration via a secure website. Confidentiality: The data collected about you will be kept private to the extent required by law. Your records will be kept in locked files and only study staff will be allowed to look at them. Your name will not appear when the results of this study are presented or published. Your privacy will be protected to the extent allowed by law. The Georgia Institute of Technology IRB, the Office of Human Research Protections, and/or the Food and Drug Administration may look over study records during required reviews. Storing and Sharing Information: Your participation in this study is gratefully acknowledged. It is possible that your information/data will be enormously valuable for other research purposes. By proceeding with the survey, you consent for your de-identified information/data to be stored by the researcher and to be shared with other researchers in future studies. If you agree to allow such future sharing and use, your identity will be completely separated from your information/data. Future researchers will not have a way to identify you. Any future research must be approved by an ethics committee before being undertaken. Questions about the Study: If you have any questions about the study, you may contact Baabak Ashuri at baabak@gatech.edu.Questions about Your Rights as a Research Participant: Your participation in this study is voluntary. You do not have to be in this study if

you don't want to be. You have the right to change your mind and leave the study at any time without giving any reason and without penalty. Any new information that may make you change your mind about being in this study will be given to you. You do not waive any of your legal rights by agreeing to participate. If you have any questions about your rights as a research participant, you may contact: Ms. Melanie Clark, Georgia Institute of Technology Office of Research Integrity Assurance, at (404) 894-6942.

If you complete the attached survey, it means that you have read -- or have had read to you -- the information contained in this letter and would like to be a volunteer in this research study. Thank you, Baabak Ashuri, Ph.D., DBIA Associate Professor

Georgia Institute of Technology

End of Block: Block 1

Start of Block: Block 2

Part 1: General Questions

For the following questions, we are interested in understanding your background and experience in the federal-aid design-build environment.

1.0. General Information

Q1 What best describes your primary background?
O Construction engineering and inspection (CEI) specialist (1)
O Design consultant (4)
O Specialty sub-consultant (5)
○ General contractor (6)
O Specialty contractor (7)
O Developer (8)
O Agency employee (e.g. DOT staff) (9)
Owner adviser (10)
Other (please specify) (54)
Q2 What is your current role or job title?
Q3 How long have you been in this role?
Q4 In what state(s) do you have the most experience in this role? (select all that apply) State List Page Break

2.0. Design-build Experience
Q5 How familiar are you with design-build project delivery?
O Totally unfamiliar (1)
○ Somewhat unfamiliar (4)
Neither familiar nor unfamiliar (neutral) (5)
O Somewhat familiar (6)
Extremely familiar (7)
Q6 On average, how many projects is your firm involved in quality management services for each year?
Q7 What percentage of your firms' projects (as far as number of projects) are federal-aid design-build projects?
O% (1)
O 1-25% (26)
O 26-50% (27)
O 51-75% (28)
O 76-100% (29)

Q8 What state(s) is your firm involved in quality management services for federal-aid designbuild projects in? (select all that apply)
State List
Q9 In your experience providing quality management services, which of the following entities have you been hired by? (select all that apply)
The design-builder (1)
The state DOT (8)
Other (please specify) (9)
Q10 When performing quality management services, which entity do you prefer to be hired by?
○ The design builder (1)
O The state DOT (2)
Other (please specify) (3)
O No preference (4)
Page Break

Part 2: Quality Management Services

management se	rvices are organ	ized and compl	understanding yeted on federal-a	id design-build p	orojects. Please
3.0. Selection (Criteria				
•	•	•	characteristics inf forming quality m		
	Never (1)	Rarely (2)	Sometimes	Often (4)	Always (5)

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
Unique aspects of quality management plan (1)	0	0	0	0	0
Proposed price for conducting quality management services (2)	\circ	0	0	0	0
Stringency on past projects (3)	0	0	0	0	0
Number of non- conformance reports (NCRs) previously issued (4)		0			
Other (5)	0	0	0	0	0

Q12 How frequently is the quality manager required as key personnel in the design-build team?
O Never (1)
Rarely (2)
O Sometimes (6)
Often (7)
O Always (8)
Q13 How frequently is the quality management plan part of the evaluation criteria of the design-build proposal?
build proposal?
build proposal? Never (1)
build proposal? Never (1) Rarely (2)
build proposal? Never (1) Rarely (2) Sometimes (6)

Q14 How frequently is the quality management plan (QMP) developed by each of the following entities?

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
Design-builder (1)	0	0	\circ	\circ	0
State DOT staff (2)	\circ	\circ	\circ	\circ	\circ
State DOT's adviser (owner's adviser/representative) (3)	0	0	0	0	0
CEI firm hired by the design-builder (4)	\circ	\circ	0	\circ	0
CEI firm hired by the state DOT (5)	\circ	\circ	\circ	\circ	\circ
Other (please specify) (6)	0	\circ	\circ	0	\circ
Page Break					

4.0. Roles and Responsibilities

Q15 How frequently is the CEI firm responsible for the following tasks in federal-aid design-build projects?

When		firm is direct design-builde	•	by the	When	the CEI	firm is direct state DOT	ly hired	by the
Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)

Notifying the DOT of key times in the quality management schedule (1)	0	\circ	0	\circ	\circ	\circ	\circ	0	0	C
Issuing noncompliance reports (NCRs) to address deficiencies in the materials (2)	\circ	\circ	\circ	\circ	\circ	0	\circ	\circ	\circ	
Exercising the approved engineering judgement to accept deficiencies in the material test results (4)	0	0	0	0	0	0	0	0	0	C
Auditing quality management procedures and records (5)	\circ	\circ	\bigcirc	\circ	\circ	\circ	\circ	\circ	\bigcirc	C
Ensuring compliance of project payroll (7)	0	\circ	\bigcirc	\circ	\circ	\circ	\circ	\bigcirc	\bigcirc	C
Ensuring compliance of report submission (8)	0	\circ	\bigcirc	\circ	\circ	\circ	\circ	\bigcirc	0	C
Ensuring contract compliance (9)	0	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ	C
Conducting construction measurements to certify payments to the design-builder (10)	0	0	0	\circ	0	\circ	\circ	0	0	C
Other (please specify) (11)	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\bigcirc	\bigcirc	

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Q16 How frequently is the CEI firm responsible for ensuring the following aspects of the contract in federal-aid design-build projects?

	Wher		firm is direct design-builde		When the CEI firm is directly hired by the state DOT					
	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
Ensuring the design- builder's compliance to the contract's goal for using disadvantaged business enterprises (DBEs) (1)	0	0	0	0	0	0	0	0	0	0
Ensuring the design- ouilder's compliance to the contract requirement for paying the local prevailing wages on oublic works projects for laborers and mechanics (Davis- Bacon Act) (2)	0	0	0	0	0	0	0	0	0	0
Other (please specify) (4)	0	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ

7 On average, how stringent is the administrative oversight of the CEI firm when it is directly hired by the design-builder compare the typical level of stringency enforced when it is directly hired by the state DOT?	∌d
O Substantially more lenient (1)	
O Somewhat more lenient (2)	
O About the same (3)	
O Somewhat more stringent (4)	
O Substantially more stringent (5)	
O It depends (please specify) (6)	

Q18 How frequently does a representative from the CEI firm typically visit the project site? When the CEI firm is directly hired by the When the CEI firm is directly hired by the state design-builder DOT Regular Regular visits as Always visits as Always Only Only Only Only when when agreed when agreed when when when upon in requested the requested upon in the Other Other requested requested by the by the project project the the by the (5) by the (5) designdesigndesigndesignis is state state builder builder build build active active DOT (2) DOT (2) (1) (1) contract (4) contract (4) (3) (3)(1) Display This Question: If How frequently does a representative from the CEI firm typically visit the project site? : When the CEI firm is directly hired by the designbuilder = [Other] Or How frequently does a representative from the CEI firm typically visit the project site? : When the CEI firm is directly hired by the state DOT Other 1

○ When the CEI firm is directly hired by the design-builder (1)
When the CEI firm is directly hired by the state DOT (2)

Q19 (If you selected "Other") Please specify the frequency with which representatives from the CEI firm typically visit the project site.

5.0. Common Challenges
Q20 On average, how stringent are the acceptance decisions of the CEI firm when it is directly hired by the design-builder compared to the typical level of stringency enforced when it is directly hired by the state DOT?
O Substantially more lenient (7)
O Somewhat more lenient (10)
O About the same (12)
O Somewhat more stringent (13)
O Substantially more stringent (18)
O It depends (please specify) (19)

Q21 How frequently do each of the following challenges impact the CEI firm's ability to perform quality management services?

Design-builder reluctance to accept the role of	Never (1)	Rarely (2)	Sometimes	Often	Λ Ι				When the CEI firm is directly hired by the state DOT				
to accept the role of			(3)	(4)	Always (5)	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)			
independent quality acceptance firm (1)	0	\circ	0	0	\circ	0	0	0	0	0			
Owner reluctance to accept role of quality acceptance firm (2)	\circ	\circ	0	\circ	\circ	0	0	0	0	0			
Limited understanding about the new dynamics of design-build project delivery (e.g. new roles and responsibilities) (3)	0	0	0	0	0	\circ	\circ	0	0	0			
Limited understanding of state DOT's expectations and norms for quality management (4)	0	\circ	0	\circ	\circ	0	0	0	0	\circ			
Fixed amount considered for conducting quality management services (5)	\circ	0	0	0	0	0	0	0	0	0			
Other (please specify) (6)	\bigcirc	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\bigcirc			

	2 In the design-build environment, are there any additional challenge(s) that impact t nagement services when the it is directly hired by the design-builder?	the CEI firm's ability to perform quality
_		
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_		
_		
_		
	3 In the design-build environment, are there any additional challenge(s) that impact t nagement services when the it is directly hired by the state DOT?	the CEI firm's ability to perform quality
mane	magement services when the it is directly filled by the state De F:	
_		
_		
_		
_		

Q24 How frequently does the CEI firm benefit from each of the following advantages in performing quality management services in federal-aid design-build projects?

	When		firm is direct design-builde	-	by the	When	When the CEI firm is directly hired by the state DOT					
	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)		
Innovative approaches to quality management (7)	0	\circ	0	\circ	0	\circ	\circ	0	\circ	\circ		
Incentives to provide enhanced performance (10)	0	0	0	0	\bigcirc	0	0	0	0	\circ		
Implementing advanced technologies (12)	0	0	\circ	0	\circ	0	0	\circ	0	\circ		
Project schedule sensitivity (13)	0	\circ	0	\circ	\circ	\circ	\circ	0	\circ	\circ		
Other (please specify) (18)	0	\circ	0	0	\circ	\circ	\circ	\circ	0	\circ		

				er						
	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
(1)	0	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ
6 Hov	v frequen	tly is an i	mmediate eva	lluation p	erformed	if a disag	reement	arises?		
26 Hov		the CEI	mmediate eva firm is direct design-builde	ly hired		_		arises? firm is direct state DOT	ly hired	by the
26 Hov		the CEI	firm is direct	ly hired		_		firm is direct	Often (4)	by the Always (5)

Q27 What methods of evaluating quality performance have been used to address testing-related discrepancies in federal-aid design-build projects? (select all that apply)

	When the CEI firm is directly hired by the design-builder	When the CEI firm is directly hired by the state DOT
	(1)	(1)
Using retrained splits of samples from the acceptance decision (1)		\circ
Referee testing (2)		\circ
ocumenting non-conforming work (3)		
Issuing non-conformance reports (NCRs) (4)		\circ
Exercising engineering judgement (5)		\circ
Other (please specify) (6)		

-	-	rience, ho n-build pro		s negotia	ation with	the legal	team ned	cessary to reso	olve testi	ng-related	discrepancies	s in
\bigcirc N	lever (1)											
OR	arely (2))										
Os	ometime	s (3)										
\bigcirc c	often (4)											
ОА	lways (5	5)										
								_				
Q29 Hov		-	the CEI firm ha		-	-		າ? firm is direct	lv hired	hy the		
	***************************************		design-builde		by the	*******	i ino oli	state DOT	ily illiou	by the		
	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)		
(1)	0	0	0	\circ	0	\circ	\circ	0	\circ	0		

Q30 How frequently are project shutdowns triggered by each of the following issues?

	When		firm is direct design-builde		by the	When	the CEI	firm is direct state DOT	ly hired	by the
	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
Breach of contract (1)	0	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ
Design errors (6)	0	\bigcirc	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ
Noncompliance with design specifications (11)	0	0	0	0	\circ	0	0	\circ	0	\circ
Faulty materials/workmanship (7)	0	0	0	0	\circ	\circ	\circ	0	0	\circ
Noncompliance with construction specifications (12)	0	0	0	0	\circ	0	0	0	0	\circ
Failure to disclose information (8)	0	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ
Safety concerns (9)	0	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ
Other (please specify) (10)	0	\circ	\circ	0	\circ	0	\circ	\circ	0	\circ

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Q31 How	I .	the CEI	isalignments l firm is direct design-builde	ly hired			e need to file an NCR in federal-aid design-build proje When the CEI firm is directly hired by the state DOT						
	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)	Never (1)	Always (2)	Sometimes (3)	Often (4)	Always (5)			
(1)	0	0	0	0	0	0	0	0	0	0			
Q32 How	v frequen	tly is the	CEI firm incer	ntivized to	o avoid fili	ng NCRs	on federa	al-aid design-t	ouild proj	ects?			
ON	lever (1)												
○ R	arely (2))											
Os	ometime	s (3)											
\bigcirc c	Often (4)												
O A	lways (5	5)											
Page Bre	eak —												

6.0. Oversight - OMAT Staff)	by "Owner Veri	fication Firm (O	VF)" and "State	DOT Independe	ent Assurance"	(Office of Materials and Testing
Q33 How freque	Only when requested by the design-builder (1)	Only when requested by the state DOT (2)	each oversight bo Regular visits as agreed upon in the design-build	ody typically visit t Always when the project is active (5)	he project site? Other (6)	
Owner Verification Firm (OVF) (1)	Duilder (1)	0	contract (4)	0	0	
DOT Independent Assurance (Office of Materials and Testing - OMAT) (11)	0	0	0		0	

Q34 How frequently is the OVF responsible for the following tasks in federal-aid design-build projects?

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
Notifying the DOT of key times in the quality management schedule (1)	0	0	0	0	0
Issuing noncompliance reports (NCRs) to address deficiencies in the materials (2)	0	0	0	0	0
Exercising the approved engineering judgement to accept deficiencies in the material test results (4)	0	0	0	0	0
Auditing quality management procedures and records (5)	0	0	\circ	0	\circ
Ensuring compliance of project payroll (7)	0	\circ	\circ	\circ	\circ
Ensuring compliance of report submission (8)	0	\circ	\circ	\circ	\circ
Ensuring contract compliance (9)	0	\circ	\circ	\circ	\circ
Conducting construction measurements to certify payments to the design-builder (10)	0	0	0	0	0
Other (please specify) (11)	0	\circ	\circ	\circ	\circ

Q35 How frequently is the OVF responsible for ensuring the following aspects of the contract in federal-aid design-build projects?

	Never (1)	Rarely (2)	Sometimes (3)	Often (4)	Always (5)
Ensuring the design-builder's compliance to the contract's goal for using disadvantaged business enterprises (DBEs) (1)	0	0			0
Ensuring the design-builder's compliance to the contract requirement for paying the local prevailing wages on public works projects for laborers and mechanics (Davis-Bacon Act) (2)					
Other (please specify) (4)	\circ	\circ	\circ	\circ	\circ

236 How frequently do the OVF's decisions contradict the primary CEI firm's decisions?	
O Never (1)	
O Rarely (2)	
O Sometimes (6)	
Often (7)	
○ Always (8)	
037 In what area(s) do the OVF and CEI firm disagree most often?	

Q38 How frequently do the OVF's decisions create added value in the QA process?
O Never (1)
O Rarely (2)
O Sometimes (6)
Often (7)
O Always (8)
Q39 In what area(s) do the OVF's decisions create added value most often?

7.0. Suggestions

Q40 From your perspective, how interested is your firm in pursuing work on additional federal-aid design-build projects?

	When the CEI firm is directly hired by the state DOT					When the CEI firm is directly hired by the state DOT				
	Not at all intereste d (1)	Slightly intereste d (2)	Somewha t interested (3)	Moderatel y interested (4)	Extremel y interested (5)	Not at all intereste d (1)	Slightly intereste d (2)	Somewha t interested (3)	Moderatel y interested (4)	Extremel y interested (5)
(1	0	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ	\circ
	s your firm in n-build project		entering into o	or expanding y	our business	s in performi	ng quality m	anagement s	ervices for fe	deral-aid
	n-build projec		entering into o	or expanding y	our busines	s in performi	ng quality m	anagement s	ervices for fe	deral-aid
	Yes (1)	ots?	entering into o	or expanding y	our business	s in performi	ng quality m	anagement s	ervices for fe	deral-aid

	the major barriers preventing your firm from entering into or expanding its business in performing quality management ederal-aid design-build projects? (select all that apply)
	Heightened level of risk in performing quality management services for design-build proejcts (1)
	A wider range of quality management services required to be performed in federal-aid design-build projects (2)
	Issues related to securing professional liability insurance to work in design-build projects (3)
	Losing the direct line of contact with the state DOT while hired to work under the design-builder (4)
projects (Limited understanding about the state DOT's expectations from the CEI firm working on federal-aid design-build 5)
	Fear of substantial pressure by the design-builder in performing required quality management tasks (6)
	Fear of not getting adequately compensated by the design-builder to perform required quality management tasks (7)
	Other (please specify) (8)

Q43 In your op services?	pinion, would CEI firms benefit from more opportunities providing education about how to perform quality management
O Yes (1)
O No (2)	
O Unsure	e (4)
Q44 If more poall that apply)	erformance management education opportunities were provided, what types would you be most interested in? (select
	Seminars/presentations (1)
	In-person Q&A sessions/discussions (2)
	Manuals (3)
	Training videos (4)
	Other (please specify) (5)

design-build projects?	or quality management services in rederal-aid
O Reporting process (4)	
Reporting frequency (5)	
Communications with design-builder or DOT (6)	
O Dispute resolution process (7)	
Other (please specify) (8)	
Q46 Do you have any additional comments or suggestions to improve quality manag projects that you would like to share?	ement services in federal-aid design-build
	·
	-

Q47 Are you willing to provide additional details about your experience in the design-build environment for this research study?
○ Yes (1)
O No (2)
Display This Question:
If Are you willing to provide additional details about your experience in the design-build environme = Yes
Q48 Please provide your contact information.
O Name (1)
O Email (2)
O Phone (3)
End of Block: Block 2